Thinking with care in human–computer interaction

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Abstract
In this article, human–computer interaction (HCI) is explored as a design-oriented practice nurturing the becoming of what is not-yet in future-oriented and speculative manners. Such approaches have evolved over time and now the field seems ready to take leaps targeting social and culturally infused contexts, such as those suggested by critical design, design things, adversarial design, making futures, pluriversal design and critical fabulations. It is in this respect that feminist theories, methods and imaginaries are rendered important. Feminist theory is in this article considered an important companion and part of the practical tool-kit necessary for generative, speculative and ethical approaches within the field of HCI. How to think with care is explored as a meta-design strategy directed and informed by feminist onto-epistemologies – a strategy intended to ‘seed’ speculative and social justice-oriented design endeavours through generative figurations and critical dilemmas to foster abilities and sensibilities for dealing with difference differently. What is advanced is the need for meta-design space in HCI, in this article referred to as a contact zone, a feminist figuration with the intention to open up for design explorations with ethical imperatives. Four other interrelated feminist figurations are also loosely explored in order to frame how thinking with care in HCI could be advanced further, i.e. diffractive thinking, intra-activism, becoming-with and response-ability. By considering serious feminist accounts of situated knowledges and touching visions, it is argued that feminist thinking is well on its way to offering real alternatives of great importance for HCI.

Keywords
Care, design thinking, feminist HCI, intra-action, responsibility

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Introduction

That things could be different is the impulse of speculative thinking (Puig de la Bellacasa, 2017: 110).

This article is a tribute to scholars engaged with designing things and thinking things differently in feminist theory and human–computer interaction (HCI) (e.g. Suchman, 2007; Bardzell, 2010; Bardzell, 2018; Rosner, 2018; Klumbyte et al., 2020; Frauenberger 2019; Bardzell et al., 2020; Costanza-Chock, 2020; Bardzell et al., 2021; de Castro Leal et al., 2021). The tribute is made in order to explore the possibility and potential for HCI research and practice to further advance notions such as staying with trouble (Haraway, 2016), making futures (Ehn et al., 2014) and critical fabulations (Rosner, 2018). The inspiration behind the text is also based on work by scholars in the field of feminist technoscience (e.g. Barad, 2007; Haraway, 2008, Barad, 2012; Haraway, 2016; Puig de la Bellacasa, 2017) advocating for the urgent need to do things differently in science and technology studies. Latour (2004: 231), for instance, claims that critical minds need to renew themselves by dealing with matters of concern in order to get in touch with matters of fact. Haraway (2008: 36) also embraces the importance of touch by advancing the idea that touch prepares researchers for taking responsibility for the shape of worlds in unpredictable and messy times. Also, Puig de la Bellacasa suggests that matters of care are a form of being and staying in touch with the other which alters attention to affective and ethical considerations. For instance, she writes: ‘generating care means counting in participant and issues who have not managed or are not likely to succeed in articulating their concerns’ (Puig de la Bellacasa, 2017: 57). Finally, Barad (2012) suggests that touch should be considered an act of care motivating the ability to respond to and long for justice-to-come through caring for others and the strangeness within. Touch as an important aspect of care is as such conceptually and theoretically advanced in feminist technoscience in order to instigate ethical skills in science and technology, skills that are also becoming increasingly important and advanced within the field of HCI.

My engagement with touch remains situated within an exploration of what caring signifies for thinking and knowing in more than human worlds’ (Puig de la Bellacasa, 2017: 110).

