THE RENEW PROJECT
Traditional Chinese saying:

‘You wear new clothes for three years, you own them for another three years, and you repair them for yet another three years’

Xin San Nian, Jiu San Nian, Feng Feng Bu Bu you San Nian.
(Pin Yin)

新三年，旧三年，缝缝补补又三年。
By

Else Skjold, PhD, Assistant Professor.
Overall responsible for the partnership agreement and the planning and execution of the Re-New project.

Frederik Larsen, PhD, Post.Doc.
Responsible for the anthropological studies of services in the fur and fashion sector.

Ulla Ræbild, PhD, Assistant Professor.
Responsible for developing teaching formats and contributing with adjustments to the Imagine Talents competition.

Solveig Berg Søndergaard, Research Assistant.
Responsible for the Re-New by Workshop project and assistant to Else Skjold throughout the entire period. She is also in charge of the layout of the report.

Traditional Chinese saying on second page recited at a field work visit by General Manager, PhD, Guo Peiyuan, SynTao – Sustainable Solution, in Beijing.

This report was prepared within the framework of the partnership agreement between Design School Kolding and Kopenhagen Fur ©Design School Kolding/Kopenhagen Fur 2018
Karen Tranberg Hansen Professor Emerita in anthropology from Northwestern University (USA):

Because clothing is intimately entangled with human social, cultural and political expressions, fashion is one of the most important areas in which to explore emerging strategies of sustainability and circular economy..... Fur, they argue, becomes an interesting material from a circular economy perspective precisely because of its longevity and the strategic use practices that extend its lifetime..... The move toward circular economy requires substantial changes in design thinking, material science and new technologies, production, user engagement, maintenance, re-use markets and waste management. But too often, circular economy models show material flows that are stripped of their sociality. Focusing on fur, the Re-New report makes a strategic intervention to change that tendency by demonstrating how the use phase matters through consumer attachment.

Julie Maria Iversen, VP Design & Creativity, Kopenhagen Fur (DK):

The use phase must be documented because this is where the fur sector can act as positive ambassadors for the general fashion sector in a sustainability perspective....I agree with the report that the fur industry must think more holistically. There must be a far more integrated connection between design, manufacturing, sale and post-sale services in order to stimulate the feeling of luxury, for establishing long-lasting customer relations, and to provide users with a greater feeling of authenticity and positive experience.

Siobhan Magee, ERC Research Fellow, Social Anthropology, University of Edinburgh (SCT):

The Re-New report shows that pivota technological advancements that manage recycling and reuse either at a fibre level or logistically are very positive but cannot solve the problem of our wasteful attitude towards clothes. What is needed, the report suggests, is cultural change concerning how people value their clothes, writ large through the twin questions: ‘for how long do I keep this?’ and ‘how do I prolong its life?’
Design School Kolding is one of three artistic institutions in Denmark. The school educates bachelors, masters and PhD students, and operates across research, teaching and artistic development, all implemented in three laboratories for Play and Design, Social Inclusion, and Sustainability, respectively. This project is affiliated with the Laboratory for Sustainability and builds on more than 10 years of strategic focus on sustainability referred to as Sustainable Futures. Our approach to sustainability is grounded in a holistic and user-centred perspective, driven by a design thinking approach that stretches across the entire value chain. Thus, this approach and knowledge building has formed the work conducted in the Re-New report, which is the result of a project conducted within the framework of a five-year partnership agreement between Design School Kolding and Kopenhagen Fur in the period of 2013-2018. The partnership agreement has included teaching, research and development, thereby connecting design practice and knowledge building at both student and research level. All projects have been formulated, developed and shared with Kopenhagen Fur employees and key departments, in particular the creative department of Kopenhagen Fur Studio, Kopenhagen Fur Marketing and Kopenhagen Fur Communication. The research has been conducted at the premises of Design School Kolding and Kopenhagen Fur in Copenhagen, Glostrup and China, and has spurred both scientific publications, design experiments, implementing tools and formats for marketing and communication, together with shared events and other external communication. The overall aim of the partnership agreement has been to showcase how specific practices in the fur sector might be viewed as exemplary in relation to sustainability – and how such practices could be leveraged into new design opportunities. The result of the partnership has been to propose exemplary practices to the wider industry and to suggest new narratives for the fur sector that align with new knowledge about sustainability and design.

To some, a collaboration between a research institution and a fur auction house will seem rather controversial, in a decade where other design schools, a line of luxury fashion brands, and even an entire city (San Francisco), have stepped away from the use of fur altogether. As a research group and as a school, there are various reasons for choosing to engage in this collaboration. Firstly, it is important to understand the particular role of fur in Denmark, particularly mink. Denmark is geographically a very small country surrounded by the ocean on almost all sides. Since the 1930s, when mink animals were imported from the US, farmers have supported their income through mink farming, as waste for feeding the animals could and still can be acquired cheaply and in abundance from the fishing and meat industry (Skov 200x). Today, Kopenhagen Fur – the world’s leading fur auction house – represents more than 1,500 farmers covering the rather small geographical area of Denmark, and this means that most Danish families know of, or are related to, a mink farmer. This fact has an impact on the way we as Danes take part in the fur debate, as it is most often more reflective and faceted than is the case in so many of our neighboring countries and throughout the world.

As researchers, we find the cultural history of fur fascinating. Looking back in history, it becomes evident that fur has played an important symbolic role, in Europe at least, since the Middle Ages. As power struggles were played out fur had a key position in e.g. sumptuary laws. Fur has played a highly important role in the exchange of culture and migration, and for the last approximately 150 years it has played a symbolic role in Western notions about fashion and femininity. Within recent decades, however, fur has been the centre of discussions about ethics and sustainability, as it appears to many as symbolic of man’s domination and manipulation of nature (Skjold & Csaba 2018). However, what further stimulates our research interest, and indeed our interest as a design school, is the perspective that the fur industry represents both as a system of manipulation, and a system of care in relation to natural resources. By this we mean that on the one hand the fur sector is symbolic of the way man has manipulated and dominated nature – perhaps the most urgent discussion on the planet for the past few decades. On the other hand, the fur sector it is a symbol of the way society must learn to take better care of its natural resources. Thus, we as a research group have found that the system of care in the fur industry, particularly in the design and use phase of fur, stands as a learning example to us as design researchers as we are preparing our students and our industry for the future (Skjold & Larsen 2018) – a future, where natural resources will be scarce and where societies need to (re-)learn how to keep materials in use for a longer time period (Greenpeace 2017).
As such, we have been fascinated by state-of-the-art research linked to terms such as ‘slow fashion’ (Fletcher 2009) or ‘design for longevity’ (Chapman 2009) that is completely in line with the findings we have made in our research; how, for example, great care is made in order to make use of every little scrap of fur in the design process, and how people seem to establish particularly strong emotional bonds with their fur garments, which makes them take good care of them and most often pass them on to relatives or friends. In addition there is a thriving and well-functioning service sector for fur garments ensuring they are well maintained, mended, repaired or given new life through re-design. Furthermore, given the correct treatment through material processing and manufacturing, fur is biodegradable. All these ideas are worthy of exploration and implementation in the broader fashion sector in order to secure a more responsible materials flow in the future. In relation to the fur industry in particular, our work could push for two pathways: either, it will survive the ethical discussions of the early 21st century because the practices related to the material are seen as relevant for the 21st century by brands and consumers. Or, the same parties will regard fur as a remnant from the past that will largely disappear from the market. Should that happen, we believe this report, as well as the numerous other results of the ongoing research engagement with the fur industry, have helped extract important knowledge from an industry from which we still have so much to learn – as design researchers working with sustainability, as fashion design students going out into the fashion industry and, not least, as partakers in a currently unsustainable fashion system with all its agencies.

As such, this report is targeted to the fur industry and to Kopenhagen Fur in particular. However, it is our hope that it might also bring insights and reflections for researchers, educators, companies and students who wish to work with sustainability – particularly with the technical cycles within the circular economy. It has been our aim to show that whether one wishes to work with fur or not, this body of work is relevant in the wider fashion sector. If suppliers, designers, fashion companies, retailers and consumers valued all materials as if they were as precious and scarce as we have seen it in the fur sector, the fashion sector would be much more aligned with sustainable measures than what is the case today.

