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Affective Sustainability.

Is this what timelessness really means?

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Abstract

Sustainability is always about regard to the environment: an intelligent use of resources and not returning to nature what it cannot degrade without long-term damage. Politics, business and thus research have been predominantly concerned with the direct impact on the environment of the diverse human activities in our society. There is of course awareness about all the indirect effects caused by these activities but as these effects are more complicated to identify and calculate, it could reasonably be suggested that these have not got the same attention and hence have not been thoroughly explored. Important resources are required for the production of objects, which subsequently turn out neither to meet humans' needs nor to fulfil their desires. This issue involves not just the misuse of resources but also the addition to waste problems. Needs and desires are not unrelated to material and function but reach mostly beyond the physicality of the object as argued by Krippendorf (2006), among others. Timelessness is unrelated to physicality and is most likely the ultimate example of sustaining. However, this phenomenon does not easily allow interpretation as it is basically philosophical, which also would complicate its transition into other domains.

The deconstruction of timelessness in an earlier work (Borjesson, 2006) resulted in the phenomenon being conceptualised as *affective sustainability*. Four notions were identified as mainly informing timelessness: time, tradition, aesthetics and perception. When subsequently studied in several disciplines, these notions produced indicators on how to understand better what makes objects retain their significance in a changing human context. These indicators are not to be categorised as a set of tools or even less as a model to be applied in the design process: they are directional rather than normative. Moreover, they are best understood as support and inspiration to develop design thinking and have been the subject for further analysis as part of continued research. This has increased the clarity of the directions not only in relation to design thinking but also where to continue research.

Keywords

Sustainability, Human ways of living, Human ways of being, Lived and Learned experience, Emotion, Affect, Feeling, Cognition.

You will find the phrase in reports from design and furniture exhibitions, in shop catalogues, in articles found in professional as well as popular magazines: *the timeless design*. However, there appears to be little accord on meaning. An article in Blueprint a few years ago featured the new library in Alexandria and the Norwegian architects behind it, Snøhetta and described them as having 'an elemental empathy with their surroundings', which is explained as 'their

designs' connection with the earth'. This, claims the author of the article, is what makes 'the vastly overused' word timelessness suitable to describe the quality of their buildings: connection with the earth has replaced 'anything so superficial as styling' (Dunn, 2004, p 49.). This description made a friend of mine reflect: he would not interpret timeless this way and would moreover suggest the work of Snøhetta as rather being 'contemporary, creative and futuristic'.

Not only is it obvious that there are numerous everyday interpretations of timeless, but the phenomenon has also important connotations beyond its popular meaning (for example Osborne, 1995). Although philosophical, timelessness is frequently applied to objects and buildings. Furthermore, there are various suggestions concerning the properties of *the timeless* in literature and popular publications, but there is no apparent unanimity on how to realise these characteristics, which by definition are very important from a sustainability point of view. The approach to sustainable development has broadened, but the impact of *the immaterial properties of objects* needs to be further explored:

What makes some objects retain their significance over time and in a changing human context?

Analysis of literature makes it evident that the discourse on *sustainability*, including system thinking, has an apparent focus on material characteristics even if *well-being* has become an integrated factor. There is thus nothing within research on sustainability implicating opposition to an expanded view comprising immateriality¹; this field appears simply not to be prioritised. As a result, there are signs that the ambiguity of timelessness and related notions, including how the judgments are formed, cause confusion for designers pursuing longevity in objects (Borjesson, 2006).

Simultaneously, immaterial aspects of product experience; the aesthetic, the emotional, meaning, and how they influence *attachment to products*, have gained increased interests from design researchers (Chapman, 2005, Desmet, Hekkert & Jacobs, 2000, Desmet & Hekkert, 2007, Krippendorf (2006), Mugge, 2007, Norman, 2004, Shifferstein, Mugge & Hekkert, 2004). Product attachment is of course a precondition for the sustainability of products. Pleasantness is an affect and how to design pleasurable products is a more specific approach concerning how to create user – product bonds. However, what is pleasant is not merely a sensual experience but influenced by contextual factors like the social and the cultural. These factors are prone to change and pleasantness as such does not warrant a durable attachment for that reason (Jordan, 2000).

