



The Intervened Wardrobe: Making Visible the Agency of Clothes

*O guarda-roupa interferido: tornando visível
a agência das roupas*

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[abstract] The fashion industry is permeated by overconsumption. Mass production, low prices and speed of turnover of trends lead consumers to perceive clothes as disposable objects. The resulting throwaway culture adds to the already problematic environmental impact of the fashion industry. To shift this state of affairs, we propose *wardrobe interventions*, a method that uses experimental design practices to collect insights and promote more active engagements between *wearers* and *worn* by leveraging the notion of material agency. We describe two projects used to develop and verify the method, to demonstrate how foregrounding the agency of clothes can enhance values embedded in wearer-worn relationships, and potentially shift consumer actions.

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[keywords]

fashion research method; fashion and ecology; fashion practice; wardrobe intervention; material agency.

[resumo] A indústria da moda é permeada por hiperconsumo. Produção em massa, preços baixos e tendências fazem com que consumidores percebam roupas como descartáveis. Essa cultura do descarte se soma aos já problemáticos impactos ambientais causados pela indústria. Para alterar esse cenário propomos *intervenções em guarda-roupas*, um método que parte de práticas experimentais em design para promover engajamentos mais ativos entre usuários e vestíveis, com suporte da noção de agência material. A partir de dois casos, usados para desenvolver e verificar o método, demonstramos como é possível intensificar valores presentes nas relações usuário-vestível através da percepção da agência das roupas, e, potencialmente, alterar ações de consumidores.

[palavras-chave] métodos de pesquisa em moda; moda e ecologia; prática em moda; intervenção em guarda-roupa; agência material.

Introduction

Unsustainable modes of producing and consuming clothes are a topic of great concern. Accelerated turnover in collections and outsourcing production on massive scales began decades ago as strategies to increase profits in clothing retail (ALLWOOD et al., 2006, p. 11). These strategies, once exclusive to fast-fashion retailers, entered the mainstream and became the norm, once their influence on profits became clear. Yet, this model promotes a series of negative environmental impacts. It is responsible for placing fashion among the most unsustainable industries in the world (FLETCHER, 2016, p. 21). Additionally, the accelerated pace in fashion turnover has led to failed relationships between people and their clothes (KIM et al., 2013).

Changes in trends and low product qualities can lead to a failure of relationships between people and clothes and a throwaway culture – in which clothes are perceived as disposable objects (CHAPMAN, 2009). The problem, though, does not lay in the fact that clothes are eventually disposed of. Rather, it is the early disposal of garments, before their 'due date', that increases industry profits and puts wearer-worn relationships at stake. In response to this worrisome trend, Valle Noronha undertook a two-part study to uncover catalysts behind both failing and successful relationships between wearer and worn. The objective was to understand how to motivate stronger engagements between people and the clothes they wear. The study led to the crafting of a method, named *wardrobe interventions*, as an attempt to investigate these catalysts.

Wardrobe interventions is a method built through experimental design practices. The aim is to better understand how to engage wearer and worn in more active relationships and give 'voice' to non-living matter: clothes. The method builds out from Cultural Probes (GAVER et al., 1999) and Design Probes (MATTELMÄKI, 2006), and seeks to expand probes beyond a user-centred approach by proposing clothes as objects able to impact a wearer's relationship to their wardrobe. The method achieves this end through a series of carefully crafted steps that invite wearers to become more aware of the clothes that they wear. In this process, the notion of material agency (BARAD, 2007; BENNETT, 2010; COOLE; FROST, 2010) becomes central in understanding how a shift in perspective – from a user-centred approach to a non-anthropocentric approach – might assist stakeholders to overcome some of the highlighted issues.

To develop and verify the method, two iterative projects in experimental fashion¹, Dress (v.) (VALLE NORONHA, 2016) and Wear\Wear

(VALLE NORONHA, 2017a), were undertaken in Belo Horizonte (Brazil) and Helsinki (Finland)². In this article, we intertwine these two projects and use them as cases to explicate and study the method. As we discuss below, both projects use bespoke clothing, accompanied by an instruction set, to probe individual wearer's wardrobe and wearing habits over the course of a year. The approach places the wardrobe intervention method among the new, but growing, field of Wardrobe Studies (FLETCHER; KLEPP, 2017; KLEPP; BJERCK, 2014), which looks to relationships people have with their clothes.

In the following two sections, we discuss the notion of material agency and review previous research methods in probing with designed objects, to situate the work theoretically. From this foundation, we introduce the *wardrobe intervention* method, and unpack how the two projects were approached. We then share the findings and reflect on the advantages and disadvantages of the method, before discussing future directions for study.

