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everyday routines, human object theories, probes and
sustainability**

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HOW OFTEN DO YOU WASH YOUR HAIR? DESIGN AS DISORDERING: EVERYDAY ROUTINES, HUMAN OBJECT THEORIES, PROBES AND SUSTAINABILITY

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Abstract

New objects can create disorder in our lives - particularly when we try to appropriate and make sense of newly developed products that do not fit our routines. Ultimately, through exploring objects' affordances, our relationship to them develops into a routinised practice - we no longer reflect on them. Hair care is universal and (often) an 'ordinary' part of our daily routines. Our cleanliness routines consume resources and therefore are implicated in the issue of environmental sustainability. However, routines are complex and difficult to change when they are set in a culture of individual consumer choice. The disorder inherent in the process of appropriation raises the possibility that design might deliberately create a useful 'disorder' in routinised practices to facilitate sustainable strategies in everyday life.

The paper proposes an approach of investigating routinised practices in relation to deliberately creating disorder in everyday routines and practice theory. Further, it outlines a pilot study that uses the design-led method of 'probes' and considers its potentials in generating disorder. It identifies creative disorder in the process of designers developing the probes, participants interacting with them to finally designers receiving the results. Thinking about the process in terms of disorder is seen to be valuable in facilitating, applying and developing probes, not only to inspire the designer but also to sensitise the designer to private and intimate areas of everyday life such as hair care.

Introduction

Hair care is universal - even deciding never to wash, cut or style your hair is a form of 'caring' that is defined by conventional practices. Hair care is also (often) an unspectacular and 'ordinary', part of our daily routine.

My hair care diary entry: Wednesday 29.03.06

Round one: A clean day? Getting out of bed - straight into the shower. I turn it on. Still with my eyes half closed, tumbling from one foot to the other, I am trying to get my hair wet without falling asleep. Grabbing for the big tube and squeeze - a big blurb of cleaning product on my hands - uncontrollable in the morning. Washing my hair and body once, twice (this time I watch out and actually can control the liquid coming out of the bottle). I am somebody who needs two towels in the

morning: one around my head, the other bigger one to dry myself and keep my body warm. End of round one.

In doing these routines we interact with a variety of tools, facilities and fluids whilst carrying out a variety of activities in relationship to particular parts of our body.

Questions such as 'what are my tools for hair care?', 'when should I care for my hair?', 'what hair should I care for?', 'why should I care for my hair?', 'how do I do my hair care?' are often unconsciously answered, as they 'go under' in our daily routines (Shove 2002). However, when something in the context for our hair changes, a special occasion, a visit to a friend, perhaps even a trip to the supermarket, these questions may come back into people's consciousness and can create 'disorder' in people's hair care routines.

Such questions may also need to be answered when using unfamiliar bathrooms:

My hair care diary entry: Monday 23.08.06

Hair care in Germany: Bathrooms in Europe look the same so I should be able to do my morning routine of looking after myself quite easily. More than once, I had to learn that this is not the case. More than once, I had to learn this the hard way: does the tap need turning to the right or to the left, will the water come straight at me or will it flow out of the bathroom tap first, will the water be hot or cold, what needs to be turned, pushed or squeezed in order to channel the water through the showerhead and not through the bathroom tap?

Trial and error, tacit knowledge, former experience and immediate feedback mechanisms such as a cold jet of water on the back guide people in the process of 'getting to know' a new environment, or new appliances and objects. An unfamiliar place that causes a 'disorder' of our hair care routines may force an adjustment and a re-think of the daily routine in order to accomplish at least part of the routine of having a shower and washing our hair.

This paper builds on research with Boots the Chemist UK to develop an understanding of the multi-relational elements that constitute the practice of hair care and explore opportunities for changed practices linked to sustainable design. Our cleanliness routines consume resources and therefore are implicated in the issue of environmental sustainability. Showering and bathing accounts for 17%-18% of the daily domestic water consumption in the UK. On average people spend seven to eight minutes under the shower whilst power showers pump out between twenty and fifty litres a minute. These figures for the water consumed in showering account for only part of the resources consumed in hair care as, among other environmental impacts, they omit the energy consumed to heat the water or to power hair care appliances and the waste produced from used packaging or unwanted appliances. Whatever its precise level, the amount of resources used in hair care is not a 'given', indeed, trends such as daily showering and the use of power showers have displaced traditional British bathing habits (Shove 2003).