By paying attention to matters of care in HCI, a different sensitivity and sensibility is called for – one that departs from feminist critiques of bifurcated consciousness towards involved and/or engaged forms of knowledge production, and in which touch has a specific and particular meaning. In the words of Puig de la Bellacasa, ‘to be attained, moved – touch exacerbates a sense of concern; it points to an engagement that relinquishes detached distance’ (2017: 99). What is suggested by thinking with care in HCI is, among other things, a call that through feminist theories, methods and perspectives it is possible to find support to elaborate on how to be touched by tensions, dilemmas and complexities – how to stay open to frictions and disagreements in order to confront the aliveness and difference of things and the need for each other in digitalisation.
What will be advanced in this text is that there is a need to develop and cater for design spaces where being in touch with anxiety, inaccurateness, inequalities and uncertainties is foregrounded, instead of reduced to the background. In these spaces, what is at stake is dealing with difference differently and there is an aspiration that speculative situated ethicalities may guide ways for research to be responsible and accountable for the relations of thinking and knowing produced. Or, as expressed by Haraway: ‘The task is to become capable, with each other in all of our bumptious kinds, of response […] Our task is to make trouble, to stir up potent response to devastating events, as well as to settle troubled waters and rebuild quiet places’ (2016: 1).

An intersection of feminist theories, methods and critiques and design theories and designerly thinking and knowing in HCI is comprised. It is argued that this combination can be used to extend HCI beyond the traditional notion of system design, problem-solving approaches and human-centred design. It is also argued that this combination is important in order to enact more inclusive, collaborative and heterogenous processes between digital materials, users, designers and various stakeholders. The argument is thus that there is a real need to develop new critical sensibilities based on various mismatches between user needs, technological imperatives and stakeholder interests that can serve as a cradle for new kinds of insights, new knowledges and new sensitivities for becoming together with digital designs – a design space in which matters of care can be explored in a systematic but alternative way. How to care is a delicate matter, demanding different kinds of spaces where different kinds of thinking are allowed. As such, what is argued is that there is a real need for design spaces in which it is possible to establish a sensibility regarding what can count as an engagement with ‘things’ from a perspective of critical interventions. In line with these arguments, this article is an intellectual, conceptual and speculative exploration of a new kind of design space – the contact zone – in which such research can make a difference for knowledge produced within the field of HCI.

Previous research on participatory design projects in HCI draws on feminist theories and approaches in which inclusive design, norm-critical and norm-creative approaches are explored (e.g. Suchman, 2004; van der Velden, 2010; Wagner et al., 2010; Bendixen and Benktzon, 2015). Such approaches are also inspirational and interwoven with previous experience of collaborative and responsible research related to Agenda 2030. Such research and initiatives are also related to sustainability goals and responsible research in which ideas, approaches and methods to involve groups of people affected by design are prominent (Giaccardi, 2005; Blevis, 2018). As such, what is elaborated on is very much related to recent interests in the field of HCI regarding what is considered to be good design for a good life and how to do research related to such questions within the field of HCI (Stolterman and Croon Fors, 2004; Taylor and Light, 2019). This is of course an ongoing matter (which will be returned to below), but it is also related to an emerging transition within the field of HCI – a transition that slowly moves the field away from problem-driven and instrumental approaches of design in order to become attuned to tensions, dilemmas and complexities within the yet-to-come with respect to digital materials in everyday life.
As digital materials are blending with everything that is, making new and unknown configurations requires creative thinking in design spaces that allow for alternative intellectual thinking to prosper. Thinking with care in HCI is thus in this article portrayed as a feminist suggestion, speculation and/or proposition for the field to become more involved with matters of care regarding future makings of digital design. In what follows, a backdrop of the relation between HCI, feminism and design thinking will be outlined, after which follows a suggestion of an alternative and speculative meta-design space (contact zone) in which additionally four complementary feminist figurations will be briefly outlined.

**Designerly thinking and feminist thoughts in HCI**

In recent years, there has been a growing interest in the role and nature of design in HCI research (Zimmerman et al., 2007; Stolterman, 2021). There have also been knowledge-based contributions intended for design practice based on approaching and understanding HCI as a design-oriented discipline with particular and situated knowledge domains (Nelson and Stolterman, 2012; Stolterman, 2021). Some of these approaches also advocate for more theoretical and analytical approaches to drive research attempts and directions (e.g. Stolterman and Wiberg, 2010; Höök and Löwgren, 2012). What has been advanced is to elaborate on theories and concepts that can both be generative and carry core design ideas across particular use situations and applications domains, as well as concepts and theories that adhere to interactive and dynamic behaviour but still are possible to abstract from particular instances of use.