The issue of meaning, as addressed in product experience, is of course intimately linked to *semiosis*: to which extent a sign signifies what it intentionally was produced to signify (Oakley, 2007). As pointed out by Oakley but also by Desmet & Hekkert (2007), meaning is very prone to influence by cultural factors and individual differences. Pöppel (2007) argues, taking the example of creativity, that the 'errors' induced by some of these influences can be projected on as they are more general than individual: the tendency to oversimplify and to use non-verbal communication. According to him, visual

¹ Immateriality does here not refer to dematerialisation: *designing immaterial products*.

and verbal communication in combination has also been proven to override cultural differences.

In brief: There is a large amount of relevant knowledge and interesting ongoing research within a variety of fields and disciplines of relevance to design and sustainability. Better established links between these would enable new knowledge to emerge and further inform timelessness and its transformation into the more tangible quality of affective sustainability in an effort to shed light on durable product attachment and advice on new directions. Continued research allows the analyses in this paper to develop what has been reported in earlier work, (Borjesson, 2006) with emphasis on the analysis of the link between affect, lived experience and meaning.

This paper aims to contribute to design thinking and focuses on adding knowledge to the design of sustainable objects: (i) identify links to be established for the benefit of future research and (ii) present a number of possible directions for designers to further explore when addressing sustainable design. Each heading of the following sections indicates a link whilst the section reports the related analysis and what it indicates.

Methods

Although used in abundance in academia, timelessness, as indicated earlier, escapes clear definition and is difficult to handle in research. At an early stage in previous research (Borjesson, 2006) the decision was taken to refer to the term as a phenomenon, which has the advantage of not restricting which disciplines to include in an analysis.

A short description of the methods used in the research referred to above, is included to enhance understanding of the analyses in this paper: The research has as been multidisciplinary as well as inter- and cross-disciplinary to allow for a useful deconstruction of timelessness. The necessary re-construction that followed enabled a logical conceptualisation: *affective sustainability*. This concept was subsequently explored using three applications: (1) through the analysis of texts and objects a defined selection of designers were linked to thinking and other measures taking affectivity into account in their way of working, (2) a fictional exhibition with a relevant number of design students as curators and finally (3) interviews with representatives of the commercial design world. These three applications initiated new lines of inquiry and allowed the thesis to summarise the key findings of the research as design directions and designers' guidelines. These have since been further refined through continued research: studies, analysis and workshops.

The scope of this paper is intentionally wide with the purpose of presenting the most complete mapping of knowledge and intersecting research directions in this subject area as is possible. As the length of the paper is restricted, the analyses might appear summary and lacking necessary depth. This is hopefully compensated by frequent references to key findings from earlier work by the author (2006), which allows the analyses in this paper to concentrate on how findings have developed through continued research. The alternative, to concentrate the analyses on certain specific aspects, has been judged unwise, potentially impeding understanding related to all the important, interlinking dimensions of affective sustainability.

Cultural Philosophy and Sustainable Development

Few would object to the statement that sustainable development is fundamentally about time: we want the world's resources to last as long as possible and on a level which ensures us quality of life. On the other hand, many would probably admit to not having defined time even if they are aware that the notion is not unequivocal. The link between sustainability and tradition is possibly less obvious and there are claims that traditions work counter to sustainable development.

