

Repairing Fashion Cultures: From Disposable to Repairable

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1. Introduction

The fashion and textile industry has large environmental impacts throughout its long and scattered supply chain. The activities of this industry have an impact on water, air and soil, and it uses large amounts of material, energy, water and chemicals. It has local impacts on areas where cotton is cultivated, where polyester is manufactured and where textile wet processes are done, but it also extends to areas where clothes are used and where textile waste is deposited. Moreover, it has global impacts through CO₂ emissions affecting climate change, causing damage to ecosystems and even creating risks to human health (Global Fashion Agenda 2017; Sajn 2019; Niinimäki et al. 2020a).

The linear economic model (take-make-dispose) and the fast fashion business logic behind it is based on effective and large-scale mass manufacturing in lower-cost countries, mainly in Far-East and Asian countries. This model is based on fast-changing trends that have caused very short use times of garments and increased waste problems in all Western countries. The yearly textile waste amounts per person have a direct connection to the consumption rates in different countries; for instance, they are 13 kg in Finland (Dahlbo et al. 2017), 16 kg in Denmark (Watson et al. 2014) and 30 kg in the UK (Allwood et al. 2006). A study done in Norway found that 20% of textile waste items were nearly unused (Laitala and Klepp 2015). Lacy and Rutqvist (2015) state that we waste the lifecycle of a product if the product has an artificially short lifetime, and products are disposed even if they still function. This is called early disposal.

Moreover, studies estimate that existing levels of clothing consumption and production rates might even increase if the fashion system remains unaltered. Textile production has doubled its volume between the years 1975 and 2018 (Peters et al. 2019); subsequently, the use time of garments has decreased by 36% compared to the situation 15 years ago (Ellen MacArthur Foundation 2017). Garments are even produced in such high volumes that some part of the production stays unsold. Markets are oversaturated, and brands even burn unsold garments while trying to safeguard the brand value (Hendriksz 2017).

The current consumption–production paradigm and the unsustainability in this industrial sector have to change, and we have to create a new balance in the fashion sector. One part of this transformation process is the new product lifetime understanding and approach to extend the use time of garments. This is essential while trying to lower the environmental impact of garments and the fashion industry. Moreover, building this new paradigm in the fashion sector includes not only change in consumers’ consumption habits, but companies also have to be involved in this change. Sustainable fashion business models have to include the aspects of producing less, extending the use time of garments and including these principles in a new business understanding. In this way, a new balance can be achieved, and the fashion culture could potentially be “repaired” to create a better balance while slowing down the material throughput in the system.

This chapter approaches this paradigm shift in fashion cultures from two angles: firstly, from the consumer viewpoint and secondly from the company viewpoint. The text aims to build on the emerging phenomena of communal repair activities and on business examples, and through this approach it provides an understanding of the need to change the fashion culture from disposing to repairing. Through this knowledge, the chapter contributes to the discussion of transformation in the consumption–production paradigm from a narrowly framed view, i.e., repair. The text is grounded on earlier studies and literature, and through this base it aims to construct a conceptual understanding of this phenomenon under study, i.e., transforming fashion culture towards sustainability through the practice of repair.

2. Replace or Repair

As elaborated in the previous section, problems associated with the fashion and textile industry are plenty and quite perplexing. Yet, the quest to bring forth solutions that could address the aforementioned issues has continued to remain active and vibrant. In particular, extending the use time of garments has repeatedly been quoted within academic research as a viable solution when tackling the ever-increasing rates at which garments get disposed (Fletcher 2008; Birtwistle and Moore 2007; WRAP 2012; Gwilt 2014; Durrani 2018a, 2018b, 2018c; McLaren and McLauchlan 2015). According to The Waste and Resources Action Programme (WRAP 2012) report, it is estimated that using garments for a minimum of over three years has the potential to save 5 billion pounds worth of resources in one year alone. The significance of extending the use of garments is further resonated in the works of several academics that have mentioned the adoption of various techniques in an attempt to extend garment use. Some of these recommendations include encouraging users to purchase

