

TIME AS A DESIGN SPACE: DESIGNING SURPRISE IN CLOTHING EXPERIENCE AND MAINTENANCE

Tempo como Espaço de Design: Planejando Surpresa na Experiência e Manutenção de Roupas

Valle Noronha, Julia; MA; Aalto University, School of Arts, Design and Architecture. Department of Design. julia.valle@aalto.fi¹

Abstract

This study focuses on an experimental clothing design project that proposes time as a fruitful design space. It draws from studies in design that suggest longevity through design iterations in time. In this study, proposed pre-programmed alterations promote permanent or temporary changes in clothes. The final outcomes invite creative interaction and increase awareness of the powerful materiality of clothes.

Keywords: creative pattern cutting, creative processes in fashion, surprise.

Resumo

Este estudo apresenta um projeto em design de roupas que propõe tempo como frutífero espaço em design. Estudos em design que sugerem iterações em design para longevidade são utilizados como base. Aqui, alterações pré-programadas em roupas promovem mudanças temporárias ou permanentes. Os resultados finais convidam interações criativas e a conscientização acerca da potente materialidade das roupas.

Palavras-Chave: modelagem criativa; processos criativos em moda; surpresa

Introduction

This paper is an exploration on the creative process behind one experimental clothing design project and its outcomes. The project presented here, namely WEAR\WEAR, proposes fostering attachment in the relationship between wearer and worn through time. The question it addresses is whether designers can create manifest spaces between people and clothes by investing in the temporal state of design objects. The theoretical background that supports this exploratory study is situated in design and fashion studies

¹ Doctoral Candidate at Aalto University, Department of Design, Julia Valle Noronha holds a MA in Visual Arts from UFRJ. Her research investigates the creative practice in fashion design and the relationships between clothes and people through the lens of new materialism. She is part of the research group Fashion & Textiles Futures at Aalto University.

such as design for longevity and attachment, both anchored in streams of ethical design practices, further discussed in the next section.

The project WEAR\WEAR is inspired by the findings of a previous study in fashion design practice (Valle Noronha, 2016) that indicate change as a means to sustain stronger relationships for longer durations. This finding is intertwined here with research in design that point to how time is intrinsically embedded in objects as useful things (Mazé, 2007; Gill and Lopes 2011). Its main objective is to explore opportunities in designing for stronger attachments by proposing pre-programmed changes to take place in the course of time. An object-analysis proposed by Angela Lee Finn (2014) will be used as a point of departure to investigate and discuss the produced garments.

The first section will present an introduction to relevant theories and research projects in design. These theories and projects deal with design objects and discuss them in regards to their capabilities to foster stronger attachment and extend use phases to avoid early disposal. The object of this study will then be presented and its objectives and methods described. Conclusions drawn from observations about the produced pieces will be introduced together with a discussion on what future studies or practices could emerge from this exploration.

A design quest towards stronger attachments

In the past three decades, fashion has quickly become one of the most unsustainable industries in the world. At present, it accounts for around 20% of the world's water pollution and employs 25% of chemicals produced worldwide (Fletcher, 2016, p.21). Such figures place fashion among the most harming industries to the different environments within and around us.

In order to propose possibilities for positive change in such a context, researchers and practitioners have strongly engaged in reconfiguring systems, modes of production and thought perspectives. One of the first design publications to discuss the need for change in how we produce and consume design was Vance Packard's broadly acknowledged *'The Waste*



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Makers' (1963) where he discussed planned obsolescence and constant consumption from a North American perspective. Despite receiving criticism due to its naivety in how it dealt with the political and industrial powers these unsustainable practices entail, his work motivated (and still motivates) positive movements towards more ethical design practice. More recently, Jonathan Chapman (2005) traced a perspective-changing point of view, where he suggests that failed relationships are the motivators that drive object disposal (p. 20), a topic further discussed under the name of 'person-product attachment' (Mugge, 2007; Mugge et al. 2006). Chapman (2005) calls for a more emotional account of design and draws our attention to recycling approaches, which may often actually increase consumption and act against their initial aims (p. 10). One aspect intrinsic to the objects we use, and often forgotten, is that they 'become' meaningful in use, in experience. Transposing this to clothes, the notions of experience and existence through time and space (context) must be taken into account when investigating them (Gill and Lopes 2011).