Time

The fascination with *the new* is according to many authors on the subject (for example Hill, 2002, McDonough & Braungart, 2002, Papanek, 1995) the driving force in the mismanagement of our resources and not least in the creation of waste. Time is frequently viewed as eras, periods with a marked beginning and end (Osborne, 1995) and it is this attitude or view, which Kwinter (2001) claims has given rise to the popularity and abundance of *the new*. Western culture adheres to a linear time view as opposed to a circular, meaning that we have a tendency to leave things behind as old. We do not necessarily return to them. They belong to another era. Since modernism there have been signs of a cultural aversion against the old (Lash, 1993) and it has thus become less obvious to take the best of the old along, than to replace it and come up with something totally new. However, this statement merits an objection: the prefix *re-* has long been an integral part of sustainability discourse and reality. The latest addition is 'Design Redux' (Walker, 2007), which explores the extent to which objects can have a second life using only minor added resources like material, transportation and production facilities. However, the basic problem remains the same: our attitude to time. Even when we make efforts to recycle, reuse, redesign, reduce, remix or revalue, we are aiming for something *new*, or at least *renewed*. It does not come as a revelation when saying that *new* does not mean developed and neither does innovation but the main focus of most trade fairs is still: *What is new?*

Mugge states very clearly 'Experiencing a strong bond to a product does not necessarily imply that this bond will be long-lasting' (2007, infold: Propositions). There is no shortage of knowledge on how to *re-* in different aspects and there are emerging insights concerning product attachment but there is obviously a cultural resistance, which has become part of our way of thinking and living. To make a sustainable *new* requires a lot of exactly those resources we want to economise in the name of sustainability whilst to make objects part of the flow of time would demand less. Flow is dynamic and so is an 'un-finished' object or an object which is not finite. That every era by characterisation has its *new* has been recognised already by philosophers like Gadamer, Ricoeur, Kosselleck and Benjamin (Borjesson, 2006).

Tradition

Tradition is a notion surrounded by conflicting messages. The modernists decided that a de-traditionalisation was necessary to set free from the old, which risked hampering development. Even though, some of them including Le Corbusier, argued for objects as 'types' (Marcus, 2005). A 'type-object' appears in essence to be a traditional object in which an experience is

embedded. The experience, rather than the object as such, is still significant and is therefore handed over. This is well illustrated by Kaare Klint's 'red chair' (fig. 1). This famous Danish designer and contemporary to Le Corbusier gave prominence to 'the functional tradition', emphasising improvement, but also as simplification rather than innovation (Mollerup, 2007). To judge traditions as obstacles to progress has since been contested as both a waste of knowledge and a risk of 'inventing the wheel' over and over again. However, there are signs that the significance of traditions is still in doubt and that many designers have difficulties deciding how to relate to them in their work (Borjesson, 2006). The main reason for this might be partly due to definition: tradition is not singular. Expressions like traditionalist and traditionalism imply following traditions as rules without questioning their significance. One of the investigations as part of earlier research (Borjesson, 2006) showed that several of the most successful designers managed traditions: they did not shun away from them, neither did they adhere to them. Traditions were regarded as a resource to be used at their convenience.

The problem with time and tradition is that not only are they embedded in our cultural philosophy but also that we are only partly aware of the influence they subsequently exert on us. We are consequently not totally in control. We have learned how to relate to time and tradition but we have in addition also lived this experience. The difference is on the level of consciousness according to Ramachandran (2003). Lived experience is not the result of active learning and thus not consciously stored and able to recall on command. The challenge is how (i) to change something of which we are not aware and (ii) to take into account what appears 'irrational': in other words not to let intuition or lived experience be totally overruled by a learned cultural attitude.

Indications: it is important for research to identify where prevailing cultural philosophy and sustainable thinking is in opposition: for example (i) the cult of 'the new', not only concerning objects but also on the level of knowledge, and (ii) the often conflicting influence of lived and learned experience. A designer is most likely to be under influence from tradition as a lived experience but has learned to deny it as part of a prevailing learned de-traditionalisation.

Immateriality and Irrationality.

In 1973 Horst Rittel and Melvin Webber wrote a landmark article where they discussed the occurrence of a set of problems (of social policy) that could not be resolved by traditional analytical approaches. They labelled such problems "Wicked Problems". Are irrational problems in general "wicked"? According to Rittel and Webber there are no solutions to these problems 'in the sense of definitive and objective answers'. Are irrational problems thus unsolvable?

