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Skin deep. Perceptions of human and material ageing and opportunities for design

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Abstract: In Western society there is an obsession, fuelled by pervasive advertising, with hiding the effects of ageing and maintaining skin that exudes 'youthful perfection'. Rapid unsustainable purchasing and disposal of mass-produced objects is, in part, driven by 'cosmetic obsolescence' - changes to the pristine material surface which are perceived as damage and degradation. We consider the parallels between these attitudes to changes in material surfaces and human ageing, and propose that actively considering future material change in product design could increase product longevity with both environmental and social benefits.

Keywords: obsolescence, ageing, cosmetic, longevity.

1. Inevitable change

Over time smooth unblemished, youthful skin becomes mottled, sallow, coarse, leathery, dry, wrinkled and lined (Tobin, 2017): *"Physical ageing is inevitable but increasingly, there is a sense that this does not have to be accepted"* (Searing and Zeilig, 2017). Fuelled by *"sociocultural pressures to conform to youthful appearance"* (Jankowski et al., 2016), people spend time, money and energy trying to mask the physical signs of ageing and halt the natural processes of change (Del Rosso, 2017) (Harper, 2017; Jankowski et al., 2016; Jerslev, 2017; Searing and Zeilig, 2017). *"Just like human beings … material objects also change over time"* (Zijlema et al., 2016). From the moment of purchase, pristine objects are subjected to an array of stimuli including wear, impact, heat, light, water and air which alter their tactile and aesthetic properties. *"Beauty is often considered a fleeting thing - something that disappears as a result of decay, wear or aging; something that is "crisp" and new"* (Harper, 2017). Just as there are societal pressures to maintain a youthful appearance, people also expect material possessions to remain pristine: *"Our concepts of the ageing of manufactured objects are heavily dependent on their association with our own ageing and with the passing of time measured in human terms"* (Scarre, 2016).

2. Obsolescence

The rapid turnover of manufactured products has caused global environmental degradation and social inequality. Criticisms of built-in obsolescence, which began to surface within the design

community in the 1960s and 1970s (Packard, 1963; Papanek and Fuller, 1972) have persisted with contemporary critics continuing to question the 'throwaway society' (Cooper, 2010). For many product types, the most effective strategy to reduce the social and environmental consequences associated with manufacture, use and disposal is to extend the product lifetime (Chapman, 2016; Cooper, 2016), but encouraging people to keep products for longer is notoriously difficult.

If valued, *'worn'* possessions may be cared for, maintained and judged less critically, their imperfections treasured, their failings forgiven. Yet few mass-produced objects engender (and sustain) *emotional attachment* and few *age gracefully*: *"If beauty is fleeting and transient because it is associated with what is new and polished… it is not sustainable"* (Harper, 2017). Loss of empathy driven by *'cosmetic obsolescence'* leads to dissatisfaction, detachment and premature disposal (Cooper, 2005; Lilley et al., 2016; Manley et al., 2015; Packard, 1963). Delight at the untouched appearance of new products which "*invites sensual engagement*" (Maffei and Fisher, 2013) rapidly changes to dissatisfaction with 'worn' or 'aged' materials which, coupled with persuasive advertising, drives the cycle of replacement of products which are often fully functional when disposed of (Hollander et al., 2017; Nobels et al., 2015; Woolley, 2003).

3. Designing for positive material change?

We propose that there are distinct parallels between the Western preoccupation with youthful perfection and a desire for flawless mass-produced goods (Figure 1). Are negative perceptions of ageing possessions driven by deeper systemic cultural, aesthetic and philosophical responses to human ageing? Could an understanding of the relationship between people's responses to the aesthetic ageing of objects and their own ageing inform design strategies to combat aesthetic obsolescence?

