

What Happened to Empathic Design?

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Introduction

At the end of the 1990s, designers began to encounter new types of challenges. Designers, design researchers, and industry wanted to explore feelings and moods and their links to design solutions. This brought along an interest for new approaches to design—approaches that were able to dive into more ambiguous topics, such as experiences, meaningful everyday practices, and emotions, and to connect them to innovative solutions. There were no established constructions to build upon, and concepts from ergonomics and user-centered design were too inflexible. This state of affairs created the need to find new ways to, on the one hand, make sense of people and, on the other, to create openings for design.

As an answer to this call, Leonard and Rayport suggested “spark[ing] innovation through empathic design.” They proposed that empathic design would especially entail “techniques (that) require unusual collaborative skills,” “open-mindedness, observational skills, and curiosity,” and the use of visual information as well as an understanding of companies’ existing capabilities combined with “the eyes of a fresh observer” in the users’ own contexts. The suggested mindset of combining subjective and objective approaches and design competence in field studies was thus adopted and elaborated by many practitioners and researchers.¹

This paper tells the story of how a group of design researchers in Helsinki have constructed an interpretive approach to empathic design. Empathic design has its roots in design practice. It is interpretive but, in contrast to ethnographic research, focuses on everyday life experiences, and on individual desires, moods, and emotions in human activities, turning such experiences and emotions into inspiration. This paper shows how empathic ideas can turn into a long-lasting research program—one that develops around a few key ideas, is able to respond to many kinds of new challenges, and maintains the core key ideas around which the new applications of the program are built. To describe this development, we illustrate how research has produced contribution in three key areas: research practices, methods, and topics. The program’s evolution shows how the roles and relationships of both designers and

- 1 Dorothy Leonard and Jeffrey F. Rayport, “Spark Innovation Through Empathic Design,” *Harvard Business Review* 75, no. 6 (Nov-Dec, 1997): 10–13.
- 2 From Henry Dreyfuss’s *Design for People* to Tomas Maldonado’s definition of industrial design for ICSID International Council of Societies of Industrial Design in the mid-1950s and Stanford’s adoption of the term, human-centered design slightly later.
- 3 Leonard and Rayport, “Spark Innovation Through Empathic Design,” Patrick Jordan, *Designing Pleasurable Products* (London: Taylor and Francis, 2000); Elizabeth B. N. Sanders and Ulau Dandavate, “Design for Experience: New Tools,” *Proceedings of the First International Conference on Design and Emotion* (Delft, The Netherlands: TU Delft, 1999): 87–92; Jane Fulton, “Physiology and Design: Ideas About Physiological Human Factors and the Consequences for Design Practice,” *American Center for Design Journal* 7 (1993): 7-15; Alison Black, “Empathic Design: User Focused Strategies for Innovation,” *Proceedings of New Product Development* (IBC Conferences; Darrel K. Rhea, “A New Perspective on Design: Focusing on Customer Experience,” *Design Management Journal* (Fall, 1992): 40–48; B. Joseph Pine, II and James H. Gilmore, *The Experience Economy* (Boston: Harvard University Press, 1999); Jodi Forlizzi and Shannon Ford, “The Building Blocks of Experience: An Early Framework for Interaction Designers,” *Proceedings of DIS2000* (New York: ACM Press, 2000): 419-23.