Research within neuroscience does indicate that irrational problems are neither "wicked" nor unsolvable (Damasio, 1994, 2000). However, they demand a different approach: a change of direction of thought where awareness and knowledge about irrationality, or rather non-rationality, turns this into an asset rather than a disturbance. To acknowledge and manage the constant influence of non-rationality might thus be a necessary prerequisite for development, which goes further than innovation. Should this be called 'a

new rationality'? This expression, though often heard, in fact runs the risk of conserving rationality as *the* one way to think. The misconception that our decisions are and ought to be rational has according to Whitfield (2007) gained increased momentum with scientific development and resulted in rationalism, which is when rationality is applied without differentiation. The result will be 'wicked problems', as there are definite and objective answers only to problems which allow calculation. Ticineto Clough and Halley (2007) claim that the recognition of 'the affective' in sociological research has meant a positive turning point, which in the long run promises less definitive but more reliable results.

Returning to the issue of time and tradition as lived experience, we do not know, we only assume that this experience is in analogy with what we have learned, which might not be the case. Human rationality is generally regarded as a precondition for the development of modern society and what we call 'irrational' arguments are often dismissed. When he argues about 'the adaptive unconscious' Wilson (2002) suggests that the adaptation process is fast whilst the unlearning process is slow due to the fact that the unconscious is engaged more on the level of being than living: more about adapting basic needs than responding to sudden changes higher up in the need pyramid. Intuitively we might know that a different stand to time and tradition should serve us better but we have learned differently and thus we act rationally.

The link between non-rationality and immateriality was confirmed in the fictional exhibition, which was one of the investigations conducted in earlier research (Borjesson, 2006). Faced with the task of proposing 5 objects² to be exhibited as affectively sustainable, the participants reported problems: they could not by reflection suggest relevant objects. They complained about passing a lot of time on the task and a few evidently put themselves in an almost meditative stage to be able to come up with suggestions, which finally produced the right 'gut feeling'.

Aesthetical

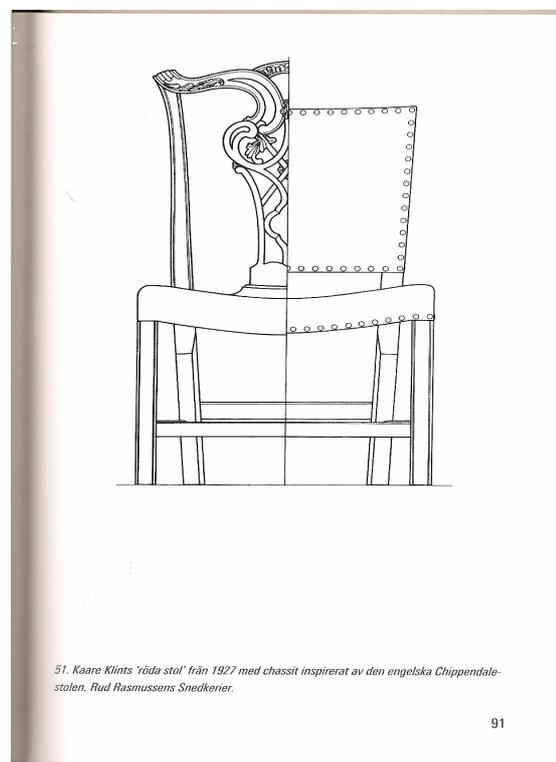
Aesthetical statements have widely been condemned as elitist: aesthetical arbiters have given their views on what is aesthetically pleasing and what is not (Borjesson, 2006). Although certain proportions still might be viewed as 'aesthetical rules', the aesthetic is mainly regarded as a perception: an experience, which bypasses reflection (Menke, 1998, Ree, 1998). The arbiters are thus really talking about beauty, which is reflected and as a consequence subjective (Postrel, 2003). The Bauhaus school and their proponents tried hard to define the aesthetic and find rules beyond proportions for how to achieve it. They famously decided it could be achieved through function (e.g. Marcus, 2005).

