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BA Product Design

Dissertation

How do people’s emotional attachments to a product affect the longevity and life of a product?

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**Introduction**

Emotional attachments or emotional design are phrases becoming increasingly predominant within the world of design. Described by Paul Aumer-Ryan as the way in which our emotions play a part in influencing how we relate to objects, products and artefacts (Aumer-Ryan 2005), emotions play an important role in how we react to and experience products or objects. Creating positive emotions towards these products could have positive effects on the design process.

The longevity of a product or its life span varies from product to product. From single-use products through to products that last many years, the longevity of a product is an aspect of the design that must be seriously considered within the design process. Whether the aim is to create disposable products or create products that last a lifetime, many aspects of the product must be considered at all stages of the design process.

The aim of this study is to identify and analyse the link between the consumer's emotional attachments and the longevity of a product. By making a review of the relevant literature and critically analysing some products in the chosen field, it will be possible to understand the relationships between this emotional attachment and product longevity. By carrying out this research it may be possible to find how it is possible to successfully create positive or negative attachments with a product that will, in turn, inform the design process and have a real impact on the longevity of a product.

The first section in this dissertation will justify the need for increased product longevity. This is followed by section two showing how and why emotional attachments are developed; from attachment development through to loss of attachment. Next, information will be given regarding techniques suggesting ways in which emotional attachments might be increased. Then follows a section detailing product classification and finally, after some case studies, a conclusion will be drawn.

1. **Longevity and Sustainability?**

With environmental problems on the rise issues surrounding sustainability have become a hot topic amongst designers and consumers. With today’s environmental awareness it is impossible for designers to ignore the impact that products are having on the environment.

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The longevity of a product, or its lifespan, is a key point of the sustainability strategy. However it is easy to think that increasing the products physical lifespan would directly affect the sustainable credentials of the product but it is more complicated than that. Throughout this essay we will begin to see that the physical lifespan of a product is irrelevant if the user is not prepared to keep it for the duration of its life.

A product’s life span impacts highly on the environment. Products with short lifespans, like toothbrushes, that are produced in their millions and disposed of regularly cause greater environmental impact than products produced in lower numbers with longer lifespans, therefore disposed of less often.

“If we’re really honest with ourselves most of what we design ends up in a landfill” (Tim Brown IDEO)

If this is the case then it would suggest that designing products that are produced in lower numbers but last longer would be a beneficial way to reduce the amount of waste. Or a step further, perhaps it is possible to create something that will never be thrown away.

So, can increased attachment have a positive effect on the longevity of a product in order to benefit the level of sustainability of that product?

2. Attachment

In this chapter evidence and opinions regarding the creation of attachments will be analysed. From feelings felt prior to product purchase through to feelings experienced after product disposal.

Jonathan Chapman’s theory of the “Honeymoon period” will be put into context alongside ideas from other thinkers and then the theory of design for dependency will be explored. These sections will give a picture of how some of the first emotions are developed right through to perhaps some of the last, leading to potential product demise.
2.1 The First stages of attachment

The “Honeymoon Period” described by Chapman (2005) as “the passionate early stages of a subject-object relationship” maybe used as an analytical concept for understanding the initial stages of a user’s formation of emotions towards a product. Chapman suggests that these early stages of a product’s life are short and intense, climaxing in “an awakening jolt” unlike a successful marriage. Chapman (2005) compares recent developments in product longevity to social trends away from marriage and towards one-night stands.

Today’s consumer society is constantly searching for something new and exciting; this is often provided by us, designers. When initial excitement for a product fades temptation to become excited by other products grows. So attachments begin to fade and a product may be disposed of and replaced.

In contrast to Chapman’s theory Schifferstein and Zwartkruis-Pelgrim (2008) have a different view. They discovered that although the attachment did decrease after one year, attachments that continued became their strongest after twenty years.

Schifferstein and Zwartkruis-Pelgrim (2008) do however have some results that back up Chapman’s theory. Amongst their findings they found that strongest attachments were found in objects younger than one year and older than twenty (Fig 1). Relating to this they distinguish between emotions felt before one year and after 20; early emotions felt are those of enjoyment and later down the line emotions relating to memories are stronger. However this does not suggest that attachments necessarily have to end completely after one year.