Sustainable design strategies often disregard the significant environmental and social implications of products in the use phase (Sherwin et al 1998). The Demi website (Fletcher et al 2001) documents design for sustainability principles, strategies and ideas, noting that the principle of efficiency, which emphasises improving the environmental profile of products and processes such as design for disassembly, recycling and dematerialisation, choice of material and designing life cycle efficiencies should not be the only focus of design for sustainability. These approaches concentrate on technical

innovations that try to reduce the environmental impacts of manufacturing and disposal, but ignore the more slippery phase of use. To design for sustainability in the use phase requires a change of emphasise from manufacturing processes to everyday behaviour and routines. However, routines are complex and difficult to understand and in principle difficult to change when they are set in a culture of individual consumer choice.

We do share routines, in hair care among other activities, by virtue of the ideas we share, the technical systems we buy into and the equipment that is available to us (Shove 2003). These routines decrease improbabilities and order our lives, for good or ill. According to Ilmonen (2001:17), people are 'imprisoned by learned routines,' that accrue over a long period of time until they are conducted unconsciously and non-reflexively. The notion of disorder runs through the paper. The first section of the paper proposes an approach to exploring routinised practices in which design might deliberately generate a creative 'disorder' in routinised practices to explore the potential for sustainable design in hair care, concentrating particularly on Ilmonen's (2004) model of appropriation and on the 'practice theory' laid out by Reckwitz (2002). Further, it reviews the literature on 'cultural probes', especially Gaver et al (1999, 2004) and integrates discussions of concepts relating to everyday routine. The second section draws on the notion of disorder and Gaver's et al (2004:55) 'multi-layered process of expression and interpretation' to evaluate a pilot study that is inspired by the principles of participant-completed probe packs¹ to explore ways of doing hair care at home and reflect on the probe design to aid the development of future probes.

To conclude, the paper identifies useful disorder in a number of respects. The designer's drawings or graphics within the probe intentionally disorder the participant's routinised thinking about hair care. The participant's response to the probe is also disorderly in that their activity cannot be predicted or controlled and the returned probe may create disorder in the researcher's assumptions about the subject.

Besides this broadly empirical aspect of the process, there is a further emphasis on recognising the potentials of using probes as creative 'disorder' to move from designing the probes to gaining information and/or inspiration from the returns, as discussed in Mattelmaeki et al 2002, Westerlund et al 2003, Graham et al 2005, Gaver et al 1999, 2004.

Disorder, routines and practice theory

dISoRdEr - a lack of order can relate to people, situations, and/or objects and the environment they live in. People can be disordered, create disorder or be disordered by their surroundings. Being disordered might be associated with feelings of confusion, disarray, and uncertainty. Disorderly people could be described as being untidy, chaotic, without restraint, unruly, undisciplined. Finally, people can be involved in communal disorder for example in riots or revolution. People can also 'disorder' objects by

¹ Probes packs are packages of open-ended, creative activities that participants engage with on their own terms and in their own time, including creative tasks such as maps to complete or cards to fill in, as well as cameras, photo-albums and postcards. Ultimately, the ambition is to develop new areas for design by provoking 'inspirational responses' from people. (Gaver et al 1999)

deranging or dismantling them and can disorder other people, themselves and situations by being unpredictable, behaving out of the norm or against the law. To summarise, people can create disorder, be part of disorder and be disordered.

Objects can play a part in creating disorder. Whereas the sociology of consumption has often stressed objects' symbolic value as a mediator in people's relationships, particularly for social distinction (Ilmonen 2004), the materiality of objects and their arrangement can play a more active role in their relationships with humans. Work on human object relationships has invoked concepts such as domestication (Silverstone 1992), scripting (Akrich 1992) and affordances (Fisher 2004) to discuss the active and passive role of people and objects in these processes, as well as Ilmonen's writings on the process whereby objects are appropriated. This appropriation can trigger disorder. This paper concentrates on states of routine and disorder by drawing on a simplified version of Ilmonen's model of appropriation and noting ways in which objects can be irregular, unfamiliar, disarranged, and unpredictable.