Caption: Jin Furen employs several designers and furriers in the workshop behind one of the main buildings. Here one of the furriers are changing the lining of a fur coat


**Fur and Sustainability – a Design Perspective** and **The Re-Imagine Project**

From 2014 to 2016 we prepared the report Fur and Sustainability – a Design Perspective (Skjold et al. 2016). The project covered multi-perspective research mapping of the value chain of fur, with particular focus on material processing, design approaches, use and services, and cultural history (Skjold, Ræbild and Hasling 2017). The research took place in Denmark through observations and interviews at Kopenhagen Fur’s premises, furrier workshops and in the homes of individual fur garment owners covering perceptions, practices, design approaches, values, and aesthetic cultures and norms related to fur and fur garments. A smaller comparative study was conducted in China. As a case for fur China was not only interesting because Kopenhagen Fur has an operating office there, which ensured easy access. China is also interesting as a post-socialist country developing from a scarcity in resource and consumer goods into a consumer society. Some practices of knowledge, care and sustainment of materials and garments have been maintained and function well – with regard to fur this is particularly the case in Northern China. Especially in the larger southern cities such as Shanghai, on the other hand, there has been a move towards fast consumption of particularly Western luxury products. As such, China is a hugely interesting place for research into sustainability, as it encompasses traditions for valuing and caring for materials, while at the same time the country has leaped into the Western throw-away culture. This first report projected a mapping of barriers and opportunities for sustainable fur design, summarised in the following:

- Since the 1980s, the fur industry has aimed to push fur into the fashion industry. However, we find a discrepancy between inherent practices in these two sectors, as there is a limit to ‘fast fashion’ production of fur due to its material capacities. We therefore recommended the sector to focus more strategically on style and diversity rather than on trend-driven fashion and mass market. This would include developing new aesthetics of fur design that deviated from 20th century glamour and femininity and towards a more grown-up audience of both genders who value quality and longer-lasting style references – for example outerwear references. Also, we recommended that in terms of targeting a younger, ethically aware and trend-setting audience, spurring on vintage, secondary use and up-cycling could be a way of introducing fur that was at the same time affordable and a carrier of sustainable narratives.

- In relation to design innovation in the fur sector, we found that the close interrelationship between the skilled craftmanship of tailors, furriers and designers seemed to be key to developing an emotional attachment between garment and user, creating material awareness, and feeding a service system of care, maintenance, repair and re-design. On that basis we recommended the fur sector move a step away from the fashion world and position itself strategically on its own terms and with its own values and practices, as these align perfectly with 21st century consumer concerns and values. This is, of course, only possible given the fact that the sector will be able to provide trustworthy certification on animal welfare and material processing.

Altogether, these recommendations fed into the Re-Imagine project that was conducted in the period of 2017-2018, which focussed on design processes. In the Re-Imagine project we developed a deck of method cards for how to work with sustainability in the fur design process. The cards act as a toolbox and as dialogue tools for designers and brands to break down the complexity of sustainability and to provide space for design action (Ræbild & Hasling 2018). The cards were tested in two artistic development projects carried out by designers Maj Wiboe-Engelmark (womenswear) and Mille Marie Jensen (menswear). These projects built on design briefs driven by the recommendations from the initial report, so that they were targeted towards selected consumer groups that take an interest in long-lasting style, functionality, and ethical concerns. The projects aimed at showing examples of what sustainable fur design might be, and what it may look like. These projects are now part of the design archive of Kopenhagen Fur. As a third strand of the project three types of digital narratives were carried out that represented a kind of prototype for how to communicate externally about sustainability. Firstly, an animated ‘explanatory movie’ was made for designers and design students that explicated the principles and purposes of the method cards. Secondly, two films were made that worked as prototypes for how to communicate sustainable design through digital narratives. Thirdly, selected method cards formed the basis of five digital narratives covering user understanding, maintenance, rental services, re-design and secondary use.
Executive summary of this report

The Re-New Project

The body of work that has formed the basis of this report, the Re-New Project, has its focus on services. The report takes a deeper step into the circular economy of fur through a focus on services in the after-sales phase and investigates how it can be understood when examining the value chain between the design process and the end of use. This choice has been made on the basis of our research expertise in this area, whereas the biological circles of farming and fur (biodiesel, waste management, biodegradability, etc.) is better explained elsewhere. As such, the report starts out with a positioning of the project in the so-called technical cycles of the circular economy that is driven by practices and business models for longevity: maintenance, secondary use, mending, repair, re-design, upcycling, etc.

Subsequently there will be a description of the projects conducted within the framework of Re-New:

First, a presentation of comparative, exploratory fieldwork conducted in the service sectors of fur and fashion in Denmark and China. Second, a presentation of the way post-sale and resource management has inspired new teaching formats at Design School Kolding as well as adjustments of the Kopenhagen Fur talent competition Imagine Talents. Third, two artistic development projects concerning post-sale and design – a smaller project about upcycling that was completed by designer Mette Julie Bundgaard-Nielsen in collaboration with a subsidiary brand to Kopenhagen Fur, Oh! by Kopenhagen Fur. Finally Solveig Søndergaard, research assistant and MA in fashion design, conducted a large-scale investigation and testing of user-engaging workshops based on upcycling and/or re-design. Based on these projects, the research team has the following recommendations for the fur sector in particular, which we perceive can be generalised for the fashion sector at large:

- Services are relationship building and work to retain value in the product. They are, or can be, an important selling point. Services provide valuable knowledge about the product. They support consumer loyalty, cash flow in retail and workshops, as well as feelings of luxury. We therefore warn that a further move towards fast fashion turnovers will hollow out the value of fur altogether. Also, a market inundated with consumer goods has ignited interest in experience rather than purchase and ownership, and that is why services can be used as a strategic positioning tool for companies and brands – and also for the fur sector itself.

- In terms of education, it is currently important to develop teaching formats that take into consideration how materials can be kept in the loop. With future material scarcity due to rising numbers of middle class consumers, and with emerging regulations on textile waste management, it is important and relevant to implement upcycling and re-design as part of education and business practice. Therefore it would be strategically wise to further develop design aesthetics that build on re-use and re-cycling, as it would appeal strongly to young ethical consumers, help position brands and designers, and ultimately sustain a healthy bottom line for individual businesses as well as for the fashion sector in general.
<table>
<thead>
<tr>
<th>Content</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Introduction</td>
<td>9</td>
</tr>
<tr>
<td>Why Re-New</td>
<td>12</td>
</tr>
<tr>
<td>- Fur as a case for circularity</td>
<td>12</td>
</tr>
<tr>
<td>- Research from a design perspective</td>
<td>15</td>
</tr>
<tr>
<td>Re-New projects</td>
<td>17</td>
</tr>
<tr>
<td>Services in the Fur and Fashion Sector</td>
<td>17</td>
</tr>
<tr>
<td>- Multiple case studies</td>
<td>17</td>
</tr>
<tr>
<td>- Methods</td>
<td>18</td>
</tr>
<tr>
<td>- Case companies</td>
<td>18</td>
</tr>
<tr>
<td>- Beijing field sites</td>
<td>18</td>
</tr>
<tr>
<td>- Harbin field sites</td>
<td>19</td>
</tr>
<tr>
<td>- Danish field sites</td>
<td>20</td>
</tr>
<tr>
<td>- Experts</td>
<td>20</td>
</tr>
<tr>
<td>Analysis</td>
<td>21</td>
</tr>
<tr>
<td>- Services in the fur industry</td>
<td>21</td>
</tr>
<tr>
<td>- Services in the fashion industry</td>
<td>22</td>
</tr>
<tr>
<td>- Conclusions</td>
<td>23</td>
</tr>
<tr>
<td>- Perspectives</td>
<td>24</td>
</tr>
<tr>
<td>Developing Teaching Formats for a Circular Economy</td>
<td>25</td>
</tr>
<tr>
<td>Imagine Talents</td>
<td>27</td>
</tr>
<tr>
<td>Making Design Experiments for a Circular Economy</td>
<td>28</td>
</tr>
<tr>
<td>Re-Furbish</td>
<td>28</td>
</tr>
<tr>
<td>Re-New by Workshop</td>
<td>30</td>
</tr>
<tr>
<td>- Methodology</td>
<td>30</td>
</tr>
<tr>
<td>- The development of personas</td>
<td>31</td>
</tr>
<tr>
<td>- The workshop model – a tool for development</td>
<td>33</td>
</tr>
<tr>
<td>- Workshop 1</td>
<td>34</td>
</tr>
<tr>
<td>- Workshop 2</td>
<td>37</td>
</tr>
<tr>
<td>- Workshop 3</td>
<td>41</td>
</tr>
<tr>
<td>- Conclusions and Reflections</td>
<td>45</td>
</tr>
<tr>
<td>Strategic Insights</td>
<td>48</td>
</tr>
<tr>
<td>Literature</td>
<td>51</td>
</tr>
</tbody>
</table>
The *Re-New* project was conducted in the period of August 2017–June 2018. As demonstrated in fig. 1, the project builds on research conducted since 2014, which has been presented in the report *Fur and Sustainability – a Design Perspective* (Skjold et al. 2016) in the *Re-Imagine* project conducted in 2016–2017, and in a line of academic, peer-reviewed publications.[1] See fig. 1.