(Fig 1)Graph showing the decrease of attachment after one year. But increasing until the strongest attachments develop after twenty years. (Schifferstein and Zwartkruis-Pelgrim 2008 p7)
"The means for enjoyment are highest for recently acquired objects, while the means for memories are highest for the older objects." (Schifferstein and Zwartkruis-Pelgrim 2008 p8)

This leads us to understand the reasons why we become attached to products in the first place:

"Hence enjoyment might be the primary reason for people to become attached to newly acquired objects." (Schifferstein and Zwartkruis-Pelgrim 2008 p8)

When considering why, in both theories, emotional attachments may become weaker after the first year, Chapman (2005) suggests that users expectations have a detrimental effect on the life span of an attachment. The loss of belief that the product they have purchased is going to be the last one they ever need for example, has catastrophic implications for product longevity. Upon realising that the product is not going to fulfil its expected role, disappointment sets in and the attachment ends.

Chapman highlights a further theory as to why emotional attachments may come to an end.

“Most products within the current model of design are static, possessing non-evolutionary souls; we as users, on the other hand, are anything but static and exist within a restless state of continual adaption and growth” (Chapman 2005 p67)

It is the adaption and growth of the users that puts stresses on their relationships with products. It is the users’ development through a range of emotions that causes their bonds with a product to weaken. It is in this context that new products introduced to us create temptations which often result in the end of a “Honeymoon Period”.

Clearly the demise of emotions poses problems when trying to increase the longevity of a product. Perhaps it is not the innate longevity of the product that we need to consider but the longevity of the user’s attachment towards that product. Would a product which generated a lower level of expectation fulfil this requirement and make the transition between its honeymoon period and everyday life easier? Or perhaps focusing attention on the enjoyment which the user has of the product could create greater bonds in the early stages. Aiming to link these experiences with sentimental memories could, perhaps allow the consumer to love their product beyond a year, or the honeymoon period.

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2.2 Dependency and Attachment

“Dependency” - a word more commonly used in relation to drugs and alcohol than to product design - is the habitual need for something on a psychological or physical level. Becoming dependent on a product may not seem like a particularly pleasant idea but it is surprising how many of us are. For example, for many people living without a car would be at the very least uncomfortable. The same could be said for mobile phones, the train service or The National Health Service.

Chapman (2005) describes the sharing of dependency or co-dependency between both parties involved, user and product; they share a “symbiotic exchange of reliance and need” which in turn creates strong emotional bonds on the behalf of the user. Chapman gives the example of a dog and its owner, where the dog relies on the owner. Another example is the need for suede shoes to be cleaned and treated regularly.

“Everyday objects that engage the senses in this way should not be taken for granted... it is this co-dependency that give rise to deep sensations of cohesion, attachment and potentially love.” (Chapman 2005 p72)

The idea of co-dependency is approached slightly differently from Schifferstein and Zwartkruis-Pelgrim (2008). Schifferstein and Zwartkruis-Pelgrim (2008) divide co-dependency into 3 subcategories; Irreplaceability, indispensability and self-extension. These three subcategories look at emotions felt within co-dependency. Irreplaceability relates to emotional dependency, indispensability to physical dependency and self-extension to the way in which people are perceived.

Schifferstein and Zwartkruis-Pelgrim (2008) refer to an irreplaceable product as one which has a "symbolic meaning to its owner" which cannot be found in other products or gained from other people. For example someone feels a high level of irreplaceability in a product that may have been touched by a famous film star or TV presenter. Indispensability perhaps relates closer to Chapman’s take on co-dependency, however Schifferstein and Zwartkruis-Pelgrim (2008) see this as being a less important when considering emotional attachments. For the product to be indispensable it cannot be lived without as it is used heavily to carry out its function.