The *materially intervened wardrobe*

[200] Bruno Latour (2005), speaking into the field of Science and Technology Studies, proposed that materials have agency: materials, as well as people, 'act' in any kind of unfolding. With this proposition, he questioned the relationship people set with the ecologies that surround them, and the long-established anthropocentric view of the world. Related discussions developed into 'new materialism'³ (BARAD, 2007; BOLT, 2013) grounded on the fact that all living and non-living things are made of similar matter, assembled in different combinations. These combinations deliver a set of potentials, powers and agencies to matter. For instance, plants can synthesize light energy into chemical energy (sugar), and metals react to (and act in) the surrounding environment according to percentages of oxygen available in the air composition. If we bring this thinking to clothing and textiles: woollen textiles insulate objects in low temperatures, making them warm, and a linen jacket can prompt a person to think of coconut water and tropical weather. Such characteristics can be considered 'affordances.' As James J. Gibson (1979) explains, affordances are features that suggest human and non-human actions and interactions. Chairs, for example, seem to invite a person to sit on them and doors appeal to be opened (ibid.). This perspective supports a non-anthropocentric approach to objects, admitting other systems of relationships.

Crucially, we live in more-than-human worlds. Jane Bennett (2004, 2010) and Karen Barad (2007) speak of the need to recognise more-than-human material entanglements and agencies. Bennett uses the example of food to illustrate a salient scenario. She explains that over-consumption of food is leading to intense and early disposal, and once food waste reaches landfills, it emits greenhouse gases that combine with other materials in the air to provoke drastic environmental changes. She proposes that considering food as inert, passive matter 'helps animate our current practice of aggressively wasteful and planet-endangering consumption' (2010, p. 51). The suggestion

is that, if agencies are acknowledged and food reconfigured as active matter, such wasteful practices may change.

Similarly, many people consider clothes as perishable, and neglect to take into account the polluting emissions that textiles can generate. In this way, 'fast' fashion resembles Bennett's positioning of 'fast'-food practices. We thus may conclude that considering clothes as passive objects may be supporting unsustainable consumption patterns. Bridging the slow food movement to the realm of clothes, Kate Fletcher (2010, p. 261-262) notes that the fast-fashion industry is founded on a growth-based approach, presupposing accelerated shifts of production, consumption and disposal. Slow fashion would not necessarily mean a slower mode of producing, but rather an approach centred on different core values than fast growth. Such a shift in values would support a slower pace of relating between individuals and the clothes they wear, which, we suggest, may lead to stronger and longer-lasting relationships. The resulting change in how fashion is perceived – from a fast, economy-centred industry to one based on relationships – would enable stakeholders to acknowledge the agencies of the human *and* non-human players involved.

This research asks: What kinds of experiences or material qualities might catalyse a shift in how a person sees and relates to clothes? The aim is to advance understanding of the potential of (living and non-living) relationships and experience. To reflect on this question, we centre our attention on the relationships between wearer and worn, supported by the notion of material agency.

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Articulations between such theories and fashion are burgeoning. From the perspective of sustainable smart textiles, Antti Ainamo (2014), for example, proposes material agency as an alternative viewpoint to understand textile matter not as fixed or static, but in continuous movement of reconfiguration. Tania Szaława-Neyman (2014) extends this discussion, adding the notion of care. Through personal narratives of making and caring, she brings the objects she relates with (including clothing, food and packaging waste, home building and gardening activities) to a non-hierarchical relationship, identifying the forces behind their agencies. Her work resonates with Barad's claim that materials are always in a constant state of flux and becomings, and gain meaning precisely when related (2007, p. 139). Danielle Wilde and Jenny Underwood (2018) explore designing uncertainty to propose design activities without pre-defined materials or outcomes, leaving expectations aside. They work in environments of uncertainty to ensure they are led – as far as possible – by the materials they engage with. They thus position materials as co-creators in the process, letting their affordances and resistances shape the collaborative process. Tiainen et al. (2015) use the lens of women's studies to discuss the philosophical implications of performance clothing. They use singer Björk's Biophilia costumes as their case for study, proposing that the philosophical perspective of women's studies opens space to new methodologies for investigating objects (e.g. clothing) from a relational point of view. Sampson (2017) discusses the concept of *worn* in *wearer-clothes-designer engagements* suggesting fantasising as a process of

negotiation between these three actors. These varied articulations between clothing, design and contemporary philosophies bring to light the discussion of materials. They each ask, in different ways, how we might listen, and give acknowledgement to non-living, wearable matter.

The case study discussed in this article adds to these approaches by incorporating the perspective of wearer-worn engagements with generated data through the use of probing kits. Through it, we attempt to make visible the material agency of clothes. Following Bennett (2010, p. 51) on the vibrancy of matter, we ask: 'What would happen if [*fashion*] were to incorporate a greater sense of the active Vitality of our [*clothes*]?'⁴. Despite not being a question we can fully answer within this work, we suggest beginnings to approach it.

From Cultural Probes to *Wardrobe Interventions*

To describe any material is to pose a riddle, whose answer can be discovered only through observation and engagement with what is there. The riddle gives the material a voice and allows it to tell its own story: it is up to us, then, to listen, and from the clues it offers, to discover what is speaking. (INGOLD, 2013, p. 31)

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How can we, as design researchers, become more sensitive to the voices of the objects we investigate? To look at objects as they act in relationships seems essential to grasping what it is that Ingold (2013) suggests (in the above quotation) 'is speaking.' The focus of study – the relationship between wearer and worn – calls for a method that allows access to intimate spaces and personal engagements for an extended time frame without the presence of the researcher. *Wardrobe intervention* as a method to investigate designed objects in experiences draws from Cultural Probes (GAVER et al., 1999) its main inspiration in the expectation of a more shared narrative with the objects we engage with.