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- 4 This conviction came mainly from sociological studies of emotions and the psychology literature behind these debates. In particular, we were influenced by Stanley Schachter and Jerome E. Singer, "Cognitive, Social, and Physiological Determinants of Emotional State," *Psychological Review* 69 (1962): 379–99; and Susan Shott, "Emotion and Social Life: A Symbolic Interactionist Perspective," *American Journal of Sociology* 84 (1979): 1317–34. In addition, Rosenberg is still a good review of the basic themes of this debate. See Morris Rosenberg, "Reflexivity and Emotions," *Social Psychology Quarterly* 53 (1990): 3–12.
- 5 For example, Hugh Beyer and Karen Holtzblatt, *Contextual Design: Defining Custom-Centered Systems* (San Francisco: Morgan Kaufmann, 1998); Pelle Ehn, *Work-Oriented Design of Computer Artifacts* (Stockholm: Arbetslivscentrum, 1988); Douglas Schuler and Aki Namioka, eds., *Participatory Design Principles and Practices* (1993; Boca Raton, FL: CRC Press, 2009); Kari Kuutti, "Activity Theory as a Potential Framework for Human-Computer Interaction Research," *Context and Consciousness: Activity Theory and Human-Computer Interaction*, Bonnie A. Nardi, ed., (Cambridge, MA: MIT Press, 1996); Carolien Postma, Kristina Lauche, and Pieter Jan Stappers, "Social Theory as a Thinking Tool for Empathic Design," *Design Issues* 28 (2012): 30–49. In terms of theory, we made several links to ethnomethodological studies, as articulated by the Palo Alto Research Center (see especially Esko Kurvinen, Katja Battarbee, and Ilpo Koskinen, "Prototyping Social Interaction," *Design Issues* 24, No. 3 (2008): 46–57. Ethnomethodology, of course, is neither interpretive nor empathic, but it still inspired us. A recent key link to participatory design is made in Kirsikka Vaajakallio, "Design Games as a Tool, a Mindset, and a Structure" (Doctor of Arts dissertation, Aalto University, 2012).

users have changed, as well as how designers' tasks have shifted from product design to cover a variety of topics, including service networks and service development in public organizations. In broader terms, we argue that design research can advance by treating precedent studies as referents and precedents that it relates to, and is influenced by, but not by taking them as facts that accumulate as research progresses. In this way, design research relates to design practice and finds itself in the company of the social sciences and humanities.

Empathic Design as Program

Empathic design is built on a long history of human-centered design.² However, the notion of empathy as grounds for design has a shorter history that goes back to the writings by Leonard and Rayport in marketing, to Patrick Jordan's work in Philips, to Liz Sanders's work at SonicRim, to Jane Fulton Suri and Alison Black's work in IDEO, and to the notion of user experience.³ This work was driven by dissatisfaction with prevailing cognitive models that were coming to the fore in design through interactive technology. These cognitive models saw design as a problem-solving engagement, even though the main problem in design most of the time is actually understanding the nature of the problem. Moreover as the models were not grounded in design, they gave little support to things that matter in design, including sensitivity in sensorial and bodily existence, as well as curiosity in exploration that should lead to innovative design ideas.

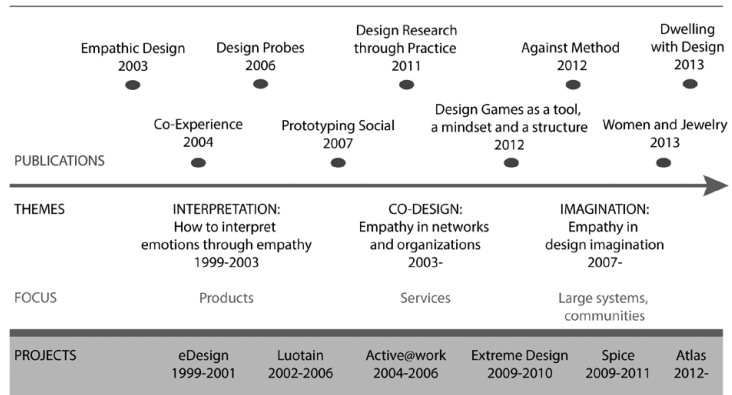
Empathic design shared these suspicions but worked through a different conceptual lens. Empathic designers studied how people make sense of emotions, talk about them, and share them⁴ For us, design became an interpretive exercise, which had to be founded on talking to people and interacting with them. It was part of a larger movement toward context-sensitive design, but it was built on design competencies; it shared neither the theory nor the politics of the movements of participatory design and activity theory.⁵ The links to participatory design that do exist are more recent. From the very beginning, empathic design was inspired by cultural probes, although empathic designers saw them in interpretive rather than in situationist terms.⁶

These considerations led to a significant research program that has been built around four key beliefs. First, people give meanings to things and act on these meanings, and these meanings both arise and are modified in interactions. Second, because design comes by its meaning in real life, design research must be done in real life. Third, research methods should come from design and be visual and tactile, inspiration-enhancing, deliberately cheap and low tech, playful, tested in reality, and targeted at the fuzzy front end of the design process. Analysis of the research seeks to explicate meanings for design—not to create explanations

Figure 1

Empathic design as research program.