"Since attachment can occur (in the irreplaceable category) irrespective of the product's success in fulfilling its primary
utilitarian function, attachment is unlikely to be related to a products indispensability" (Schifferstein and Zwartkruis-Pelgrim 2008 p2)

Schifferstein and Zwartkruis-Pelgrim finally identify their third subcategory as self-extension. With examples such like a carpenter’s tools to a carpenter and a mountain biker’s bike to a mountain biker, they make the point that these products complete this person’s identity or an extension of one's self. Therefore;

"we expect that the degrees of self-extension to be related to both measures of strength of emotional attachment (irreplaceability) and utilitarian consumer-product relationship (indispensability). (Schifferstein and Zwartkruis-Pelgrim 2008 p2)

An example that clearly represents the idea of product dependency is the computer game “The Sims” (Figure 1). Released in 2000 after 8 years of development, “The Sims” was one of the first strategic life-simulation computer games developed. The Sims aims to encourage a player to make their own choices and fully engage in the virtual environment that directly affects “Sims” (the virtual characters) and allows them to reach their own personal goals such as relationships and jobs. In a similar way to the Tamagotchi, (Fig 2) a digital pet released in 1996, “The Sims” seems to exploit the co-dependency theory.

“The key issue underpinning the Tamagotchi was that it could die, and to keep this digital pet alive and happy one had to look after it by meeting its needs.” (Chapman 2005 p73)

(Fig 2) The Tamagotchi

The Sims are also designed to die when they are mistreated or neglected. By completing normal activities such as cleaning, feeding,
socialising and romancing, (Fig 3) the Sims can continue to live and work towards their goals of love and affection. This simulated growth and development creates a deeper and stronger bond between user and product than any non-progressive or evolving product would.

So, can the exploitation of a user’s vulnerability for dependency be targeted in order to create a long-lasting relationship with a product? Perhaps instigating co-dependency is the key to developing a deeper, more sensitive attachment that lasts for a greater period of time? It would seem that instigating co-dependency relationships could in fact increase the longevity of the attachments, aiding in the process of shifting emotions based purely on enjoyment towards those relating closer to memories and experiences. In this instance the products that depend on the user to prolong their life or fulfil their tasks would seem to fit the bill.

2.3 The three levels of design - Visceral, Behavioural and Reflective

Understanding different levels of design is perhaps one of the most important ways of understanding design and emotion. Approaching the design process using these analytical levels can help us understand why we react to products emotionally.

Donald Norman (2004), a behavioural scientist and human centred design promoter, has identified three levels of emotion that affect our overall emotion towards a product. He believes that as well as these levels being applied to products you can use them to categorise users.

According to Norman (2004), the visceral level of design corresponds to a user’s immediate reactions when a product is viewed. Closely related to an “appraisal stage”
(Desmet 2003), this level is experienced instantly on a subconscious level. Products that are successful on this level are often beautifully crafted pieces of design such as the Philippe Stark’s Juicer. (Fig 4)

![Image of Philippe Stark’s Salif Juicer for Alessi](image)

This is a perfect example of a product which is extremely successful on a visceral level and even Stark is rumoured to have commented that it was never intended to squeeze juice but instead to start conversations (Norman 2004 p112). Although very successful on a visceral level, achieving positive appraisal from its owners quickly and subconsciously, the Juicer actually fails on a behavioural level.

The behavioural level of design is somewhat different to the visceral one, relating to the “Function, understand ability, usability and physical feel” (Norman 2004 p71) of the product rather than initial emotional impact, which depends almost entirely on the aesthetics of a product. When considering behavioural design, the aesthetics of the product can almost be forgotten about; this level is based solely on product usability. On this level the Philippe Stark Juicer is not successful, because it simply does not work; accordingly the Juicer fails on the behavioural level.

These two levels correspond to the feelings that Schifferstein and Zwartkruis-Pelgrim (2008) believe are felt at the beginning of a relationship between product and consumer whereas the next, reflective level, corresponds to the emotions they believe are strongest much later in the product relationship.