Cultural Probes (GAVER et al., 1999) emerged as a design research method that focused on developing creative tools to incite participants to provide inspirational input to researchers in a participatory approach. Instead of relying solely on the designers' decisions during the creative processes of a new product or objects, external voices (e.g. clients' voices) could thus be taken into consideration. The data produced was not intended to be used to develop a specific design but rather to inspire the designers and challenge them to connect with the idiosyncratic perspectives of project participants. By collecting participants' discussions and responses to the provocations embodied in the probes (GAVER et al., 1999; GAVER et al., 2004; HEMMINGES et al., 2002), the intention was that future scenarios and unexpected ideas could arise.

Probes have since spread broadly in the design research environment. From the original Cultural Probes, adaptations to many specific research areas arose: residential probes (HEMMINGES et al., 2002), technology probes

(HUTCHINSON et al., 2003), mobile probes (HULKKO et al., 2004), design probes (MATTELMÄKI, 2006) and playful probing (BERNHAUPT et al., 2007) are only some examples of this expansion. Despite the intense implementation of the method to diverse spheres of design its application in the field of clothing remains, for the most part, limited to wardrobe studies (SKJOLD, 2014; RIGBY, 2017) and fashion design practice (FRASER, 2014).

In wardrobe studies, Skjold (2014) looks into wearing practices of Danish men in relation to the fashion brand Mads Nøregaard. To probe her participants Skjold provides them with a kit containing a notebook, an instruction set and clothing items designed and produced by the brand. The instructions direct participants how to take pictures and make notes about their wearing routines. From her analysis, Skjold concludes that, using this probing method, participants develop a greater awareness of dressing practices. In another example, Emma Rigby's work (2017) is focused on laundering practices. Her probes aim to ascertain whether specific design characteristics in clothes can impact laundering and maintenance routines. Similar to Skjold, Rigby gave clothes and diaries to participants, who were instructed to make notes about their laundry behaviours of a specific garment over the course of a year. To conclude the study, available participants took part in a semi-structured discussion group, with the aim of retrieving themes and developing research conclusions. These works attest the validity of the method for investigating individuals wearing practices and make cases from which researchers can draw implementation ideas. They provide resources that can be applied to the context of clothing production having a more sustainable use-phase in mind.

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Fraser (2014) works with probes possible future scenarios using a more experimental research structure, drawing inspiration from the works of Dunne and Raby (2001). In her method, she deploys clothing in the role of 'conversations' rather than 'statements', under what she calls 'events of Critical Use'. These events challenge Herbert Blumer's understanding that 'while clothing may say something, it is scarcely involved in conversation' (BLUMER *apud* DAVIS, 1992, p. 8). Fraser's work points to the potential of clothes taking an active role in the wearer-worn relationship and reckons their part beyond a passive support in meaning making. The highly experimental tone of the works situates it closer to speculative and critical design approaches, and thus the original intent of Cultural Probes, and farther from everyday wearing practices. What is particularly potent in her deployments, and relevant to the *wardrobe interventions* method, is the discussion of the different roles that clothes can play and how this can be assessed and discovered through the use of probes.

These examples demonstrate that fashion research and practice can collect fruitful results using variations of cultural and design probes. Despite different foci and intentions, they form a foundation of investigations on clothing and fashion through deployments. Altogether, they propose opening the design of clothing to a more participatory approach. The *wardrobe*

interventions method contributes to such efforts by adding the voice of experimental clothing from the perspectives of designer, wearer and clothes. Specifically, it calls participants to engage in discovering the clothes' voices by engaging in careful observation, such as is suggested by Ingold (2013) in the quotation that opens this section. The method assists researchers and wearers in understanding the agency held by their clothing via questionings and direct interaction with responsive materials. To demonstrate, we describe our case study in the following section, beginning with the development of experimental clothing for use in the probes.

Exposing the method

Our case study brings together two projects. Dress (v.) (VALLE NORONHA, 2016) and Wear\Wear (VALLE NORONHA, 2017a). Dress (v.) took movements of getting dressed and undressed as a visual resource for producing flat patterns, to generate shirts for the first wardrobe intervention kit. Wear\Wear built on this earlier study to extend a continuous exploration of form – grounded in experimental pattern cutting undertaken by Valle Noronha since 2008 – to more deeply investigate attachment to clothing.

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In both projects, autoethnographic methods were used by the designer to collect data. In Wear\Wear, for example, Valle Noronha completed charts that evaluate notions of comfort, visibility, versatility and past frequency of use of clothes worn during a 30 days period (VALLE NORONHA, 2017a). The charts' lines form the basis for the shapes of a series of dresses and blouses, which became items in the second wardrobe intervention kit. Reactive materials (UV sensitive dyes, polyvinyllic filaments and fabric, and heat sensitive paint) were used in these dresses and blouses. The polyvinyllic materials provided permanent changes and the sensitive dyes result in temporary changes. Using active and reactive materials assist to bring focus to the notion that clothing has agency.