Early voices argued that aesthetical values were not to be imposed on anyone or set as a standard. As early as 1735, a German philosopher, Alexander Baumgarten, claimed that sensual recognition was not inferior to, or to be overruled by reason. Sensuality was a complement to reason and "provides a representation of reality the same way reason does for rationalist

² The participants were not given a selection of objects to choose from but were instructed to pick from memory.

philosophy” (Menke 1998, p. 40). Baumgarten actually proposed what neuroscientists are now about to find proof for: “The goal of aesthetics – the enlargement of the realm of legitimate cognition, including sensual forms – required an epistemological break with the very understanding of legitimate cognition as such.” (Menke 1998, p. 40) The difference is that we now have reason to believe that cognition³ (or *conscious cognition*) is not a prerequisite for developing our experience: the unconscious (better named *subconscious* to avoid confusion) is adapting and learning simultaneously to the conscious, our senses apparently develop and our capacity to see, hear, feel and smell improves: we see for example details formerly overlooked. This was observed and claimed already by Dewey (1934) and has been further elaborated by cognitive psychologists like Wilson (2002) and others.

Figure 1. Kaare Klint’s ‘red chair from 1927. The chassis is inspired by the English Chippendale chair. Rud Rasmussens Snedkerier. (Mollerup, 2007)



Perception

There is scientific agreement that perception is an immediate sensual process but this appears to be where views cease to converge. Since Plato’s time philosophers, scientists and scholars have argued about the connection between body and mind; between the sensual and the mental; between the lived and the learned. Some cognitive theorists claim that the affective and the cognitive are in constant dialogue, whilst others stick to theoretically normative models of cognition (Borjesson, 2006).

³ Cognition is in Encyclopaedia Britannica explained as *mental processes*.

The popularisation of the work of neuroscientists like Damasio and Rachamadran has turned the discussion in the direction of the final unifying of body and mind: affect and cognition is in constant dialogue (Bastick, 2003).

Our understanding of perception is important when we research product attachment. Dewey argued in 'Art and Experience' 1934 that if we do not embrace or understand what we see, it is easily forgotten. This is what Sternberg (1996) calls 'direct perception'. 'Constructive perception' is when we make sense of what we see and remember. Thus the first step to attachment is taken.

Semiotics in general presupposes a constructive perception, which could be translated as attention. Exemplifying with two current articles; Oakley's 'Attention and Semiotics' (2007) and Brandt's 'On consciousness and Semiotics' (2007) neither analyses nor mentions human unreflective behaviour. According to Oakley, a sign functions in three modes of interpretation: association, designation and argumentation. Which, if any, of these modes might be ruled or at least highly influenced by affect is not explored. All three modes are based on 'understanding' and Oakley does not differentiate between conscious and subconscious⁴ understanding. According to Bastick (2003), associations are mainly subconscious but important as they help to distinguish one object from another. Krippendorf talks here about 'visual metaphors, which "enables the recognition of artefacts in terms of dimensions and features of other more familiar artefacts" (p 95). However, he does not suggest if and to what extent this recognition is a conscious process.

Indications: Regard to immateriality and irrationality/non-rationality appears not to be well integrated in research and discourse within semiotics. The two articles referred to above are merely examples of this. On the other hand, the link between cognitive semiotics and product attachment is obvious and the latter would probably benefit from taking into consideration the functions of a sign and its different modes of presentation, representation and interpretation. This would add knowledge to one of the common distortions in intuition: the interaction between perception and 'the emotional set': what you experience is distorting what you see and it is eventually displayed as an inner image.

There ought to be a value for designers in acknowledging the associative capacity of an object as part of direct as well as constructive perception.