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Reflective design is a highly individual concept. For one person the product might evoke previous experiences or significant moments in a user’s life. For another it might reflect their self-image (Norman 2004 p84). Because this level appears on such a personal basis, it is difficult to pinpoint success here. Attempting to find a link to a person’s (or a group of people’s) previous, personal, experiences and evoking emotions associated with these experiences could be a step in the right direction. Another approach might be to produce a product that would create feelings of enhanced self-worth for the user.

Brands and brand loyalty are often linked to a reflective level of design in these two areas also. One user of Apple computers commented; *(Fig 5)*

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"The first time I switched on the iMac my mother gave me and saw that interface, I thought: this is what I want to do with my life!...I felt excited...Since then I have been completely in love, totally in love with the company" (Vera Damazio et al 2009 P2731)
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This quote indicates that after initially using the iMac and being excited on a visceral level, this user’s future opinions and decisions relating to iMac computers have been influenced. Consequently she now feels a dedication to the brand, suggesting that this product is not only successful on a visceral level but a reflective level too. iMac computers can also be seen as products that portray someone’s wealth or status, due to a high cost and an attitude that “If it is expensive it must be special” (Norman 2004 p64). Therefore this product is also successful at Norman’s reflective level.

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Having looked closely at these three levels of design, we can recognise how different aspects of design can be related to these levels. Furthermore, it is interesting to see how people differ over which of the three levels they feel is more important. Accordingly we may classify, for design purposes, the users of products by these three levels. People with a preference for products successful on a visceral level will be more interested in products with strong visual attributes. “Behavioural people” will be more prone to looking for the function and ease of use, and “reflective people” will lean towards expensive brands and the value of a product with their personal image in mind (Norman 2006 p5).

It would seem that successfully addressing all three levels leads to a successful product, as demonstrated by the Motorola Headset. *(Fig 6)*

![Motorola Headset](image)

*(Fig 6) The Motorola headset*

“It worked. The result is a “cool” product- that not only functions well, but also serves as an effective advertising tool for Motorola and enhances the self-image of the coaches” (Norman 2004 p90)

Clearly the Motorola headset works on all three levels. On a visceral level because it is perceived as being “cool”, on a behavioural level because it functions well, and finally it achieves the reflective level as it makes the user experience an improved self-image.

After looking at these sections it is clear to see that the development of emotional attachments is a complicated matter. We can see that to continue attachments past one year right through to twenty years, where attachments are at their strongest, may require the development of a range of different design techniques. Working out how these attachments are formed has allowed us to develop our understanding and enable us to design with this in mind.
3. Prolonging Attachment

Theories regarding improving with age are wide spread and can be highly beneficial to increasing products longevity. After considering how emotions are created and identifying their sometimes short-term timescale it would appear that further techniques must be used to further extend the emotional attachments throughout the product life.

The next sections define theories of surrounding “improving over time” and how they could affect the longevity of a product. Ideas such as developing patina and new surface finishes are ideas that take time to develop.

3.1 Changing over time

The ageing process is often perceived negatively. Products and humans share a similar fate; the older you get the more outdated you become and eventually you die. A recent study carried out by William Odom and James Pierce (2009) entitled “Improving with age: Designing enduring interactive products”, evaluates research in this area and presents some interesting findings.

On the face of it designing products to withstand the test of time might seem like a simple task, simply design something that lasts a long time? Wrong. Odom and Pierces research can be used to challenge this assumption.

When looking at the concept of “improving with age” it is useful to subdivide products into two areas; digital products including mobile phones and laptops and non-digital products such as musical instruments or tableware. According to Odom and Pierce (2009), people rarely express strong attachments to digital products and don’t see them as improving with age, whereas they found people did express strong attachments to non-digital products. There are several reasons for this. Peter-Paul Verbeek argues that people become attached in two different ways, one person will become attached to “the thing itself” and the other someone becomes to “what the thing provides”, for example the music which an MP3 player provides.

When considering non-digital products most people develop some kind of not attachment only with the product itself but also with the service which it provides. For example, someone may develop a strong bond with an acoustic guitar as an object and

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to the sound which it creates. This differs to the attachment formed with digital products; normally the attachment developed with these products is solely to the service provided and, when offered the chance for an upgrade, the user will jump at the opportunity for something new.