garments from charity or thrift stores, minimize laundering practices and opting for airing garments like wool and silk, re-designing or altering garments so that they fit better and/or repairing garments that have suffered breakages to avoid binning and be able to keep clothing in use for an extended period of time (WRAP 2012; Gwilt 2014; Durrani 2018a, 2018b, 2018c; McLaren and McLauchlan 2015; Laitala 2015; Twigger 2016; Lapolla and Sanders 2015; Norum 2013). For the purpose of this chapter, we will primarily focus our attention on garment repair, an increasingly growing area of discussion within the field of sustainable fashion. As it is our intention to contribute to the existing body of literature on clothing repair research, we will discuss the role garment repair could play in addressing sustainable practices of clothing use, but we also further the discussion on how the aspect of repair could change fashion business practices.

While mending garments is by no account a new practice (see Durrani 2018a), its significance for sustainable fashion consumption has only just caught the attention of researchers. Though the majority of earlier work recognized the benefits that can be reaped from mending garments, research has also identified various barriers to repair (see McLaren and McLauchlan 2015; Laitala 2015; Twigger 2016; Lapolla and Sanders 2015; Norum 2013; Gwilt 2014). These barriers include users not having enough time to mend, lacking knowledge on how to fix garments and relative cost of repairing falling in favor of buying new garments than opting for paid repair services (often offered by tailors or seamstresses; see *ibid*). With these challenges at play, 'altering' or 'steering' user practices has been placed at the center of sustainability around which various recommendations have set into motion. On the production front this has meant pushing for design-led solutions such as using quality materials or modular designs that can be repaired easily and potentially kept in use for a long time (Gwilt 2014). Additionally, offering paid-for repair services as part of designers' business models has also been suggested as one way to encourage garment mending (Gwilt 2014). Alternatively, the introduction of sewing classes in schools (Norum 2013) and the 'dissemination' of information via media campaigns on the benefits of mending (Dombek-Keith and Loker 2011) have been suggested as would-be means to bring change in user practices towards garment repair.

Recommendations such as those stated above could be useful; however, whether they address the triadic time–skill–cost challenge to encourage repair in its entirety remains an open question. It can be argued that when faced with time constraints, perhaps opting for repair services could be a useful option. However, if a fee for repair services is charged by local businesses, will it still be possible to overcome the 'cost' barrier to repair? Additionally, and linked to this, is the 'skill' challenge,

wherein garments could get repaired if people were to utilize these repair services. Yet, the 'skill' needed to repair clothing by users themselves will not have been gained, resulting in depreciation of the practice we aim to increase. Moreover, even if informative videos on how to mend garments are available online, Gwilt (2014) notes that it does not automatically lead to users mending. Furthermore, Fletcher (2012) highlights that repair of garments is not always linked to the design of the garment. Thus, even if clothing designs were to become modular, the repair of garments is not always guaranteed, for practices of garment use are usually tied strongly to and impacted by social relations (Durrani 2018a, 2018b, 2018c). It is this social aspect, as the following section will illustrate, that stands as the third front running parallel to mainstream production and consumption practices that has, of late, worked towards addressing some of the barriers to garment repair in an unconventional manner.

3. Alternative Cultures of Garment Use

Recent research has shown that mending garments not only redirects waste flows but could also enable consumers to reduce making new purchases altogether (Laitala and Klepp 2018; Durrani 2018c). The relationship people often share with their garments is one that is deeply tied to social and material factors (Durrani 2018a, 2018b, 2018c). Clothing practices of use, such as how garments get cared for or are maintained, are often learned through lived experiences that are very much entangled with the social world (Durrani 2019). When discussing altering practices of garment use it becomes not only relevant but also imperative to move towards approaches where user practices are understood as an interlinked web of social, material and economic elements tied to larger political infrastructures as well (Durrani 2019). In doing so, attention could be better placed onto alternative practices that challenge present capitalistic regimes of mass production and mass consumption. One area where this can be seen occurring lies within community-based collective action where active participation in repair at the grassroots level is emerging.