The design-oriented approach in HCI has also been acknowledged as an important and creative approach for solving complex problems relating to the design, use and evaluation of interactive systems (Mau, 2004; Brown, 2009; Nelson and Stolterman, 2012). In that respect, the proponents of design thinking claim that a design approach is especially suitable for questioning conventional ways of thinking and doing, as well as a fruitful way to explore new potentials and possibilities that often are neglected and/or made obsolete with more traditional problem-solving approaches (Nelson and Stolterman, 2012; Rosner, 2018). Design thinking is as such often associated with divergent thinking in order to emphasise the importance of widening the horizon of possibilities with respect to given problems, challenges and/or needs. Schön writes: ‘Designers put things together and bring new things into being, dealing in the process with many variables and constraints, some initially known and some discovered through designing’ (1987: 41).

With a design-oriented approach, there seems to be a potential to tackle societal problems and find solutions to problems of sustainability and complexity (Brown, 2009; Blevis, 2018). Sanders and Westerlund (2011), for instance, explore the potential of design spaces and find that such spaces are useful to designers supporting the act of designing and for reflecting on the activity of designing. They write: ‘this use […] would not deal so much with “facts” but with emphasis on creating knowledge regarding desirable and understandable futures in relation to specific contexts, aims and people’ (Sanders and Westerlund, 2011: 5). Also, the Italian researcher Verganti (2009) suggests that design-oriented approaches are alternatives to theories of problem-solving in digital
designs. In Verganti’s (2009) view, design-oriented approaches are related to people’s making sense of the role and meaning of things. Accordingly, a design-driven approach needs to focus on opening up for exploring meaning, values and norms that limit things and/or make them possible.

Based on the above argument, the design-oriented mode of thinking seems to demand spaces where it is possible to stay with different meanings, values and interests, to deal with multiple dilemmas, stakeholders and interests. It thus seems to be important for design-oriented HCI to have meta-design spaces in which the divergent mind is allowed to stay with trouble and acknowledge the dynamics of a variety of parallel alternatives in order to widen the understanding of the complexity of the situation at hand (Haraway, 2016; Rosner, 2018). These will be spaces in which divergent minds are supported in the sense that it is possible to ‘look around rather than ahead’ (Haraway, 2016); spaces that cultivate the vulnerability of unexpected encounters (with entities, objects, disciplines, etc); and ‘that open up for paying attention to the margins, with no rush to adhere to pre-formatted narratives’ (Centemeri 2017, p. 162).

When we come to accept that what we do and what we know are always already together, and that this ‘togetherness’ is all the world can be, then we, in design, are left with a beginning: ‘What worlds do we want to do-know?’ (Taylor and Light, 2019: 1).

There has lately been an emerging and growing interest in feminist theories, methods and approaches informing HCI theories and practices (e.g. Bardzell, 2010; Bardzell, 2018; Heidaripour and Forlano, 2018; Klumbyte et al., 2020; Bardzell et al., 2020; de Castro Leal et al., 2021). These approaches are attuned to more inclusive and provocative methods, tools and techniques, highlighting justice-oriented values such as equity, diversity and intersectionality in the design and evaluation of interactive systems (e.g. Suchman, 2007; Bardzell, 2010; Dunne and Raby, 2013; Rosner, 2018; Taylor and Light, 2019; Costanza-Chock, 2020).