Digital products are often less trusted by users. Odom and Pierce record that one lady commented about how she loved to use her mobile phone for a diary, but that its lack or reliability caused her to lose trust in the device.

“If I lost my phone I would not be to upset. I try to use it as my diary but it’s been too untrustworthy lately. It’s saying give me love, asking me to pamper it... but it doesn’t give it back.” (Odom and Pierce 2009)

This ought to be an example of co-dependency. However the dependency of the phone has exceeded the limits of this relationship and is not giving in return; the mutual dependency is out of balance, weakening the relationship.

3.2. **Apple iPhone - Non static Digital Product**

An example of a digital product that has recently taken the market by storm is the iPhone. *(Fig 7)*

*(Fig 7)*The latest model of the iPhone

The iPhone is a clear example of a digital product that evolves with the user’s needs and as a result many people are becoming attached to them. However are they are becoming attached to the phone, or the services which it provides? The constant development of new applications for the iPhone allows the phone to develop alongside

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the user. However this does not necessarily mean users become attached to the object itself. Becoming attached to the iPhone as an object seems unlikely, despite customisable cases (Fig 8) the iPhone is owned by many therefore cannot provide the uniqueness that many consumers search for. It is in fact the internal, customisable features of the iPhone, which create a deep meaningful attachment and trust.

(Fig 8) A huge variety of different cases are available for the new iPhone, on the left silicone cases and on the right more expensive leather ones.

3.3. “Wear in” rather than “wear out”

Odom and Pierce (2009) also present a theory of “wearing in” rather than “wearing out”. This theory attempts to describe how people’s emotions develop over time with the products age and wear. Their research further identified pronounced differences between digital and non-digital products. The “wearing in/out” of non-digital products was often the subject of positive reflection by users as the users could relate to each individual scratch or scuff.

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One user said:

“\(\text{I've had this skateboard (Fig 10) the longest and I still use it... it's my favourite by far. I put new tags on it because they rub off over a couple of weeks. I would definitely say it tells a story about me.}\) ”

(Odom and Pierce 2009 p4)

By contrast Odom and Pierce found that the wearing out of digital products (here an MP3 player) had a negative effect on how the user felt about the product.

“\(\text{The wear and tear took away from its character... and ruins it newness.}\) (Fig 11)

"When you have the new technology you feel better about it... it has to have no scratches on it to show it hasn't been used that much”

(Odom and Pierce 2009 p4)
3.4 Patina

Chapman (2005) also supports this point, commenting that within the digital culture the sense of age created by an “ageing material surface” is often detrimental to the feel of new and up-to-date technology. Chapman (2005) goes on to comment on how the use of deliberate surface damage change can often be included in product design. However this must be done in a clever and discrete way so as to be initially unnoticed by the user. Chapman summarises well:

“...Patina is, indeed, a necessary –if not imperative- design consideration to assist the extension of product lifespan in graceful and socially acceptable ways.” (Chapman 2005 p134)

(Fig 12) Two examples of a patina, the leather straps show an interesting Patina whereas the patina developed on the laptops (below) is a negative one.

Creating a patina on your prized possessions may, for some people, add character, and for others be detrimental to the products usability. (Fig 12). However when it comes to the resale of a product is it a positive or a negative? When considering the re-sale of old products and antiques, the patina may be a positive, creating a sense of mystery. When asked in a recent survey carried out by Odom and Pierce (2009), a user commented on how she was intrigued by who had worn her dress before:

“I didn’t think I was going to love my dress as much as I do when I first got it... after I received it [From Ebay] each crease kept me wondering who had worn it before and what they were doing.”

(Odom and Pierce 2009 p4)
Another user commented:

“I like antiques because even know you don’t know who had them before you... you feel like they took care of it and you can see they did and it makes you want too. Antiques had a lot more care ‘work’ put into them. New things... you can throw it out and replace it” (Odom and Pierce 2009 p4)

These two quotes also support Schifferstein and Zwartkruis-Pelgrim (2008) theory of irreplaceability, showing that this item is seen as being irreplaceable to the owner as they have a personal connection to the previous owner through it.