Exemplified in what has now been termed as the 'Fixer Movement' (see Charter and Keiller 2019) is a global network of repairers that have been challenging mainstream capitalistic ethos of mass production and consumption practices. Taking root in the works of the Repair Café Foundation (Repair Café Foundation 2012) based in the Netherlands lies a concept that has given birth to an entire global 'repair eco-system' (Charter and Keiller 2019). Frustrated by the pre-mature expiration of most consumer products due mainly to planned obsolescence designed within products (Charter and Keiller 2019), the RCF began hosting free-of-charge public repair events in 2011. Their aim was to extend the life of products through

encouraging acts of repair by inviting the general public where they could collectively learn first-hand how to repair various consumer products from expert volunteer menders without charging a fee (thus addressing the 'cost' and 'skill' barrier). With this in mind, the Foundation began hosting public events in local neighborhoods where repair experts helped people to learn how to fix various items from broken bicycle chains to ripped denim jeans. Over the years, this has resulted in various off-shoot organizations and/or designers to host events that focus entirely on the repair of garments and textiles as well (see Durrani 2018a, 2018b, 2018c). Some examples of this phenomenon from the UK include Middleton's 'Sock Exchange' (Middleton 2010), Tom of Holland's Visible Mending Programme (2017) and The Remakery (2011). Similarly, various communal mending events have begun emerging in Finland as well. In particular, Korjaussarja (2014), Repair-a-thon (2016) and REMAKE (2009) are examples of groups hosting public garment mending events in the city of Helsinki. In this section, we will briefly describe the activities of these three Helsinki-based groups before advancing discussion on how they are aiding in the mobilization of alternative garment use practices.

Common to all three groups is the desire to reduce textile waste, assist in the creation and proliferation of closing material loops, extend the use time of garments and share knowledge by engaging and re-skilling local communities through participation in repair practices (Durrani 2018b). Each of the three examples from Helsinki, Finland hosts public events where the organizers assist in the garment repairs of individuals (Durrani 2018b). These events are often hosted at varying locations such as cafes, public libraries, design museums and so forth, depending upon the availability of space. During the events the organizers provide various materials, sewing machines, threads, scrap fabrics and other haberdasheries needed to repair garments (Durrani 2018b).

Korjaussarja (2014) and Repair-a-thon (2016) in particular can be understood as craft-activists that aim to foster change in clothing use practice through collaborative public engagement. Consisting of a group of six craft teachers, Korjaussarja began a series of pop-up repair events in 2014 in Helsinki. In their public events they often mend using visible mending techniques as a means of fighting off cultural and historic connotations attached to wearing mended garments (Niinimäki et al. 2020b). Repair-a-thon (2016) is the initiative of a fashion designer Sasa Nemeč who single-handedly has hosted various ad hoc mending events in the city (Durrani 2018b). To the events she brings a sewing machine and both repairs for and assists participants to mend their own garments.

While Korjaussarja (2014) and Repair-a-thon (2016) do not charge any fee for participation in their events, REMAKE (2009) has in recent years began asking for a small fee for their repair workshops. REMAKE's primary source of income is generated from up-cycling post-consumer textile waste that is collected from thrift stores to create new clothing that they sell in their atelier. This is supported with the provision of repair workshops where they teach various ways to mend garments, a service that they charge for. As REMAKE operates as a social enterprise, its operations are still interlaced within a business logic of profit and loss. In doing so, their practices often mirror product-service system business models (see Armstrong et al. 2015) where they are both providers of products while also offering services to the public. Although their activities are reflective of circular economic models aimed at closing the loop on material waste, as stated by earlier research, one of the key barriers to repair is the relative cost of getting garments fixed as opposed to purchasing new ones. It, therefore, remains questionable whether charging and profiting from repair workshops/services could truly encourage the proliferations of repair practices.

