



<http://www.diva-portal.org>

This is the published version of a paper presented at *CHI '19 (Conference on Human Factors in Computing Systems) "Weaving the threads of CHI"*, Glasgow, Scotland, UK, May 4-9, 2019..

Citation for the original published paper:

Croon Fors, A., Svedmark, E., Danielsson, K. (2019)

Ethics for Responsible Technologies

In:

N.B. When citing this work, cite the original published paper.

Permanent link to this version:

<http://urn.kb.se/resolve?urn=urn:nbn:se:umu:diva-159204>

---

# Ethics for Responsible Technologies

**Anna Croon**

Department of Informatics  
Umeå University, Umeå, Sweden  
anna.croon@umu.se

**Eva Svedmark**

Center for Educational Development  
Umeå University, Umeå, Sweden  
eva.svedmark@umu.se

**Karin Danielsson**

Department of Informatics  
Umeå University, Umeå, Sweden  
karin.danielsson@umu.se

**ABSTRACT**

In this position paper, a tentative response to questions concerning the role of philosophy in conjunction with recent advancement within the field of HCI (Human Computer Interaction) will be discussed. At the core of our discussion are new demands for responsible research where philosophically informed HCI research can play a fundamental part. Our argument is that philosophically informed HCI research can serve as a foundation for assessing and deliberating relationships between digital designs and quality of life. In our view, such assessments have much to gain by perspectives and critiques already elaborated by HCI scholars. We briefly outline how, in our experience, the basis of Critical Theory and Feminism provides a bracketing foundation for educating and cultivating HCI research that anticipates and assesses potential implications and societal expectations with regard to digital designs.

---

\*Produces the permission block, and copyright information. See the specific order to use the table cells to include the authors in the order you want yourself and your co-authors to be listed. Use footnotes sparingly, avoid using them. There is a **white text** number 1 after the ABSTRACT heading to maintain this ACM copyright block space.

Permission to make digital or hard copies of part or all of this work for personal or classroom use is

granted without fee provided that copies are not made or distributed for profit or commercial advantage and that copies bear this notice and the full citation on the first page. Copyrights for third-party components of this work must be honored. For all other uses, contact the owner/author(s).

*CHI'19 Extended Abstracts, May 4-9, 2019, Glasgow, Scotland, UK.*

© 2019 Copyright is held by the author/owner(s).

ACM ISBN 978-1-4503-5971-9/19/05.

DOI: <https://doi.org/10.1145/3290607.XXXXXXX>

## KEYWORDS

Critical theory; Feminism; Lifeworld;  
Digital designs;

## INTRODUCTION

Digital systems and applications are continuously being implemented and tried out on a world-wide scale. For example, digital designs in terms of autonomous systems and various AI applications are presently changing the way we live our lives, understand ourselves and our surroundings [2, 3, 4, 6, 8, 9, 11, 12, 13]. This change is sometimes referred to as a digital transformation in which demands for new ethical vistas, considerations and deliberations are sought for, required and essential to develop [18, 19]. Digital designs are as such also advanced into important social contexts where there is a need to move beyond conventional understanding of instrumental rationality, to approaches that more closely questions the ways that digital designs are shaping and forming peoples' lifeworlds [16, 18, 28].

Based on critical theories of technology and feminism our stance is that digital designs need to be understood as filled with agency, intentionality and values [16, 17, 26, 30]. These ideas are not new, but has so far not been fully understood and developed in academic disciplines that studies the relationship between human experience and technologies, HCI research included. Feenberg, for instance, states that most disciplines have been rather preoccupied with an analytical asymmetry between function and structure on the one hand and lifeworld and meaning on the other [14]. A preoccupation that has contributed to an impression that technology is only social when it is being used for something, leaving the technical as a non-social phenomenon, unrelated to sense-making and human experience [14].

We find such unreflective approaches to digital designs problematic. Therefore, we argue that there is an increased need to reflect and explore various meanings and consequences of digital designs. So instead of only value and cherish digital designs as something universal and given, we suggest that digital designs need to be reflected upon as related to a continuum of experiences possible to critique and interpret. That is, instead of fostering the sense of the digital as given, the meaning of digitalization should be regarded open, dynamic, multiperspectival and unfinalizable [6, 7, 10, 13, 14, 19, 21].

Over the years, Philosophy of Technology and Feminism has developed various approaches to criticize, analyze and discuss technological developments and their consequences for society [7, 19, 20]. Many of them relate to the thinking of Martin Heidegger, as he is regarded the first philosopher that recognized the ontological status of technology [17]. What distinguishes these philosophers is also that they in one or another make explicit an asymmetry between human experience and technology and in different ways try to move beyond. They can as such be said to advocate a more critically inclined theory of technology.

### **The characteristics of Critical Theory and Feminism:**

*Qualitative and interpretative* – paying attention to history and asymmetries in power.