Once the clothing has been developed, each item is deployed in a *wardrobe intervention*. The intention is to investigate how relationships develop between a wearer and an experimental item of clothing. The interventions unfold over four stages: (1) Intervention deployment; (2) Interaction phase; (3) Group discussion; (4) Reassessment interviews.

As noted in the introduction, the underlying intention is to understand how design can be used to promote more active engagements between wearers and the things they wear. The studies last for up to one year and investigate what aspects of clothes might foster stronger and more reflective relationships with wearers, without losing the expression of the designer. The aim is for the wearer to listen to the 'voice' of these clothes as grasped and interpreted by them. Figure 1 presents an overview of the deployments. We provide details from both Wear\Wear and Dress (v.) to highlight similarities and differences in how different *wardrobe interventions* might be deployed.

Todo o material coletado aqui será analisado e seus resultados farão parte de uma pesquisa acadêmica.

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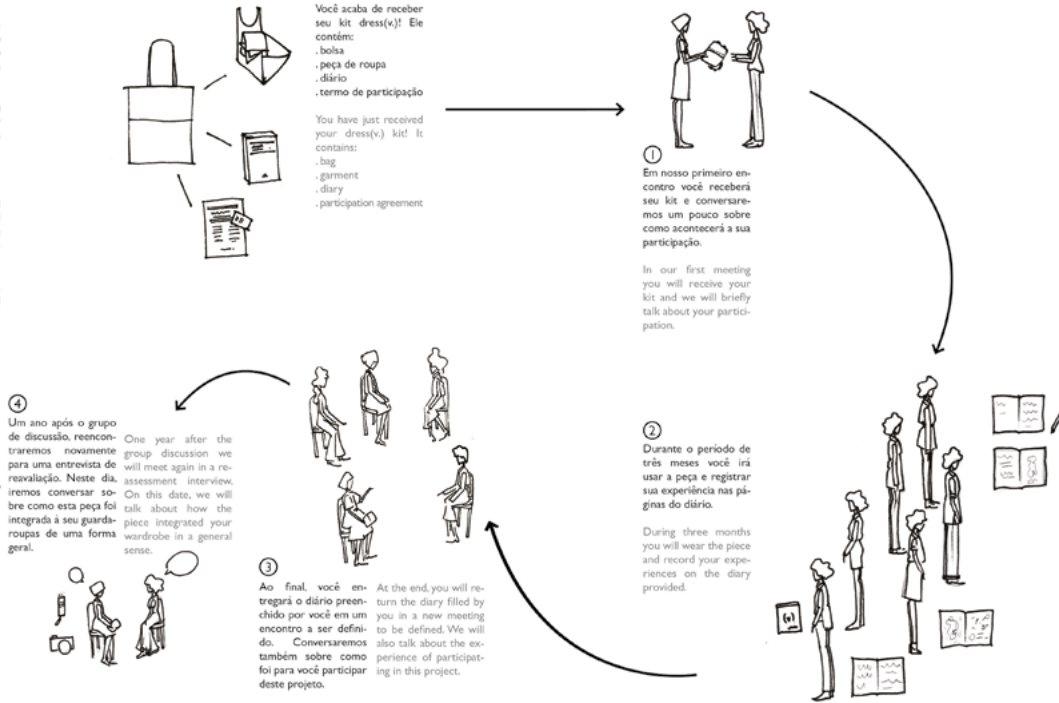


Figure 1: The four-step wardrobe intervention process.

Image Credits: Julia Valle Noronha

1. Intervention deployment

In the first one-on-one encounter, an intervention kit is given to the study participant. The encounter begins with a brief introduction to how the pieces were created. The participant tries the clothes for the first time while the designer is present, and necessary alterations are identified and made. This on-site personalisation process ensures that the clothes fit well, and resonate with the wearer's style preferences. The designer then explains how the study will unfold, what is expected from the participant, as well as their rights. At this point participants sign a form consenting to their participation. In both Dress (v.) (Figure 2) and Wear\Wear (Figure 3), the deployment kit consists of: a clothing item, a 72-page diary with eight divisions, a consent form, a leaflet detailing the creative process of the clothing item, and the researcher's business card.

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Figure 2: Dress (v.) wardrobe intervention kit.
Photo: Estúdio Tertúlia.
Author's archive.



Figure 3: Wear\Wear wardrobe intervention kit.
Photo: Estúdio Tertúlia.
Author's archive.

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Participants are invited to wear the given piece '*about six times*' during a specified amount of time (one month for Dress (v.) probes and three months for Wear\Wear). Importantly, there is no mandatory use criteria. Rather, participants are asked to wear the piece like any other item in their 'in use' wardrobe. At each use, an entry is to be made in the provided diary, reporting their experience with the garment. These instructions are given in the first encounter and can be found printed in the first pages of the diary, to ensure the message is clear. Critically, the notion of agency is not mentioned to participants at any time.