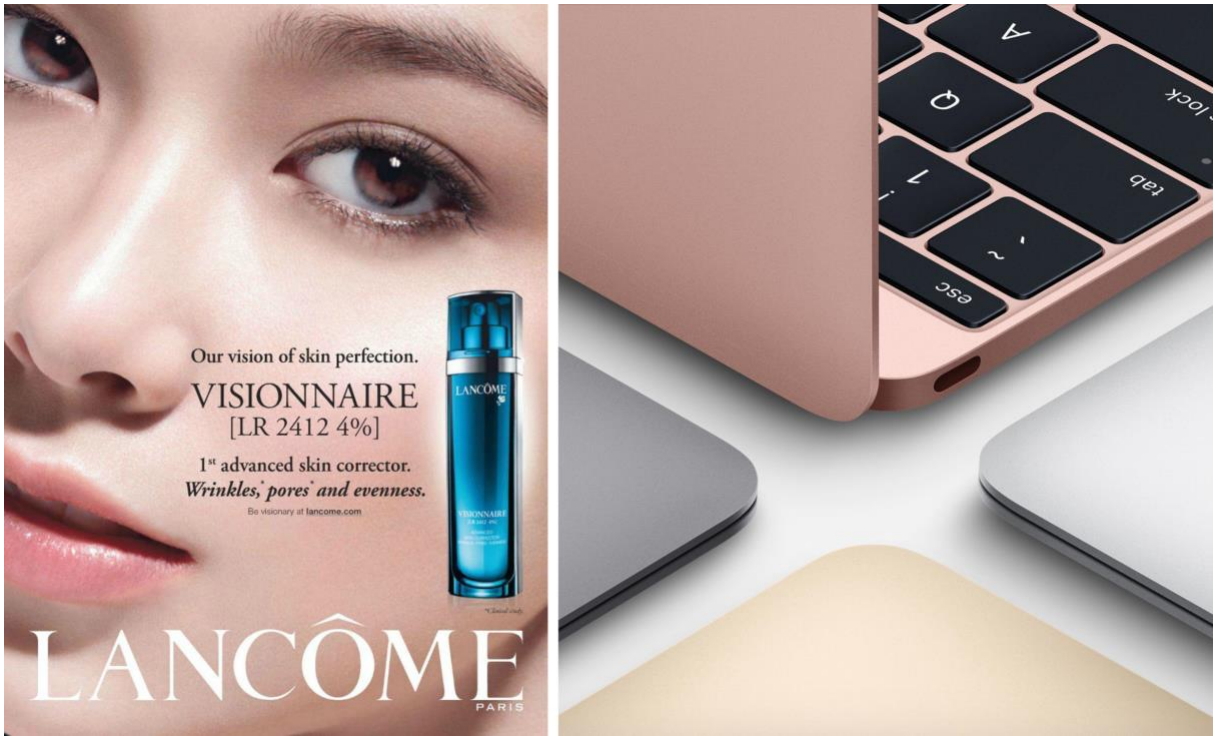

Figure 1. Advertisements portray unblemished, pristine surfaces (both human and artificial), both of which are destined to change with time and use, with these changes generally perceived negatively (images credits: left https://joeychong.com/2013/08/25/14-days-challenge-to-flawless-skin-with-lancome-visionnaire-skincare-range; right: www.apple.com)

Attitudes to ageing of objects and people are socially constructed and propagated through increasingly pervasive media and advertising. Despite calls to ban the term 'anti-ageing' in the cosmetics and beauty industries, 'cosmeceutical' advertisements featuring *"flawless, digitally enhanced faces of young and beautiful models and actresses"* persist (Del Rosso, 2017; Jerslev, 2017; Searing and Zeilig, 2017). These advertisements utilise persuasive imagery and language to reinforce, normalize and encourage conformity to unattainable Western ideals of youthful perfection (Buetow and Wallis, 2017; Jerslev, 2017) resulting in *"commodified dissatisfaction"* (Del Rosso, 2017) . Although less is known about the effects of media representations and advertising on attitudes towards ageing possessions, advertising has been, and continues to be, instrumental in stimulating planned obsolescence. The marketing of electronic devices with sleek, shiny surface finishes arouses a desire for new products whilst simultaneously promoting dissatisfaction with the 'old' (Cooper, 2016).

The stimuli which cause changes in the skin and in the surface of objects are similar: ultraviolet light, abrasion, heat, dirt and chemicals. The combination of these stimuli and their action on a particular material, combined with cleaning and maintenance, creates a unique patina on the surface of every object, and the *'signs of ageing'* on skin. This accumulation of patina on an object reveals a narrative of its life (Nobels et al., 2015), a tangible manifestation of past experiences and memories which can create emotional value (Zijlema et al., 2016).

The pressure to conform to 'plasticized' beauty belies the value of irregularity, imperfection and authenticity inherent in the traditional Japanese concept of wabi-sabi which prizes *"the beauty of faded, eroded, oxidized, scratched, intimate, rough, earthy, vanishing, elusive, ephemeral things"* (Sartwell, 2006, in: Salvia et al., 2010) and *kintsugi* - in which *"the beauty of that which was broken and visibly mended"* is celebrated (Buetow and Wallis, 2017). The concealment and eradication of wrinkles, lines and visible scars erases 'traces' of the past; the inscription and repository of time and memories represented within the skin's surface (Jerslev, 2017). These *"ephemeral patterns"* are *"signs of … an ongoing engagement with life"*. Many choose to hide or obscure them, but others celebrate, value and appreciate them (Buetow and Wallis, 2017) as it is these lines, marks and blemishes that represent a visual narrative of a life lived.

"*Industrial design usually produces objects to be used in the future, but rarely investigates how these objects will change in time*" (Nobels et al., 2015). But what if changes to the material surface through the life/lives of a product were treated as a fundamental part of the design? Material selection, surface finishes and object form could be orchestrated to create objects that would become uniquely personalised through use as the surface gradually modified in response to use and environmental stimuli (Figure 2). The value that was traditionally derived from hand-crafted objects could be instilled through a surface patina that tells the story of the object. Incorporating material change in the design process would enable mass-market objects to be created which change in positive, engaging ways, become personalised and unique through use, and, combined with other circular economy strategies such as design for repair and upgrading, could result in objects which are treasured for generations, rather than being thrown away in exchange for next year's model. The benefits are clear: both a dramatic reduction in environmental impacts from extraction of raw materials, processing, manufacture and transportation, and perhaps even more important potential to increase wellbeing, by enabling people to care for and treasure objects through their lifetime and beyond, in stark contrast to debt and dissatisfaction driven by insatiable consumerism.

Figure 2. Examples of material change which is valued: denim fades from dark blue to white with repeated washing and use, this appearance is highly valued and many products are 'pre-aged' by the manufacturer by 'stone washing' (top left); Nylund Briefcase in vegetable-tanned top-grain cowhide, seams stitched with waxed polyester thread, beeswax and polished bone used to finish edges (http://nylunddesign.com.au); copper tiled reception desk by Raskl (www.raskl.co.uk) which developed a complex patina with use, which the Client then asked to be artificially applied to other surfaces (bottom right); the textured surface of the Stain Teacup by Bethan Laura Wood celebrates staining by tannins in the tea.

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Ben Bridgens' research focuses on the role of materials in design, making, and experience. Collaborations with designers and architects have enabled him to apply expertise in material ageing and responsive materials to broader questions of sustainable design, consumption and the circular economy.

Debra Lilley has extensive knowledge and experience of applying user-centred sustainable design methods and tools to generate behavioural insights to drive design development of less-resource intensive products and services.

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