In light of this, Charter and Keiller (2019) place significant emphasis on supporting free-of-charge communal repair events, as they are vital to addressing most barriers to repair (in particular the cost and skill barriers). They note that participants of free repair cafes or events are more likely to feel encouraged to continue to mend their garments while also sharing feelings of connectedness to their communities. Such communal spaces also offer rich learning opportunities for individuals who have never mended before (Durrani 2018b). It has been noted that through participation in communal repair events, people learn to recognize differences in the quality of garments, connect better the relationship between extending use time of garments and the ecological footprint of use whilst becoming more aware of their clothing maintenance practices (Durrani 2018c). Participation in events also encourages people to learn first-hand and get customized attention from more expert menders on the specifics of their respective garment breakages that they encounter. Many participants also state that, although mending videos are often available online on YouTube, following instructions from videos is not very easy, and they prefer having someone in person to guide them. Simultaneously, several participants claim that, through mending at the public events, the practice itself turns into a leisurely activity, and the time demands often felt if left to mend alone at home are no longer felt when mending in the company of others (see Durrani 2018b, 2018c). In this way, this inadvertently addresses the 'time' barrier to repair practices as mentioned in earlier scholarship.

While the activities of communal repair events are still growing, they have certainly contributed towards mobilization of an alternative system running parallel to mainstream ideals of fast fashion where slow and extended garment use is encouraged and community participation is nurtured (Durrani 2018c). Through collaborative learning spaces such as these, various skills are shared with feelings of altruism and care circulating among locals (Durrani 2018c; Charter and Keiller 2019). However, in order to address the multiple challenges of the fashion system in a potentially holistic manner, perhaps we also need to explore other arenas and avenues through which to begin to pivot the system in a more ecological direction. The next section will take this discussion further to explore if there is room for ecological businesses in support of repair practices.

4. Repair as a Part of the Fashion Business

Recent years have experienced a rise in consumers' concern over the environmental impact of the fashion industry. Conscious consumption is increasing, and consumers are interested to support companies that aim to change their practices and business logic towards more sustainable ones. The public discussion on climate change has aided in making visible the questionable socio-environmental practices of the fashion and textile industry. Fashion businesses and the industry at large are now faced with increased pressure to change their 'business as usual' logic and practices (e.g., Global Fashion Agenda 2019). Some companies are taking this challenge seriously as they begin to create change in their own business model. Some companies have begun offering repair services to extend the use time of garments. Through this approach, these companies could contribute to transformation towards a more sustainable fashion culture by inviting consumers to change their consumption habits, from frequently buying new garments to taking good care of already owned garments. The following are examples of clothing companies that have included repair into their business model.

Arela is a small-scale company that offers a maintenance service for their knits to extend their use time (Arela 2019). A part of their collection includes cashmere knits, which are high quality and often need special care. In response to their customer worries of ruining their valuable knits, Arela developed a care service to complete their customer experience. The service they offer covers a range of practices needed to maintain knits and includes de-pilling, washing and steaming the knits and, if needed, mending holes. Additional services offered include elbow patch sewing and alterations. This service makes visible the company's philosophy, which is sustainability, and it also supports the extended use time. Arela also

collects used and broken knits and recycles them for new products like sleep masks and elbow patches. From a business point of view, the service lowers the customer's consideration to invest in a high-quality knit and it also builds trust towards the quality of garments and also trust towards the business and its value base (Niinimäki 2018; Arela 2019).

Another example in support of extending the use time of clothing comes from Nudie Jeans who offers free repair services to their customers in some of their shops (Nudie Jeans 2019). The repair service count is placed in the front of the shop showing openly the values of the company. The message is repairing old jeans are as valuable activity to the company than selling a new pair of jeans. Nudie Jeans is a premium price level company, and their jeans can be seen as an investment and something consumers want to use for a long time. Nudie Jeans has even taken the next step and begun to re-sell their second-hand jeans (Nudie Jeans 2019). This shows a new kind of value of the garment but also shows an example of how to transform the business from linear thinking towards more sustainable thinking and including this approach even to a business model.

Reima is a clothing company that produces high-quality, expensive and durable children's wear items. Clothing for children often undergoes hard wearing conditions; therefore, even if they are made from durable materials and produced for durability, sometimes some repair is needed. While the garments are made from quite special fabrics (e.g., overall for winter use, with special print and textile material with waterproof finishing), Reima sells this material as batches for repair purposes (Reima 2019). This is a service for consumers to extend the use time of garment through repair and through their own actions. These actions also create an opportunity to form a more active role for a consumer through repairing their garments.