As highlighted below, the *Re-New* project focusses primarily on the use-phase of fur garments, which includes first and secondary use and services such as maintenance, repair and re-design of garments. The point of departure for this body of work has been to investigate the potentials for circularity in relation to the design and use of fur. Three formats have been engaged as anchoring frameworks for the individual projects, each representing the elements that together form the foundation of the partnership agreement: teaching, artistic development and research.

---

Based on this, the project includes the following elements (see fig. 2):

1. Anthropological research on practices of service in China (Beijing and Harbin) and in Denmark that includes studies of furriers, fur retailers and fur workshops and comparative studies of mending, repair and redesign services in the fashion sector (5.5 months conducted over an eleven-month period).
2. A series of co-design workshops developed on the basis of persona figures that are seen as relevant and productive for the overall aims of the project (5.5 months conducted over an eleven-month period).
3. A teaching format for services such as re-design and upcycling of fur (from previous research).
4. A collection based on principles of zero-waste and upcycling created for Oh! by Copenhagen Fur (1 month conducted over a two month period).
5. Adjustments of the annual Copenhagen Fur Imagine Talents design competition based on the fur and sustainability method cards (a two-week module).

Fig. 2 Roadmap of Renew Project: Conducted activities
The report is structured as follows:

In the first and introductory part by principal author Dr Else Skjold the project will be positioned within current debates about circular economy. In particular, the meaning of the concept and how it is practiced in the fashion sector will be elaborated. There are roughly two often opposing approaches: One dominant approach is the idea that garment waste deriving from current practices of industry and consumers can be re-circulated into new fibres through a combination of technology and logistics for collection. Another position is to keep garments or fibres in use for as long as possible through various design strategies and new business models for re-sale and secondary use, repair and maintenance. In this landscape, it is argued how and why this project must be seen as mainly adhering to the latter position. Also, it is argued that fur as a material stimulates insight and learning examples to strengthen this position and promote it more broadly in the fashion sector. Secondly, the format of the Fur and Sustainability Cards – Design for Longevity, which was developed in the Re-Imagine project, are presented as a hands-on tool for working with circularity in design processes. This section elaborates on how the cards have stimulated new insights for future teaching and design strategic work at both Design School Kolding and Kopenhagen Fur.

The second part of the report will present the sub-projects conducted within the framework of Re-New including the methodological approach, findings, and reflections:

Firstly, Dr Frederik Larsen’s explorative study of retailers, furriers, workshops and related repair, re-design and mending services in China and Denmark highlights how practices for prolonging the use-phase for materials are thriving and successfully implemented in the fur sector. It will be argued that services are key to nurturing experiences of luxury and brand loyalty for customers, and yet at the same time these services stand as exemplary for prolonging the life-cycle of the materials.

Secondly, the Re-New project will be put into the context of teaching and facilitating sustainability, based on previous experience and work conducted since 2014 by Dr Ulla Ræbild. This part includes reflections on how the project has spurred new design approaches and investigations into the teaching modules at Design School Kolding. But it also presents reflections on how our design research has initiated adjustments to Kopenhagen Fur’s Imagine Talents competition.

Thirdly, we present two design experiments conducted within the framework of Re-New initiated by the body of research conducted. First a smaller sub-project based on the main project will be presented namely the Re-Furbish collection conducted by designer Mette Julie Bundgaard-Nielsen for Oh! By Kopenhagen Fur, in which she worked with zero-waste design and upcycling. Secondly, we will describe a series of co-design workshops developed by designer Solveig Søndergaard that investigated two sets of inquiry: one, how user-involvement in the design process might stimulate the circularity of materials and garments, and second, how they might also work as tools for companies to explore new consumer target groups.

In the final section the overall findings, reflections and recommendations of the Re-New project will be presented.
Why Renew?

Fur as a case for circularity

In many ways it is evident that this current period of time represents a paradigm shift that has developed into something new from the industrial logics that have reigned since the early 19th century. What it will look like and how it will unfold is yet uncertain. However, there are seemingly sensible ideas and principles that need to be developed and refined, and one of the most promising of these is what is referred to as the circular economy. The concept emerged out of the idea that the current industrial paradigm is no longer viable due to its exploitative nature. The idea can be traced back to the seminal texts that catalysed the modern environmental movement including *Silent Spring* (Carson, 1962) and *Small is Beautiful* (Schumacher, 1973). Specifically, circularity has its roots in concepts of industrial ecology, a field of study that dates back to the 1980s but was popularised in 2002 by the publication of *Cradle to Cradle* (McDonough and Braungart 2002).

Here the authors argue that the principles driving of the present economic system must be changed, as they are based on a cradle-to-grave kind of thinking. What they criticize in particular is the fact that industrialism is based on linearity: raw materials go into production of goods, are sold and used and end up as waste. This stands in contrast to a circular system, which mimics nature’s own cycles, where energy and materials are in constant flow and balance. This idea of an industry based on circularity has later been developed further by the Ellen McArthur Foundation. Visualised in their so-called Butterfly Model are two interconnected systems of materials in flow: a technical system consisting of levels of action for circularity i.e. collection, maintenance, reuse/redistribute, refurbish/remanufacture and recycle, and a biological system consisting of extraction of biochemical feedstock, anaerobic digestion/composting, biogas and restoration and farming/collection. The Butterfly Model is an adjustment of the original cradle-to-cradle concept in the sense that it corresponds pragmatically with the current system; thus, it is not completely circular, which is why it is introduced as ‘an industrial system that is restorative by design.’ It is this two-pronged system that is currently referred to as the circular economy.

Nowadays, the concept continues to stimulate new approaches to business and consumption. When it comes to the fashion sector, the time in which this report was conducted has presented heated dialogues about how to understand the circular economy and how to develop it further. Thus, important and at times conflicting debates have taken place through reports and debates within the research community in the years 2017–2018. Starting with the Ellen McArthur Foundation’s report of November 2017 (Ellen McArthur Foundation 2017), it is based on four different so-called ‘ambitions for action’ which are: 1. Phase out substances of concern and microfibre release; 2. Increase clothing utilisation; 3. Radically improve recycling and 4. Make effective use of resources and move to renewable inputs. The challenges these measures are meant to solve are essentially the scarcity of raw materials that are starting to show, while at the same time less than 1 per cent of the materials used to produce clothing is recycled into new clothing (p. 37), and 73% of all clothes are estimated to end up in landfills or are incinerated (p. 20). As clothing production has doubled during the last 15 years driven by a growing global middle-class (p. 18), this development is counterproductive. Also, the negative environmental and societal impacts of this system is increasingly becoming transparent to both industry and consumers and can no longer be ignored. Thus, the Ellen McArthur Foundation’s twofold strategy builds on two principles: one is to close the loop of materials flow through recycling of textiles, textile fibres and mixed or synthetic materials. Another is to promote design strategies and business models for longevity of garments. It is between these two positions that a heated debate has emerged, and for very obvious reasons: the first action point of circulating materials and fibres is well applicable in the fashion sector as it currently operates, with a few adjustments – such as garment collection. A deeply rooted notion in this sector is that fashion as a concept is about the new, while essentially fashion as we know it today is so intertwined with the industrialist linear business model.