The juxtaposition between design thinking and feminism has also already been elaborated in HCI, for instance by Bardzell (2010, 2018, Bardzell et al., 2020), Costanza-Chock (2020) and Rosner (2018). Costanza-Chock reveals some of the connections between design thinking and feminist thought related to issues of agency, identity, empowerment and social justice. With a focus on feminist generative contributions, Bardzell (2010) suggests that feminist theories, methods and results can contribute explicitly to decision-making and design processes to generate new design insights and tangibly influence the design process. As such, the offerings from a combination of feminist theory and design thinking aspire to have something more, something else to offer than pointing out instances of sexism after the fact (Bardzell, 2010: 1308).

In what follows, some of the responses that have been offered by feminist scholars for generative contributions in technology design are depicted. These responses eventually add to the argument that an alternative design space in HCI needs to be initiated (van der Velden, 2010). Among other things, the themes characterise the feminist aim to reveal experiences and mindsets of practicing research situated in the midst of digital designs in which arts of noticing, situated knowledges and touching visions are at the
forefront, rather than in the background. The feminist response to the design of digital materials has for a long time been formulating challenging theories about the relationship between the real and not-yet-existing without immediate references to HCI, but still with the ambition to intra-act for real and better consequences of digital materials in everyday life (Heidaripour and Forlano, 2018).

Feminist thinking bears a close resemblance to design thinking in the search for better ways of doing digital design and in advancing more a complex understanding of the knowledge and learning processes of our time. This strategy early on made an appeal to, among other things, approaching digital design processes informed by feminist participatory methods and techniques (Gregory, 2003). Hence, the participatory design approach has been very influential in forming HCI as an engaged and dialogical sub-discipline working closely with digital materials in collaboration with users and professional designers (Giaccardi, 2005; Suchman, 2007; van der Velden, 2010; Ehn et al., 2014).

Rather than a process that stops at the point of hand-off from production to consumption, design is an ongoing process of (re-)production over time and across sites (Suchman, 2007: 278).

Feminist participatory approaches have for a long time devoted their attention to ways of engaging with matters-in-the-making. This attention has involved paying notice to kinships, politics, sociality, economics and environments, i.e. areas that traditionally are considered outside of design-oriented considerations. What distinguishes such feminist analysis and approaches is among other things a keen interest in engagement with matter – aiming for dialogue, conversation and collaboration (Suchman, 2007; Rosner, 2018). As such, one common concern within feminist theory has revolved around issues of how to participate in the generative practices that digital designs embody. Although feminist theory is mostly conceived of as a critical site for exploring and intervening in digital designs, amongst its characteristics is to open up concepts and definitions and be involved in the intra-actions between subjects and objects (Suchman, 2007, 2011), especially investigating how meanings are created, negotiated and re-negotiated and how representations of reality fight for space in and throughout discourses. Or as Barad suggests: ‘it is a matter of cutting things together and apart (within and as part of phenomena). It is not about momentum transfer among individual events or beings. The future is not the end point of a set of branching chain reactions; it is a cascade experiment’ (2007: 394).

Feminism in relation to digital design has also been very much guided by the ambition to design sustainable materials and bodies that we as humans are willing and able to live with (Mörtberg, 2003; Bardzell et al., 2021). This in turn resembles the strategy advanced by Suchman (2007) attending to the specificities of knowing subjects, multiple and differentially positioned and variously engaged in reiterative and transformative activities of collective world-making. Being in a position in between, transgressing borders, insisting on keeping several heterogeneous and parallel stories alive enables multiple and ambiguous accounts of the relationships between the real and the not-yet-existing.
This is also the stance taken in this article, i.e. that design-oriented thinking and feminist thoughts related to HCI research have much to gain from experiences and theories in which difference and multiplicities are acknowledged and desired. It is now time to devote attention to the kinds of sensibilities that seem to be needed in order to attain future makings of different kinds. So, in what follows, an attempt is made to speculate around alternative meta-design spaces that target new forms of critical sensibilities for HCI research (Giaccardi 2005; Fischer and Giaccardi 2006). These meta-design spaces are in this article referred to as contact zones, where other feminist figurations are also rendered important as interrelated companions. The suggested design space in this article is as such devoted to the idea of establishing a sphere (domain) in which speculations (Haraway, 2016; Rosner, 2018) and figurations (Suchman, 2011; Haraway, 2016) are not only allowed but designated in order to bracket alternative design spaces with affective and ethical imperatives.