In addition, the stress in human and user-centred design and anthropocentrism is also put to test. Centring our aims in human desires and 'needs' might lead to a maintenance of the disastrous patterns we have already built in relation to non-human matters (Chapman, 2005, p.33). This discussion is strongly backed by a recently, though consistently, emerging stream of philosophy called 'new materialism', which invites us to rethink the ways with which we deal with matter in a general sense (Bennett 2004, Barrett and Bolt 2013). Despite being extremely new to fashion discourse (see Ainamo, 2014, p.54; Fletcher, 2016, p.140; Valle Noronha, 2016, p.2), this perspective on non-human matter seems promising in unfolding alternatives for stronger (and longer) attachments to designed objects. Taking the notion of new materialism as applied to fashion design means turning to the materiality of clothes as a powerful thing (Bennett 2010), to understand clothes as holding

agency² (Latour 2005) and to bring a greater reckoning of the relevance clothes play in the relationships with wearers.

Clothes that live through time

While not under 'thing power' discourse, previous studies and projects in fashion design have accounted for the affordances (Gibson 1986) clothes might have and the importance of time and matter in the relationships we establish with what we wear. In the field of fashion, the works of Gill and Lopes (2011, 2015) are central in starting discussions around the verb 'to wear' and the other forms it takes, as a noun or adjective. They confirm that the passing of time is always present when the word 'wear' is debated.

A recent study by Vibeke Riisberg and Lynda Grose (2017) advocates designing clothes that 'evolve over time'. In their study, they investigate works of designers who create clothes that afford re-uses and re-interpretations and propose them as a means to increase longevity. This study is very much in line with the proposal of the project I present here, despite differences in how the design decisions shape the final forms. In the projects reported and analysed by Riisberg and Grose (2017) the changes through time are facilitated by the designer and take place with the wearer's action. In this sense, they allow wearers and designers to hold similarly active parts.

In WEAR\WEAR, on the other hand, changes are embedded in the clothes, and the wearer's agency will manifest as a response to these changes. Despite the changes being pre-designed, it is the relationship between the wearer and the clothing that conform to the changes over time, with each new form. The intention is thereby to highlight the materiality of clothes and their agencies, raising awareness on how objects too play an important part in this relationship.

WEAR\WEAR – Embedding Design into the space of Time

As noted above, time appears as both an intrinsic and fruitful space to reflect on the wearer-worn interaction. After all, it is in the intertwining of

² In his book 'Reassembling the social', Latour (2005) describes agency as a propelling to action that can manifest through human or non-human things (actors and actants). Agency is directly dependent on the setting of connections, attachments or networks between different things or living beings.

space and time that experience and events take place. It is also where we form our relationships, make sense of and develop attachments to the things we wear. In WEAR\WEAR, the word 'wear' is brought into the discussion. Apart from the verb (which, as an action, naturally encompasses time), it also considers relevant that we think of how time manifests in clothes (e.g. when they are worn out) and how wearing differs from using.

The motivation for this project emerged from a probing study with wearers in 2015 (Valle Noronha, 2016). Inspired by cultural probes (Gaver et al. 1999), the study involved participants who were given experimental pieces to wear and asked to report on their experiences in a diary and a group discussion. In the study, one statement caught my attention as a designer and received approval from all participants: *'I love the shirt just the way it is. [...] And I believe I wouldn't change anything about it at the moment. Maybe in about 2 months' time I would like to do something. To get this feeling of a new piece in my wardrobe again.'* It raised discussion on why we feel good when a new garment enters our wardrobe and sparked inspiring thoughts for the development of a clothing project where old garments could become 'new', by means of form, colour or function, after some time. This idea of programmed changes borrows from the notion of programmed obsolescence. But instead of leading to early disposal as in the cases of programmed obsolescence, the programmed changes are used as a means that can lead to stronger attachments and postpone disposal.

What if the clothes change beyond the wearer's personal will? How would the wearer react? What could this entail in the relationship and interaction between wearer and worn objects? These are some of the questions that framed the creative process of WEAR\WEAR.

The design process focused on investigating materials that could offer surprising manifestations through time whilst the forms were informed by an autobiography study on clothing attachment via collection of data through UX curves (Kujala et al. 2011). These two investigations occurred concomitantly and will be explained next.