Such offerings can open space for customers to form better relations of trust with companies, where the responsibilities of the aftercare that come with the use of garments are shared equitably between both users and businesses. Providing another offering (such as repair, durability, high quality) can then be understood not only as a sustainability approach, but also a way for companies to stand out amidst the tight fashion competition. This could be one way to separate the sustainable businesses from the mainstream fashion offerings.

5. Discussion: Repairing Fashion Culture

Grounding on earlier discussion and the presented examples gives us a conceptual path to discuss further how to repair current unsustainable fashion cultures of consumption and production. We can start the discussion from a consumer's

viewpoint. Repairing fashion culture from the consumer's viewpoint means a new appreciation of materials, products and garments, and through this appreciation they are given a longer life. This new understanding of use provides an opportunity towards lowering the purchase rate and slowing down consumption.

Repairing and selling second-hand items also changes the aesthetics of fashion. This could be seen as a "new aesthetics", meaning a visual and material world, which is far from mass manufactured "sameness". Acts of repair provides us an opportunity to express our individuality, our own "visual voice" through mending. If accepted widely, this approach could mean a big change in the fashion culture. Earlier studies have shown that social acceptance is an important element when we are choosing a garment, and accordingly our appearance is "built" to reflect our identity in a social context (Niinimäki 2009, 2014; Freeburg and Workman 2010). Perhaps the ethos of sustainability needs also a new kind of aesthetic understanding and aesthetic appreciation, where the repaired and used outlook is accepted based on a sustainable value base (Niinimäki 2014). Perhaps it is socially accepted to show your value base through your appearance.

Using garments to reflect one's identity might be one element that could explain cultures of clothing, but various other factors are at play that go beyond the point of purchase and impact the use of garments. One of which is the influence social relations play on determining the longevity of garments more than the design or aesthetics of the garment (Fletcher 2012). The hold that social ties have on harnessing relations with alternative use practices is further exemplified in the examples of social repair events. Not only do these platforms allow users to learn from their peers, but they also provide spaces where bonds between people and their communities take place (Durrani 2018c; Hirscher et al. 2018). Moreover, through participating in communal events such as these, users can be seen actively appropriating garments and fighting off ideals of garments as 'closed' objects to be merely used and prematurely disposed. Instead, through their collective actions, users can be seen caring for their garments. Moreover, garments begin to be more open products towards consumers' alterations and actions.

The more active role of a consumer could lead to growing self-esteem, and even being happier, by doing it yourself and doing it with others (Hirscher et al. 2018). This could mean even bigger changes in the fashion power balance. Being an active consumer creates a source of power for consumers. In the linear model, consumers are only a value user (using the product), and all power and value creation is situated on the fashion business side, but if the consumer's role is changing, they begin to be

a value creator (Bilton and Cummings 2019). This means that some part of the power for the transition needed will be shared and moved to the shoulders of consumers.

From industry and business points of view, changing the focus from one-time selling to extended use phases drastically changes the current business logic in fashion. Through this shift it is possible to invest in better materials, manufacturing work, quality and durability, and it also leads to better customer relationships. Offering repair services also provides companies with an important channel to get customer feedback from the use phase and also valuable feedback about the product and its durability limits. This could be understood as a new way to collect user-centered information while aiming towards better customer satisfaction and also better understanding of quality.

Durability and quality of garments has to be in the core functions when aiming towards a more sustainable business. These attributes open opportunities to organize second-hand business. High-quality garments and luxury items already have second-hand value, but this approach could also be brought to all clothes, providing an extended value-harvesting possibility to the fashion business.