Ilmonen's model has four stages. The first stage involves acquiring an object from the market and in the second people actively appropriate new objects and fit them into their existing ways of life. It is in this stage that new objects can create disorder, as people make sense of them and adapt them to their routines. After fully appropriating the object in our lives during the third stage people are able to routinely use them and start to learn how to apply them in new ways. Finally, in the fourth stage people are capable of inventing new use situations. This process of appropriation can influence our relationship to object – they become ours and additionally they can alter the practices, the ways of doing and saying, in which we are active.

According to Reckwitz (2002:252), people 'carry' practices, in other words practices exist through people's routinised bodily and mental activities, their understanding, know how and desiring. This implies that people are neither self-directed and rational nor 'judgmental dopes who conform to norms' (2002:256). Practice theory adds detail and subtlety to the analysis of the dynamics and changing patterns of everyday life and may provide a useful vocabulary and framework through which to understand existing routines, ideas, objects and actions such as hair care. To use an analysis based on a practice theory approach in designing and developing strategies for sustainability seems exciting and appropriate. Firstly, in practice theory subject-object relations are seen to be as significant as subject-subject relations. Secondly, it recognises the significance of ordinary, unconscious and unreflective interaction with objects within practices. Thirdly, the theory of practice combines an ability to account for both reproduction and innovation of practices that may lead to a practice changing. This last would invoke the principle that Reckwitz identifies whereby practices change through the "'breaking' or 'shifting' of structures" through "everyday crises of routines". Reckwitz emphasises the role that lack of knowledge or 'interpretive indeterminacy' plays in such crises (2002:255).

Disorder, cultural probes and practice change

The disorder inherent in the process of appropriation raises the possibility that design might deliberately bring about a creative 'disorder' in routinised practices and that this might have particular merit in the context of sustainable design in the use stage. This 'disorder' in routinised behaviour may cause an adjustment and re-think of our daily cleanliness routines. Over the last years the design academy has developed new

methods of design research as aids in the design process. These methods attempt to reveal insights into lived experiences and opportunities for design. In the second part of the paper the authors consider the design-led method of cultural probes and its potentials in generating disorder.

Cultural probes have opened up new ways of thinking about design-led research methods that can work alongside, or contest, more reductive science and engineering based approaches to designing and research. Cultural probes are packages of open-ended, creative activities that participants engage with on their own terms and in their own time, including creative tasks such as maps to complete or cards to fill in, as well as cameras, photo-albums and postcards. Bill Gaver and colleagues at the Royal College of Art invented cultural probes to challenge traditional methods in their potential firstly to question preconceptions of technology itself and its definition through culture, function, aesthetics and politics and secondly the 'dubious stereotypes' that exist when designing for unfamiliar groups (Gaver et al 1999, 2004:54).

Sociologist and designers have adapted and re-interpreted probes for a variety of settings and design/research projects to understand something of people's lives, values and aspirations (Joensson 2004). However, there are clear distinctions between Gaver's et al work and these adaptations. For instance, Graham et al (2005), Mattelmaeki et al (2002), Westerlund et al (2003) highlight the potential of gaining informational data by combining probes with interviews and criticise the 'lack of formal analysis' in the probe technique (Mattelmaeki et al 2002). The more instrumental use of the probe method in the adapted approaches has led to Gaver et al (1999, 2004) emphasising the uncertain, ambiguous, and subjective nature of probes, criticizing this 'tendency to rationalise' the method (2004:53). Fundamentally, Gaver's et al (2004:53) approach to probes emphasises 'the notion that knowledge has limits'. The returned probes provide 'fragmentary clues' about the participant's lives, experiences and routines and as such inspire and offer opportunities to discover new design.

The notion of disorder relates to the idea of applying probes in the design process in two ways. The concept of inspiration and the ability to enable people to become aware of and transcend their usual way of thinking and living seem to go along with possible interpretations of disorder, for instance lack of order, abnormality as well as being unfamiliar, disarranged and unpredictable. This idea points to a question that Gaver answers himself concerning the reason for 'deliberately confusing' people and the designer. He reasons that the purpose of this confusion is 'to prevent ourselves from believing we can look into their heads' (Gaver et al 2004:55). Furthermore, he illustrates in the model of 'expression and interpretation' the process of creating complex meaning through the merging and separation of meanings between the designer and the participant.

