

Ready-mades in Empathic Design

Ilpo Koskinen*, Simone Taffe**, Tuuli Mattelmäki*, Jung-Joo Lee*

* *Aalto University, Helsinki, 1stname.2ndname@aalto.fi*
** *Swinburne University of Technology, Melbourne, staffe@swin.edu.au*

Abstract: Even though designers seldom talk about ready-mades, they use them in a variety of ways in design. This paper describes several uses of ready-mades in empathic design, which aims to gain an internalized understanding of the people they design for. Specifically, the paper looks at three uses: ready-mades as research instruments in taken-for-granted experience with haptic qualities of materials in everyday life; ready-mades as instruments for capturing the spirit of a community for design; and ready-mades as instruments for carrying this spirit into product development. Each example is illustrated with a case study. At the end of the paper, we discuss these cases and the usefulness of an art world concept in understanding design research.

Key words: *Ready-mades, empathic design, design methods, research methods; product development*

1. Introduction

Ready-mades are usually associated with art, but they have had many uses in design equally well, even though few designers have used the term. There are uses that go to the borderline of art. Two relatively recent exhibitions, Naoto Fukusawa and Jasper Morrison's *Supernormal* [8] and Konstantin Grcic's *Design Real* [11] have used the art world conventions to raise questions about what design is and how it is to be understood. Both exhibitions and catalogues noted that the best design goods become unquestioned parts of everyday life, even though they are rich in technology, philosophy, society and art. By putting them on pedestal, they asked visitors to rethink what they usually take for granted. Between design and art lie still other uses of ready-mades. Some of the most famous design movements of the last three decades built on ready-mades (and sometimes *objet trouvés*) rather than new materials, manufacturing techniques or innovations. For example, many Memphis designs by Mendini were collages of ready-mades, as were groundbreaking Droog designs like Tejo Remy's *Rag Chair* and Jurgen Bey's *Tree Trunk Chair* [28,29]. Graphic design has used ready-mades for the last 100 years starting with early Constructivist and Cubist collages [9].

Other uses take us closer to design practice. Every design school and design firm has collections of objects and images of objects for these purposes [16]. The Oxford dictionary defines ready-mades as 'a mass-produced article selected by an artist and displayed as a work of art', (especially in Dadaism) [25]. Our definition of ready-mades in the context of the design process is 'the selection and use of mass-produced articles to assist creative problem solving'. We argue that designers use ready-mades not as the Dada artists did to create art but to find a pathway to design reasoning. Designers, sometimes work together with clients and end-users using conveniently found, taken for granted, mass-produced articles to help with the flow of ideas especially in the beginning phases of the design

process. Ready-mades are a source of deconstruction or, in engineering language, reverse engineering: a standard exercise in design education and practice is to buy products and to take them carefully apart to learn about their design and to document these designs in expanded views. Finally, ready-mades are routinely used in product development. For example, as Roberto Lucci and Paolo Orlandini note, they are a source of materials and parts for model-making. Things like toys provide an endless and usually very cheap supply of such parts for design firms [21]. For example, designers sketch concepts by combining whatever objects are at hand to get an idea of dimensions, materials and assemblies for possible products (see labs.ideo.com/wp-content/uploads/2008/09/retrieveasset.aspx.jpeg). As two recent books note, *Unintentional Design* by Uta Brandes and her colleagues and *Thoughtless Acts* by Jane Fulton Suri, people routinely repurpose ordinary objects to solve problems in their lives [3,10].

2. Ready-mades in Empathic Design

This paper looks at how empathic designers use ready-mades to create and maintain empathic dialogues with users. Empathic designers generously use sketches, mock-ups and prototypes at all phases of design to create joint referents with people designers want to empathize with. This is well in the spirit of empathic design, which prefers playful, low-tech, visual and tactile methods. These methods usually work in the fuzzy front end of design (see [18]). Empathic design, as practiced mostly in Helsinki, has so far produced more than 10 PhD theses as well as several other major publications. Its history can roughly be divided into early research aiming to find ways to study emotional experience, co-design phase focusing on understanding how these methods function in networks and organizations and the experimental phase in which empathic design has become a platform for reality twists aimed at responding to recent calls for ‘radical innovation’ (see [22]).