Perhaps the second hand nature of products is not always a negative thing? Perhaps the lifespan of a product does not need to end when the first owner is finished with it and it can be passed on to another user.

It is interesting to consider Chapman's theory of patina when thinking about Norman's reflective level and Schifferstein and Zwartkruis-Pelgrim's (2008) ideas on memories. With patina developing over time with the user it will directly link to memories and experiences to specific changes therefore significantly aiding the shift between emotions felt on enjoyment (early) and those of memories (later).

Clearly the development of a product and its user over time has to happen together. When products and users develop simultaneously the bonds created form on a deeper more cognitive level. Using methods outlined previously perhaps it is possible to develop a user's emotions throughout their stages in order to create deeper attachments. If these techniques are used successfully and the emotions last longer than the honeymoon period then perhaps the attachment will continue to grow.

"attachment was found at its highest for products owned for more than 20 years" (Schifferstein and Zwartkruis-Pelgrim 2008 p6)
**Product Classification**

After looking at the evidence presented in the previous chapters, it is possible to define product categories with which we can classify products in order to identify the key traits that could help create good emotional bonds with a product.

1. Products that wear in rather than out emotionally (products that evolve with the user and develop over time). For example some digital products or products that forces the user to return and continually explore.

2. Products that wear in rather than out physically (products made out of materials that need care e.g. wood, untreated metal etc.). For example antique wooden tables, or bronze and silver tableware.

3. Products that work on the principle of co-dependency. For example The Sims or products that require continual care e.g. leather or suede goods.

4. Products that create an enhanced product processes, ritualistic experiences, or further tactile investigation. Making the user un-easy or intrigued may extend their interest in the product.

**4. Case Studies**

After considering these theories it is now beneficial to apply them to some products, allowing us to see how these theories can be put into practice within product markets. Once completed useful information will be gained helping us clarify what techniques can be used when designing to promote stronger attachments between product and consumer. Having already seen the evolution of a digital product, the iPhone, alongside the user to be very beneficial it will be interesting to see how non-digital products evolve. The first case study of Emma Lacey's ceramic tableware uses techniques to create interest whereas the wildlife hatchet has been developed for practical reasons but encompasses many techniques.
4.1 Case study - Ceramic Tableware

(Fig 13) The Click cup and saucer

The “Click Cup and saucer” (Fig 13) set designed by Emma Lacey is a product that has been designed to keep the owner interested. With a rounded bottom, the cup sits awkwardly, tilted at an angle when the vessel is empty then, when liquid is poured into the cup, it rocks into a horizontal position like a normal cup. When empty the cup makes the user feel uneasy as the cup is not seated properly, urging them fill it. Upon filling a sense of accomplishment and surprise is felt then, once filled Lacey states that the users can:

“Then play with the weight and position of the cup and become acquainted with it over time” (Lacey 2009 p6)

Through this acquaintance the user becomes familiar with the product creating greater attachment, in turn urging them to further interact with the product. More interaction leads to a deeper level of acquaintance, and greater attachment. It is also possible to argue that a co-dependency relationship arises in the case of this product; the cup’s need for tea to sit upright and the user needs the cup to drink tea.

Creating a sense of surprise when filled the "Click" cup and saucer conforms to one of Schifferstein and Zwartkruis-Pelgrim (2008) outlined techniques.

"Another way to involve enjoyment...is by incorporating surprise into products, since such products are found to be

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much more enjoyable" (Schifferstein and Zwartkruis-Pelgrim 2008 p8)

The "Click" cup and saucer creates surprise with its constantly changing and evolving form so increasing the enjoyment the user experiences. This is significant when considering that Schifferstein and Zwartkruis-Pelgrim believe enjoyment is the primary method in which strong bonds are created at the beginning of a product-consumer relationship.