From lower left: focuses, key projects, driving problems, key publications.



per se. Fourth, we believe that design researchers need to explore these meanings—and by implication also possible futures—using design-specific means: through the process of making, using visualizations, by making, mock-ups, and storyboards.⁷ Empathic design has developed around these core beliefs. Empathic design has gone through series of developments. Progress in empathic design lies in the fact that variables—around the core—change over time. These variables consist of, for example, research questions, topics, and research methods.

When we look at empathic design in these terms, we see development happening at several levels. At the bottom, we have developed ways to handle different types of problems through empathic design. Early on, the research focused on elucidating experiences in an interpretive manner. From there, it evolved into co-design, in which the division between expert designers and the lay public became blurred. The challenge at this level was figuring out how to facilitate design activities in organizations and networks. During the past few years, the problem has revolved around how to leapfrog from mere interpretation into a more imaginative mode.

Key projects have been focused around these issues. They have sought to understand the kinds of methods that are suitable for studying emotional experiences for design (eDesign project, 1999-2001); how these methods work in company contexts (Luotain project, 2002-2006); how to expand these methods to incorporate designing for social innovation (Active@work project, 2004-2006); how to apply the approach to services (eXtreme design project, 2008-2009); and how to apply storytelling when designing for local identities in a large system, such as the Helsinki Metro (Spice project, 2009-2012).

Key publications have documented these methods (*Empathic Design* 2003; *Design Probes* 2006), created concepts for extending the program (*Co-experience* 2004), and explored how empathic design relates to design games (*Design Games as a Tool, a Mindset and a Structure for CoDesign* 2012).⁸ Upcoming doctoral level publications

6 Although Bill Gaver and his colleagues' work on probes (William Gaver, Toni Dunne, and Elena Pacenti, "Design: Cultural Probes," *Interactions* 6, no. 1 (1999): 21–29; and William Gaver, Ben Hooker, and Anthony Dunne, "The Presence Project" (London: RCA CRD Research Publications, 2001) was based on artistic references, including situationism and surrealism, it inspired in particular Mattelmäki (Tuuli Mattelmäki, *Design Probes*, Doctor of Arts dissertation, Helsinki: UIAH, 2006), whose probe process included interpretations of probe returns that were further elaborated in interviews with the users, i.e., probes study participants, and the title "empathy probes" resulted from these elaborations. Some of the ambiguity of cultural probes was also reduced through constant dialogues and collaborative interpretations with partnering companies.

7 See Ilpo Koskinen, Katja Battarbee, and Tuuli Mattelmäki, eds., *Empathic Design* (Helsinki: IT Press, 2003).

8 Koskinen, Battarbee, and Mattelmäki, eds., *Empathic Design*; Mattelmäki, *Design Probes*; Katja Battarbee, *Co-Experience* (Doctor of Arts dissertation, Helsinki: UIAH, 2004); Vaajakallio, *Design Games*.

have studied how an empathic approach can become strategic when connected to strategic change in the housing industry (Katja Soini, *Design Empathy and Housing Renovation 2014*), and how to design healthcare systems in disadvantaged parts of Rio de Janeiro (Marcelo and Andrea Judice, *You Are Important! and Design for Hope*, 2014).⁹ Other studies with no designing component have explored how some objects become meaningful enough to stay in families for generations (Petra Ahde-Deal, *Women and Jewellery* 2013) and how design finds its place at home (Heidi Paavilainen, *Dwelling with Design*, 2013).¹⁰ In addition, a few other works have built on ethnomethodology in trying to understand emotions and interactions, creating an alternative to interpretive methods (Esko Kurvinen, *Prototyping Social Action 2007*; Jung-joo Lee, *Against Method*, 2012).¹¹ The program has also formed an important background in recent methodological studies (*Design Research through Practice*, 2011).¹² Furthermore, there has been a series of student cases and smaller research projects, such as Väinö project, which studied aging and solutions for coping in old age.¹³ These projects have focused on intense emotional settings with little or no immediate biological or neurological basis.