In empathic design, ready-mades are routinely used as direct inspirations and research instruments. For empathic designers, ready-mades are things like coffee mugs, pens, candy boxes and tape. Empty toilet paper rolls turn into machines and corks into bodies. Ready-mades are used in creating and exploring potential design ideas and concepts, illustrating these for conversations, giving people experience designers can study and selecting some ideas for sketching and prototyping (Figure 1) [12]. Ready-mades can, however, provide insight into way more abstract topics as well, as in the case of *Mobile Image* and *Radiolinja*, two studies of multimedia phones conducted in Helsinki between 1998-2002. In these studies, researchers tapped into data streams in networks to capture actual multimedia messages people sent. The aim was first to follow messaging in order to get an insight into social interaction and second to translate these insights into design concepts (see [1,17,19]). These studies used methods like experience prototypes as well, but the main body of work came from studies using existing technologies, but with a design attitude.



Figure 1. 3D sketch using ready-mades for a surgical instrument for Gyrus ENT by IDEO, 2008

Recently, empathic designers have expanded their uses of ready-mades in two ways. First, they have incorporated ready-mades into media environments. One argument for using ready-mades is that they help to create common points of reference with people design is for. This was the argument behind the early participatory design [2,7] and this was the argument driving Marcelo and Andrea Judice [14,15] in their work in Vila Rosario, an impoverished township a few kilometers north from downtown Rio de Janeiro. They realized quickly that to do meaningful design in Vila Rosario, they had to use language familiar to people living in the township. This helped them to do their probe studies that were partly built around well-known soap operas as a way to bond with the people in Vila Rosario, as well as their fieldwork. Later in their design process, they build on cultural facts familiar to people, picking up story plots from soap operas and characters to their designs from the village.

Empathic design researchers have incorporated ready-mades also into more dynamic, but still low-tech representations of design games and immersive exercises [27]. A good example is *Co-Designing Design Factory*, a case in which empathic designers in Aalto University organized a three-workshop series to help reinvent an old research lab as an inspirational, hands-on learning space, together with different people inside the university (e.g., professors, students, researchers, workshop managers) [24]. In the last one of the workshops focusing on programming space, design researchers integrated ready-made materials, such as Playmobiles and Lego blocks, with building plans (Figure 2). This way, these bird's eye perspective drawings were turned into a game-board like platform in which the workshop participants discussed and visualized space arrangement strategies with the Playmobiles and Lego blocks. Working with these type of ready-mades supported the participants to playfully simulate actors, activities and functionalities in the building.



Figure 2. *Co-Designing Design Factory.* Integrating ready-mades (here, Playmobiles and Lego blocks) and plans

Prior to this, another type of ready-mades was used to sensitize the non-designer participants for creative ideation. Inspired by interaction relabeling [6], but tuning it for sensitizing non-designer participants, design researchers brought various kinds of everyday objects, such as a hair dryer, laundry clips and a shower sponge to the table and asked participants to pick one object and think *what if the chosen object is the Design Factory, or is used in the Design Factory*. These objects that did not have connection to the *Design Factory* triggered metaphors and ideas. For example, one participant picked a wine bottle holder (a piece of wood with a hole in the middle) and described how the hole triggers curiosity and helps concentration, which the *Design Factory* may need to support. The flat shape of the bottle holder also triggered him to think of it as a cutting board, explaining how a future user in the *Design Factory* can start and restart activities again and again.

3. Digging for Gold: Unearthing the Spirit of a Graphic Design Project

When digging for gold one sifts through earth to find hidden treasure. When graphic designers want to find the spirit of a project context they often work alone sifting through the Internet, or observing the client and end-users for inspiration. This can be time-consuming and the designer is never sure if their design proposal will resonate with the intended audience or capture the essence of the project. Using ready-mades in graphic design is a way of finding the golden elements in a project that can be translated into eventual designs.