Carefully designed probe tasks reflect an articulation of the designer's thoughts and ideas. The participants have to interpret the designer's form of expression and by undertaking the tasks they express theirs. These interpretations and reflections are finally reflected in the returned probes often challenging the designer's own perceptions. In the process, it might be difficult to take apart who or what is actually disordering who or what. To emphasise this, Joensson (2004:24) draws attention to the 'friction' included in the probes that potentially can encourage participants to view their environments, situations and objects in a new light 'with new glasses'.

A pilot study – disorder in hair care

There follows an outline of a pilot study into hair care that adopts the design-led method sketched out above. It explores the dynamics of disorder between the participant, designer and probe – who or what is actually disordering who or what. In other words, it examines the activity of people or objects creating disorder, as well as being part of the disorder and being disordered by the process. This reveals that these aspects of the process do overlap and this analysis might simply provide a way of thinking about the process that aids the development of future probes. Further, there is an emphasis on recognising the potential benefits of using a creative ‘disorder’ to gain information and/or inspiration from the returned probes. The outline draws on Gaver’s model of ‘expression and interpretation’ to examine what is happening in the process of designers developing the probes, participants interacting with them and finally the designers receiving the results.

The pilot study so far has involved introspection, keeping a personal hair care diary interviews and probes². The process of designing the probes was influenced by Reckwitz’s (2002) theory of practice and Shove’s (2002) work on laundering as a system innovation. Shove particularly highlights the integrative nature of materials, conventions and temporal arrangements and further the evolution of ideas, actions, and provisions in everyday routines. While trying to keep the aesthetics of the probes true to their origin of Gaver’s et al work, the pilot study attempted to freely run through their several interpretations, using probes as informational data, as inspirations for design or as a transcending method to enable people to go beyond their usual way of thinking about hair care. As a result, the probes were somewhat innocent and experimental.

Expressions of the designer - the designer intentionally disorders participants

In the pilot study some of the design ‘expressions’ comprised the material of the probes, which consisted of different formats of paper (cut into shape, folded, in different sizes, textures and colours) and objects such as cameras, postcards and labels. In order to engage in the tasks - the participants had to use the probes during their everyday routines of hair care, comment on images, use their imagination to draw ideas, take pictures in their home, and write stories. Each task included a short description of what it involved, the information kept short and open to leave room for interpretation. The probes in the projects outlined above varied from collections of coloured pens, glue, drawing pads and post-it notes in the probe packs and an approach that valued and emphasised the aesthetic used (Gaver et al 1999, 2004). The reasoning for the designed aesthetic in Gaver’s et al (1999:25) probes was that it not only made them more ‘appealing and motivating’ but also in presenting the probes informally the design team ‘opened up’ a quasi subjectivity to the participants to encourage them to reveal their own.

² The sample of the pilot study for the interviews so far consisted of six non-experts of hair care: three male and three female between the ages of 25-50 and one hair care expert of the formulation team from Boots the Chemist. The sample of the probe study consisted of six participants: two male and four female between the ages of 25-35. One participant out of the six did not return the probe pack.

The pilot study's graphics and formats were inspired by the object of study and varied from being informal and illustrative to representing recognisable visuals and symbols. Gaver's et al (1999, 2004) approach to probes draws on the traditions of the art and design world, for instance using allusions to surrealist art that emphasises the unconscious mind, dream-states and absurd juxtapositions. The probes were kept 'abstract' to help trigger the participants into taking a new view of everyday life (Gaver et al 1999, 2004). One of Gaver's et al probes exemplifies this. The participants were meant to produce a diagram that represented their individual relationship to their family members and instead of simply listing these relationships, they were presented with the graphic of 'a cricket pitch' (Gaver et al 2004). The ambivalence between the graphic and the family relationships caused by the designer's 'expression' in the probe has the potential to create disorder by creating a rupture in the participant's un-reflective day-to-day thinking. Similarly, in the pilot study the probe related to visualising the position of private and public activities of hair care in a 'castle and keep' illustration that created disorder or rather confusion in the participant's usual way of thinking.