Interpreting Emotions and Experiences for Design

The first research project that studied questions related to experiences, eDesign—Designing for Emotional Experience, laid the groundwork for empathic design research. It was funded by a program that sought answers to research questions connecting art and research, which influenced the formulation of research objectives that would look beyond measuring and usability.

eDesign came about during the late 1990s. It was interested in interactive products, or smart products, as they were called then. This category included not only mobile phones, but also all kinds of small interfaces. The main drivers for this work came from the IT industry, and inspiration came from places such as the MIT Media Lab, IDEO, Computer-Related Design at the RCA, and work at TU Delft.¹⁴ Key words were first—emotions, and slightly later—user experience.

The study assumed that the closer the designer comes to the real user, the more easily the designer can step into the user's world. The more the designer can live and experience the users' emotions, the better she can transform the ideas and constraints into appealing and pleasing design solutions.¹⁵ The project also assumed that learning about emotions helps designers in creating usable and likable products.¹⁶ Out went earlier work on usability—along with the frustration with its rational agenda—and in came more exploratory ways to study users' experiences.

At the heart of the process was role immersion—the idea of making sense of the other through oneself by trying things by ourselves and to gain personal insights into the kinds of experiences

9 Publications in parentheses are PhD theses in progress at the Department of Design at Aalto University School of Arts, Design and Architecture.

10 Petra Ahde-Deal, *Women and Jewellery* (Doctor of Arts dissertation, Helsinki: Aalto ARTS, 2013); Heidi Paavilainen, *Dwelling with Design* (Doctor of Arts dissertation, Helsinki: Aalto ARTS, 2013).

11 Esko Kurvinen, *Prototyping Social Action* (Doctor of Arts dissertation, Helsinki: UIAH, 2007); Jung-joo Lee, *Against Method* (Doctor of Arts dissertation, Helsinki: Aalto ARTS, 2012).

12 Ilpo Koskinen et al., *Design Research Through Practice: From Lab, Field, and Showroom* (San Francisco: Morgan Kaufmann, 2011).

13 Väinö project see e.g. Mattelmäki, *Design Probes*.

14 See, e.g., Caroline Hummels, "Engaging Contexts to Evoke Experiences," in *Proceedings of the First International Conference of Design and Emotion*, Cees J. Overbeeke and Paul Hekkert, eds. (Delft, The Netherlands: TUDelft, 1999), 39–45; and S. A. Wensveen, "Tangibility Approach to Affective Interaction" (PhD thesis, TU Delft, The Netherlands, 2005).

15 This belief came mainly from Black 1998 Empathic design, Sanders and Dandavate 1999 Design for Experiencing, and Buchenau and Fulton Suri 2000 Experience prototyping.