The use of ready-mades in graphic design was trialed in a case study activity called ‘Mascot Creation’, which was part of a larger project called SASI Clean. In this case Taffe trialed the use of ready-mades in a co-design setting, where designers together with end-users participated in the concept design phase of the project. The designers chose and collected a range of ready-made items reflecting the childcare worker's context after site visits of the childcare centres. Taffe invited the designers and the childcare workers to jointly use the ready-mades on hand to create a mascot. Childcare workers and graphic designers co-designed a brand, a mascot and information strategies to promote low-chemical cleaning for Australian childcare centers. The overall goal of the project was to reduce environmental impacts and risks to health through the use of safe products and low-chemical cleaning practices. This ready-made activity was undertaken to capture the spirit of the overall problem context and to set the direction for the information design strategies to be co-designed.

The idea behind creating the mascot was to reinforce good and bad cleaning routines through a symbolic mascot. The activity took place at Swinburne University of Technology in Melbourne, Australia in 2007 with a group of eleven childcare workers and five designers. The participants had one hour to create a 'Good Guy' mascot to represent the SASI Clean principles. The materials for the activity were chosen out of everyday household cleaning products and natural materials such as pegs, sponges, cleaning fluid empty bottles, scorers, bottle tops, toilet rolls, rubber gloves, flowers and sticks along side glue, string and tape (Figure 3). We explained to the participants that the idea of creating a SASI Clean mascot was for it to resonate with them, helping to guide them through a complex array of green cleaning information posters, guides, cleaning bottle labels and instructions.

The Mascot Creation activity produced positive and engaging responses while participants were busy with ready-made materials. The childcare staff felt comfortable doing this activity and commented the children in the centers would love this activity. We noted that, 'There was free chatter, as the childcare workers worked building a mascot'. The participants said, 'We are pretending we are children'. They all liked the idea of creating the mascot, as one childcare worker said the activity was enjoyable and 'child friendly', another commented, 'It turned out better than I expected' and another said, 'It is brilliant to see the outcome'. Unsolicited, the childcare workers expressed the opinion, 'That was fun' revealing the positive sense of engagement created in this activity.

The use of ready-mades was a non-threatening way of expressing creativity for the childcare workers. Using ready-mades the childcare workers got straight down to working with the visual and tactile material. They did not labor over their choices of imagery or materials. Our notes show, 'All worked hard with little discussion to begin with'. The childcare workers claimed, 'The only way to get good open lines of communication between end-users and designers is through face-to-face contact while working on a hands-on activity rather than over email or through the computer'. This participant enjoyed the fact that the activity used ready-mades. The designers also expressed their pleasure in using ready-mades. For the generation of graphic designers, who create, design and develop their design proposals on a computer, ready-mades may serve a further source of creative outlet putting them in touch with their intuitive creative problem solving faculties to complement computer designing.

We found our gold in the 'Good Guy' mascot depicted in Figure 3. There was laughing about the type of materials chosen to represent the idea of a 'Good Guy' as he couldn't have things that looked evil for a nose, mouth and eyes, the group decided. He was made with a yellow sponge for skin, a piece of green sponge for a smile, pink sponge for a nose, leaves for eyes and seven wooden pegs for hair. The designers translated the spirit of the 'Good Guy' face into the design of SASI Clean mascot and four icons. The mascot is depicted as a butterfly in the SASI Clean Manual cover design with loose line work and bright colors built upon the freshness of the ready-mades mascot. Four individual icons called health, planet, water and works were designed to complement the butterfly symbol. The colors are bright, the illustration style is loose and friendly and they all have the characteristic smiley face and the bold simplicity found in the ready-made 'Good Guy'. These design have been well received by childcare workers in four childcare centers in Melbourne.



Figure 3. Counterclockwise: Building SASI Clean final mascots using ready-made materials; final SASI Clean mascot and symbols in printed material

The conversation that flowed while working on this ready-made activity was also important. This conversation may not have occurred without the props of the ready-made materials to act as a social lubricant to encourage open discussion and ideas to flow. The childcare workers said they loved children's drawings but hated childlike drawings that treated them like children when they are in fact adults. With this in mind the designers analyzed the 'Good Guy' artefact and the points made in discussion and carefully represented the spirit of the activity in the final designs. In the past the childcare workers had received very dull and official looking imagery representing green cleaning which was a barrier for them to embrace new green cleaning practices.

Activities using ready-mades are recognized as promoting imaginative design propositions from participants [5]. A study highlighting the enjoyable aspects of using ready-mades in activities confirming the findings of the Mascot Creation ready-made activity is Tiantafyllakos, Palaigeorgiou and Tsoukalas' research where computer literate students and designers were involved in the design of computer interactive applications. Their findings uncovered that, 'the low-tech prototyping was without a doubt the most enjoyable part of the design sessions, as students left their seats to design the interface of the application' [26].