At the end of the deployment encounter, the participant takes the wardrobe intervention kit home. Before leaving, they are instructed that if any questions or doubts arise, they can contact the researcher without hesitation. We thus planned as much as possible for the smooth and fruitful development of the study.

2. Interaction phase

Once the piece is in their wardrobe, participants can interact with it in any way desired. Alterations or personalization of the item are allowed and understood as reflecting the nature of the relationship. During the study period, notations on the experiences are made in both a structured and unstructured form. Pre-defined questions are printed on the diaries followed by blank pages. The blank pages are filled in any desired form; narratives, reflexions, drawings, photos, etc. Whilst the questions aimed at situating the participant in the moment of experiencing the piece, the blank pages hoped to retrieve inspiring notions and discussions.

Towards the end of the diary-keeping period, all participants are contacted to meet for a group discussion.

3. Group discussion

The group discussions are organised by the researcher and mediated by Valle Noronha (for the first group) or an external mediator (for subsequent

groups). During the discussion, participants are invited to share their experience about ordinary or extraordinary events that took place during the study period. Following each participant's talk, it is expected that a discussion will naturally emerge on the main topics of concern. If the discussion deviates significantly from the research's focus of interest, the mediator can step in and bring the discussion back to the desired topics. In addition to the topics that emerge from their experiences, the mediator tries to understand if the clothes suggest anything to the participants beyond clothing-related choices, such as a different choice of diet or more radical actions or shifts in behaviour. For example, a white shirt may suggest 'stay away from the spaghetti and tomato sauce' or a tight neckline might invite the wearer to overcome a fear of performing do-it-yourself alterations on their garment. The objective of this provocation is to have participants indirectly reflect on such agencies, considering the wearer-worn relationships they have lived with their clothes.

4. Reassessment interviews

For the second group in Belo Horizonte and Helsinki, a reassessment interview was undertaken one year after the group discussions. The decision to do this additional interview was made in the course of the data interpretations stage in response to two unavoidable facts. In the first place, relationships evolve over time and three months might not be enough to allow for considerable development. Second, the diary-assisted relationship is, in many aspects, different from individuals' everyday engagements with clothes. These two facts suggested the need for a reassessment to determine whether or not further shifts had occurred. With a reassessment, findings from the diaries and group discussion could be confirmed or rejected, strengthening the validity of the results.

In the reassessment interviews, the researcher interviews each participant individually in their home for an average of 50 minutes. The interview concentrates on the wardrobe and the clothes, trying to pull from participants the kind of 'voice' the clothes they received might have. Participation was smaller than for the original study, as some participants moved city/country or were away on holidays. In total, 50% of the original participants were interviewed. No clothes were collected. Rather, they were given to individuals as a compensation and acknowledgement of their participation.

The deployments differed slightly in each use case (see Table 1). Wear\Wear took place after Dress (v.) and iterated the method, based on what had been learned in the first study. The right hand column in Table 1 explains the changes.

Table 1: Differences between the deployments in the two projects

	Dress (v.)	Wear\Wear	Phase	Justification for changes
Location	BH	BH + HEL	n/a	Interested in perceiving possible cultural differences, the study took place in the two cities, located around 11.000km away from each other.
Number of Participants	10	22	n/a	The average number of participants was kept to each study group, thus in the second project (which was held in two cities, with two groups) the total number was higher.
First encounter visual record	yes	no	1	From the first study it was chosen that less focus would be given to visuals from the researcher's side, aiming at not driving the participants towards visual priorities.
Diary keeping time	1 month	3 months	2	It was concluded that the one-month time frame was too short to observe how the relationship developed.
Group discussion mediator	researcher	external mediator	3	The fact that the researcher was the mediator in the first study was later re-evaluated. Not having the image of the designer-researcher in the discussion was understood as a positive change. On the second project, an external mediator was invited to mediate the discussion.
Re-assessment interviews	no	1 year after	4	The notion of 'intervention' was consolidated only after the first study. To understand, then, how the interventions acted in a longer time frame became necessary.

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Notes on the method: Probing Designed Clothes

The *wardrobe intervention* method differs from previous probing deployments in key ways regarding the nature of the deployments and the expected outcomes. In this section, we highlight the similarities and differences with previous deployment studies and discuss the advantages of the method in a fashion context.

The *wardrobe interventions* contain clothes that, despite being understood as open to developments, are finished as designed objects. This particularity contrasts with many previous design and cultural probes, where the probing kits include material for sparking discussions such as collage tasks or inspiring material (e.g. MATTELMÄKI, 2006; LUNDGARD; LARSEN, 2007). Thus, in the *wardrobe interventions* the design process takes place before the deployments and not after. This approach required a practice-based investment prior to the investigation. The openness to developments, mentioned above, arises from two factors: (1) as part of a practice-led research, the creative work is taken as a lifelong process open to developments and future iterations (cf. NIMKULRAT, 2009, p. 19); and (2) the final 'forms' the pieces achieve will only become evident as the wearers and clothes interact.