6. Conclusions—Transformation through Repairing

Repairing the fashion culture from consumer and business points of view is a big task. These transformations in mindset and in actions requires a new understanding of the value of garments, materials and work, but also it needs new creativity and skills and even new business understanding. The emerging phenomena of communal repair and repair-centered businesses was the focus of this study. This phenomenon is growing both in consumer culture and in business culture, and this gives us hope and also sign that a bigger shift in understanding the new consumption–production paradigm might be on the way. We have to cultivate our consumer mind to see garments as investments and shift our interest towards loving clothes we own, taking good care of them and extending their life. In this, the change in consumer culture towards the repair approach is essential just as is the change in business thinking. Changing the focus from one-time selling (linear model) to the use phase means a big change in the mindsets of business and industry. This shift means a change in the business model and taking into account the use phase and user experiences before beginning to offer services, like repair, to consumers. Moreover, if the material value aspect in fashion is changing, even second-hand business might begin to be an important part of the sustainable fashion industry.

While studying the phenomena of repair, we have opened the discussion on how to transform the fashion culture towards a slower and more sustainable one. To lower the environmental impact of this industry, it is important to notice that we have to slow down the system as a whole. The material throughput, from manufacturing to consumption to end of product life, needs critical attention. We have to consume less and we have to produce less. We have to create material appreciation and invest in better quality and durability. We have to gain new skills to extend the use time of products through better maintenance and repair. The fashion industry must construct a new understanding on how to extend the use time of garments and include this aspect in their business model. Therefore, the phenomenon of repair can really start the path to repair the current unsustainable fashion culture.

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References

- Allwood, Julian M., Soren Ellebaek Laursen, Cecilia Malvido de Rodriguez, and Nancy M. P. Bocken. 2006. *Well Dressed? The Present and Future of Sustainability of Clothing and Textiles in the UK*. Cambridge: Cambridge University, Institute of Manufacturing.
- Arela. 2019. Available online: <https://www.arelastudio.com/collections/arela-care/products/basic-care-hole-mending> (accessed on 14 September 2019).
- Armstrong, Cosette M., Kirsi Niinimäki, Sari Kujala, Essi Karell, and Chunmin Lang. 2015. Sustainable product-service systems for clothing: exploring consumer perceptions of consumption alternatives in Finland. *Journal of Cleaner Production* 97: 30–39. [CrossRef]
- Bilton, Chris, and Stephen Cummings. 2019. *Creative Strategy. Reconnecting Business and Innovation*. Chichester: John Wiley.
- Birtwistle, Grete, and Christopher M. Moore. 2007. Fashion clothing—where does it all end up? *International Journal of Retail & Distribution Management* 35: 210–16.
- Charter, Martin, and Scott Keiller. 2019. Repair cafes: Circular and social innovation. In *Designing for the Circular Economy*. Edited by Martin Charter. London: Routledge, vol. 1, pp. 270–84.