Overall this Mascot Creation case demonstrates that the group felt comfortable and free to participate in the task at hand when using ready-mades. The mascot project was built on Sander's call for designers to create spaces that she terms 'scaffolds' upon which everyday people can express their creativity [23]. This case shows that the use of familiar ready-mades is valuable when trying to break down the barriers between designers and end-users in a co-design project. Creating a design outcome with mass-produced items such as pegs and sponges helped the end-users feel comfortable to contribute to the design process. Using ready-mades showed high levels of participant engagement where conversation and ideas were free flowing. The spirit of the project was unearthed and captured in final design work that was printed and produced for the project. Using ready-mades was a

goldmine for us when searching for the spirit of how childcare workers wanted green cleaning imagery to be represented.

4. *Blind Dates*: Making Sense of Tactility in Pockets and Bags

Many user-centered methods offer little vocabulary for many things designers have to deal with in their professional practice, perhaps because of their background in psychology and the social sciences. For example, the sociology of taste may help us to understand what is fashionable in the world of bags, but says very little about the messy configuration of things inside the bags, even though these configurations are equally – and often way more – meaningful to people than brands, colors, or fashions.

When an early empathic designer was approached by industry that wanted to know ‘how people carry things’, Meri Laine was confronted with a need to develop a method for her study [20]. Specifically, she was interested in haptic qualities of shapes their interactions with materials. In lacking precedents, she decided to build her method on a combination of ready-mades, a series of two interviews with a number of people and photography.

She selected a group of men and women of diverse ages, bought them things like pens, keyrings and purses and instructed them to use two of these objects for a few weeks. She studied six people in their teens and early twenties and another six who were in thirties and forties. Their educations ranged from being a gardening student to PhD class background from working class to long-established Helsinki families. Laine interviewed these 12 people about their everyday habits before this use period; after it, she interviewed them about their experiences. She also photographed their typical carrying situations and the environment in which the things she gave them were used. These were things like pockets, bags, cars and briefcases.

Her working hypothesis was that getting a new object is like a blind date: you don’t quite know what happens.

Practicality was important: some shapes disappear in the mass of objects in bags, for instance. Other objects are easier to find. Purses help to organize things, but also make it impossible to use tactile sense in browsing things from a bag or a briefcase. Some objects have funny, even charming qualities, like a keyring with a small billiard ball, which was fun to keep in hand; however, when it was used as a keyring, it made pockets look bumpy and while driving, it kept bounding against the dashboard.

Laine not only trusted interviews, but also developed a visual analysis method for her photographs. Her visual analysis revealed several issues that went beyond these practical and haptic concerns.

For analyzing experiences with objects, I developed a visual method called the Object Table. These tables put products in the middle, and map elements of product relationship around the object according to [her model of product relationship]. Three types of object tables are introduced, each mapping a different aspect of product relationship [20].

The main outcome of this analysis was that it showed that even in the case of small accessories style is important and is related to social status. For the older group, gender and congruity with the needs of profession were important. Having a make-up bag like a purse raised concerns for a male banker; this shape was completely fine for a female airport controller. For the younger group, gender and personal style if there was important. When younger members had developed a style, accessories and other small objects were used as accents on that style.

For example, a graphic design student, whose clothes were gray used accent colors to break this monotonous background.

There is no need to go deeper into Laine's results. It is important, however, to note just that her analysis led to a wealth of observations. It is difficult to imagine similar results without ready-mades. In its basic orientation, Laine's analysis had clear affinities to *Supernormal* and *Design Real* in that her problem was bringing unnoticed things into the mind, but the similarities end there. Her approach was contextual and took place in the real world without any art world references.

In the empathic tradition, the most complicated studies have used ready-mades to study mobile multimedia over networks. The method of observation in these studies has been the Internet, which has provided access to mobile multimedia messages as they happen [1,17,19].