Affect, Lived experience and Meaning

Love (2002) notes that feelings are what you experience inwards, whilst emotions are what you display outwards. This is in correspondence with Damasio's (2000) definitions, but Love does not include an explanation of affect. Desmut and Hekkert (2007) use affect and experience interchangeably. Damasio is underlining that in any type of research there must be a clear understanding of the difference between feeling, which in French for example would be sentiment and refer to the mind, and emotion,

⁴ Unconscious and subconscious are often used interchangeably in discourse and literature. For an unambiguous definition, the latter is to prefer. I have however from the onset used the former and will continue to do so.

in French *émotion*, which refers to a bodily sensation or a sensation which could be expressed by a motor reaction. Damasio (2000) consider affect to include feeling as well as emotion and mood. Bastick (2003) on the other hand, refers to 'the emotional set', which he explains as holding an affective, an emotion and a motor component.

When Damasio challenges Descartes, he claims: I feel therefore I am. He does not claim: I am emotional, therefore I am.

Affect

What we show outwards, the emotion, is mainly reflected. Emotions are hence prone to change and also to adjustment: we show what we think might be appropriate to show, sometimes holding back – at other times overacting (Ramachandran, 2003). Feelings are our private property and we are sometimes not even aware that we have them, which becomes evident when we cannot explain the mood we currently are in (Whitfield, 2007). The need for integrity is, according to Maslow (1954/1970), a basic need and feelings are important for its preservation. The crucial role of integrity on the level of creating a bond between user and product was made evident in a recent workshop for a group of industrial design master students⁵. When analysing a selection of objects regarding their affective qualities, the group was unanimous on the role of authenticity: this is what creates positive affect for an object. Retro features and originality play, according to the group, a minor role.

Our best friend, the dog or any advanced animal for that matter, cannot contemplate and simulate the future and consider the most appropriate way to act (Gärdenfors, 2006). Their feelings are the result of lived experience and they unlearn slowly: the saying is that certain animals like horses and elephants never forget. Human ways of being are, needless to say, more intricate. Gärdenfors reminds us that we are unique in the way we always plan for the future, but when it comes to feelings, we have 'an anima' inside: feelings are lived experiences and we store them. Humans are basically egoists even if we try to pretend something else. Therefore we primarily and consciously, but also subconsciously hold on to what cares for us.

The reference to 'we' throughout this paper appears relevant, because according to sociologists like Ticineto Clough (2007) there is reason to claim that *the affective is pre-individual but not pre-social*.

Moreover, during the workshop reported above, it became clear that emotions and affect could work in opposing directions. An object⁶, which gave rise to immediate positive emotions, was simultaneously denominated trendy and the participants agreed that the emotions faded off fairly fast and were replaced by a feeling of anticipated boredom.

Whilst emotions are rarely enduring, affect, which also incorporates feelings, appears to balance our (*human*) *ways of being* with our ways of living. A possible conclusion here is that *affect* helps us to adapt: *human ways of living*

⁵ Central Saint Martins College, UAL, February 2008

⁶ The object was a so-called 'Dust-buster' with new features aimed at improving functions.

are in a permanently changing mode, aiming at desires, whilst our ways of being adapt with the prime aim to care for our well-being, to meet needs. These processes of adaptation are probably not - or not to a large extent - conscious. Our own actions often surprise us: we know for example 'intuitively' how to handle a situation even if it initially appears new to us.

Lived Experience

Dewey introduced the notion of lived experience as early as 1920s (1934). His claim has since been recognised but there is still not consensus on how these experiences influence cognition and eventually blur the boundary between perception; sensual processes, and cognition; mental processes. When Gerdenryd (1998) criticised the prevailing scientific view on cognition, referring among others to Lave (1988) who emphasises that cognitive science had overlooked the impact of culture and everyday life on cognition. Capra (2002) followed suit and criticised the scientific approach to cognition for having implied that it was possible to arrive at objectivity.

As a result of earlier research (Borjesson, 2006) there is reason to claim that lived experience, through traditions and more or less recent cultural influence (like the understanding of time) moulds a threshold, which an object has to pass to be perceived, not merely seen, and remembered. This threshold makes up the first obstacle to attachment, whilst lived experience also forms our personal expertise or our intuition (Borjesson, 2006). The correctness of intuition is according to Bastick (2003) and mentioned earlier, dependent on if we, the subject has sufficient experience and is consequently only reliable in areas where we judge ourselves to have enough experience.