Conversely, longevity strategies build on fundamentally alternative logics, relying instead on the more long-term idea of style, longevity is about keeping what is produced in use for as long as possible. This logic poses demands for new ways of designing and consuming, and ultimately it questions the concept of growth as we perceive it today. In short, the debate is about whether an industry can be sustained that operates with a rapid materials flow, supported by logistic or technological measures for collecting and renewal of fibres. Or, whether it is necessary to drastically slow and reduce the flow of materials through longevity strategies, in order to create a more balanced sector. This means that a new way of conducting business and of consuming is in demand, which is highly difficult to develop overnight.
Due to these difficulties this approach generates resistance, particularly within the industry itself, because it means that the current state of affairs with maximised output of new products to the market will have to slow down radically. It essentially means that it is imperative to develop business models that do not keep selling more new stuff, but instead sell services that preserve and re-circulate more old stuff. And this is what the debate is all about.

As a benchmark for the fashion sector, the Danish Fashion Institute (the Global Fashion Agenda adopted 22 May 2018) has published two reports under the umbrella concept of Taking the Pulse of the Fashion Industry (GFA & the Boston Consulting Group 2017/2018). In these reports, both pathways for sustainability are mentioned. Thus, in the report from 2017, it is mentioned that it is important to promote attitudes about prolonged use in contrast to the throw-away mentality (p. 57). Whereas this approach is not widely pursued here, the 2018 report goes more deeply into longevity strategies concerning both consumers and industry. What has spurred heated debates, and continues to do so, is the fact that the ‘pulse’ of the industry is measured on the basis of the Higg Index, an index developed by the Sustainable Apparel Coalition (SAC) that represents a line of larger fashion-related industry players[1]. The Higg index is a benchmark system based on grading on performance at three levels; facility, brand and product. This means that the environmental footprint of production – including working conditions at production facilities – is quantified in such a way that companies are able to compare how well they are doing on these measures. Thus, whereas the 2017 report showed that in general the sector performs on average at 32 out of 100 per cent, the 2018 report estimated an improved focus resulting in 38 per cent out of 100. As such, the index — and indeed the Pulse reports — works as a guideline for companies on how to improve their performance when it comes to the production of their garments. Also, it encourages increased garment collection, which through improved logistics and technology can be fuelled back into garment production as new fibres, or into other products via various shredding techniques, all of which must be considered immensely positive as a starting point for development and knowledge sharing in the industry.

However, the critique of the Pulse reports, and indeed of the Higg Index, is not targeted at what is measured, and the very idea of a tool for benchmarking the industry. Rather, the starting point of the critique is what is not measured and what is not debated. Hence, NGOs, researchers and trade organisations have raised the debate about all that is left out, and why it is important to discuss. In their report of September 2017, Fashion at the Crossroads – a review of initiatives to slow and close the loop of the fashion industry, Greenpeace argues against the idea of recycling of problematic plastic waste from other industries as the main solution – an approach they perceive as a mere technological fix [that] will provide an easy solution [for industry players] (p.6). Their argument goes that the Pulse Report of 2017 projects a future where the fashion industry continues its current growth trajectory. In other words, the critique raised by Greenpeace is targeted at the fact that the Pulse reports mainly promote one aspect of the circular economy, namely the recycling of textile fibres through garment collection and technological innovation. The other aspect, which is developing strategies for longevity, is very superficially touched upon. As a counter to this, Greenpeace lists three design concepts that they believe encompass a holistic framework which addresses the whole life cycle of clothing and textiles, including the way that such initiatives interact with each other, instead of tackling individual parts of the system in isolation (p. 6). These three concepts are design for longer life and promoting extended use, changes in business models, and take-back initiatives. Ultimately, what Greenpeace suggests is that if the pace of the industry is not slowed down, it will not be fit for the future. What is interesting in the perspective of this report is that Greenpeace argues not only for a change of technologies, but for a change of culture. Hence, as novelty and technological innovation is deeply ingrained as main drivers of the 20th century industrialism (see also Baudrillard 1999 [1970]), the recommendations from Greenpeace should not be seen as a critique of what is suggested in the Pulse Reports, but as a critique of what is not suggested: a radical re-thinking of the cultural-economic logics driving the entire sector.

From a research point of view, there has also been a critique of what is being perceived as a ‘hijacking’ of the sustainability debate, which has more or less left the entire use phase out of the promoted measures for change. Again, the critique raised deals with the fact that critical elements of the circular economy are omitted, or at least very superficially dealt with. From the perspective of the wool industry, here represented by the research project KRUS[3], the absence of the environmental impact of the use phase in the Higg Index –

and indeed in the Pulse Reports – becomes crucial. As an organic material deriving from animals it is rated as having a highly negative impact in the Higg Index, whereas synthetic fibres, which are technically stronger and can be renewable through technology, are getting a high rating. On that basis, the 2017 Pulse Report recommends that more synthetic fibres are mixed into garment production, to be later collected and recycled. However, in a recent publication authors Henry & Klepp, Laitala (2018) show through a literature review of state-of-the-art research that, in fact, synthetic fibres are deeply problematic throughout the use phase. As more than 60 per cent of global textiles are estimated to derive from synthetic fibres – an estimate that is still on the rise – these fibres represent deeply problematic primary and secondary sources of microplastic pollution. Although currently under-researched, the article proves that the negative impact of microplastic pollution is at the same time on the rise and relatively unregulated, even though it pollutes at both physical, chemical and biological levels, blocks digestion and food intake of sea animals, disturbs living organisms through chemical leaks, and works as carriers of bacteria and hostile organisms causing biological pollution (ibid, p. 15). Furthermore, it is demonstrated that microplastic pollution happens not only at the end-of-life (ending up on landfills), but through washing in the homes of consumers. As such, this paper is yet another critique of the omissions in the Higg Index, which is based on LCA measurements. As the paper states: Life cycle assessment (LCA) is the tool most widely applied to monitoring environmental performance of products but review of the literature revealed no LCA studies that have attempted to include impacts of microplastic pollution (p. 10). Hence, organic fibres such as wool, leather or fur stand out as badly performing materials in a circular economy context – simply because the use phase, and the environmental impact of the use phase, is not included in the LCA measurements.

Looking towards pioneers within research in sustainability of fashion, we will here mention two personalities who have taken part of this debate. Firstly, we will highlight the argument of sustainability pioneer, Professor Lynda Grose, on her blog of May 10th 2018, where she repeats the need for a more fundamental change in the sustainability debate. According to her, agencies such as the Higg Index and the GFA represent the last 25 years of debate where the main question has been the following: How were my clothes made? This means a focus on transparency, working conditions, environmental impact of production facilities and the fuelling back of textile waste into production. Instead, she writes, we must ask ourselves this question: How are my clothes used? It is this kind of thinking, she argues, that will stimulate completely new fashion systems and experiences, as this question is about fashion’s deep social and cultural importance (i.e. its use). Likewise, in her blog of 21 November 2017, Professor Kate Fletcher poses her critique of the Pulse Report, blaming it of being supportive of a kind of technocentrism [that] embraces consumerist culture and the momentum of contemporary society. In conclusion, she encourages an entry into the territory of deep change necessary to fundamentally redirect the culture of fashion.

This whole debate is not only vital for the Re-New project, but for the fashion sector in general, and inherently, it is vital to understand in relation to the material of fur. Being an organic material that is highly contested by the current sweep of the anti-fur movement, fur is seen as ‘bad’ on basically all measures if one follows the way LCA’s are measured and certified in the fashion sector at the moment. Moreover, fur is placed symbolically in overall societal debates about morals and ethics and has a deeply rooted history for being so (see also Skjold & Csaba 2018). As presented above, it has a highly negative environmental impact when looking merely at the production phase, just like wool and leather. Furthermore, the material capacities of fur are not well adaptable to a fast fashion business model, in the sense that it cannot be made renewable through technology. A potentially positive aspect of fur from this perspective is that fur in itself is biodegradable (Debeer 2018) - however, this is challenged as fur is currently being mixed with non-organic materials in the design process (glue, linen etc.). Also, the dyeing and tanning processes are not (yet) controlled and certified, so even if more tanneries work with thorough regulation with regards to chemicals fur is still perceived - also by the fur industry itself - to have challenges in this area (IFTF 2012). Also, it should be mentioned that the sector is on its way to be WELFUR certified, which ensures highly tested and elaborate control of animal production, to be later collected and recycled. However, in a recent publication authors Henry & Klepp, Laitala (2018) show through a literature review of state-of-the-art research that, in fact, synthetic fibres are deeply problematic throughout the use phase. As more than 60 per cent of global textiles are estimated to derive from synthetic fibres – an estimate that is still on the rise – these fibres represent deeply problematic primary and secondary sources of microplastic pollution. Although currently under-researched, the article proves that the negative impact of microplastic pollution is at the same time on the rise and relatively unregulated, even though it pollutes at both physical, chemical and biological levels, blocks digestion and food intake of sea animals, disturbs living organisms through chemical leaks, and works as carriers of bacteria and hostile organisms causing biological pollution (ibid, p. 15). Furthermore, it is demonstrated that microplastic pollution happens not only at the end-of-life (ending up on landfills), but through washing in the homes of consumers. As such, this paper is yet another critique of the omissions in the Higg Index, which is based on LCA measurements. As the paper states: Life cycle assessment (LCA) is the tool most widely applied to monitoring environmental performance of products but review of the literature revealed no LCA studies that have attempted to include impacts of microplastic pollution (p. 10). Hence, organic fibres such as wool, leather or fur stand out as badly performing materials in a circular economy context – simply because the use phase, and the environmental impact of the use phase, is not included in the LCA measurements.