- Dahlbo, Helena, Kristiina Aalto, Hanna Eskelinen, and Hanna Salmenperä. 2017. Increasing textile circulation—consequences and requirements. *Sustainable Production and Consumption, Sustainable Utilisation of Waste* 9: 44–57. [CrossRef]
- Dombek-Keith, Kathleen, and Suzanne Loker. 2011. Sustainable Clothing Care by Design. In *Shaping Sustainable Fashion: Changing the Way We Make and Use Clothes*. Edited by Alison Gwilt and Timo Rissanen. London: Routledge, pp. 101–16.
- Durrani, Marium. 2018a. The becoming of repair: Understanding garment mending through a practice theory perspective. In *Eco-Friendly and Fair: Fast Fashion and Consumer Behaviour*. Edited by Carolin Becker-Leifhold and Mark Heuer. London: Routledge, vol. 1, pp. 101–11.
- Durrani, Marium. 2018b. Designers by any other name: exploring the sociomaterial practices of vernacular garment menders. In *Design Research Society International Conference: Catalyst*. DRS International Conference Series; London: Design Research Society, vol. 4, pp. 1731–46.
- Durrani, Marium. 2018c. “People Gather for Stranger Things, So Why Not This?” Learning Sustainable Sensibilities through Communal Garment-Mending Practices. *Sustainability* 10: 2218. [CrossRef]
- Durrani, Marium. 2019. *Through the Threaded Needle: A Multi-Sited Ethnography on the Sociomateriality of Garment Mending Practices*. Aalto University Publication Series DOCTORAL DISSERTATIONS, 204/2019. Aalto: Aalto University.
- Ellen MacArthur Foundation. 2017. A New Textile Economy; Redesigning Fashion’s Future. Available online: https://www.ellenmacarthurfoundation.org/assets/downloads/publications/A-New-Textiles-Economy_Full-Report.pdf (accessed on 1 January 2019).
- Fletcher, Kate. 2008. *Sustainable fashion & textiles: Design Journeys*. London: Earthscan.
- Fletcher, Kate. 2012. Durability, Fashion, Sustainability: The Processes and Practices of Use. *Fashion Practice Journal* 4: 221–38. [CrossRef]
- Freeburg, Beth Winfrey, and Jane E. Workman. 2010. A method to identify and validate social norms related to dress. *Clothing and Textile Research Journal* 28: 38–55. [CrossRef]
- Global Fashion Agenda. 2017. Pulse of the Fashion Industry. Available online: https://www.globalfashionagenda.com/wp-content/uploads/2017/05/Pulse-of-the-Fashion-Industry_2017.pdf (accessed on 1 January 2019).
- Global Fashion Agenda. 2019. CEO Agenda 2019; Eight Sustainability Priorities for the Fashion Industry. Available online: <https://www.globalfashionagenda.com/ceo-agenda-2019/> (accessed on 1 January 2019).
- Gwilt, Alisson. 2014. What prevents people repairing clothes?: An investigation into community-based approaches to sustainable product service systems for clothing repair. *Making Futures Journal* 3.

- Hendriksz, Vivian. 2017. H&M Accused of Burning 12 Tonnes of New, Unsold Clothing. Fashion United. Available online: <https://fashionunited.uk/news/fashion/h-m-accused-of-burning-12-tonnes-of-new-unsold-clothing-per-year/2017101726341> (accessed on 1 January 2019).
- Hirscher, Anja-Lisa, Kirsi Niinimäki, and Cosette Armstrong. 2018. Social Manufacturing in the Fashion sector: New value creation through alternative design strategies? *Journal of Cleaner Production* 172: 4544–54. [CrossRef]
- Korjaussarja. 2014. KORJAUSSARJAKOLLEKTIIVI. Available online: <https://korjaussarjakollektiivi.wordpress.com/> (accessed on 29 September 2019).
- Lacy, Peter, and Jakob Rutqvist. 2015. *Waste to Wealth. The Circular Economy Advantage*. Hampshire: Palgrave Macmillan.
- Laitala, Kirsi. 2015. Applicability of social practice theory for sustainable clothing consumption research. Paper presented at the Global Cleaner Production and Sustainable Consumption Conference, Sitges, Spain, November 1–4.
- Laitala, Kirsi, and Ingun Grimstadd Klepp. 2015. Age and active life of clothing. In *PLATE, Product Lifetimes and the Environment 2015 Conference*. Edited by Tim Cooper, Naomi Braithwaite, Mariale Moreno and Giuseppe Salvia. Nottingham: Nottingham Trent University: CADBE, pp. 182–86. Available online: http://www.plateconference.org/pdf/plate_2015_proceedings.pdf (accessed on 29 September 2019).
- Laitala, Kirsi, and Ingun Grimstadd Klepp. 2018. Care and Production of Clothing in Norwegian Homes: Environmental Implications of Mending and Making Practices. *Sustainability* 10: 2899. [CrossRef]
- Lapolla, Kendra, and Elizabeth B-N Sanders. 2015. Using cocreation to engage everyday creativity in reusing and repairing apparel. *Clothing and Textiles Research Journal* 33: 183–98. [CrossRef]
- McLaren, Angharad, and Shirley McLauchlan. 2015. Crafting Sustainable Repairs: Practice-Based Approaches to Extending the Life of Clothes. Paper presented at the PLATE Conference, Delft, The Netherlands, June 17–19.
- Middleton, Jonnet. 2010. Sock Exchange, Cork. Available online: <https://futuremenders.wordpress.com/projects/sock-exchange-cork/> (accessed on 29 September 2019).
- Niinimäki, Kirsi. 2009. Consumer Values and Eco-Fashion in the Future. *Future of the Consumer Society. Paper Presented at the Conference “Future of the Consumer Society”, Tampere, Finland, May 28–29*. Edited by Marileena Koskela and Markus Vinnari. pp. 125–34. Available online: <https://www.utupub.fi/handle/10024/147587> (accessed on 1 January 2019).
- Niinimäki, Kirsi. 2014. Green Aesthetics in Clothing: Normative Beauty in Commodities. *Artifact* 3: 3.1–3.13. [CrossRef]