In addition to creating ambivalence between graphic and context in the pilot study, the designer provided an already invented situation in the form of a drawing or a fictional scenario. Here, disorder might be caused by the fictional nature of the invented situation. The participants had to interpret the sometimes obscure visuals imaginatively to write a story giving their view. These fictional scenarios have some similarities to vignettes used in some interview-based research. These fragmentary short stories about imaginary characters in specified situations help to elicit normative statements due to interviewees commenting on an external situation rather than on themselves. (Finch 1987) The interplay between real and fiction represented in the probes seems very important. On the one hand, in using recognisable symbols the participants could relate to the context of the fictional representation whilst providing a space to transcend their usual ways of thinking and elicit norms about hair care. However, some of the returns were left empty, indicating that the participants may have lost interest or found the task too ambiguous to engage with. This demonstrates either a need for the support that can be provided in interviews where vignettes are used or the need to develop more engaging probes.

Participants interact with probes – interactions cause disorder

In the above probe developments the dynamics of disorder, the potential to confuse the participant productively, are represented in the 'disorder within the probe' expressed through the designer's drawings or graphics. These drawings and graphics might represent fictional scenarios or create ambivalences between context and graphic. The aim is to encourage the participant to view their routinised hair care practices in a new light. This consideration is expressed in the probe returns and finally inspires the designer. Further, the interaction between participant and probes can be part of the disorder. The designer creates a probe for the participant to consider and use in an everyday activity such as a 'once a week shampoo' that was applied in the pilot study or a 'listening glass' that is held to the wall to listen and record what is heard (Gaver et al 1999).

The probe is used as an object to disorder the participant's usual ways of doing things - hair care in this case. Indeed, the probe creates the kind of disorder that has similarities to the second stage of Ilmonen's (2004) model of appropriation and has the potential to create what Reckwitz's describes as times of 'crises of everyday routines' (2002:255). Here, the probe presents a new product that people actively try to 'fit' into existing ways of knowing, conventions, temporal arrangements and the 'complex' of objects used to

realise the practice of hair care. As a result, the interaction with the 'probe object' creates disorder, or a potential crisis of everyday routine. In the process it provokes routinised behaviour to rise to a state of consciousness. These patterns of behaviour embodied in practices rely on 'expert' knowledge that is literally 'scripted' into the objects involved – instructions on the bottles and mechanical configuration of devices for instance. Reckwitz emphasises the role that lack of knowledge – 'interpretive indeterminacy' – plays in such 'crises' (2002:255). Probes may be useful to the extent that they are designed to be unpredictable and 'irregular'. A familiar object might be used in an unfamiliar way (the listening glass) or might offer unfamiliar qualities (once a week shampoo). These dynamics raise questions that may be helpful in identifying ways by which hair care practices might change, providing potential for sustainable design.

Expressions of the participants - returned probes cause disorder in the designer

The returned probes provided several informational insights into the participants' routines, ideas and ways of doing hair care. The probes designed to facilitate the examination of information acquisition were provided with clear instructions for the task in hand, asking the participants to record for example the steps and stages of washing their hair or to list their hair care rules. For Participant One these rules include a number of practical and time-related actions:

Wear it down when its clean, wear it up when it needs washing, leave it to dry naturally in the day, use curling tongs when going out, wash hair every other day, comb through before rinsing off conditioner, use conditioning treatment once a fortnight, shave under arms every other day, shave legs if wearing a skirt, don't bother shaving legs in winter.

For Participant Two, hair care rules gave a view more orientated towards display:

Wash every day, keep it nice and groomed, make sure I go out with it styled and not like a haystack!!

The rules Participant Three mentioned stressed convenience and lack of effort:

Having to styling as less as possible = easy haircut, use as less products as possible due to allergy to certain soaps and shampoos and eco-freakiness, don't over style unless mad party is on.

This probe indicated ideas about the cycles and flows of hair care ('wash everyday') and the steps and stages of practicing hair care ('comb through before rinsing off conditioner'). It revealed a number of conventions in hair care ('shave legs if wearing a skirt'), reasoning for hair care ('easy haircut uses less products'), standards of hair care ('keep it nice and groomed') and pathologies such as 'freakiness', 'natural' and 'allergy'. Comparing the three sets of rules makes visible variables that relate to the appearances of hair and practices of hair care influenced by the effort expended and perceptions of acceptability in relation to presentation inside and outside the home. Participant Three does not seem to be too concerned with hair care – the easier the better, unless there is a party, an occasion that implies ideas of a 'carnival' where no rules apply. Participant One uses a domestic/functional language to describe her hair care rules and utilizes a variety of specialised hair care tools that might signify special competence and efficiency in practicing hair care. The acceptability of the self to others underlies 'shave legs if wearing skirt' – but only these facts are provided, not justifications. In contrast, Participant Two appears to reflect on his behaviour and justifies it according to the outside world: 'I go out with it styled and not like a haystack'.