One way to verify the quality of this experience is to visualise it, through drawing or, according to Pöppel (2007), even better in words. He recommends this as a method to avoid communications errors and exemplifies with how to communicate creative work. The celebrated and still practising, French architect de Portzamparc (2006) also proclaims the visualisation of thoughts as a tool able to refine and adjust our intuition (Borjesson, 2006). However, there is no consensus on how language and imagery respectively define design (Vihma, 2008). Whitfield (2007) states with emphasis, that a language-based analysis is not necessary for the evaluation of objects. Language capacity is intimately linked to rationality. Krippendorf (2006) does not agree as he claims that the fate of all artifacts is decided in language.

Meaning

Nobody would deny that many objects have a special meaning to us. Neither would it raise objections to state that cognitive processes form meaning. Desmet and Hekkert (2007) prefer to talk about 'experience of meaning' rather than *meaning* and refer to Crilly et al (2004) when suggesting that meaning is formed through "semantic interpretation" and "symbolic association" (p.60) and further that these processes are very vulnerable to individual and cultural differences. To make a distinction between 'experience of meaning' and 'meaning' is probably wise.

According to Gärdenfors (2006), neither scientists nor scholars understand fully how meaning is formed. In the humanities *meaning* is taken for granted whilst in natural science it is avoided, either due to will or incapability. Desmet and Hekkert, both with affiliation to a technical university, might hence try to avoid the troublesome 'meaning' by making the addition 'experience of'. Gärdenfors argues that to create meaning we must understand, but unfortunately *understanding* is another area where we have limited knowledge. After having worked with young school pupils, he drew the conclusion that understanding is to see a pattern: we are at all times looking for patterns and the brain automatically fills in what is needed based on what we have already learned. However, our brain cannot take in everything and we do not see or hear the same things. This is why objectivity is not possible. The issue of expertise or experience is important not only when it comes to knowledge but also to perception: as an expert you hear and see things which are out of reach for the less experienced. Expertise or not, we all try to see patterns also where they do not exist. Gärdenfors mentions this as an example of the constantly ongoing human search for meaning.

Mugge (2007) indicates that we become more attached to products with a personality similar to ours. To attach personality to objects appears to be a very personal and subjective activity, which is better understood when reading the quote assigned to Anais Nin: "We do not see things as they are, we see things as we are." (Gärdenfors, 2006, p. 46)

Returning to the student workshops referred to earlier: the participants appeared to subconsciously link affectivity to meaning: not only concerning *authenticity* but even on the issue of *relevance*, which emerged as a central concept. When emotions like desire and curiosity as well as positive tactile experiences had passed, the students made frequent references to a feeling of relevance, which when subsequently reflected included material, form, recognition, added value, construction - to mention only the most obvious. When an object got to many scores of *negative relevance* it was immediately seen as having little affective competence. Positive emotional experiences did not seem to overrule the feeling of negative relevance

This new insight was further strengthened during a recent visit to an exhibition in Barcelona: Mater⁷. The exhibition presented more than hundred projects on new materials and their application. Regard to sustainability had been one important precondition in the selection of projects for participation but also, according to the documentation, relevance for use, not least for the user. When arguing, the organisers referred to the multitude of innovative materials, which never lasted or came to proper use depending on lack of an all-encompassing relevance. One personal impression was that most materials did not show the complexity neither in concern for their composition nor their other characteristics, like for example heat-resistance. They were generally appealing and gave an un-complicated impression.

