Ability and willingness as required qualities of designers

Besides being a quality of the design process, empathy is described as an ability people have, and differs for individuals. McDonagh (2006) defines empathy as 'the intuitive ability to identify with other people's thoughts and feelings – their motivations, emotional and mental models, values, priorities, preferences, and inner conflicts'. When designing a product for elderly people, the designer does not have knowledge about being aged from his own experience. Every individual has his or her own unique experiences and these define his or her empathic horizon. The term 'empathic horizon' (McDonagh-Philp and Denton 1999) is used to indicate the limits on a designer's individual ability to empathise beyond certain characteristics of his or her group, such as nationality, background, age, gender, culture, experience and education. Baron-Cohen and Wheelwright (2004) have developed a measure of someone's level of empathy, called the 'empathy quotient' (EQ, which is different from other 'emotional intelligent quotient'). The empathic horizon of designers can change over time and be extended by training and experience.

Next to ability, the willingness of the designer plays a role. 'Design empathy requires direct and personal engagement and is dependent on the designer's willingness' (Battarbee 2004). One can think of the designer's personal connection with the user that motivates him (e.g. a special interest into the user group, because it is familiar to him), his emotional state that hinders him (e.g. tired, or a workshop at the end of the day) or his commitment to the project (e.g. how much the designer is responsible for the project). This suggests that the situation determines to a large degree the level of empathy which can be achieved.

Training and practical experience can enhance the designer's empathic understanding of users. Suggested ways to increase the designer's ability and willingness include training of designers in research skills, and supporting an active and open attitude towards users. These suggestions require time and effort. In composing a design team, this ability and willingness of individuals should be taken into account. One designer in a team can have a large influence on the others, by expressing empathic reactions. To develop empathy is an individual act, but by discussing it in a team, the discussion serves as a trigger for others to make more connections, which will lead to increased understanding.

Empathic techniques

Several authors describe a variety of tools and techniques that are regarded as particularly helpful for promoting empathy. We have divided these techniques into three main classes: techniques for direct contact between designers and users (research), techniques for communicating findings of user studies to design teams (communication) and techniques for evoking the designer's own experiences in a domain relevant to the user (ideation) (Figure 1).

First, direct contact with users is much emphasised by practitioners (McDonagh-Philp and Bruseberg 2000, Mattelmäki and Battarbee 2002, Fulton Suri 2003b). Most authors recommend having designers conduct observation studies, e.g. to follow the user in his context (Leonard and Rayport 1997). Sanders and Dandavate (1999) and Sleeswijk Visser et al. (2005) discuss how generative sessions with researchers and users, preferably with designers present, can assist users to explore and express their contexts of product use.

Second, communication techniques have been proposed when direct contact is not possible, which in practice is often the case for limited resources (e.g. budget and timing). External researchers conduct the user study, and interpret and communicate the user data and findings to the design team. For enhancing empathic communication, raw data (photos of users in their home environment, original quotes in their handwriting, etc.) has been advocated as a way to let designers make personal connections to the users' experiences (McDonagh-Philp and Bruseberg 2000, Fulton Suri 2003a, Sleeswijk Visser et al. 2005). Sleeswijk Visser and Stappers (2007)

The construct 'empathy' in psychology

Empathy has been an important concept in psychology, entering from the philosophy of art in the late nineteenth century, developed in psychotherapy in the first half of the twentieth century, and in the past decade, receiving renewed attention within design. However, these three periods are almost unconnected: very few cross-references exist, either from the design literature to the psychological literature or from the psychological literature back to the arts. We reviewed the psychological literature by searching disciplinary databases and journals, and by consulting psychologists and libraries. The review of the psychological literature was aimed at selecting experimental and theoretical elements which appear fruitful for structuring the design activities.

Origin of empathy

Several authors on the history of psychology have addressed the origins of empathy (Wispé 1987, Duan and Hill 1996, Håkansson 2003, Nilsson 2003, Jahoda 2005). The construct of empathy originated in 1873 in art history, when Vischer used the term 'Einfühlung' (German for feeling-into) to describe a process in which a woman projects her entire personality upon an object, and in some sense merges with this object. The psychologist Theodor Lipps (1851–1914) applied it to explaining aesthetic experiences 'Einfühlung [. . .] is the fact that the contrast between myself and the object disappears' (Lipps 1903), and then applied the term to people's experience and knowledge of other people's mental states (Nilsson 2003). This addressed a fundamental problem of philosophers and psychologists, namely, how we come to know other people's minds. Lipps proposed that people knew and responded to each other through Einfühlung, which was preceded and brought about by projection and imitation, especially imitation of affect. For example, smiling when you see someone else smiling.

Titchener translated the German term Einfühlung into the English term empathy (from Greek em – into and pathos – passion, feeling). In 1915, he wrote that empathy is important in imagination: 'We have a natural tendency to feel ourselves into what we perceive or imagine. (. . .) This tendency to feel oneself into a situation is called empathy, on the analogy of sympathy, which is feeling together with another'. The distinction between empathy with and sympathy for has been a returning element in both scientific and popular accounts, empathy referring to an instrumental understanding, sympathy to an absorbed feeling. When you feel sympathy for someone your concern is for the other person's well-being; you feel like you are the other. When you have empathy with someone your concern is to understand the other person; you feel as if you are the other. Wispé (1986): 'Empathy is a way of "knowing". Sympathy is a way of "relating"'.

