Kristina Börjesson
PhD, Research Associate
Central Saint Martins College of Art and Design
The University of the Arts London
kristina@borjesson-mk.se

Meaning: Making sense also of non-sense.

The fine line between philosophy and science?

Philosophers speculate, as opposed to observe, and try to understand the grounds and concepts underpinning our fundamental values and beliefs. They are in popular terms trying to make sense of life by compiling knowledge from the different subject domains of the humanities and draw plausible conclusions.

Neuroscience has the last 20 years developed tools, which have allowed them to learn much more about the functioning of our brain than we earlier thought possible (Bastick 2003, Bennet & Hacker 2008, Damasio 2000, Gärdenfors 2005, Lave 1988, Pöppel 2007, Ramachandran 2003, Sternberg 1996, Whitfield 2007, Wilson 2002). This includes the important role of the right part of the brain, the emotional, as it acts almost like a filter for all information we take in (Cullberg Weston 2009). It has also the role of providing storage for everything that does not make sense: the information and the experiences we cannot process and further verbalise. It seems, according to some researchers, as the right half of the brain also acts like some kind of 'waiting room': what we currently do not want to process because we do not have use for it or room for it, can be called into consciousness from this 'waiting room' or anti-chamber (Wilson 2002). Psychotherapists has borrowed the term 'pre-conscious' from the neuroscientists to name information that is not immediately conscious but still quite easily accessible in their sessions (Cullberg Weston 2009).

Therefore, when philosophers try to make sense of humans and society, how much of their own experiences can they really access? Our sense-making is obviously very dependent of the experiences we have stored in the brain but this does not warrant that we find the meaning we are looking for. Our experiences might not be sufficient and/or some experiences are blocking our ability to make sense (Gärdenfors 2006, Norman 2004, Wilson 2002). Is it these efforts in vane that sometimes have brought philosophers to depression and desperation?

When cognitive scientists talk about 'the meaning seeking human' and sense making, they are obviously focusing the left part of the brain where we process visual and other information and verbalise or at least register the outcome (Gärdenfors 2005, 2006) What is stored in the right part of the brain is non-sense. In popular language this would mean: of less importance, but this conclusion would in the context of neuroscience be completely wrong. What we cannot make sense of is apparently having a major impact on our lives as it affects most of our decisions. "I feel, therefore I am" as famously formulated by Damasio (1994) but also contested, recently by Gluck (2007) in his book *"Damasio's error and Descartes' truth"*.

Bringing this discussion into the realm of design is interesting from two aspects:

1. Objects or environments which we cannot connect to emotionally and which thus do not result in affection are not cared for and often wasted (Desmet, Hekkert & Jacobs 2000, Desmet & Hekkert 2007).
2. Objects and environments which should rationally not make sense seem to arrive at creating meaning against all odds. We normally call this irrational. Perhaps it is just non-rational in the same sense as nonsense is not equal to non-sense (Borjesson 2006)?

For design theory to move on: Do we first of all need to adjust our language and, moreover, realise that philosophy is more correctly understood when informed by neuroscience?

What you see is not what is there.

Immanuel Kant's contribution to the theory of knowledge is criticized but not contested. In his groundbreaking work: 'The Critique of Pure Reason', he put the objective truth in doubt as the lone creator of meaning: Kant says that we are doing a fundamental misjudgement when we take the way things appear to us for the way things are in themselves (1781/87). Moreover, the room for subjectivity this statement suggests was troublesome for the belief in pure knowledge introduced during the Enlightenment. Kant eventually found a compromise when he concluded that pure knowledge is mainly regulative principles at the service of experience. Would this mean, if we bring Kant in contact with contemporary neuroscientists, that pure knowledge is what we store in our left side of the brain where it serves our right side? Fortunately, not least for designers, humans have a lot of experiences in common, which allows us to arrive at about the same meaning of many things and situations we encounter. What would the existence of 'regulating principles' mean from a design point of view? Are these possible to apply to human ways of being and thus enhance understanding of 'the general human being' geared by approximately the same set of needs (Maslow 1954/1970, Maturana & Varela 1987)?

However, let us agree that as meaning results from experience it is partly subjective. Specialist experience in design might consequently lead the designers in directions, which does not comply very well with the people they are serving as they have a more general experience in the field. People taking part in participatory design projects are asked to reflect and convey their priorities and wishes. When the design or object is realised, they nevertheless often become aware that it does not live up to their expectations or comply with their intentions (Jordan 2000, Nylander 1999). On the other hand, most of us has experienced that we are able to make sense of something that seems very alien to most other people: our subjective experience comes to our help even if we did not know beforehand that we even had this experience (Oakley 2007). This is where Kant's "regulative principles" come in: can these help the designer to create meaning which allows the user to adjust according to his or her experience? What to make of these observations and not least from a design point of view, complicating potential?

It is evident that some fairly opaque subject borders have to become more transparent. The traditional exclusion of everything technical, practical and purely scientific from philosophy appears less evident than when these limitations were set up. The intent was of course to allow non-rational thinking to develop without restrains, which already Kant realised posed theoretical complications. The more tangible confusion resulting from non-rational thinking is probably best

illustrated with re-occurring discussions concerning ‘Wicked problems’ (Rittel & Webber 1973), not least in academic circles.

Where we are.

Cognitive science is informed by rational as well as empirical knowledge. It has since quite long contributed to the development of interface design, but why should its impact be delimited to this area? Is it because this is where its application appears very rational and based on ‘regulatory principles’. Earlier research has shown that impact from the mundane (thus from experience) in design informed by cognition theories has been important (Gerdenryd 1998). This was less well received by cognitive scientists, at least at the time, almost 10 years ago. This is probably to no surprise as regard to experience, which includes influence from the mundane, complicates advanced design tasks, like interfaces. Designers have to take into account not merely how their own way of thinking and working is influenced by the mundane, but also how the user is the subject of influences of this kind.

Neuroscience, has, among other things, allowed us to better understand and de-mystify intuition Bastick 2003, Love 2002). Psychotherapists have started to be increasingly informed by neuroscience, which brings their knowledge base closer to psychiatry than traditional psychology (Cullberg Weston 2009). It is less and less contested that all information passes our right half of the brain and thus becomes emotionally processed before it becomes part of our rationality in the left half of the brain (Bennet & Hacker 2008, Frith 2007).

To focus on *human centred design* sounds very relevant in this context but also familiar, established and little provoking (Fulton Suri 2005). The actual challenge lies in that we have succumbed to *design for human ways of living* as opposed to *human ways of being*, which has rendered us short-termism, un-sustainability and a strong belief that we are able to change nature. We have not found our way in Kant’s compromise: the balance between regulating principles, *being*, and a variety of experiences, *living*.

Multidisciplinary research which combines *design, body and mind*, ought consequently to attract more attention, from researchers as well as from funding bodies. At stake is a continued positive development of design theory and thus the sustained relevance of design as one contributor to durable improvements (Blackman 2008, Johnson 2007, Krippendorf 2006, Punset 2007, Ticiento Clough & Halley 2007). Philosophy and science are still well separated in the world of design, which prevents us to make sense also of non-sense.

Where we go.

The main aim with this paper is not to draw attention to the curiosity (?) that Kant’s philosophic reasoning almost 300 years ago has got new relevance through the advancements within cognitive psychology and neuroscience. The overall aim is instead to emphasise the importance of *exploring and combining existing knowledge within several disciplines to generate new design knowledge*.

My position is consequently that understanding of human decision-making can be further enhanced by multi-disciplinary research on how human consciousness and decision-making is related to respectively *lived and learned experience.*

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