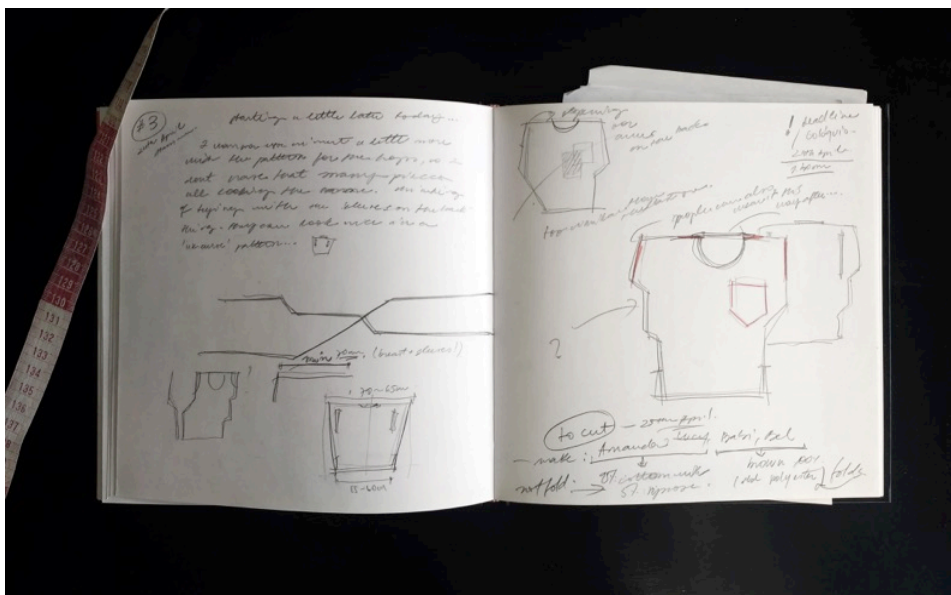
Context reacting materials and methods

In order to design clothes that could bring surprise to wearers in the course of time an investigation on materials and methods was needed. As these surprises should not be apparent in the initial stage of the study, I aimed at materials that have been thoroughly tested in the past and that have been taken into industrial use. The choices were based both on research in trimmings and textiles shops and previous experiences with the materials. The chosen materials are described below:

- Ultra Violet (U.V.) Reactive Ink: applied to clothes as a surface ink, changes in colour when under sunlight.
- Polyvinyllic (PVA) Thread: Thread made of polyvinyllic alcohol. The thread melts into a gel form and dissolves when in contact with water. Heat accelerates the process.
- PVA Non Woven Fabric: Same as above, in the form of a non-woven fabric, resembling a basting fabric in texture.
- Thermo-chromic dye and ink: applied as a reactive dye or surface ink, reacts to temperatures by changing colour. Changes occur at 40°C
- Glow in the dark (GITD) thread: The material glows in the dark after being exposed to light.

In regards to methods, creative pattern cutting and permanent pleat marking under pressure and heat (220°C) were chosen. The creative pattern cutting methods applied were: 'contour draping' and 'against the body forms', based on shapes previously determined by the autobiographical study, as described in Ulla Ræbild's fashion design method cards (2015). The images below (Figure 1) present some of the curves produced in the autobiographical study, which investigated aspects of comfort, frequency of use, visuality, versatility and overall relationship in regards to my own wearing experience. The charts above each garment represent my relationship to it in different aspects. The diary image shows how the charts' lines were transformed into pattern cutting.

Figure 1: UX Curve study on my everyday clothing.



Credits 1: Photos, sketches and charts by the author

After one month of completing curves about the clothes I wore each day, I selected curves that would represent the strongest attachments. The selected curves were used as lines for contour draping, which automatically

delivered forms that worked against the body, since they were not designed to directly reflect the human form.

The outcomes of the project were 2 blouses and 2 dresses (with variations), illustrated and described below:

Blouse I: Short-sleeve blouse made in 100% cotton poplin, with applications of non-woven PVA pockets, 5 cm side seam and 2 cm shoulder seam sewn with PVA thread near the edges and U.V. reactive dye on shoulder.

Blouse II: Sleeveless blouse made in 100% polyester crepe, with double pockets (outer and inner sides). Outside pocket made of non-woven PVA, inner pocket in polyester crepe, U.V. reactive dye print on shoulder. On brown colour variation, U.V. reactive dye was substituted by black thermo-chromic ink. Folded and pressed at 300° C.

Dress I: Long asymmetric sleeveless dress made in 100% polyester heavy crepe. Application on hemline, 12 cm left side seam and 2 cm shoulder seams sewn with PVA thread. Folded and pressed at 300° C.