*Dialectic and diffractive thinking* – illuminating negotiation and prevailing notion of ideas.

*Responsibility and accountability* – focusing on otherness, values, norms and ethics.

### **HCI RESEARCH INFORMED BY CRITICAL THEORY AND FEMINISM**

As we advance Critical Theory and Feminism as basis in HCI's evolving research we also acknowledge other such attempts that investigates ethical and moral implications of digital designs [2, 3, 4, 6]. One overarching and shared concern for Critical Theory and Feminism is the rejection of technological forms of domination among other things referred to as reification, or one-dimensionality [15, 16, 21]. Here however we suggest that the relationship between HCI, Critical Theory and Feminism could be explored even more thoroughly, as also suggested by [3, 4, 5, 6]. We advance three characteristics of Critical Theory and Feminism that we hold to be important for critical HCI research position from which multi-dimensions of human relationships with digital designs can be explored, questioned and approached.

*The first aspect* of Critical Theory and Feminism that could be further explored by HCI research its' qualitative and interpretative ambitions in combination with a deep interest in the critical questioning of actual social realities [1, 8, 9, 24]. Hence philosophically informed HCI could renew such ambition by paying more close attention to how digital designs are historically assembled and shaped by asymmetries in power and interests and consequently explore how such asymmetries and interest can and should be subject to critique. We also here find support to suggest a shift in attention from contexts of application, towards contexts of implication and oriented towards matters of concerns or 'ultimate concerns' as suggested by feminist scholars and philosophers of technology [7, 15, 16, 20, 24].

*The second aspect* of is to focus on dialectic and diffractive thinking, often in some kind of negation with prevailing notions and ideas. Through negations, dialectic tensions are made explicit, that illuminates as well as makes possible the surpassing of dominating ideas. It is thus by making explicit tensions between actualities and alternative ideas and practices that productive contrasts are created [1, 8, 9, 27, 29]. Some cornerstone concepts (figures, scripts) within feminist technoscience that might provide additional grounds are among others; situated knowledges [15] design from somewhere [23], partial translations [23] and modest witness [15], companion species [15], diffraction and agential realism [8]. As well as questions such as: Where are we going? Is this a desirable development? What if anything would we do about it? Who gains and who loses and by which mechanisms of power?

*A third aspect* is responsibility and accountability. A focus on responsibility and accountability directs attention to the intent in Critical Theory towards liberating humans from the domination of technology. But it can also be in accordance with the claim that there are possibilities and potentials in the experiential realm of digital designs by framing this relationship in some new and radically different way [9, 15, 16, 27]. Accordingly, to be critical is to examine the conditions and circumstances that are necessary in order for something to be, exist or appear [9, 10, 27]. The ability to respond and account can thus also be regarded as a primary motivating factor for exploring alternative aspects, knowledge and preconditions that contrasts and differentiates prevailing conceptions and concerns. The ability to respond, thus requires being in touch with the material studied, the knowledge produced and the implications of research. As such, responsibility and accountability are closely related to ethics and to paying attention to otherness, rather than sameness [27, 29, 30, 31].

## CONCLUSION

In sum, we find a need of more philosophically oriented HCI research. Here we have tentatively outlined the characteristics that we find valuable to further pursue by such orientation. We think that there is a need for a more liberal form of qualitative research where the researchers own imaginative, analytical and interpretative ability is combined with theories that counter-weight seemingly neutral concepts of digital designs. Our research on the boundaries of feminism and HCI is presently oriented towards AI and Ethics where we try to formulate questions regarding matters of concerns and contexts of implication. We are for instance questioning how ethics and responsibility can be understood beyond checklists and controlled bias in autonomous systems, and to what extent people are ascribing morality and responsibility to AI in their everyday life. We are also exploring the relationship between AI and Ethics through notions of existential trust and technoemotions in order explore other critical sensibilities in studies of digital designs. We find it to be a real need for a critical stance, a research approach that questions the relationships between digital designs and the 'good life'. Here we claim that Critical Theory, Critical Theories of Technology and Feminism can further such a responsible HCI research position.