To summarise, several insights derive from the returned probes, but these provide only glimpses of the participants' hair care routines. Deeper and more systematic understanding might be gained through in-depth interviews based on real-time interactions where the interviewer is able to prompt and clarify the context. The possibility of gaining informational 'facts' within the returned probes is somewhat frustrating in the context of this research project. As Gaver et al (2004) points out the returned probes cannot simply be translated or even less analysed. The continuous process of expression and interpretation creates a complex layer of meanings resulting in a vague and subjective picture of the participants.

Indeed, this is particularly exemplified in some cases of the returned probes within the pilot study. These caused disorder - they mystified the designer. For example, on the 'hair care products have a conversation' probe, the design of the probe was innocent, wondering how participants would react to such a 'play writing' task with fictional characters and what the themes of the dialogue would consist of. The returns of these probes were startling in that the participants were able to create a conflict between fact and reality. On the one hand the participants might have included real life information relating to the everyday interaction with hair care products, but on the other they might have had simply a bit of fun in creating a tale with characters that resemble the teapot or the playing cards in 'Alice in Wonderland'. This raises questions about the reliability and value of the tasks.

However, leaving these questions and the seeming conflict aside, the probe data contained more inspirational aspects. The participants were able to humanise hair care products, demonstrating their thoughts, reflections and feelings such as 'I love getting in people's eyes so they go all sore!!' (see figure 11). The returned probes provided inspirations for thinking about possible relationships people may create with their hair care products. People might develop emotional bonds with hair care products, for example 'my razor is my friend', and having a relationship to them that is not only practical but also symbolic. As well as thinking 'my razor shaves my beard' some may also think 'my Gillette razor is a symbol of my manhood'. This combination of practical and symbolic potentials exists in many products, for example cars are practical - they get us from A to B - but they also provide a sense of identity. People develop emotional bonds with cars and they become so cherished that we modify them and call them by made up names. Hair care products might become loaded with people's personal, subjective and emotional experience in a similar way. Such propositions are beyond the subject of this paper but demonstrate how probes can sensitise the designer to private and intimate areas of life such as hair care and can inspire their creative thinking by helping them challenge accepted categorisations.

Overall, the continuous process of expression and interpretation and the potential for disorder create a complex layer of meanings resulting in a vague and subjective picture of the participants. Instead of analysing the probes, Gaver et al (2004) advocate a reading of the probes that values their ambiguity and mystery. This approach emphasises the sympathetic understanding of participants and leads to design proposals inspired by probe responses in forms of sketches and collages, paying attention even to small and bizarre things.

The process of attempting to categorise and analyse the returned probes in the pilot study generated laughter, discussion and confusion in response to wordings such as 'haystack', 'doggy style' and 'grimy', the drawings produced and stories told. The thought

of coming up with design proposals seemed ambitious; however, playful re-drawings and brainstorming aided the process of creating spin-off ideas and added visualisation. The longing for electricity on tent holidays to be able to use curlers sparked off memories of Glastonbury, a three day UK outdoor concert event famous for its rainy weather and flooding of tents, where style is important and the dampness normally creates wild curly hairstyles. This can lead to ideas of using some of the equipment of the tent to create 'controlled' curls. Instead of applying the idea of dampness and a 'thing that can be rolled into hair' to the tent holiday, it might be used to spark off ideas for the home. Slowly, design proposals have appeared that, on reflection, inspired potential ideas for sustainable hair care practices and, most significantly, sensitised the designer to the very intimate complexities of hair care.

Summary and conclusion

The paper has provided insights into the theory of practice and the use of cultural probes within a context of creative disorder. The authors propose that practice theory provides a useful framework to develop a multi-relational understanding of the complexities of everyday routines. More significantly, practice theory allows room for practice change through 'crises of everyday routines', indicating a potential to use the theory in examinations into sustainable design that are concerned with the product use phase, everyday behaviour and routines.