Different from other deployments in fashion research – that either allow participants to choose pieces (SKJOLD, 2014) or make the experiences punctual and not part of participants' on-going wardrobes (FRASER, 2014) – *wardrobe interventions* are not chosen by their wearers. Yet, a great investment is put into making the pieces made-to-measure, customising them and forming possible adaptations on-site. This approach envisions that the clothes will actually be worn. It gives the pieces a very particular framing of a 'bespoke' intervention that participants are invited to embrace and take into their routines and relationships. In this sense, the intervening aspect places the *wardrobe interventions* closer to Cultural Probes (e.g. GAVER et al., 2001) and Critical Design (e.g. DUNNE; RABY, 2001), than Design Probes (MATTELMÄKI, 2006) or other forms of probes mentioned above.

Wardrobe interventions include reassessment interviews after an extended period of time. These interviews allow participants to reconsider what happened during the time taken with the clothing and the diaries. The approach reflects a general understanding that relationships with objects develop through time and engagement, and a short account would not be sufficient to apprehend such developments (MUGGE; SCHOORMANS, 2006; WILDE, 2014). Further, even though after such a long period many memories might be lost, the reassessment interviews take advantage of the fact that memorable events (more often than not responsible for shifts in relationships) are retained (KUJALA; MIRON-SHATZ, 2013). Through the reassessment interviews, the researcher can confirm findings from the diaries and discussion groups and bring questions that revolve around the question: What is it that these clothes do in relation to other clothes and the wardrobe?

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The data accessed is meant to represent not only the individual's perspective but also that of the objects. It achieves this end through an evolving shift of perspective from a user-centred approach to a clothes centred approach. A similar perspective was developed by Cila et al. (2015) in the context of Design Anthropology, where objects carrying logging devices were deployed in participants' kitchens (cup, kettle, fridge). Participants were asked to interpret the log as the 'social life' of the objects. In *wardrobe interventions*, the clothes embed meanings and experiences with their environments over time. The wearers report such information through indirect questions on the matter during the group discussions and reassessment interviews. For example, wearers were asked to discuss how that piece interacted with other pieces in their wardrobe and what kind of 'personality' the piece would have. As such, the data collected is an interpretation of the agency of the clothes via the voice of the wearers. Crucially, since understanding *if* (and if so, *how*) the *wardrobe interventions* could act as motors to raising awareness on the material agency of clothes was of interest, direct questions were avoided.

The three stages of data collection – diaries, group discussions and reassessment interviews – foreground different foci (Table 2). In both cases the focus was developed from a user-centred approach (diaries) to a relationship-centred discussion (group discussion). The reassessment interviews then

drew focus closer to the nonhuman agents, as the lives of the clothes were reported by wearers. Pictures and investigation of the physical state of clothes support this phase of the method. This evolving process envisions a thorough grasp of the relationship while working together with participants through time to develop an emergent understanding of the different agencies at play.

Table 2: Description of the data set in the study

Data Set	Description	Interpretative Approach
Diary (wearers diaries)	Diary kept by participants of the study that received clothes as wardrobe interventions. They were scanned and coded by hand.	1. open coding 2. thematic coding
Dialogue (probes hand-out)	Meetings in which the wardrobe intervention pieces were handed out to each participant. They were all audio recorded and transcribed (to assure that the same information was given to all participants).	No interpretative approach. Used as reference only in regards to information given.
Group Discussion	Group discussion between participants led by a mediator. They were audio recorded and some pictures were taken by the mediator. No video was taken to allow a more comfortable discussion to all participants. They were transcribed and coded using Atlas software.	1. open coding 2. thematic coding
Reassessment Interviews	Reassessment interviews with some participants. They were audio recorded, transcribed and coded using Atlas software.	1. thematic coding

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In the above table we provide a more detailed view of how the data interpretation unfolded across the two cases. Interpretation was a three-step process. First, each case was investigated individually, then a comparative interpretation was completed. This approach resulted in previous findings (diaries and group discussion) being questioned and discussed in the context of latter findings (reassessment interviews). For project-specific findings please refer to Valle Noronha (2016) and Valle Noronha (2017a).

On wardrobes as spaces in time: Reflections from the study

The interesting thing [...] is how everyone changed a little after [the engagement with] the shirt. (Participant 5 in Group Discussion 1)

When a new garment enters our wardrobes it inevitably brings potential for change. These changes may never occur, depending on how one engages with the garment in relation to the wardrobe in general. For instance, a new pair of shoes can motivate new combinations between pieces that never 'acted' together as an outfit, or a new shirt can turn a previously active top to become idle and be moved to the 'inert' zone of a wardrobe. This research examines if there are aspects in clothes that might propel specific changes or more systemic ones. Specifically, it asks: if such changes exist, might they

motivate shifts in understanding of the relationships a person holds with their clothes towards a reckoning of the agencies individual clothing items might hold? And: how might designers and researchers become open to listening to the voice of clothes? In this section we reflect on which aspects in the method may have supported or frustrated such goals

From the two studies we perceive that the motivators and catalysts for change go beyond the clothes themselves. The way the researcher communicated the clothes to the participants, for example, played a role in the relationship, as did the support material given in the wardrobe intervention kit (the informative leaflet and clothes tags). Participants reported paying closer attention to the washing instructions and perceiving more intensely the feel and physical characteristics of the materials used than they do with other clothes. We associate these shifts to two main factors: (1) the research aspect of the project, which demanded a different attention to the pieces; and (2) the ways in which experimental and made-to-measure clothes are typically commercialized – more often than not, such sales happen in the studio space, with a close consumer-designer relationship.