Figurations are performative images that can be inhabited. Verbal or visual figurations are condensed maps of whole worlds. In art, literature, and science, my subject is the technology that turns body into story, and vice versa, producing both what can count as real and the witness to that reality (Haraway, 1997: 179).

The performative images that figurations provide bring together matter and meaning into more or less stable arrangements of how to relate humans and digital designs to each other. One form of intervention is then to consider how humans and digital materials are currently figured and how they might be figured (and configured) differently (Suchman, 2007: 227). In When Species Meet, Haraway (2008) develops the figure of the contact zone, applying it across scales of ecological intersection. The notion of the contact zone has been used widely across the social sciences as a way of attending to ‘culture-making’ in the context of unequal relations and as a means of destabilising or troubling normative understandings of division, distinction or practices of bordering (Haraway, 2008). For Haraway, the contact zone signifies ‘how subjects are constituted in and by their relations to each other […]’. It treats relations in terms of co-presence, interaction, interlocking understandings and practices, often within radically asymmetrical relations of power’ (2008: 216). The notion of the contact zone has been introduced in HCI by, for instance, van der Velden (2010: 1). She writes: ‘The concept of contact zone is introduced to explore the space in which different knowledges meet and are performed […].‘, where knowledge systems not meet as hegemonic wholes, but are relationally constituted, as such open for establishing new relations.’ (van der Velden, 2010: 11).

**How to think with care in HCI**

For several years, feminist theories and figurations have generated and explored alternative inquiries into the field of science and technology and digital designs, especially with methods and perspectives that transcend thinking and knowing beyond connotations of technological rationality based on values depriving people of a sense of relatedness and connection (Marcuse, 1964). Feminism has as such especially investigated the important (and often ignored by science) onto-epistemological domains generated by
embracing particular perspectives such as embodied knowledge, locality and domesticity (Haraway, 1997; Barad, 2007; Suchman, 2007). Feminism thus provides HCI with a view from somewhere else in the search for the significance of digitalisation, breaking connotations of technological rationality as a signifier of precision, correctness and authority.

The notion of the contact zone is a touchstone for establishing a meta-design space based on feminist theories. According to Haraway (1997), figurations are performative images that can be inhabited, contested and refigured. Within feminism, figures are often used in order to balance between the existing and the imaginary, which is also at the foreground of design-oriented thinking and approaches. In feminism, figures are deliberatively chosen and depicted since they have consequences for how we understand the present. Also, within feminist technoscience, figurations are commonly used as a methodological tool for studying and disrupting conventional approaches and discourses in a design space. In that respect, figurations are used as a conceptual device to support the implosion of boundaries such as subject/object, nature/culture, human/machine and use/design, with the aim of seeing and relating to the world differently (Haraway, 1997; Suchman, 2007).

As a feminist figure, the contact zone designates spaces where we are encouraged to meet and share concerns regarding things that are normally reduced from the design of digital materials. In contact zones, there is an encouragement to clash and grapple with different interests and ideas, and there are plenitudes of asymmetrical power relations, such as expertise, belief systems, desires, solutions, traditions, branches and/or disciplines. Contact zones are as such spheres in which enactments and gatherings of concerns and dilemmas take place regarding social justice, gender equality, climate change, urban planning, social innovations, health, ageing and living conditions, to name a few. Within contact zones, no one person matters, and no power structure overrules another. There is, so to speak, no one expertise that determines the conditions of particular concerns or responsibilities. Rather, collaboration across traditionally distinct disciplines and realms of expertise is imperative. Situated knowledge and partial perspective rule (Haraway, 1988).