Over the years, the concept of empathy developed in sociology, psychology and psychotherapy, and a shared jargon evolved, indicating the subject and object of empathy as the empathiser and empathee, respectively, and the realisation that empathy is not an instantaneous quality, but evolves in a process over time. Practitioners in these fields have addressed several issues within the concept

The process of empathy in design practice

The above describes issues derived from psychological literature which are essential to apply and develop techniques and tools in design. We propose a framework that can be applied to design practice, which is based on processes of empathy as described in Section 2.4 and integrates the factors of ability, affective resonance and cognitive reasoning. The framework shows a process consisting of four phases. It is based on the principle that a designer steps into the life of the user, wanders around for a while and then steps out of the life of the user with a deeper understanding of this user. These phases are (1) discovery, (2) immersion, (3) connection and (4) detachment. In each phase the relation of the designer with the user changes. The framework is presented in Table 2. This framework can be used to support further developments of empathic techniques in design. The framework shows that empathy includes both cognitive and affective efforts, and that empathy can be enhanced by a stepwise process. The four phases in the framework might seem obvious steps, but making each of these phases explicit and discussing them separately supports practitioners in understanding and applying empathic

Affective and cognitive empathy

Most of the psychological literature distinguishes two components of empathy: affective and cognitive (Figure 2). The affective component is seen as an immediate emotional response of the empathiser to the affective state of the empathee. This emotional response can have several forms, of which congruence or emotional contagion (e.g. automatically responding with a smile and feeling happy when you see somebody smile at you) is the most common form (Gladstein 1983, cited in Duan and Hill 1996, Vreeke and van der Mark 2003). It is an automatic response to another's emotional state.

The cognitive component was added by Mead: the understanding by the observer of the other person's feelings (Baron-Cohen and Wheelwright 2004). The empathiser sees or hears about the situation of the empathee and imagines this situation from his own perspective. It is concerned with intellectually taking the role or perspective of another person, 'a capacity to take the role of the other person with whom one interacts' (Mead 1934). Mead emphasised the role-playing activity, and suggested this perspective-taking can facilitate one's ability to understand another person's affective behaviour and understand how another person views the world.

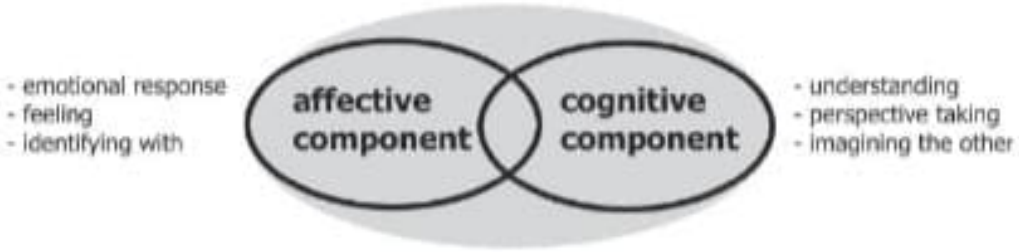
Although the affective and cognitive components can be discussed separately in theory, several writers have argued that they cannot be separated in reality. These components function because they are strongly interrelated.

For example, when people make decisions in social situations, the brains make use of several affective and cognitive components (Damasio 1994).

For designers, awareness of both components is essential. One of the two components will not suffice for understanding the user's world. Having an emotional response (affective) to another's emotional state and being able to reflect on that by perspective taking (cognitive) seems to be the core mechanism of empathy. Creating the right balance between affective resonance and cognitive reasoning is a basic issue of empathy. We think designers should gain understanding of the user (cognitive), by feeling the user's emotional state (affective).

Perspective taking: becoming the empathee or staying beside the empathee

A second important issue is whether the empathiser shares or understands the empathee's feelings. Both the metaphors from the design literature, as the early notions discussed in Section 2.1, suggest there is a difference.



Conclusion

The framework presented in this study gives insight into three key elements of empathy in design. (1) Motivation is crucial for an effective process. When designers do not see the advantages of empathy in design, the results can be unsatisfying. (2) Being aware that the process involves a combination of affective resonance and cognitive reasoning regarding the user's life can enhance empathy. Experiencing and reflecting can alternate the designer stepping into and stepping out of the user's life. Flexibility in this stepping in and out may be a key element of training designers at designing with empathy. (3) A process of empathy in design practice requires a structured investment of time. Not having or taking time is often the first barrier for an empathic process. Insights into the process of empathy can help designers to decide to use their time effectively according to the framework. For example, if designers follow an elderly person for a day, they have mainly invested their time in the first two phases of the process of empathy in design practice. If designers spend a few hours of observation and use their time, during and right after the observation, to go through all four phases explicitly, they can enhance their empathy.

We have presented a framework for applying empathy in design. The framework is based on fundamental findings from psychology brought to a designer's perspective. It is intended to contribute to the design discipline by helping to structure current approaches in empathic design. This framework gives insight into the process of empathy for the role of designer in relation to the user, and can be used to apply existing empathic research and design techniques, support development of new empathic tools and techniques and foster discussion about the emerging role of empathy in the design process. We hope the discussion about empathy in design and the development of empathic design tools and techniques continues, and that this article provides a new impulse to do so.

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