16 The proposal comes from Tuuli Mattelmäki's research plan for her doctoral thesis in 1998.

- 17 Koskinen, Battarbee, and Mattelmäki, eds., *Empathic Design*; Peter Wright and John McCarthy, "Empathy and Experience in HCI," in *Proceedings of CHI 2008, Dignity in Design*, (New York: ACM Press, 2008), 637–46; Jane Fulton Suri, "Empathic Design: Informed and Inspired By Other People's Experience," in *Empathic Design*, 51–65.
- 18 Salu Ylirisku and Jacob Buur, *Designing with Video: Focusing the User-Centred Design Process* (London: Springer, 2007); Marion Buchenau and Jane Fulton Suri, "Experience Prototyping," in *Proceedings of DIS 2000*, Dan Boyarski and Wendy A. Kellogg, eds. (New York: ACM Press, 2000), 424–33; Sanders and Dandavate, "Design for Experience: New Tools," 89-90; Hugh Beyer and Karen Holtzblatt, *Contextual Design: Defining Customer-Centered Systems* (San Francisco: Morgan Kaufmann, 1998).
- 19 Bruce Hanington, "Methods in the Making: A Perspective on the State of Human Research in Design," *Design Issues* 4, no. 19 (2003): 9–18; Jonas Löwgren and Erik Stolterman, "Design Methodology and Design Practice," *Interactions* 6, no. 1 (2004); Tuuli Mattelmäki, "Probing for Co-Exploring," *CoDesign: International Journal of CoCreation in Design and the Arts* 1 (2008): 65–78; Ilpo Koskinen et al., *Design Research Through Practice: From Lab, Field, and Showroom* (San Francisco: Morgan Kaufmann, 2011), e.g., 74.
- 20 See Francesca Rizzo, "Co-Design versus User Centred Design: Framing the Differences," in *Notes on Design Doctoral Research*, Luca Guerrini, ed. (Milano: Franco Angeli, 2010), 125-32.
- 21 Tuuli Mattelmäki and Fraukje Sleeswijk Visser, "Lost in Co-X: Interpretations of Co-Design and Co-Creation," in N. Roozenburg, L. L. Chen & P. J. Stappers (Eds.), *Proceedings of the IASDR 2011, the 4th World Conference on Design Research*. Delft: TU Delft/IASDR 2011), 1-12.

others may have.¹⁷ Methods needed to help designers see the worlds of others through their own eyes and were therefore ambiguous and open-ended. The first experiment with empathic probes (i.e., an application of cultural probes) was conducted within company collaboration. The probing process created a respectful interaction with the users in which the objectives were to sensitize them to reflecting on their experiences and to invite company in-house designers to a continuous empathic dialogue.

Although the method of choice became cultural probes, they were by no means the only methods we applied. Design researchers also studied the use of video in interpretations and envisioning, tried out experience prototypes, and explored shapes and concepts using Make Tools and Contextual inquiry (although the latter was less prevalent because it was seen as coming from the social sciences rather than design).¹⁸

Perhaps the main reason for building on what Bruce Hanington has called "innovative methods" was that they created shared experience and common reference points among design team members and with other stakeholders while allowing an openness for creative exploration. In research projects, an empathic design attitude led to a simultaneous attempt to make design researchers sensitive to people and design potentials while engaging collaborative partners in this exploration. In this sense, empathic design methods were seen as tools for developing designers' abilities.¹⁹

Co-Design: Empathy in Networks and Organizational Practices

Design briefs began to change from products and interaction to systems and services around 2003. Who could be considered a user and who a designer was no longer clear. In response, empathic design shifted from user-centered design toward co-design, where people express their experiences in the design process.²⁰

Co-design, of course, is a gloss. Mattelmäki and Sleeswijk Visser have identified four directions of co-design: In one, users are observed and interviewed to access their expertise. A second direction is about generative approaches that aim to facilitate or trigger the user's imagination and expressions with tools provided by design researchers, while the analysis is left to the experts. In the third direction, the designer facilitates but also participates in collective creation; and in the final direction, design researchers support and facilitate a collaborative process among various stakeholders—not just with the assumed users.²¹

Behind all this variation is the belief that people with no design training must contribute to design activities, be they users or stakeholders. They must become empathic designers on their own, and the task of professional designers is to facilitate this process. When people participate in developing ideas, the ideas become rooted in their experiences, in their interpretations of

Figure 2

Design games workshops serve as platforms for collaborative reflection, envisioning and designing. The empathic mindset emphasises human perspective when making sense of a complex service network and its interactions.



other people's experiences, and in their expertise in the topic at hand. Moreover, people become committed to the ideas and to the human-centered, empathic mindset.²²

In terms of the scope, the program went through a reframing in the early 2000s while keeping its methodological basis largely intact. Co-design built heavily on collaborative workshops that brought together many kinds of stakeholders in different stages of the process. With this reframing, empathic design gained much flexibility, giving design researchers the means to broaden the array of research topics from products to systems, to organizations, and to networks behind organizations. For example, empathic design also explored design games in collaboration with participatory designers from Denmark.²³