Another feminist figuration that can be considered a close companion in the contact zone is based on Barad’s (2007) agential realism in which the notion of diffraction is prominent. Barad’s diffractive lens is situated within what she refers to as an agential realist ontology in which reality is continuously (re)constituted through material entanglements. She writes: ‘In my agential realist account scientific practices do not reveal what is already there, rather what is “disclosed” is the effect of intra-active engagements of our participation with/in and as part of the world’s differential becoming’ (Barad, 2007: 361). By employing diffracting thinking within the contact zone, a commitment is made to understand differences within phenomena – how difference is made, how difference matters and for whom. A common image of diffraction is of waves in a lake coming from different directions overlapping and interfering with one another. Haraway has also articulated the notion of diffraction as a critical method aiming to open up for difference from within. To do science through a diffracted lens is to grasp different directions and intentions within a phenomenon and at the same time have the openness to be touched by the difference that is provided. Researchers within feminist
technoscience have consequently embraced diffraction as an important figure in order to account for difference rather than sameness. The diffraction figure makes possible the existence of heterogeneous and parallel meanings. Haraway writes: ‘Diffraction is the production of difference pattern in the world, not just of the same reflected – displaced – elsewhere’ (1997: 268).

It is suggested that diffraction is used as the analytic lens within contact zones, attuning the balance between fact and fiction. With diffractive thinking in the contact zone, an attempt is made to reveal not-yet-existing possibilities (waves) of unknown futures in similar ways that Rosner (2018) and Puig de la Bellacasa (2017) advance in their work.

Yet another companion in the contact zone is related to the notion of intra-action, which within this article is referred to as intra-activism in order to pay tribute to the prevailing boundaries between academic research and activism (Rosner, 2018; Costanza-Chock, 2020; de Castro Leal et al., 2021). Intra-activism draws on the character and importance of intra-action, contrasting with the notion of interaction that is so often foregrounded in HCI research. Through the notion of intra-activism, Barad (2007) emphasises that research should shift onto-epistemological attention from a representational view of matter to a performative one. What is at stake with such a shift is that there is a move towards performative alternatives and away from questions of correspondence reality to matters of practices/doings and actions (Barad, 2007). Hence, what is suggested with intra-activism is that we need to carefully account for and take responsibility for the actions and doings made possible by research and design.

So, by juxtaposing feminism and design thinking in HCI, an argument is made for meta-design spaces – contact zones – where it is possible to explore patterns of difference (diffraction), as described above. In addition, with the notion of intra-activism a further understanding of Barad’s (2007) theory of agential realism is advanced, i.e. the acknowledgement that knowledge production is at the same time formations of reality in a performative manner. Also, within the framework of agential realism, agency is not understood as an inherent property of an individual or human to be exercised, but as a dynamism of forces. The notion of intra-action is as such an understanding of how all ‘things’ are constantly exchanging and diffracting, influencing and working inseparably. Intra-action also acknowledges the impossibility of an absolute separation or classically understood objectivity, in which an apparatus (a technology or medium used to measure a property) or a person using an apparatus is not considered to be part of the process that allows for specifically located ‘outcomes’ or measurements (Barad, 2007).

Paying attention to particular intra-actions, implies that instead of only reflecting upon difference cutting together and apart specific concerns within the contact zone can be an approach to make that which makes matter matters into a practice of paying notice to difference, rather than sameness. Noticing difference in contact zones means that we are attentive to how we relate to each other and to the world, e.g. through faces, cuts, screens, marks on bodies and identities, to name a few. Such noticing makes us attend differently to the real. Intra-activism is, as such, a practice that is at the same time dispersed and connected; dispersed by transversal stories, connected by learning-by-doing and seeing the real differently; always paying attention to power, differences and others.