## REFERENCES

- [1] Alvesson, M., & Sköldböck, K. (2017) *Reflexive Methodology New Vistas for Qualitative Research*, New York: SAGE.
- [2] Bardzell, J. (2011). *Interaction Criticism: An Introduction to the Practice*. *lwc* 23, 6 (Nov. 2011), 604–621.
- [3] Bardzell, J. & Bardzell, S. (2015) *Humanistic HCI. Synthesis Lectures on Human-Centered Informatics* 8, 4 (Sept. 2015), 1–185.
- [4] Bardzell, S., Bardzell, J., & Blythe, M. (Eds.) (2018) *Critical Theory and Interaction Design*. MIT Press, Cambridge, MA.
- [5] Bardzell, S., Churchill, E., Bardzell, J., Forlizzi, J., Grinter, R., & Tatar, D. (2011) *Feminism and Interaction Design*. In CHI'11 EA. ACM, New York, 1–4.
- [6] Bardzell, S. (2010) *Feminist HCI: Taking Stock and Outlining an Agenda for Design*. In Proc. CHI'10 ACM, New York, NY, USA, 1301–1310.
- [7] Borgmann, A. (1984) *Technology and The Character of Contemporary Life: A Philosophical Inquiry*, Chicago: The University of Chicago Press.
- [8] Barad, K. (2007) *Meeting the Universe Half-Way: Quantum Physics and the Entanglements of Matter and Meaning*, Durham: Duke University Press.
- [9] Croon Fors, A. (2006) *Being-with Information Technology, Critical Explorations Beyond Use and Design*. Umeå University.
- [10] Danielsson Öberg K. (2010) *Att Främja Medverkan: Utmaningar och Möjligheter för Barns Och Ungdomars Delaktighet Vid Design Av Digitala Edutainmentproduktioner*, Umeå universitet: Institutionen för informatik.
- [11] Dignum, V. (2017) *Responsible autonomy*. In *Proceedings of the Twenty-Sixth International Joint Conference on Artificial Intelligence (IJCAI'2017)*, pp.4698–4704.
- [12] Dignum, V. (2018) *Ethics in artificial intelligence: introduction to the special issue, Ethics and Information Technology*, 20:1, March.
- [13] Floridi, L.; Cows, J.; Beltrametti, M.; Chatila, R.; Chazerand, P.; Dignum, V.; Luetge, C.; Madelin, R.; Pagallo, U.; Rossi, F.; Schafer, B.; Valcke, P.; Vayena, E. (2018) *AI4People—An Ethical Framework for a Good AI Society: Opportunities, Risks, Principles, and Recommendations*. *Minds & Machines*, [s. l.], v. 28, n. 4, p. 689–707.
- [14] Feenberg, A. (1999) *Questioning Technology*, New York: Routledge.

- [15] Haraway, D. (1991) *A Cyborg Manifesto: Science, Technology and Socialist Feminism in the late Twentieth Century*, In *Simians, Cyborgs and Women: the reinvention of Nature*, New York: Routledge.
- [16] Haraway, D. (2016) *Staying with Trouble. Making kin in the Chthulucene* Duke University Press.
- [17] Heidegger, M. (1977) *The Question Concerning Technology and Other Essays*, New York: Harper and Row Publishers.
- [18] Ihde, D. (1990) *Technology and The Lifeworld: From Garden to Earth*, Bloomington: Indiana University Press.
- [19] Kudina, O., & Verbeek, P.-P. (2018). *Ethics from Within: Google Glass, the Collingridge Dilemma, and the Mediated Value of Privacy*. *Science, Technology, & Human Values*.
- [20] Latour, B. (2004) *Why has Critique Run out of Steam? From matter of Facts to Matter of Concerns*, *Critical Inquiry*, 30, pp. 225-248.
- [21] Marcuse, H. (1964) *The One Dimensional Man*, Boston: Beacon Press.
- [22] McCarthy, J & Wright, P. (2004) *Technology as Experience*, Cambridge: MIT Press.
- [23] Sefyrin, J., 2010. *Sitting on the Fence—Critical Explorations of Participatory Practices in IT Design* (Doctoral dissertation, Mittuniversitetet).
- [24] Stolterman, E. & Croon Fors, A. (2004) *IT and the Good Life*, In: Kaplan B., Truex D.P., Wastell D., Wood-Harper A.T., DeGross J.I. (eds) *Information Systems Research*. IFIP International Federation for Information Processing, vol. 143. Springer, Boston, MA.
- [25] Stolterman, E. & Croon Fors, A. (2008) *Critical HCI Research: A Research Position Proposal*, *Design Philosophy Papers*, No. 1.
- [26] Suchman, L. (2011) *Subject objects*. *Feminist Theory*, 12(2), 119–145.
- [27] Svedmark, E. (2016). *Becoming Together and Apart: Technoemotions and other Posthuman Entanglements*. PhD Thesis Umeå: Umeå University.
- [28] Turkle, S. (2011) *Alone Together: Why We Expect More from Technology and Less from Each Other*. New York: Basic Books.
- [29] Verbeek, P.P. (2008). 'Cyborg Intentionality – Rethinking the Phenomenology of Human-Technology Relations'. In: *Phenomenology and the Cognitive Sciences* 7:3, pp. 387-395.
- [30] Verbeek, P.P. (2011) *Moralizing Technology: Understanding and Designing the Morality of Things*. Chicago: University of Chicago Press
- [31] Verbeek, P.P. (2017). 'Designing the Morality of Things: The Ethics of Behavior-Guiding Technology'. In: Jeroen van den Hoven, Seumas Miller, Thomas Pogge (eds.), *Designing in Ethics*. Cambridge University Press.