5. Exercise Companion: Ready-mades in Product Development

Empathic design research in Helsinki has studied and applied probes approach extensively during the years. Some of the cases have been conducted in collaboration with companies. In one of such cases ready-mades were used as part of a probing exercises to study weight management and to study envisioned new functionalities for heart rate monitors. The application of ready-mades in this case was inspired by Iacucci et al.'s [13] experiment in which people imagined an enacted in various situations and what they could do with 'a magic thing'. Another influential piece was Marion Buchenau's and Jane Fulton Suri [4], whose paper on experience prototypes described several cases conducted in real product development context. In one of the cases described in the article in the participants were equipped with pagers and the beep of a pager would represent an arrhythmia attack. The participants were asked to imagine and document their situations.

In the exercise companion case as one of the assignments of the probes kits, the participants were given keyrings and pins to help imagine what these objects could do to support their daily goals, exercising and challenges concerning weight management. The users were asked to carry these objects daily with them and imagine and report their usages. The situations envisioned and described by the participants in their probes suggest that tangible items actually reminded them to think about possible scenarios in various contexts and thus, prompted them from telling 'what is' into a 'what could be' mode. In these stories the make-believe devices, i.e. the keyrings in their pockets, started to make noisy comments about unhealthy selections when doing groceries or pointing out blood pressure conditions when consuming (too many) cups of coffee at work or even to organize jogging groups.

The industrial design student that was working for this project was both inspired and informed by these scenarios. She developed in collaboration with the product development experts from the company, concepts that were grounded on the understanding of contextual and everyday life frames as well as the potentialities of smart technologies such as animations and sounds. Based on this exercise it is not possible to argue whether or not the ready-mades as such, function as product development facilitators in real life. However, we know that the assignment being make-believe and tangible in character, inspired the participants to talk about their experiences and needs in meeting their weight management goals and partially motivated them to participate. Similarly, it focused the study and the participants to consider possibilities of portable or wearable technology. The ready-

mades, the pins and keyrings were cheap and fast to transform into ‘exercise companions’ by adding a sticker with text on them.

6. Discussion

Ready-mades have had many uses in design, ranging from art exhibitions to providing a supply of parts for model-making [8,11,12,21]. While most literature on empathic design has concentrated on materials and methods specifically construed for design, this paper has looked at how ready-mades have been used for a variety of purposes in empathic design [22]. We have given three examples of these purposes: unearthing the spirit of a place and activity for design; studying barely noticeable things like haptics and materials in real-life that, however, have immediate design implications at various levels; and understanding sensitive issues like weight management. Throughout these studies, researchers have been using either things at hand, or cheap craft shop materials when working with people. Ready-mades have had several benefits in this work: in particular, they are easy to understand, playful and encourage exploration of ideas without creating distance between designers and people (see [18]).

The paper raises other questions, too. First, if ready-mades are ubiquitous in empathic design, how do they function in design in general? There are several examples of ready-mades in design and design research. For example, a recent book on convivial toolbox offers many examples of ready-mades [24]. Second, there are many other front-end design practices like experience prototyping [4] that rely heavily on repurposing existing, readily available things. They stress experience rather than physical, material and visual imagination in the manner of the concept of ready-made.

Our final point concerns how art world terminology can be used in design. Although designers usually shun away from art world terminology, this paper argues that some terms from the art world work as useful sensitizing devices for understanding some design practices that are important, but seldom paid attention to. Many design practices build on ready-mades, even though they are usually taken for granted rather than specifically discussed. Maybe even more importantly, ready-mades have important functions. They provide tools for gaining access to many things essential to design, including vaguely defined things as ‘the spirit’ of an activity and experiences with forms. They have all the benefits of empathic tools more generally; ready-mades are playful and smooth the access to design reasoning. This quality of being non-threatening is not unique to empathic design, but something other design approaches can benefit from if they take a serious look at their uses of ready-mades.

6. Citations

- [1] Battarbee, K. (2004) *Co-experience: User experience in interaction*, UIAH, Helsinki.
- [2] Binder, T., De Michelis, G., Ehn, P., Jacucci, G., Linde, P. and Wagner, I., eds., (2011) *Design things*, MIT, Cambridge, MA.
- [3] Brandes, U., Stich, S. and Weber, M. (2009) *Design by use: The everyday metamorphosis of things*, Birkhäuser, Basel.
- [4] Buchenau, M. and Fulton Suri, J. (2000) *Experience prototyping*. In Proceedings of DIS 2000, ACM Press, pp 424–433.