So, it is possible to say that what is fundamental within contact zones is a relational way of thinking. In feminist theory, such a relational way of thinking is sometimes
referred to as thinking-with or becoming-with (Puig de la Bellacasa, 2017). It is a kind of thinking in which new patterns are noticed out of multiplicities, tensions and dilemmas. This way of thinking is also about the importance and effects of other relations, possibilities and beings. To think with care is to think of the becoming together with others and to be concerned about the consequences of relations. So, to think-with (others) and to become-with (many) is about establishing positions and sensibilities to hold multiple ends and divergent positions alive. Most of the time, thinking-with is also about messing up pre-existing categories in order to get in touch with the multiple layers of the ways that the world is collectively made up. Thinking and becoming-with is about an acknowledgement of collaborative minds that are challenging and being challenged by the messiness of the world.

For Puig de la Bellacasa, thinking with care therefore suggests that we relate to knowing based on an understanding of heterogeneity as a range of different doings needed to hold together and sustain life in its diverseness. She writes: ‘to care or not to care about/for something/somebody, inevitably does and undoes relation […] it is about engaging in a better account of the world’ (Puig de la Bellacasa, 2017: 70).

Through the feminist figures thinking- and becoming-with, the caring attitude for the relatedness of things is advanced – an attitude in which the humbleness of our relatedness to knowing and doing is acknowledged in the contact zone. As such, the contact zone needs to become a space in which it is possible to test, elaborate and play with various forms of engagement, involvement and care in the search for new critical sensibilities. Haraway (1988) plays an important role in setting the stage for how we make inquiries into the way we talk about knowledges in science, and here it is especially argued that knowledges are situated within particular sets of values. That is, that knowing and thinking are constituted by a multitude of relations that make possible the worlds we think and live in. Here is a challenge and call for feminist HCI to make a real difference in how we think through relations, dilemmas, stakeholders, interests and belongings in contemporary digital designs.

Throughout the contact zone, embracing otherness is thus a central theme; trying out heterogeneous ways to explore the unknown in our relationships with digital materials, users and other stakeholders. In this attempt, Barad’s (2007) agential realism and diffractive methodology and Haraway’s (2016) speculative thinking are inspirational. A focus on responsibility and accountability directs attention to the intent of establishing a sensitivity to embrace otherness within. It is as such also in accordance with the claim that there are possibilities and potentials in the experiential realm of digital designs that can be explored if one frames relationships within the contact zone in some new and radically different way. Accordingly, to establish a new critical sensibility might among other things entail examining the conditions and circumstances necessary in order for something to be, exist or appear. Such an ability to respond to and account for can thus also be regarded as a primary motivating factor for exploring alternative aspects, knowledges and preconditions that contrast and differentiate from prevailing conceptions and concerns. The ability to respond thus requires being in touch with the material, the knowledge produced and its implications. As such, responsibility and accountability are closely related to ethics and to paying attention to otherness. This accountability
entails a strong ethical attentiveness towards design as always situated and locally bound, and towards design outcomes, which are always considered with respect to the consequences they may have for those practices. And even though such a concern for accountability fosters a caring, responsible approach, it simultaneously nurtures a concern for subjects and objects and what happens in between them.

So, how to develop methods and approaches that motivate HCI research to (paraphrasing Haraway, 2016) ‘stay with the trouble’? In the contact zone, there are alternative methods for inclusive, norm-critical and norm-creative design. These methods insist on supporting an exploration of divergent approaches in order to encourage the emergence of new and/or alternative visions of future designs, i.e. they support HCI in phases of composition, intra-action and diffraction as well as in explorations of potentialities, complexities and possibilities. Some key concepts for such methods are reality production, ethics, responsibility and the not-yet-existing. In sum, these are methods that provide designers with generative and alternative ways to understand, affect and be affected in order to develop the ability to take responsibility for design processes and their outcomes.