[211] In *Wear\Wear*, the responsive materials seemed to motivate a more playful relationship than the clothes in *Dress (v)*. At the same time, the permanent changes motivated participants to question and investigate how the changes took place. These two aspects generated a more active relationship, one in which participants engaged in mending, altering or re-setting the relationship with their clothing item. Initial difficulties or frictions between wearer and clothes – reflecting the experimental pattern-cutting process – were intended and helped strengthen the wearer-worn relationship (see LASCHKE et al., 2015). Participants relate getting acquainted with the patterns when ironing or hanging the piece. We consider this growing familiarity to be a positive move towards deeper understanding of the general qualities of clothes, and central to shifting perspectives on garments from passive to active matter as suggested by Ingold (2013, p. 31).

The combination between the support material (informative booklet and tags) and the material characteristics of the clothes offered a powerful starting point for shifting perception of the agencies clothes might hold. In general, participants declared themselves more thoughtful about their clothes as a result of the study. The idea of care (identified by Sława-Neyman, 2014 as a potent factor in the reckoning of material agency) was frequently mentioned. It was not connected to a particular feature but rather to the overall presentation and quality of the wardrobe intervention kits as well as to the materiality of the garment (e.g. a white poplin or shiny black crêpe).

In a field like fashion and clothing design, in which people and worn objects are so tightly intertwined, it is difficult to set the voices of wearers, clothes and designer apart. They all mutually influence each other in

intrinsic ways. For example, when participants were asked to describe the piece in their physical and abstract characteristics, they would often mix their own personal 'marks' left on the piece with style characteristics and values attributed to the designer, and material and abstracts aspects particular to the garment. Nonetheless, as time passed, participants became more aware of the different voices and roles of each in the relationship. During the group discussion they referred to the designer and themselves much more than to the piece. Whilst in the reassessment intervention they seemed to have a more developed relationship with the piece, bringing it to their discourse with more agentic features. This situates time as central in the development of stronger relationships between wearer and worn and reminds us how clothes embed experiences in a constant 'becoming'. We have framed this continuous changing as a permanent state of co-authorship between wearer-worn-designer (cf. VALLE NORONHA, 2017b). One response to the challenge of identifying the origin of agencies is to include more direct questions to participants in the reassessment interview. The researcher could thus better define when it is that the materiality of the garments speaks louder than the wishes of the participant or the designer and vice versa.

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Extending the discussion on the matter of time, during the diary-keeping phase, relationships were under 'observation', and changes in how participants related to or perceived clothing could be altered by the situation of being observed. Beyond that phase, participants integrated the clothes deployed more fully into their wardrobes. They developed relationships closer to their usual habits and routines, though tainted with the discussions with the other participants. Some participants stated that the piece started being combined with a less restrictive mindset once they were no longer reporting their choices. Though this may seem an obvious finding, it brought up discussions on how the wardrobe intervention motivated a more careful account of the pieces in their wardrobes over a longer timeframe.

We believe that the extended length of the second study – approximately one year in total – allowed participants time to perceive more consistent changes in their wardrobes and to consolidate relationships. Some of these changes were: perceived similarities between new clothes bought with the wardrobe intervention piece and extended reflections that emerged during the group discussion to their wardrobe more generally. Changes in laundering habits were perceived in the group discussions but not confirmed in the reassessment interviews. For us this confirms the need of a longer investigation, including not only the diary-keeping phases but also a report-free stage of use. On the other hand, the diaries and group discussion were important to setting the overall tone of the relationship.

Expanding the discussion above, the table below focuses on the pros and cons of the method qualities.

Table 3: Pros and contras of the wardrobe interventions as a research method

	Pros	Cons
Data	Very rich data. Collects data beyond expectations / plans Free-form generated data - no pattern	Very large volume of data - time consuming for interpretation
Time	Long time span allows confirmation of findings	Needs planning for longer lasting projects and time availability (minimum 1,5 year)
Design Practice	Engages designer-researcher in real design activity	Increases cost of project
Number of Participants	A small group of participants is already enough (around 5)	Need long time commitment (1 year) - some might never return the diaries or never wearing the piece
Access	Great access to personal/private information through the clothes	Cultural differences must be noted in how/how much individuals share info on their intimacy
Participation Frequency	Participants are generally committed. Discussion group had average 68% participation.	Reassessment interviews are more difficult due to the time distance between studies. In this study it achieved 50% participation.

[213]

The *wardrobe interventions* present a range of opportunities for designer-researchers to better understand their production, including some different from the one we investigate here. Indeed, the main quality of the method is the richness of data, which can provide surprising and unexpected results. Achieving data saturation though is difficult, considering that individuals have particular ways of relating to their clothes. This is not seen as a negative, but rather a clear confirmation that wearing practices are particular to each individual and the clothes they wear. By giving value to these particularities, the research leans on Nelson and Stolterman's (2003) notion of 'the ultimate particular' to accord dignity to diverse perspectives, support new ways of considering, acting and enacting beliefs, and thus explore broader issues.