Looking towards pioneers within research in sustainability of fashion, we will here mention two personalities who have taken part of this debate. Firstly, we will highlight the argument of sustainability pioneer, Professor Lynda Grose, on her blog of May 10th 2018, where she repeats the need for a more fundamental change in the sustainability debate. According to her, agencies such as the Higg Index and

The culture of fashion.

In conclusion, it is necessary to fundamentally redirect the culture of fashion.

This whole debate is not only vital for the Re-New project, but for the fashion sector in general, and inherently, it is vital to understand in relation to the material of fur. Being an organic material that is highly contested by the current sweep of the anti-fur movement, fur is seen as ‘bad’ on basically all measures if one follows the way LCA’s are measured and certified in the fashion sector at the moment. Moreover, fur is placed symbolically in overall societal debates about morals and ethics and has a deeply rooted history for being so (see also Skjold & Csaba 2018). As presented above, it has a highly negative environmental impact when looking merely at the production phase, just like wool and leather. Furthermore, the material capacities of fur are not well adaptable to a fast fashion business model, in the sense that it cannot be made renewable through technology. A potentially positive aspect of fur from this perspective is that fur in itself is biodegradable (Debeer 2018) - however, this is challenged as fur is currently being mixed with non-organic materials in the design process (glue, linen etc.). Also, the dyeing and tanning processes are not (yet) controlled and certified, so even if more tanneries work with thorough regulation with regards to chemicals fur is still perceived - also by the fur industry itself - to have challenges in this area (IFTF 2012). Also, it should be mentioned that the sector is on its way to be WELFUR certified, which ensures highly tested and elaborate control of animal production.
However, when looking at strategies for longevity, as defined by the Ellen McArthur Foundation, Greenpeace, and the current state-of-the-art and opinion making within the research community, practices related to the production and consumption of fur become highly interesting. The action proposals of the Greenpeace report suggest approaches such as repair services: restoring a lost “common sense” practice – restyling and remodelling of garments – recycling – care, repair and longevity. In relation to new business models, it suggests better quality, classic styling, reparability, durability, guarantees and emotional longevity, services with priority on repair, take-back systems, sharing and leasing, re-selling and customization (Ellen McArthur Foundation 2017, p. 23-27). Similarly, the Ellen McArthur Foundation report suggests creating more emotional durability enhanced by user involvement in the making or remaking of garments, offering warranties that include repair and mending, diversity and de-standardisation of sizes and garment proportions to fit the individual body types, and fostering new business models based on resale, rental or sharing (ibid, p. 73-89). Also, both reports mention that there is a need for deeper research in these areas, in order to understand how clothes can be more meaningful for the individual person, and how a business environment can be developed that embraces all of these principles and ideas. Not only in the Re-New project, but also in the research work that has been conducted throughout the period of 2014-2018, we as a research group have found and documented all of these suggested action points somewhat hidden from the public eye but very well-functioning, and even thriving, in the fur sector. As such, we suggest that the reader looks beyond any hostility towards fur production for a moment and instead see the material fur as a deeply inspiring learning example for the fashion sector – a template that can be duplicated and tested in relation to other materials.

Research from a Design Perspective

What is interesting in relation to the above argument is the fact that for the last couple of decades the design community has been drastically reframing the role of design and in fact also the role of the individual designer. One of the main claims is the shift in focus from production to use. Thus, a general claim is that design is not developed for consumers, but rather design is based on how consumers behave, dream, act and think in their everyday lives – in other words with consumers that in a design context are perceived as users (see Sanders & Stappers 2008, or Kimbell 2012). Another radical shift is the focus on design as a kind of thinking that goes across the value chain, in a multi-level perspective. Thus, authors such as Buchanan (1992) or Miller & Moultrie (2013) illustrate various levels of design thinking that basically cover a product perspective (materials, shapes, colours etc.), a systems perspective (organisational company structure or business model) and a strategic perspective (vision and mission of the company or the DNA of the individual designer).

This report must be seen as representative of this approach, as we navigate through such lines of thinking in the individual sub-projects, but also on the overall, design-strategic level. What we have aimed for is to create new sustainable narratives building on longevity principles and based on exploratory field work, educational formats, artistic development projects and academic publications. We have done so as we are facing dramatic changes in the landscape of design, in which we educate new designers, and thus our work represents an opening up of pathways for future best practices in the fashion sector. Thus, this section addresses how the four-year study of fur material in relation to sustainability has spurred outcomes in terms of learning tools and teaching approaches suitable in the context of fur design. Furthermore, it addresses how the outcome poses relevance for product designers and design educations in general that wish to engage with sustainability through enhanced product longevity and circular design strategies.

As a central tool for this approach, we have developed a deck of method cards for sustainable fur design. Method cards are acknowledged within design education and practice as a valuable dialogue tool for clarifying, planning, negotiating and evaluating design processes and strategies. They are therefore often applied as a tangible means in group work and within teams. Design School Kolding has worked with method cards in its education for more than 10 years and has developed decks for different purposes (see for example Friis & Gelting 2014; Laboratory for Sustainability 2015). One of the recommendations of the first report (Skjold et al. 2016) was to develop a deck of method cards targeted actors in and around the process of designing and making fur products. The cards should identify and clarify sustainable approaches suitable for the fur material taking into account its specific material properties, and in particular address the longevity potential of the material.
The recommendation was carried out in the second phase of the project – the Re-Imagine project conducted in 2017-2018 – leading to the Fur and Sustainability Cards – Design for Longevity.[7] The deck consists of 29 cards, each representing a design strategic approach to fur and sustainability. The deck outlines how material strategies are situated between emotional, technical and functional aspects of a design, as well as how strategic approaches are linked to specific areas of a product’s life cycle. Thanks to funding from the Danish Ministry of Industry, Business and Financial Affairs it has been possible to develop the deck further and make a second version for product design in general targeted education and industry (Hasling & Ræbild 2017/Ræbild & Hasling 2018).[8]

The Fur and Sustainability Cards have been disseminated to Kopenhagen Fur employees and stakeholders (e.g. furriers, designers and brands) to see if the tool could be a common ground for talking about sustainability, thus enabling a common language on the topic and an understanding of the complexity involved but also creating an understanding of how the complexity can be broken down and addressed through specific design strategic approaches. As such, all sub-projects in this report are linked to the method cards in the sense that they open up further perspectives of selected cards. Hence, all cards used in this project can be directly linked to the above-mentioned recommendations for a more circular fashion sector that builds on longevity strategies.

[8] www.sustainabledesigncards.dk
Services in the fur and fashion sector

Research on sustainable practices as well as life cycle assessments demonstrate that longevity – keeping garments in use for a longer time – is one of the best ways to reduce carbon footprints and retain resources and energy. The Re-New project aims to expose some of the ways in which consumers and companies are working to support longevity. Thus, this sub-project comprises a comparative study of the role of repair and redesign services in the fur industry and the fashion industry, respectively. In order to obtain knowledge about existing services fieldwork was carried out in China and Denmark interviewing and observing professionals in both sectors working with repair and redesign services. Although prolonging the life of garments provides the overall framework for the project, other motivations and aims have been explored in the fieldwork. Due to the limited scope of the sub-project, the empirical research carried out for this project has been explorative in nature. The field observations and interviews have provided essential first steps into an area that is still underdeveloped. However, the sub-project builds on ongoing research interest in reuse and repair, and previous work by the researchers involved has provided a backdrop that has helped contextualise observations and develop the analysis.