"The human brain is default to perform a reduction from complexity" (Pöppel, 2007, p.12). In other words, we are made to simplify. This seems very obvious

⁷ **Mater, nuevos materiales, nueva industria**, 08.02. – 28.04.2008. Organised by FAD (Fostering Arts and Design) as an assignment from the Spanish Ministry of Industry.

when referring to Gärdenfors (2006) and his claim that humans constantly search for meaning through understanding and seeing patterns. When Krippendorf (2006) argues that aesthetics have to do with form, not with meaning, the contradiction appears openly. Form, or forms are central for the identification of patterns and the resulting creation of meaning. Or as Whitfield (2007) remarks: there is no point in visually identifying a tiger if you cannot fast associate it with the meaning that a tiger might eat you.

Simplification viewed in this light has nothing to do with simplicity but is linked to an individual aesthetical judgement: we are pleased when we immediately, without reflection, understand what we see. Sometimes it is even a question of life and death (the tiger). Not least our lived experience helps us to make sense of an object. This is why we make different aesthetical judgements over time (Dewey, 1934) and why simplicity is sometimes slightly elitist: only those with a lot of experience might immediately understand and therefore appreciate what they see. Many designers' and artists' urge for perfection is hence counteracting attachment and sustainability. In other cultures, for example the Japanese, imperfection is an art as such. Why is that so? Imperfection appears to do what many designers also are aiming at: it makes the object retain interest in the eyes of the viewer. Imperfection invites further exploration and presents details, which facilitate remembrance. Imperfection is conspicuous but it also allows for personalisation. Remembering the quote from Anais Nin, it is adequate to claim that perfection does not allow us to see things as we are.

Indications: Findings within neuroscience and cognitive psychology appear to oppose prevailing design theories on product semantics concerning how we interpret objects. There is also little accord on the definition of affect, feelings and emotions, which adds not only to communication difficulties but to less precise directions in design research.

It becomes hence difficult for designers to value intuition and its relation to experience and moreover to judge when language is defining an object or giving it a meaning that is different from the intended.

There is obviously more agreement on the unfinished object: the more associations an object evokes, the easier is it recognised and retains meaning in a prolonged 'pattern recognition' leading to attachment.

Conclusions

The analyses in this paper have linked cultural studies and sociology with design history and design theory as well as with cognitive science and neuroscience in an effort to create new knowledge for the design of affectively sustainable objects. The aim has also been to explore current research in the above fields for contradictions and conformity in matters of relevance to affective sustainability. Firstly it has been observed that research within sustainable development reports only general links to immateriality. Secondly, design research on product attachment addresses immateriality and feeling but eventual links to sustainability are vague. Finally, research within product semantics and the study of semiotics focuses human thinking and the role of language with only minor regard to feeling.

Affective sustainability has been placed and analysed in the intersection between the links, which has resulted in a number of indications. These could prove to be significant in defining common research directions for the mentioned fields. Designers could also consider several indications directly in their work.

- Review and evaluate the respective conscious and subconscious influence of cultural philosophy: the common as well as the individual. Gain awareness of how cultural attitude is formed: lived and learned. Focus key notions as *time* and *tradition*
- Consider beauty as the aesthetical reflected but recognise *aesthetical development* beyond reflection.
- Acknowledge the *associative capacity* of an object in direct as well as constructive perception.
- Differentiate between *affect, feeling and emotion*: distinguish their innate relation and important role for decision-making.
- Identify the relation between *lived experience, the adaptive subconscious and intuition*.
- Rational thinking applied universally is rationalism and limits the mental scope, whilst *recognition of non-rational thought* adds mental dimensions.
- Meaning is formed more through *pattern recognition* than through language, which indicates an important role for the associative capacity of an object.
- Appreciate *the unfinished object and object imperfection* as a characteristic inducing affective capacity through invitation to explore, which enhances product attachment.

There are strong reasons to believe that to design for affective sustainability, which was timelessness, is to design for human ways of being as opposed to living. As the subconscious mind exerts stronger influence on our acts than was previously suggested, we ought throughout to observe our own as well as others 'thoughtless acts' as they reflect our ways of being. These acts are the result of lived as opposed to learned experience. To advocate this human-centred, as opposed to user-centred design approach, labelled intuitive design by Fulton Suri (2005), appears to be a worthy summary of the analyses.

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