The paper has considered the notion of disorder that is potentially created by the design-led method of probes as an aid when reflecting on the probes process in numerous ways. Firstly, the designer's drawings or graphics within the probe intentionally disorder the participant's routinised thinking about hair care. Secondly, the participant's response to the probe is also disorderly in that their activity can't be predicted or controlled. The probe interferes with the lived experience of the participant's routines, ideas and conventions, which could provide starting points for changes in practice. Finally, the returned probe may create disorder in the design researcher's assumptions about the subject and in the process sensitise the designer to the complexities of everyday behaviour in ways that may raise unforeseen questions and even open up opportunities for sustainable design.

The authors do not advocate separating these elements of disorder when applying the probes, as they overlap. The differences can be valuable in facilitating and thinking about the process of developing and applying the probes and may be even when using the returned probes as inspirations.

The paper builds on the first author's PhD programme that is in the pilot study stage. Indications for sustainable design and evidence for the significance of practice theory will be explored as part of the wider research study and was not the intention of this paper. This research seeks to develop novel strategies for sustainable design by exploring a multi-relational understanding of the practice of hair care. The research will explore approaches to sustainable design that uses design-led methods not to gain factual information (for which other methods such as interviews seemed more appropriate) but to inspire and sensitise the designer when thinking about hair care and sustainable design. Indeed, it aims not only to inspire the designer but also to be challenged by participants to identify opportunities for changed practices.

Figures



Figure 1
The dream recorder
(Gaver et al 2004)



Figure 2
'Multi-layered process of expression and interpretation'
(Gaver et al 2004)



Figure 3 Probes pack

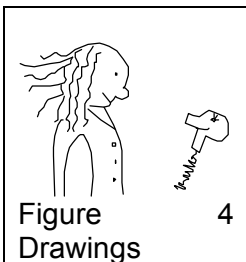


Figure Drawings

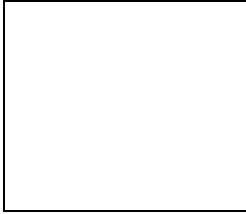
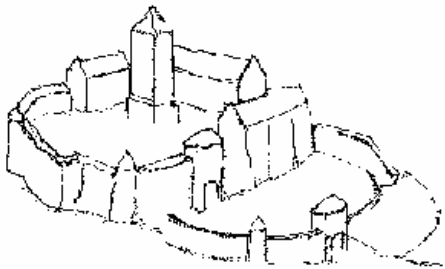


Figure 5 Familiar images

Figure 6 Probe: Example of an ambivalence between graphic and context within the probe intentionally disorders the participant



Visualise the position of private and public activities of hair care in the 'castle and keep' illustration!

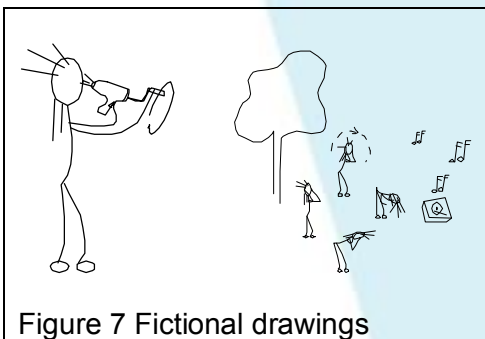
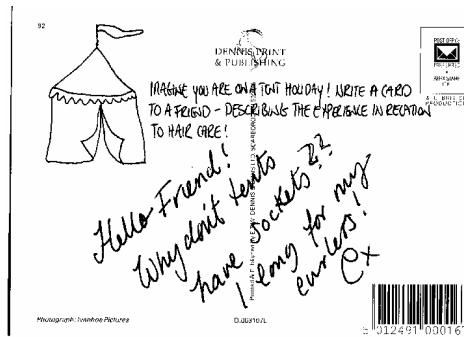


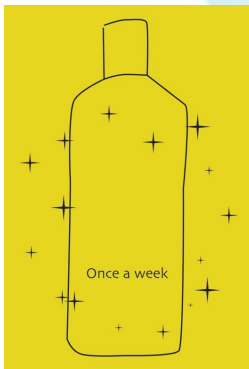
Figure 7 Fictional drawings

Figure 8 Probe: Example of the designer's graphics within the probe intentionally disorder the participant



Imagine you are on a tent holiday!
Write a card to
a friend – describing your hair care
experience!