The project builds on findings that indicate that people are more likely to take care of, and keep, garments to which they have emotional ties, such as inherited or homemade garments, or garments that represent a significant economic investment (Fletcher & Klepp 2017) Therefore, the exploration of repair and redesign services begun in the fur retail sector. Since furs represent a type of product that requires significant funds to obtain and which, as previous research has shown, people often hand down through generations, they have the potential for an extensive life span (Skjold et al. 2016; Magee 2015).

The previous Re-Imagine project explored longevity and fur in a Danish context; in this project the primary fieldwork involving fur was carried out in China. Here a booming luxury consumer market in fashion, fur and other types of products provide an important context for the research. The Chinese market also represents the largest market for fur products. The second tier of observations and interviews were conducted in Copenhagen with companies that undertake repairs of a variety of garments. The second tier provided comparison as well as a wider knowledge of the industry beyond fur and helped establish relevance for the research in the context of fur as a learning example.

Multiple-case studies

In China, two main destinations were selected, Beijing and Harbin. The Chinese luxury market is characterised by growth and a proclivity for foreign brand names. The fur sector, previously restricted by anti-consumption regulation, has seen immense growth over the last decades. In this particular sector the socialist history provides a backdrop for both the interest in luxury products and the existence of repair services. Having only recently become widely available, new luxury products are valued highly, and the consumption of used products and repair are sometimes seen as a reactionary practice. At the same time, the history of austerity and poverty means the knowledge and the habit of repairing is still visible.

Beijing represents a major fashion and cultural centre in China, providing the primary site for designer fashion and luxury retail. The fur market in Beijing consists primarily of high-end retail outlets. Some are located in stand-alone stores in newly developed shopping locations such as Sanlitun as well as older Hutong areas. Others are located in shopping malls around the city, both private and state-owned. One was located in the shopping floor in the basement of the Peninsula Hotel.

Harbin is described as the fur centre of China. Located in the north of the country in the Heilongjiang province, the city is a hub for fur farming, production and retail in a region where fur has functioned as a practical means of keeping warm. The fur market in Harbin is dominated by a number of large shopping malls dedicated to

\[\text{As learned by visiting SynTao – Sustainable Solutions Office in Beijing 11th of October 2017.}\]
fur, leather and related products. Besides the enormous malls, there are separate stores located around the city, many of which spread out over four or five stories and hold thousands of fur products for sale. [18]

The second-tier observations and interviews were carried out in Copenhagen, which represents a regional fashion centre in Northern Europe and is considered the heart of the global discussion on sustainable practices in the fashion industry. Focusing on a different sector this research was directed at providing a wider knowledge base about repair and redesign of luxury items as well as other fashion products. All of the businesses involved were stand-alone stores, as few brands or retail locations have their own repair service departments any more.

In addition to the observations carried out with tailors, service centres and retailers, a total of ten experts in the area of fur, tailoring services and sustainability were interviewed.

Methods

Semi-structured interviews and ethnographic fieldwork provided the main methods in this sub-project. In China, most interviews were carried out with the help of an interpreter; in Denmark the interviews were all carried out directly in Danish.

Expert interviews were all carried out in English or Danish, only one with the assistance of an interpreter. Some were carried out in formal interview settings; others were conducted via Skype, in meetings or through email correspondence.

Case companies

The focus of the sub-project is on the retail and service perspective and on how professionals in the industry work to accommodate customer demands and desires. Consumers play a vital role in this, but the report primarily covers the industry perspective. Consumer responses and demands are included as they are communicated by professionals. In that sense the report provides insight into how the industry interprets consumer demands.

Beijing field sites

Qiqi: In a central location in a newly developed shopping area in Sanlitun, Qiqi Fur represents a new fashion-oriented fur retailer and designer. Focussing on the fashion market Qiqi does not offer after-sales services.

Witty: Being the third generation owning this company Mrs. Ani carries on the designing and the production of a wide variety of fur products. The company brands also include products in rare skins and textiles. Witty runs its own furrier workshop and can carry out repairs and redesign in-house.

Parodis Fur, Parkson Mall: Selling fur products to A-list clients or VV VIPs, the company deals with very exclusive products displayed in a newly built private area in the store in the Parkson department store. The store also carries a broader selection of medium-priced goods in the front of the shop. Parodis Fur provides services, but do not operate its own workshop.

HE Yuan Tailor: Owned by an investor in mainly luxury products, HE Yuan Tailor is a fairly recent tailoring company offering men’s tailored suits and fur coats. Repair and alteration jobs are sent to the manufacturers.

Liudu, Peninsula Hotel: As one of the fur companies operating under governmental patronage, Liudu fur produces fur coats for the fashion market as well as workwear with fur trimmings for party officials. Liudu does not operate an on-site repair workshop.

Mr. Meng Xiang Dong-Dilanzu Fur: A small exclusive studio in the old part of Beijing, Dong-Dilanzu caters to luxury clients offering both regular clothing and fur products. The company also operates much larger shops in Heilongjiang and outside Beijing with a broader market focus. Redesign fittings are carried out in the studio and the product is then sent to a furrier.

Mr. He Jing Fur garment couture: Operating furrier workshops and a showroom in an old town house in Beijing, Mr. He Jing designs and creates couture-like fur

[18] One store in central Harbin carried more than 16,000 fur coats according to the manager.
Harbin field sites

Mungyi Fur: At Mungyi Fur, a large fur retailer in the area, the workshop is located right inside the front door. Customers pass the glass dividers on their way in, allowing them to look at the work that goes into producing, repairing and redesigning the garments.

KC Fur: One of the largest fur retailers in China, KC Fur has a whole floor in their six-story building dedicated to the repair and redesign workshop. Here they gather all the work from the shops in the region and do everything from repairing small tears to redesigning the whole garment. They also offer full redying of the products, but this process is carried out at another facility.

Yingdak: At Yingdak a small repair workshop is located inside the store with a large window to the main shop. Here skilled workers do small repairs while the customers wait. They do not offer large redesign projects but refer customers to other furriers.

Haining Leather and Fur Market: the Haining fur and leather market is an enormous mall dedicated to fur and leather products. The mall does not have a comprehensive workshop; the individual shops are responsible for their own products.

Jin Furen: Jin Furen is the largest fur retailer in Harbin, offering products in every category, focussing on the younger market, while also having identified the need for fur products for aging customers. The repair and maintenance workshop is an extremely important feature in the business according to Mr. Peng, the son of the owner, and they perform a very large variety of services.

The Department of Design, University of Heilongjiang: at the design department at the Heilongjiang University students work with fur as a material and some participate in the Imagine Talent competition organised by Kopenhagen Fur. During our visit there we talked to the professors in charge of the design department about second-hand fur, redesign and repair.

Antiques malls: A continuous unanswered question during our interviews and visits was: ‘what happens to all the fur products when the customers decide to get rid of them?’ None of the professionals had any answers to this question, and most did not believe a second-hand market existed. By visiting antique malls in central Harbin, however, we were able to locate stores that sold old fur coats among other valuable antique or vintage products. Due to the limited amount of time available, we were unable to pursue this area of the research any further.

Caption: At Jin Furen, customers are handing in fur products for repair and picking up coats that have been in cold storage: A service many retailers also provide.
**Danish field sites:**

Mott Tailoring: A member of the board of the Danish Tailoring Guild, Karina Mott, has had her own tailoring business for seven years. Hand-stitching men’s suits as well as other bespoke garments, Mott represents the exclusive part of tailoring. Besides hand-tailoring she provides a number of repairs and redesign services.

Outdoor Services: Outdoor provides repair and maintenance of athletic wear. With a background in fashion repair services the owner dedicated her business to performance wear seven years ago. She works as a licensed repair technician for a global brand and accepts repair both directly from end-consumers and from retailers and brands.

Københavns Skrædderi: Opened only two and a half years ago, Københavns Skrædderi primarily provides repair and redesign services. Having built up a portfolio of shops for which they do repairs, the small workshop also caters to private customers.