These changes were part of the *Zeitgeist* of the early and mid-2000s. For example, in human-computer interactions (HCI), Wright and McCarthy argued that two types of methods act as drivers for an empathic sensibility: A dialogue-based approach engages designers and users in direct dialogue, while a narrative approach might involve little or no direct contact between the two. As stated by Leonard and Rayport, empathic design was mainly dialogical, seeking face-to-face confrontations between users. It also encouraged indirect user involvement, guided through various kinds of tools such as representations, narratives, or role-playing. Nordic participatory design, for its part, had evolved into an event-driven process, in which the iterative development process culminates in different types of events organized around collaborative inquiry and design. In design for services, the group of stakeholders involved in design grew to the community level.²⁴ In co-design events, however, the activities aimed gradually toward transforming participants' thoughts and sensitivity. The steps taken toward learning from performance art and storytelling became a platform for collaborative imagining.

22 For more on commitment, see, e.g., Katja Soini and Turkka Keinonen, "Building Up Commitment in the Finnish Renovation Industry," in *Proceedings of the Participatory Innovation Conference PINC 2011*, Jacob Buur, ed. Sønderborg: University of Southern Denmark (2011), 402-09.

23 Among Danish design researchers, most notable are Jacob Buur, Thomas Binder, and Eva Brandt.

24 Wright and McCarthy, "Empathy and Experience in HCI," 637-46; References to participatory design draw from Eva Brandt, "Event-Driven Product Development: Collaboration and Learning," PhD dissertation, Technical University of Denmark, 2001; and references to service design draw from Anna Meroni and Daniela Sangiorgi, eds., *Design for Services* (Adelshot: Gower Publishing, 2011).

Reality Twists: Empathy in Design Imagination

Though it had advanced designers' understanding of people in many ways, empathic design also presented problems. In particular, empathic designers could run into what can be called the "empathy trap." If designers are not vigilant, the attempt to be empathic might articulate popular reflections instead of innovating more radical futures. Roberto Verganti has recently and forcefully argued that the best designers not only listen to people but also follow their own reasoning and instincts.²⁵

While designer-based imagination has been at the base of empathic design from the beginning, it did not gain much attention in research before 2007. However, during the past few years, design researchers have studied ways to situate empathic processes in design imagination. They create worlds; invite people into these worlds; and observe what people say, do, and make in these worlds following co-design approaches.²⁶

The seeds for this reorientation were sown around 2006. In particular, Kirsikka Vaajakallio's work on design games served as a bridge from co-design to imagination. Her work was firmly based on co-design, but games by definition are make-believe. Vaajakallio was familiar with Danish work on design games but developed a uniquely empathy-based approach to them. Instead of making design games simulations of reality, she sought to turn them into creative exercises that provided her an opportunity to see what people do when faced with complex design contexts. Diverse role-playing activities, such as Character Game, that is a design games application developed by Vaajakallio and colleagues, are built on the idea that playing a role allows participants to step out of their ordinary cognition. Such reshaped personal and collective experiences open up novel opportunities for design and enhance empathic understanding of the topic.²⁷

Games prepared the way for an even more radical step, which was taken in Spice–Spiritualizing Space project. Spice created visions that brought local spirit into new metro stations in Helsinki's western suburbs. Method-wise, it collaborated with scriptwriters, filmmakers, and scenographers; and in their hands, design scenarios started not from realistic stories of how people enter the metro, but from drama. What if your tie or hem gets stuck in the escalator when you are rushing to a job interview? What is the worst-case scenario? What if this? What if that? These twists of reality had the benefit of not being tightly bound to today's routines. They could be used to turn existential dilemmas, surreal experiences, and absurd events into design explorations. The empathic understanding of everyday life is triggered by imaginative proposals of alternative futures.²⁸

25 Roberto Verganti, *Design-Driven Innovation: Changing the Rules of Competition by Radically Innovating What Things Mean* (Cambridge, MA: Harvard University Press, 2009).