- Niinimäki, Kirsi. 2018. *Sustainable Fashion in a Circular Economy*. Available online: <https://aaltodoc.aalto.fi/handle/123456789/36608> (accessed on 1 January 2020).
- Niinimäki, Kirsi, Cindy Kohtala, and Marium Durrani. 2020a. Emerging DIY Activities to Enable Well-being and Connected Societies. *International Journal of Craft Research*.
- Niinimäki, Kirsi, Peters Gregory, Helena Dahlbo, Patsy Perry, Timo Rissanen, and Aliso Gwilt. 2020b. Paying the environmental price for fast fashion. *Nature Reviews: Earth and Environment* 1: 189–200.
- Norum, Pamela. S. 2013. Examination of apparel maintenance skills and practices: Implications for sustainable clothing consumption. *Family and Consumer Sciences Research Journal* 42: 124–37. [CrossRef]
- Nudie Jeans. 2019. Free Repairs for Life. Available online: <https://www.nudiejeans.com/page/free-repairs-for-life> (accessed on 14 September 2019).
- Nudie Jeans. 2019. Reuse. Available online: <https://www.nudiejeans.com/page/re-use> (accessed on 14 September 2019).
- Peters, Gregory M., Gustav Sandin, and Björn Spak. 2019. Environmental prospects for mixed textile recycling in Sweden. *ACS Sustainable Chemistry & Engineering* 13: 11682–90.
- Repair Café Foundation (RCF). 2012. Available online: <https://repaircafe.org/en/> (accessed on 1 January 2018).
- Reima. 2019. Tuotteen käyttö ja elinkaari. [Reima, The use and lifetime of a product]. Available online: <https://www.reima.com/fi/tuotteen-kaytto-ja-elinkaari> (accessed on 29 September 2019).
- REMAKE. 2009. REMAKE-Eco Design Atelier. Available online: <http://remake.fi/> (accessed on 29 September 2019).
- Repair-a-thon. 2016. Available online: https://www.facebook.com/GingerHeads/?hc_ref=SEARCH (accessed on 29 September 2019).
- Sajn, Nikolina. 2019. Environmental Impact of the Textile and Clothing Industry; What Consumers Need to Know. European Union. EPRS European Parliamentary Research Service. Available online: http://www.europarl.europa.eu/thinktank/en/document.html?reference=EPRS_BRI%282019%29633143 (accessed on 1 August 2019).
- The Remakery. 2011. Repair Surgery, The Remakery. The Remakery. Available online: <https://www.edinburghremakery.org.uk/about-us/> (accessed on 29 September 2019).
- Tom of Holland's Visible Mending Programme. 2017. Available online: <https://tomofholland.com/about/> (accessed on 29 September 2019).
- Twigger, Holroyd, A. 2016. Perceptions and practices of dress-related leisure: shopping, sorting, making and mending. *Annals of Leisure Research* 19: 275–93. [CrossRef]

- Watson, D., N. Kiørboe, B. Kjær, B. Lindblad, K. Dammand, and R. Nielsen. 2014. *Mindre Affald og Mere Genanvendelse i Tekstilbranchen: Idéer fra Aktørerne på Tekstilområdet*. København: The Danish Environmental Protection Agency. (In Danish)
- WRAP. 2012. Valuing Our Clothes: The evidence Base. A Technical Report for WRAP: London. Available online: <http://www.wrap.org.uk/sites/files/wrap/10.7.12%20VOC-%20FINAL.pdf> (accessed on 29 September 2019).

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