Strauss Skrædderi: With six locations around the country, Strauss Skrædderi is one of the largest providers of repair services in Denmark. In their original location in the centre of Copenhagen 14 people work on repairs from a large number of the dominant brands in the middle-market fashion segment. In a highly structured and efficient process the tailors are able to make alterations and repairs quickly and return the garments to the customers or retailers the next day.

Djurhuus Skrædderi: Djurhuus tailoring started in 2003 and works with a long list of brands and shops. They do alterations and repairs for the shops and also perform repairs and redesigns for private customers. They undertake minor repairs on fur products as well.

Alex Petersen: A fur retailer for five generations, Alex Petersen offers a wide selection of fur products. They design the products with producers but also purchase existing designs. They operate a workshop with three furriers doing alterations, repairs and redesign. In addition, Alex Petersen has started a second-hand fur web shop, allowing customers to re-sell their old fur products.

**Experts:**

The experts that were interviewed for the project fall into two main categories of expertise:

**Fur:**

Siobhan Magee, Research Fellow, University of Edinburgh
Chris Cui, President, Kopenhagen Fur Beijing
Rikke Stetter, Programme Manager, Kopenhagen Fur
Mikkel Østergaard Schou, Furrier, Kopenhagen Fur

Department of Design, University of Heilongjiang

**Sustainability, reuse and repair:**

Miki Sugiuras, Professor, Hosei University
Johnny Wichmann, President of the Danish Tailors Guild
Suzi Christoffersen, Founder, Closed Loop
Mette Fredin Christensen, Creative Director, Blanche
Syntao CSR Agency, Beijing
The main purpose of this sub-project has been to investigate the role of services such as repair and redesign in the fashion industry, and the field visits and interviews have unearthed a number of findings. In this section the findings are presented together with a discussion of their implications. In the conclusion of the report, the more overall strategic sustainability perspectives will be unfolded.

Wearing fur

The wearing of fur in Beijing and Harbin seems to represent two distinct, though to some extent overlapping, purposes. From interviews with retailers, furriers and customers it became clear that while wearing fur in Beijing serves primarily stylistic purposes, in Harbin fur has a practical function as well. Both of these, of course, are highly symbolic, but in different ways.Traditionally, besides the practicality of keeping warm, wearing and buying fur coats in Harbin was a way of demonstrating the success of the household. The types of fur coats that were chosen had a distinct look: a short black or dark brown coat with bell-shaped sleeves and attached crystal-covered brooches incorporated in the design. The vast majority of customers bought this particular design, which indicates that wearing fur was not symbolic of individual taste and style, but of belonging and social class sentiment. Recently, more retailers have introduced a wider variety of styles and designs, but the most popular coats are still the traditional design.

In Beijing, fur wearing, according to many of the retailers and industry professionals, has a distinct fashion purpose: Wearing fur is a sign of status, individuality and importance, and the designs show this. The warmer climate and the fact that the coats are used for display and not for keeping warm means the designs are lighter, more diverse, and more trend-oriented.

Services in the fur industry

In the fur retailing businesses, most of the companies we visited offer a number of different services. These include:

Maintanance: washing, dry cleaning, dry washing with saw dust.

Repair: wear, tears, missing clamps, buttons, accessories replacement, changing skins, lining.

Redying: Changing the colours of parts or the entire product, only from lighter to darker.

Redesign: small alterations, large alterations, shortening, changing collars, new designs.
In the fur companies especially in Harbin, repair workshops are a central feature of the retail environment: In many shops, the workshop is visible through large windows to show off the craftsmanship involved. In some cases, only a small workshop was visible, and only small alterations or repairs were done in these workshops. Most of the actual work happened somewhere else in the building. In Copenhagen, Alex Petersen has also installed a glass door to the workshop, making the repairs and redesigns visible to the consumer. In the shops we visited in Beijing none had visible workshops, except for He Jing fur, where the main feature of the complex of buildings that housed the company was devoted to workshops and only one to a show room.

Services in the fashion industry

The tailors and repair service centres in Copenhagen all provide a variety of services; however, all of them focus on repair and redesign. Redying is not available and only one company offers maintenance services.

An important finding, expressed by all the interviewees, was that customers do not only have repairs done on products with a high purchase price. Although there is a tendency to prioritise repairs and redesign on products that has a high value, the type of value varies considerably: Luxury products constitute a large segment, representing products of high economic value. Products that feature a considerable age or history – in other words that represent a cultural value – constitute another. And the last category, which has significant emotional value to customers, consists of their favourite clothes. These categories overlap, as one favourite product can also fall into the economic value category, but, according to all of the tailors we interviewed, the favourites also consist of low economic and cultural value items. In other words, often customers pay more to have a piece of clothing repaired than it cost them to acquire. Many jeans from H&M are repaired, for examples, because the customers love them.

Several tailors also described how use, and particular the wrong kind of use, often accounts for the need for repair. Outdoor service, working exclusively on performance wear, described how using a jacket that was designed for skiing as an everyday winter jacket subjects it to a type of use it was not designed for. So even though it can endure hard conditions in terms of temperatures, using the pockets for holding your keys every day often leads to tears.

Altogether, according to the customers we interviewed and the experience of the company representatives in both Denmark and China, there are a number of reasons for using services such as repair, maintenance and redesign:

Price:
Higher prices create expectations in terms of the longevity of the product and lead customers to make use of services that are included in the warranty.

Environment:
Few customers seem to choose to have products repaired solely based on environmental considerations, but it is not an irrelevant factor.

Types of use:
Aesthetics: If the product is for formal use, repair is less common, if the repair is visible. However, if the product is mainly for practical use repair is more common.

Relations:
If the product has a specific heritage, repairs are often done, and also if the product has a specific personal history.

The main reason for repair is the personal relationship between the wearer and the garment.

Another key finding concerns the type of information the tailors acquire about the products they repair. This information includes knowledge of the wear and especially the tear of the products of different brands.
Conclusions

Based on the findings from the two rounds of field observations and interviews a number of considerations have emerged. They all relate to the role of repair and redesign in the fashion industry, with a specific focus on fur garments as a high-value product category. In this section we present the findings concerning the role of these services in existing industry structures. In the final section of the report, these findings will contribute to the formulation of strategic recommendations.

- Services are relationship building

The first observation on the role of repair and redesign, especially in companies where workshops are part of the retail environment, is that they form an essential part of creating and maintaining a relationship with the customer. For many retailers services form an essential part of the after-sales situations, as they ensure the customer that the high price of the product also comes with a promise of assistance when needed. This is true for both fur retailers and for performance wear. As such, they help to maintain a sense of old-fashioned luxury, where quality and consistency play a pivotal role. The sense of old-fashioned luxury can perhaps also explain why some retailers choose not to feature workshops or services prominently in the retail experience. According to our observations most of those who focus on fashion, in other words a faster turnover, and more trend-based changes in colours and designs, chose not to feature repair as part of the retail experience.

- Services help to retain the value of the product

When customers realise that the retailer offers services as part of the sale of a product, the sales person and the company will ensure the customer of the high value of the product. Initially this value is predominantly economic: the customer is reassured that it is sensible to buy an expensive product because it will last long and there is help, often free of charge, if something should occur. When the customer makes use of the services, the aesthetic as well as the economic value is reassured. Redesign in particular works to rekindle the customer’s appreciation of the product, and repair retains the functional and emotional value in the product.
– Services are, or can be, an important selling point

Working with high-value products, services create stability for customers’ experience of value, according to the observations and interviews we conducted. They reinforce the quality and the longevity of the product, and several interviewees gave us the breakdown of how, over time, a fur coat, for example, with its potential for a long life, is actually less expensive than an ordinary coat. This breakdown, of course, has a number of variables, so the inclusion of it here is not to support the claim for quality or longevity, but the observation that it is useful in sales situations.

However, services seem only to function as a selling point when dealing with high-value products that communicate quality, functionality and traditional luxury. When dealing with fashion-oriented products, services appear less valuable.

– Services provide valuable knowledge about the product

Tailors and repair service professionals gain specific insight into the durability of the products. As they are at the receiving end of any flaws or weaknesses, they accumulate knowledge on production techniques in general, and on the durability of the products of specific brands. Speaking with one professional who had previously worked for a large Danish brand, she described the millions of Danish kroners spent by the company on reimbursing customers for faulty products, and the number of working hours spent on handling these claims. The knowledge from repair service providers could prove essential to designing and producing higher-quality products that last longer as well as creating financial benefits.