26 Sanders and Dandavate nailed the "say-do-make" approach as a way to understand user experiences for design. Sanders and Dandavate, "Design for Experiencing," 87–92.

27 Kirsikka Vaajakallio, *Design Games as a Tool, a Mindset, and a Structure*, 204–09; Also, see more on character games in Kirsikka Vaajakallio, et al., "Someone Else's Shoes: Using Role-Playing Games for Empathy and Collaboration in Service Design," *Design Research Journal* no.1 (2010) the Swedish Industrial Design Foundation (2010): 34–41.

28 See more about the Spice project in, e.g., Tuuli Mattelmäki, Sara Routarinne, and Salu Ylirisku, "Triggering the Storytelling Mode," in *Proceedings of the Participatory Innovation Conference PINC 2011*, 38–44.

Figure 3
Exhibitions as research tools.
(top) eXtreme Design.
(bottom) Spice.



Another injection of imagination came from Brenda Laurel, Lisa Nugent, and Sean Donahue's Superstudio,²⁹ a year-long research class in the Media Design Program at the Art Center in Pasadena, CA. Based primarily on cultural probes, its approach to mulling over and thinking through probe returns was based entirely on design and reflective critique sessions rather than on statistical techniques or analytic induction. In particular, Miya Osaki's MA thesis on Japanese-American experiences during the Second World War led empathic designers to explore alternative, experience-rich, and open communication formats.³⁰

These examples have led empathic designers to reconsider open-ended communication formats.³¹ For example, design researchers created open-to-interpretation posters and booklets that invited viewers to step into the shoes of other people. They also built exhibitions to trigger empathic responses to inspiring design openings. These experiments aimed to "keep alive this natural curiosity and amazement about what it is like to be somebody else."³² They aspired to trigger new interpretations for inspiration and to build common ground for new design ideas for the developers and designers alike.

29 Lisa Nugent et al., "How Do You Say Nature: Opening the Design Space with a Knowledge Environment," *Knowledge, Technology and Policy* 20, no. 4 (2007): 269–79.

30 Miya Osaki, "Retellings," MA thesis, Art Center College of Design, 2008, <http://people.artcenter.edu/~osaki/retellings/index.html> (accessed June 24, 2013).

31 Tuuli Mattelmäki, Eva Brandt, and Kirsikka Vaajakallio, "On Designing Open-Ended Interpretations for Collaborative Design Exploration," *CoDesign: International Journal of CoCreation in Design and the Arts* 7, no. 2 (2011): 79–93.

32 Fulton Suri, "Empathic Design," 57.

Again, all these developments are well in line with the *Zeitgeist* of the mid-2000s. For example, Bill Gaver spoke for openness in design in 2004, and the most recent work at Goldsmith's in London is characterized as "design for debate." Similarly, a good deal of recent Dutch discussion is about open design. Critical designers, for their part, exhibit their work in galleries, museums, and citizen gatherings.

Behind all this activity was an even more radical twist toward more imaginative research.³³ In the world of imagination, designers can envision transparent plateaus above cities and ask what happens when a metro station becomes a community center or a social media hub. The focus on imagination has added flexibility to the empathic program and turned it back to rely on competences that are built on design's more expressive sides. As we have argued, empathic design was never conservative. Still, a new ground was needed to expand the research model to suit calls for innovation. Reality twists provided this new ground.

What Happened to Empathic Design?

This paper has told the story of empathic design in Helsinki, Finland. It is alive and well, even though in current work the term stays in the background. The core beliefs of empathic design were written almost 15 years ago. These core principles have gone unchanged ever since. They have led to a significant and sustained research program that has informed several major applied and basic design research projects. The program has generated about ten doctoral theses and other monographs, and contributed numerous articles and conference papers. Within the core group have been six researchers and close to 25 juniors. Its level of seniority ranges from doctoral students to senior researchers and professors whose roles have varied from researchers to theorists and mentors. The program has consistently been able to attract new talent and funding, as well as the interest of many companies. This work is exemplary, using Redström and Binder's expression.³⁴

The word "program" carries much meaning. As we have said, empathic design has a recognizable core built around a few beliefs. Often, these core beliefs are not stated, and they usually reside only in the heads of senior researchers. As we have shown in this paper, however, much progress has been made around this core. We have been able to answer new questions, regardless of whether these questions come from within the program or from the outside world. Empathic design has generated content with a large stock of studies that provides referents and precedents for new design cases and studies.³⁵

33 For example, see Jacob Beaver, Tobie Kerridge, and Sarah Pennington. eds., *Material Beliefs* (London: Goldsmiths, Interaction Research Studio, 2009), <http://materialbeliefs.com/> (accessed March 5, 2010).