In this respect, the contact zone might seed some of those alternative sensibilities and abilities. Nelson and Stolterman (2012: 66), for instance, refer these abilities as listening filters, which contribute to making things clearer when it comes to inclusive design and digital design, to reflect critically on our role as researchers in this field. It is the ability to respond and to account for. This mode of thinking and doing research where one is in touch and exploring difference could also be a strong motif in HCI research (Barad, 2007).

How would we feel if it is by way of the inhuman that we come to feel, to care, to respond? (Barad, 2012: 216).

The tentative suggestion is that thinking with care and assembling neglected things informed by feminist technoscience and designerly thoughts has the potential to offer HCI an ethical stance from which to take leadership for an alternative, more inclusive future. The designerly way of thinking and knowing among other things offers us an important distinction between the real and the not-yet-existing, always insisting that things can be different. Inherent in this dimension is a sensitivity to the particulars of situations, materials, ideas, demands, knowledges and the unknown, elsewhere, not-yet and only-imagined presents.

The position employed in this article has thus redirected a ground for design away from particulars of specific situations, from the objects and subjects towards a need for new conceptual characteristics of wholes that are sufficiently intriguing and open for interpretation and reflection. Or, as Rogers declares, ‘A new set of thinking tools are needed to fill the “understand” phase, one that can be used to articulate and resolve the differing sets of value and questions arising from them’ (2009: 16). It is in this respect that feminist theories can offer HCI an important alternative for developing a new critical sensibility – a sensibility in which the call for response-ability, account-ability and sense-ability can be harboured by HCI researchers. Here I suggest that we take seriously the need to foster our ability to listen and be touched by difference (Barad, 2007).
Conclusions

In this article, HCI has been advanced as a design-oriented discipline with strong links to feminist theories, methods and thinking. In particular, the work of Puig de la Bellacasa (2017) has been inspirational for what thinking with care in HCI might entail. In this article, thinking with care draws attention to alternative ways of knowledge production inspired by feminist theory and designerly thoughts in HCI – an alternative that has been advanced by scholars but requires further attention. The suggestion is that thinking with care in HCI can be advanced in meta-design spaces with affective and ethical imperatives. Such spaces have a strong affiliation with the notion of situated knowledge, which opens up a space for communication between different knowledge producers and ways of producing knowledge. It serves to break down the boundaries between scientific production from a distance with the physical, natural, social, cultural and human sciences, but also between scientific and non-scientific knowledge production. The position is that thinking with care in HCI could benefit from further explorations of feminist theory and designerly thoughts. In this article, the feminist figuration of the contact zone is suggested as a meta-design space in which designerly thinking and feminist figures are able to foster a new critical sensibility. This sensibility might support HCI research to take a stance towards conventional forms of digital design where instrumental rationality guides and frames questions and approaches. The motivation behind this article is to open up exploration of such spaces as well as to take seriously the approaches of feminist theories in order to advance a more significant digital future.

Other feminist figurations have also been assessed in order to initiate a discussion of the potentials, characteristics and motivations in contact zones – diffractive thinking, intra-activism, thinking-/becoming-with and response-ability. In general, it is argued that contact zones could support how to think differently with others regarding important aspects related to digitalisation and digital design which are at the core of the field of HCI. Contact zones offer spaces where it is possible to explore new patterns, meanings and tensions by adding layers of meanings, values and interests into a differential myriad of future possibilities. Within contact zones, the suggestion is that the knowledge produced has a specific aim of challenging and questioning power dynamics in social settings where physical and digital blends are of increasing importance.

The tentative suggestion advanced in this article is that any understanding of digitalisation and its relationship with human experiences needs to be considered within a more general horizon of onto-epistemology, such as that suggested by performative views on the relationship between identity, self and technology (Barad, 2007). Questions of onto-epistemology emerge as a response to contemporary concerns about how digitalisation is transforming our lives. Any consideration regarding the need to think with care in the age of digitalisation must take serious performative stances on digital existence in the search for new imaginaries and possibilities. It is also within such a stance that feminist theories are especially important and supportive for HCI.

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