In the two studies presented, we focused on a selection of participants that ranged from ten (in the first study) to twenty-two (in the second study). We propose that the size of our data does not harm the quality of the data produced as the focus of the inquiry lies in the individual feelings and experiences of clothing. More data would simply lead to more variation, not necessarily to more clarity in our findings. We do acknowledge though that applications of the method aligned with other research interests may benefit from larger or smaller participant sampling.

Regarding participation frequency and the continued use of pieces, a concern arose before the reassessment interviews: Would participants have simply stopped using the clothes given to them after the group discussion? To

our surprise, the garments were very active in all the reassessed interviewees' wardrobes. In all cases, the clothes were found in 'active' zones, such as dirty clothes bag or hangers behind the bedroom door. This finding, apart from making us very happy, signalled that the eventual frictional beginnings (mentioned by around 50% of participants) developed into a stable relationship.

Conclusion

In the attempt to bring the discourse on material agency to the field of clothing design, the *wardrobe interventions* method offers a set of positive qualities and points to difficulties that can be enhanced in future research. Significantly, the method presents us with quality material that can be used for designing towards more active relationships between people and the clothes they wear. In the contemporary fashion system, where clothing and consumers have grown into passive roles (VON BUSCH, 2008, p. 30) and overproduction for mega-profits pose a threat to the system's ecologies, configuring alternatives is key. The *wardrobe intervention* method helps us to find ways of picturing clothes not as passive objects but rather as active agents in the complex network of forces that shape everyday engagements with clothes and fashion.

[214] The method makes visible the potentials of a new garment entering into a person's wardrobe from a wearer's viewpoint. The cases demonstrate changes in participants' discourses on fashion, achieved through the combination of information, discussions and, of course, the wearable pieces themselves. Together, these elements afforded a deceleration of wearing experiences, beginning with the requirement to take account and record engagements. This deceleration was extended to other clothes in the participants' wardrobes over the course of the study, indicating enriched quality and strength of attachment to the clothes. The method thus resonates with Bennett's suggestion that deceleration can support the development of practices that move against wasteful and excessive consumption (BENNETT, 2010, p. 51).

That the interactions of participants in *wardrobe interventions* are defined exclusively by participants' reports may be seen as a limitation. A more in-depth material investigation of the wardrobe could give rise to new and important findings that perhaps better acknowledge the spaces of action of the objects in question: the clothes. Due to the length and methodological focus of this article, contextual differences and findings from each study are not included. Further, discussion of how our findings relate to wardrobe studies (FLETCHER; KLEPP, 2017; KLEPP; BJERCK, 2014) and fashion and identity (DAVIS, 1992) are limited. We believe that bringing focus to these different aspects of the research would strengthen our claims in regard the method's contribution to the agency of clothes in a wearer-worn relationship, and look forward to unpacking this possibility in the future.

From a research perspective, the *wardrobe intervention* method allows a deep dive into wardrobes, where a garment enters to bring disruption. With

direct or indirect instructions participants are asked to report their experiences with the pieces in three stages: a diary (where we expect to collect a more human centred narrative), a group discussion (where the focus shifts to the forces at play in the relationship) and a reassessment interview (where indirect questions request that participants voice the piece's 'wills' and 'views'). The disruptive nature of these activities acts on participants' general understanding and relationship to clothes and supports a pre-existing interest in the development of a personal style, less attached to trends. Together, they highlight the wearer-worn relationship as a space where individuals and clothes negotiate actions in order to build identities (SAMPSON, 2016; KAISER, 1999). For the researcher, they bring valuable information not only regarding design strategies to spark care and more engaged relationships between wearer and worn, but also raise new questions on the notion of authorship and of time as a design space.

The path to a spread understanding on the materiality of clothes is rather at the beginning than at the end. With the *wardrobe interventions*, we expect to contribute a small step further into the complex task of voicing the non-human agents we engage with in our daily routines. This contribution aspires to reach not only research in clothing and fashion design practice, but also wishes to take less academic outings into fashion ateliers and companies.

If your clothes had voice, what would they speak of?

[215]

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NOTAS

¹ The term experimental (fashion) design and its derivations has not yet been defined by academics despite its broad use in the education sector (see CSM, 2016; MICA, 2016) to refer to creative activity involving experimental processes in fashion design. We address experimental pattern cutting as a process that strongly relies on experimental methods to produce patterns for clothing.

² The two cities were chosen due to ease of access (the designer's studio and study locations) and in order to incorporate different cultural contexts to the experiments.

³ Here, apart from this brief introduction, we consciously avoid the use of the term 'new materialism'. Instead we choose to make use of 'material agency', which focuses and represents our specific interest in the broad new materialist discourse.

⁴ The original: 'To the extent that we recognize the agency of food, we also reorient our own experience of eating. What would happen if slow food were to incorporate a greater sense of the active Vitality of foodstuff?' (BENNETT, 2010, p. 51).

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