Dress II: Knee-length short-sleeve dress made in 100% polyester heavy crepe. Pleat on back, 12 cm side seam and 2 cm shoulder sewn with PVA thread. Folded and pressed at 300° C.

Dress IIa: Variation of dress I, made with 100% cotton light jersey dyed with thermo-chromic dye. Pleat on back, 12cm side seam and 2cm shoulder sewn with PVA thread.

The image below presents the finished garments before and after the expected changes. The changes would be initiated by mainly two factors: laundering practices (with water) and the external environment (sun and heat). Laundering practices would alter the parts where PVA thread or fabric was used and the external environment would affect the ink and dyes.

Figure 2: Pieces developed in the project: Blouse I, Dress I and Dress II (before changes on the left and after changes on the right)



Credits: Photos by Namkyu Chun. Author's archive.

The table below summarizes the alterations that may happen in each piece. The GITD thread was used only to mark the sizing of the pieces on the tag line. It cannot, therefore, be perceived in the images above.

Table 1: Description of Changes in each Piece

	Permanent Change			Temporary Change		
	Heat Press	PVA Thread	PVA Fabric	UV Sensitive Dye	Thermo-Chromic Ink	GITD Thread
Blouse I		v	v	v		v
Blouse II	v	v	v	v		v
Blouse IIa	v	v	v		v	v
Dress I	v	v				v
Dress II	v	v				v
Dress IIa		v			v	v

Credits: the author

Figure 3, below, shows the detail of the GITD thread on the tag (a small x mark, embroidered), located on the back of the neck area, and the texture given to the polyester pieces by applying heat and pressure over the folded garments.

Figure 3: Detail image of 'Dress I' when laid flat and folded.



Credits: Photo by the author

In total, twenty-four pieces were produced, out of which twenty-one were given to individuals as part of a probing study (Valle Noronha, 2017) taking place in Belo Horizonte (Brazil) and Helsinki (Finland), between May and October 2016. The probing study will be finalized in September 2017 with one-to-one reassessment interviews.

Object-Study: Listening to the Clothes

What is it that the objects afford and what do they tell us about their materiality and affordances? Finn's object-study model (2014) for observing clothing items in academic research is taken here as a starting point to generate discussions about these matters. According to Finn, the application of the model happens in three steps: the description of the objects (based on explicit knowledge); the deduction phase, where information is interpreted using expert practitioner knowledge; and the speculation phase, where conclusions are made combining tacit knowledge with the previous explicit and expert knowledge (Finn, 2014, p.135).

The table describes the pieces in regards to their material qualities, which are briefly discussed in sequence. It presents an observed account of material characteristics of the pieces organized by topics. From the contents in the table we can grasp how the garments were made, but also understand something of the design intentions, estimate the lifespan of the garment and visualize possible forms of interactions between wearer and clothes. The intention of applying the method in this study is mainly to confirm design intentions and attempt predictions on how wearers could access and interact with these clothes.

Table 2: Object analysis of the pieces produced in WEARWEAR

	Blouse I	Blouse II	Dress I	Dress II
Material	100% CO	100% PV	100% PV	100% PV
Colour	White	White	Black / Grey	Black / Grey
Lining	No	No	No	No
Seam Allowance	8mm	8mm	8mm	8mm
Inside Seams	French seams on sides. Overlock on shoulder seams. Overlock finishing raw edges near neck line and bottom hem + machine stitching. 2mm Hem stitching.	French seams on sides. Overlock on shoulder seams. Overlock finishing raw edges near neck line and bottom hem + machine stitching. 2mm Hem stitching.	Overlock finishing all raw edges + machine stitching side, shoulder, etc. seams. Near bottom part, some of side seams and part of shoulder sewn with white thread. Raw edge with machine stitching finishing.	Overlock finishing all raw edges + machine stitching side, shoulder, etc. seams. Near bottom part, some of side seams and part of shoulder sewn with white thread. Raw edge with machine stitching finishing.