- [5] Büscher, M., Eriksen, M.A., Kristensen, J.F. and Mogensen, P.H. (2004) *Ways of grounding imagination*, In Proceedings of the PDC 2004, ACM Press, pp 193-203.
- [6] Djajadiningrat, T., Gaver, B. and Frens, J. (2000) *Interaction relabeling and extreme characters: Methods for exploring aesthetic interactions*, In Proceedings of DIS 2000, ACM Press, pp 66-71.
- [7] Ehn, P. (1988) *Work-oriented design of computer artifacts*, Arbetslivscentrum, Stockholm.
- [8] Fukasawa, N. and Morrison, J. (2004) *Super Normal: Sensations of the ordinary*, Lars Müller Publishers
- [9] Fiedler, J. and Faierabend, P. (2006) *Bauhaus*. h.f.ullmann, China.
- [10] Fulton Suri, J. and IDEO (2005) *Thoughtless acts? Observations on intuitive design*, Chronicle Books, San Francisco.
- [11] Grcic, K., (2009) *Design real*, Koenig and Serpentine Gallery, London.
- [12] Halgrimsson, B. (2012) *Prototyping and modelmaking for product design*, Lawrence King, London.
- [13] Iacucci, G., Kuutti, K. and Ranta, M. (2000) *On the move with a magic thing: Role playing in concept design of mobile services and devices*, In Proceedings of DIS 2000, ACM Press, pp 193-202.
- [14] Júdice, A. (2013) *Design for hope: Designing health information in Vila Rosário*, Aalto University, School of Arts, Design and Architecture, Helsinki. in press.
- [15] Júdice, M. (2013) *You are important! Empowering health agents in Vila Rosário through design*, Aalto University, School of Arts, Design and Architecture, Helsinki, in press.
- [16] Keller, A.I., Pasman, G.J. and Stappers, P.J. (2007) *Collections designers keep: Collecting visual material for inspiration and reference*, CoDesign, vol. 2, pp 17-33.
- [17] Koskinen, I., Kurvinen, E. and Lehtonen, T-K. (2002) *Mobile image*, IT Press, Helsinki.
- [18] Koskinen, I., Battarbee, K. and Mattelmäki, T. eds., (2003) *Empathic design*, IT Press, Helsinki.
- [19] Kurvinen, E. (2007) *Prototyping social action*. UIAH, Helsinki.
- [20] Laine, M. (2003) *Pockets and bags: Understanding experiences with portable objects*, In Koskinen, I., Battarbee, K. and Mattelmäki, T. (Eds.) *Empathic Design*. IT Press, Helsinki.
- [21] Lucci, R. and Orlandini, P. (1994) *Product design models*, Van Nostrand Reinhold, New York.
- [22] Mattelmäki, T., Vaajakallio, K. and Koskinen, I. (2013) What happened to empathic design. *Design Issues* (forthcoming).
- [23] Sanders, E. (2006) *Scaffolds for building everyday creativity*, In Frascara, J. (Eds.), *Design for effective communications: Creating contexts for clarity and meaning*, Allworth Press, New York, pp 65-82.
- [24] Sanders, E. and Stappers, P.J. (2013) *Convivial toolbox*, BIS, Rotterdam.
- [25] The Oxford English Dictionary (1989) 2nd Ed., Clarendon Press, Oxford.
- [26] Triantafyllakos, G.N., Palaigeorgiou, G.E. and Tsoukalas, I.A., (2008) *We!Design: A student-centred participatory methodology for the design of educational applications*, British Journal of Educational Technology, vol. 39, no. 1, pp 125-39.
- [27] Vaajakallio, K. (2012) *Design Games as a tool, a mindset and a structure*, Aalto University, School of Arts, Design and Architecture, Helsinki.

- [28] Weibel, P. Nollert, A. and Mendini, A. (2011) *Alessandro Mendini*, Neues Museum – Staatliches Museum für Kunst und Design in Nürnberg, Nürnberg.
- [29] Weiss, T. (1999) *Couleur locale restoration, revival, and innovation*. In *couleur locale: Droog Design for Oranienbaum*. Rotterdam: 010.