Another product developed by Emma Lacey is the “Slide cup and saucer”. (Fig 14)

Lacey has shaped the cup and saucer of the "Slide" so they seamlessly "slide" together when the cup is replaced, therefore removing a haphazard feeling experienced when replacing a cup to its saucer. Lacey (2009) states that this smooth movement allows the user to interact with the product both consciously and subconsciously, in a similar way to doodling or tapping your finger. Lacey also satisfies a user’s need for personal re-interpretation. The saucer and cup are both large enough to be used as bowls and the saucer is suitable for resting larger round bottomed items on it. This feeling of customisation makes the user feel more attached to the product, by virtue of unique uses. These connections can be understood using Donald Norman’s concept of the reflective level of emotion, because the users create emotions based on past experiences and memories.
Although ceramic products are isomorphic in terms of wearing-in the material (the ceramic does not change with age), we see other ways in which people become attached or engaged by ceramic products from the previously mentioned ritualistic attachments that evolve with the user’s product use, to the unease felt when the “Click cup and saucer” are sitting awkwardly. Looking at these products we see the vital importance of creating initial interest that intrigues the user. However the feeling of unease created by the user’s first experience the “Click”, expectations of the product are kept low. It is the further inspection and interaction with the product that stimulates the user's interest. It would seem that products developed in this way may overcome the extreme jolt implied by Chapman’s (2005) theory of The “Honeymoon Period” are realised therefore increasing the longevity of attachments towards these products.

4.2 Case study - Gränsfors Bruks, Wildlife Hatchet (Fig 15)

The second case study that is looked at is from a Swedish axe company, the wildlife hatchet from Gränsfors Bruks is a product that could be perceived as being very successful on an Emotional level. Gränsfors Bruks is a small family business based in Sweden; they produce world-renowned axes and hatchets. They have been producing axes of the highest quality for over a decade. The following section will attempt to evaluate their success.

On first acquaintance the Gränsfors Bruks “Wildlife” Hatchet immediately starts to please the user. The carefully bound instruction manual (Fig 16) conveys a sense of the
manufactures meticulous care. From here on the development of product/user attachments deepen.

Further to creating a deep sense of satisfaction the instruction manual or “Axe Book” serves other purposes.

The first page of the “Axe Book” provides information about the forged head of the axe stating the head is “only as good as its smith” (Gränsfors Bruks). Each axe head produced is forged carefully over an extended period and when completed the blacksmith stamps the axe head with his initials. The “Axe Book” contains a table detailing the initials of the smith next to their full name. This information encourages the user to develop a level of trust, as discussed earlier by Odom and Pierce’s (2009) thoughts on trust.

When the parallel evolution of product and user is examined we start to see characteristics of co-dependency relationships. We also start to see aspects of “irreplaceability”, “indispensability” and "self-extension" Schifferstein and Zwartkruis-Pelgrim (2008). Due to the materials used to create this tool, constant care and attention is required, the hickory handle needs to be oiled, the head kept rust free and the blade sharpened. In return, the axe provides a sharp cutting edge. The creation of this co-dependency relationship often results in deep “meaningful sensations of cohesion” (Chapman 2005 p72) experienced by the user.

Whilst caring for the axe, the user becomes familiar with every detail, creating rituals and routines for doing things stimulate the user and refine emotional bonds further.
Chapman (2005) backs this up by stating that it is the more subtle user experiences that affect the user over time which are revisited over and over, rather than the powerful explosive examples that the user rarely re-experiences. It would seem that subtle discoveries of patina and hidden detail are an excellent contributing factor to the strength of emotions towards the product.

The way in which the user interacts with his or her axe will be unique and carried out only by them therefor irreplaceable. The need for constant care is a favourable asset when considering the longevity of an attachment. When considering this, Chapman (2005) states that a products self-sufficiency and a consequent decrease in dependency can be detrimental to co-dependency relationships.