Figure 9 Probe: Example of the participant response to the probe is disorderly in that their activity can't be predicted



A new revolutionary product – use
this shampoo and you only have to
wash your hair once a week.

Figure 10 Probe: Example 'informational probe'

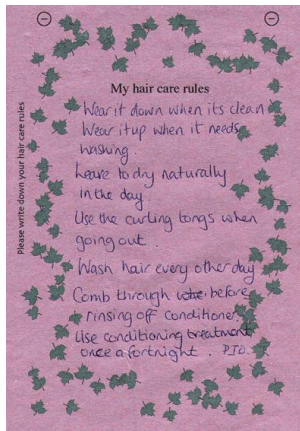
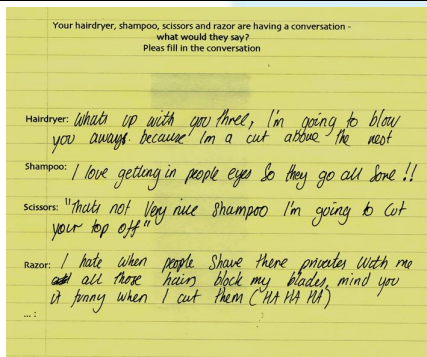


Figure 11 Probe: Example of returned probe creates disorder in the designer
Please, write down your hair care rules.



Your hairdryer, shampoo, scissors and razor are having a conversation – what would they say? Please fill in the conversation!

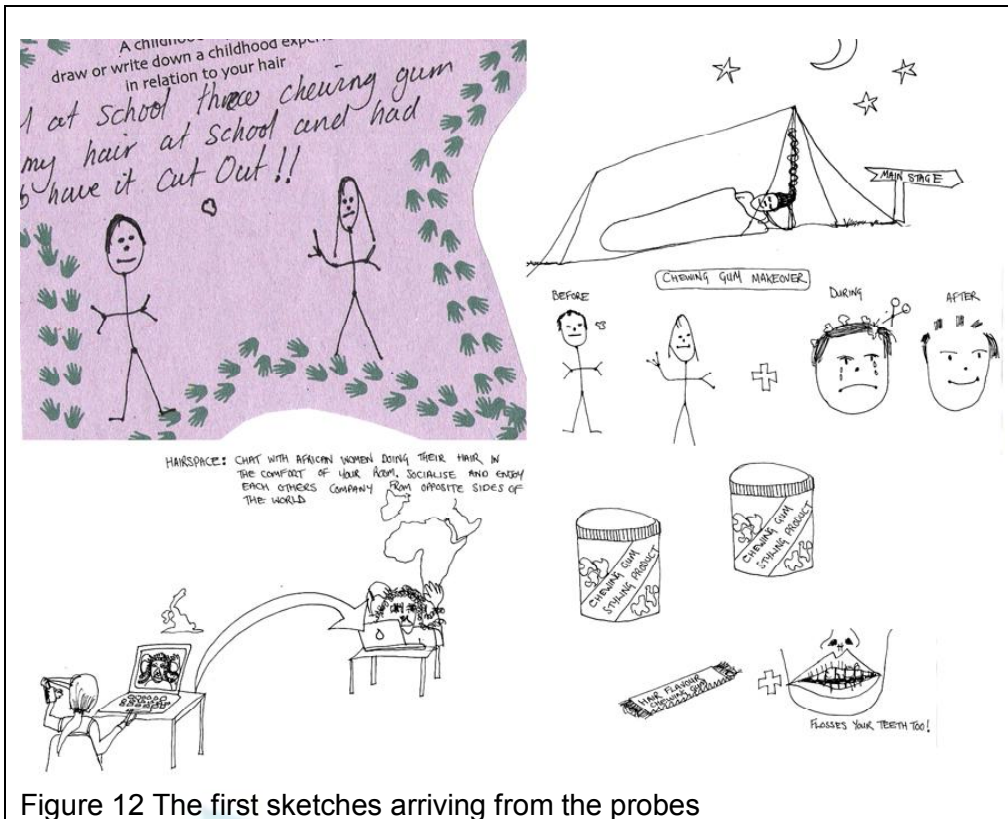


Figure 12 The first sketches arriving from the probes

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