34 Thomas Binder and Johan Redström, "Exemplary Design Research," *DRS Wonderground Conference*, November 1–4, 2006.

35 Koskinen et al. (2011), 39-50.

Empathic designers have consistently tried to soften the border between design and research. This approach acknowledges personal competences, such as empathic sensitivity in design research.³⁶ Currently, empathic design focuses on sensitivity in four layers:

- *Sensitivity toward humans*: gathering inspiration and information about and making sense of people and their experiences and contexts;
- *Sensitivity toward design*: seeking potential design directions and solutions and posing “what if” questions;
- *Sensitivity toward techniques*: application of generative, prototyping, and visualizing tools to communicate and explore the issues, and;
- *Sensitivity toward collaboration*: tuning the process and tools according to co-designers, decision-makers, and organizations alike. (This layer is particularly meaningful beyond the traditional design realm, such as when design is acting as a moderator of change).

The program has spread beyond Helsinki. Empathic designers have always borrowed practices from other researchers. Early on in the interpretive phase of the program, cultural probes and studies on design for experiences were important influences. When co-design became the key concept, empathic designers integrated field research practices from participatory design. More recently, empathic designers have been learning from more artistic expressions. They have also been learning service design and explored recent currents in critical design. Researchers with similar interests can be found in the Netherlands, the United States, Italy, Denmark, and the United Kingdom. The torch is not in Helsinki alone.³⁷

What, then, happened to empathic design? For us, the key feature of empathic design research in Helsinki has been the dialectic between the core and the influences and tendencies outside this core. Research on empathic design started with the need to have a strong connection with product design practice in contextual, experience-driven user studies. Explorations with methods and emotional topics sought to inspire design through contextual understanding and personal engagement. The mindset and practice of empathic design research were created in product design, with a focus on smart products in particular. Later, however, the attention shifted from explorations of everyday life toward social questions and services. The practice and the mindset remained the same, but research was geared to finding ways to inspire and sensitize not only designers, but also other stakeholders. During the

36 Turkka Keinonen, “Design Method – Instrument, Competence, or Agenda?” in M. Botta ed., *Multiple Ways to do Design Research. Research Cases that Reshape the Design Discipline*, Proceedings of the Fifth *Swiss Design Network Symposium '09* (Lugano: November 12–13, 2009); Geneva Swiss Design Network and Milano: Edizioni.

37 See Gaver et al. 1999 *Cultural Probes*; Sanders and Dandavate 1999; Nugent et al. 2007 *How do you say nature* and Osaki 2008 *Retellings*; Ezio Manzini’s and Anna Meroni’s work on service design, especially Meroni and Sangiorgi 2011 *Design for Services*; See also Andrea Branzi’s writings, but especially Andrea Branzi, *Learning from Milan: Design and the Second Modernity* (Cambridge, MA: The MIT Press, 1988); and Beaver et al., *Material Beliefs*. People influenced by empathic design can be found in TU/Delft and TU/Eindhoven, Politecnico di Milano, Carnegie Mellon University, and the University of Illinois, among others.

past few years, the researchers' interest has been in finding methods for envisioning increasingly radical design vistas. Such envisioning has always had a role in design; the latest work has brought empathic design closer to the art world.

During these 15 years, empathic design has grown into a research program with a number of publications, projects, and researchers. This paper has shown that the cornerstone of the program is sensitivity to people, tools, collaboration, and designing. Although these sensitivities have remained at the core of empathic design, it has also been flexible enough to explore new design challenges and research questions.