“It is questionable to whether... [The decrease in dependency] is beneficial to the relationships longevity; perceptible neediness is, after all, a motivational driver...” (Chapman 2005 p75)

When we consider the wildlife hatchet as a tool it becomes apparent that the theory of self-extension, Schifferstein and Zwartkruis-Pelgrim (2008) stands out. If the wildlife hatchet is used by someone to fulfil their job or trade then the wildlife hatchet could be the product that completes their identity therefore forming an invaluable attachment.

The developing patina on the handle and leather case, as described by Chapman (2005) earlier, creates positive memories, giving the user visual cues that trigger past memories or experiences, directly relating to the third level of design, Norman’s reflective level. Furthermore it is suggestive that these predominant memories could go on to form a deep strength of attachment that Schifferstein and Zwartkruis-Pelgrim (2008) suggest occurs in products over twenty years old.

Further considering Norman’s three levels of design we can reveal further design successes. It is high quality and outstanding craftsmanship enables the hatchet to excel on a behavioural level. The product works perfectly. The axe also succeeds on a visceral level. Although a tool, the axe has a sleek and beautiful finish and superb build quality. Due to Gränsfors Bruks’ worldwide reputation owning one of these axes has become something of a status symbol and alongside wearing well to create a beautiful patina that constantly reminds the user of previous adventures the hatchet excels on the reflective level.

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5. Conclusion

After extensive research it is clear that there are many ways in which peoples emotional attachments to a product affect the longevity and life of the product. There is no clear cut definition for a successful product in the emotionally durable design category.

Early in this study the distinction was made between the longevity of the product and the longevity of the emotional attachment to the product developed by the user. It was clear that in order to create a longer-lasting product the longevity of the emotional attachments needs to be greater. When examining the early stages of product life, we could see that the short-term intense emotions felt at the beginning of the relationship often came to an abrupt end. However with the use of suitable techniques identified throughout emotions can be enhanced and continued. After analysing the information gathered we can deduce several ways in which we may be able to impact the design process. When aiming to create longer term attachments it would seem that forcing the user to create an accumulation of memories (Schifferstein and Zwartkruis-Pelgrim 2008) and experiences will lead to deep, long-term attachments. However, it is not possible to associate memories with a newly purchased product therefore initial enjoyment experienced by the user has to be developed, over time, into these memories and experiences. So relating to Norman's 2005) three levels of design, emotions are transformed from interaction on a visceral or behavioural level (enjoyment and use) through to interaction on a reflective level (memories and experiences).

The research presented above suggests that deeper more meaningful relationships are often formed with products that are seen to have a longer life, but is this due to the qualities which the product displays or people’s susceptibility to becoming attached? Earlier the distinction was made between digital and non-digital products clearly showing that they are perceived as being two very different classes emotionally. People rarely develop strong attachments to the digital product but to the information and the service they provide. By contrast, people clearly developed attachments with the actual object in the case of non-digital products but the service provided by the product was less emotional important. The comparisons drawn between these two product classes raised some interesting points when thinking about other types of products. Having considered why the two different classes of product were successful, we might then apply the principle to other types of products. The research identified people became attached to the information that a digital product supplied them with because it grew
and developed with them. For example a user’s mobile phone receives more information (e.g. phone numbers, diary entries and text messages) the longer it is owned, therefore developing with the user. This evolution of a product during its lifespan was where some static non-digital products fell short. Although initially they may have been loved and cherished soon, they became victim of the “Honeymoon Period” phenomenon as the user’s needs evolve but the product doesn’t. Situations where non-digital products managed to evolve with the user often showed the most promise, for example the previously mentioned “Wildlife hatchet”. The emotions formed with this product were deeper and more meaningful and kept developing over time with the product.

Finally after consideration it is interesting to see that few products fully exploit all areas of emotionally durable design. Although some products come close, like the “Wildlife” hatchet, it is difficult to pick out products that put into practice every theory of emotionally durable design. Importantly it has been identified that simply designing products that last a long time does not actually affect the lifespan of a product. Consumers have to form suitable attachments with products that keep them involved for a long period of time, therefore exploiting the true physical lifespan of the product. So in can be said that the longevity of a product is, in actual fact, not the physical lifespan of a product but the length of the emotional attachment associated with it.
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