Surface prints or textures	Transparent print on right shoulder	Transparent/black print on right shoulder, fold texture all over the piece.	Fold texture all over piece. Transparent print on grey colour variant.	Fold texture all over piece. Transparent print on grey colour variant.
Closure Trimmings	None	None	None	None
Hand Finishing	Stamped logo	Stamped logo	Stamped logo. Raw edged cut by hand.	Stamped logo. Raw edged cut by hand.
Embroidery	x' mark on stamped tag near neck	x' mark on stamped tag near neck	x' mark on stamped tag near neck	x' mark on stamped tag near neck
Other Details	outer pockets.	pockets, inner and outer. Outer pocket in different fabric.	1m elastic band attached near hip line with 3cm seam	Big pleat in 'soleil' shape on the back, starting from neck line (0cm) growing to around 18cm near waistline
Tag Details	tag in paper with embossing + tag in paper. Parts printed and some part written by hand contains info on clothes (model, size, material, origin, amount material used) and washing instructions.	tag in paper with embossing + tag in paper. Parts printed and some part written by hand contains info on clothes (model, size, material, origin, amount material used) and washing instructions.	tag in paper with embossing + tag in paper. Parts printed and some part written by hand contains info on clothes (model, size, material, origin, amount material used) and washing instructions.	tag in paper with embossing + tag in paper. Parts printed and some part written by hand contains info on clothes (model, size, material, origin, amount material used) and washing instructions.
Other	leaflet with info on the design process.	leaflet with info on the design process. garment comes folded in a 'origami like' fold. When you unfold it the first time it makes noise. Printed area is partly attached to the other side on the folding.	leaflet with info on the design process. garment comes folded in a 'origami like' fold. When you unfold it the first time it makes noise. Printed area is partly attached to the other side on the folding.	leaflet with info on the design process. garment comes folded in a 'origami like' fold. When you unfold it the first time it makes noise. Printed area is partly attached to the other side on the folding.

Credits: the author

The clothes are simple ready-to-wear pieces, without extra seam allowance, linings or other particularities that could place them in a category of strictly artisanal production. Nevertheless, other aspects are peculiar and may (or may not) draw attention, such as the stitches of different colours (why are they there?) or interactive elastic bands to be tied on the body creating different forms and volumes. Some details are subtle and most likely will not be easily perceived by the wearers, e.g., the GITD stitch for marking the size or the pocket of PVA fabric. Other details might need an external observer and specific environmental conditions to be seen: again the GITD stitch and the transparent print (especially when located on the back). The raw edges may

suggest that the wearers can interfere in lengths or styles to meet their own desires whilst on the other hand also suggest an unfinished or open-ended design. Playful inner elements can invite interactive relationships, as the pocket, band and pleat, but they can also spark questionings and discomfort on the side of the wearer.

In regards to the support material, leaflet and tag, it is clear that much effort has been invested, trying to inform the wearer about the process of making clothes as much as possible. They contain data not often included in these printed materials, such as the total amount of material used or details on creative process and concept. This material may also invite the wearers into a more investigative interaction with the clothes, even expanding it to other pieces in their wardrobes.

A final account of how these material qualities are experienced can only be tested, though, through real life experience. Therefore, most of the observations reported here must be understood as speculations.

Conclusions and Discussion

This study has presented the project WEAR\WEAR in its various steps of development. The context, investigations on practice and studies on fashion and design, opened up the discussion to point to the need for taking the temporal factor into consideration when designing an object. As a result, the project led to pieces that propose time as a fruitful design space and calls for further experimentations and discussions around the topic. What does looking at time as a design space entail? Can we move towards more active attachments between people and the objects they use in the longer run by taking advantage of this focus in design? These are some of the questions this study raises and shares with the fashion studies community.

A clear limitation of this study is that it encompasses only one specific clothing production and the evaluation of the extended wear phase is yet not completed. Despite this limitation, which exceeds the scope of this paper, this study contributes to a collective effort in opening up proposals for more openness and shared agency in fashion. Another point to note is the fact that



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the changes through time are previously programmed by the designer and not exclusively offered by the clothes or materials themselves. What is believed, though, as briefly discussed in the section above, is that many of the design decisions are only made possible due to the affordances of the materials and the process. Other affordances emerge when the final piece is finalized, and the different materials come together in an interacting system. Later on in the wearing phase, ever further affordances may emerge, while others may not manifest at all, depending on the relationship set between wearer and worn.

In regards to the method, the limitations of this paper are due to the experimental attempt of applying Finn's object-study method (2014) to confirm design intentions. Whilst this brought forth both previously known and also unknown aspects embedded in clothes, it invites new methods for examining a researcher's own design practice.

Finally, I advocate for the need for a thorough experience study in order to be able to fully understand the possibilities and future directions that looking at time as a design space can provide designers, objects and users. This paper is thus not a finalized investigation of a project, but a small part of a much wider effort to redesign the fashion system with others. In this way, I also invite clothing design practitioners and researchers to contribute towards more reflective and ethical paths in our fields.

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