Perspectives

Value proposition: services are essential to maintaining a high-value product. In other words, efforts to make high-value products more accessible, both aesthetically and economically, can be counteractive to the consistency of the brand and the product.

This insight relates specifically to findings that brands, in both performance wear and luxury products, have shifted focus onto the faster turnover known from ‘fast fashion’ regimes which run the risk of hollowing out the value of the product altogether.

Sustainability: services function as a way of keeping garments in use for a longer period of time. This represents a direct sustainability gain in accordance with the findings from LCAs and other empirical research. On a strategic level, services underpin the value of the product and establishes trust between retailer and customer.
An obvious sustainable strategy when dealing with fur is to make full use of the fur material's potential for durability – extending the material lifespan and optimising the material usage as much as possible through up-cycling of used or second-hand fur. Apart from economic and environmental incentives, upcycling is also a way of softening ethical considerations students and designers might have towards animal fur production. In terms of broadening the scope of fur users, upcycling poses a value in terms of sustainability that can be attractive to environmentally conscientious user groups. And secondly, through upcycling it is possible to design and produce less expensive fur products for a less affluent audience.

The potential of upcycling of second-hand fur was explored from the beginning. In the autumn of 2015 the pilot project ReFurbish was carried out at Design School Kolding with MA students (Skjold et al. 2016). Each student approached the second-hand fur material from his or her own personal design conceptual position, without any further criteria regarding sustainable strategies beyond material upcycling. The school received the fur used in the pilot project from The Danish National Museum. It consisted of 80 coats that had been donated to the museum by private citizens for the exhibition on fur held in 2014-2015. The students' work pointed in many different directions – that is, many different ways of considering second-hand fur as a material resource, for example, as a material bank from which to cut strips and bits to weave and knit with other materials; as surfaces that can be reworked with embroidery; as hair directions in fur combined with shape; or as elements of material shapes that can be reconfigured. According to the students the main challenges were dust and loose hair from the old coats, which for some made it impossible to conduct the physical work of transforming the material. Also, material brittleness was an issue, as not all of the second-hand fur garments were in good condition. Still, most of the students would consider working with second-hand fur again given the opportunity. They all stressed that the reduced material cost of the used fur, compared to for example new mink skins, made it easier for them to experiment in the design process. Moreover, for some the fact that the fur was already sewn together from the beginning posed potentials for playing with the shape, while for others there was a big manual task in disassembling the garments into flat pieces that could be re-thought as material.

The upcycling approach to the fur material applied in the Re-Furbish project aligned with other projects at Design School Kolding in terms of using second-hand garments as a material resource. But where previous upcycling projects primarily had used second-hand garments as a type of toile-material for sketching ideas on dummies and on peoples’ bodies – later to be translated into virgin materials for the final product – the Re-Furbish project pointed towards the potential of a used material as an alternative to a virgin material in its own right. This is an important change in the approach to the value of material resources.

The early insights from the Re-Furbish project has been used as a stepping stone to further develop and expand ways of teaching and practising material upcycling within part of the Re-New project, as material resources play a big part in the circular economy approach to sustainability.

Various sample tests and student Liselotte Hornstrup with her project at the R-eFurbish module conducted at Design School Kolding in 2015 by Dr. Ulla Ræbild and Dr. Karen Marie Hasling.
Imagine Talents

One concrete outcome of the research done in this past four-year period is a re-framing of Kopenhagen Furs’ design competition named Imagine Talents. In a first test run in 2017, MA students from Design School Kolding used the deck of Fur and Sustainability Cards to identify sustainable design strategies for their fur design and concept proposal, leading to new types of constraint for students to explore and embed creatively when working with the fur material. Based on the Re-New experience Kopenhagen Fur has reframed the entire international competition for 2018, with sustainability as a main focus and criterion in the design brief. The two approaches Modularity and Multi-functionality have been singled out as compulsory, but students can embed any other of the approaches they might wish to add. The outcome of the strategic change is still to be evaluated, as finalist projects will be showcased in the autumn of 2018. As a step in the evaluation process, research assistant Solveig Berg Søndergaard participated in the competition master class conducted in the spring of 2018. In her design proposal called A Cross-Wardrobe-Sharing Classic/New Nordic Edition, Solveig worked with the following principles based on the provided design brief: 1. Design that goes across trends (the trench coat). 2. Sharing principle (a couple can share the jacket. 3. Functional modularity (the coat can be used and modified in several ways), and 4. Zero-waste fur technique (applying a tartan pattern where all small parts of the skin are being used).

Solveig’s work is an example of how designers can apply the method cards in their process and framing. Having participated as supervisor for Solveig and her fellow students at Design School Kolding, Assistant Professor Ulla Ræbild assesses that it has been highly conducive to work with a sustainable framework, both in terms of meeting students’ ethical considerations towards using fur, and in terms of constraints as a necessary driver for creativity. Although the good intention is there, being told that you can do anything you want often does not pose a creative challenge or awaken new ideas. Thus, the ambition of Kopenhagen Fur to stimulate design innovation[12] and sustainable fur design is enabled through the company laying down guidelines and applicable design approaches for the competition – and for Kopenhagen Fur Studio in general. Also, the experience so far is that through the method cards, sustainable design approaches are demystified and turned into concrete suggestions for action for the design students. This way, the cards also point toward the further development of teaching in circularity at Design School Kolding.


Examples of work drawings for The Imagine Talent Competition 2018 by Solveig Berg Søndergaard.
Within the framework of the Re-New project, two so-called artistic development projects were carried out. In one, smaller project, designer Mette-Julie Bundgaard Nielsen tested out suggestions for fur design for the unit of Oh! by Kopenhagen Fur, a subsidiary brand of Kopenhagen Fur, that produces and sells fur accessories B2C. In effect, the brand works as a test of the commercial potential for fur design for Kopenhagen Fur, even though it is set up as an independently operating brand. The design brief of this project was to generate examples and principles for how to incorporate upcycling and zero waste principles in the design DNA of the brand. However, the project does not stand as a solution but more as an artistic suggestion or a pilot project. The project was conducted in the period of October-November 2017, and as such it was affiliated with the Oh! by Kopenhagen Fur A/W 2018 Collection.

Re-Furbish

In the Re-Furbish project by designer Mette Julie Bundgaard-Nielsen, two approaches were adopted: one was to make suggestions for how to incorporate (more) zero-waste in the commercial collections of the brand; another was to make unique design pieces out of styles from Kopenhagen Fur Showroom.

In the first project, Mette-Julie’s starting point was the mood board and colour scheme of the Oh! by Kopenhagen Fur A/W 2018 collection. By following the design processes and the furriers at the workshop, she found that the tails of the skin are most often seen as a left-over material that is typically shipped off to Greece together with other scraps and pieces of skin, to be stitched together into larger ‘fur textiles’. However, as the tails had already been dyed in the colour scheme of the specific collection, they were seen as a space of opportunity to incorporate more left-over materials into accessory details. Even if the styles suggested by Mette-Julie were not put into production due to various technical and economic reasons, the idea of making use of tails was stimulated and now stands as a new space of opportunity for the brand.

Moreover, two unique styles from Kopenhagen Fur Showroom were donated to the project. Kopenhagen Fur Showroom is an entity where styles developed in the Studio or in collaboration with brands are stored and rented out for runways or events. As the two donated styles had been passive for an extended period of time, but still consisted of well-maintained fur, it was decided to propagate the material into new design through upcycling. The new styles are to be re-introduced into the Showroom archive as examples of sustainable fur design. This way, Kopenhagen Fur might increase recycling of valuable fur material through upcycling and at the same time ‘practice what they preach’ when it comes to their acclaimed sustainable agenda.

The donated fur from Kopenhagen Showroom. Second from the top left, the new created style by Mette Julie as seen on Oh! by Kopenhagen Fur runway February 2018. Other images: Moodboards and various by Mette Julie.
Renew by Workshop

The development of the sub-project ‘Re-New by WORKSHOP’ is based on four methods from the Fur & Sustainability Cards by Hasling & Ræbild; Co-Creation, Upcycling, Re-use and Embedded Storytelling. These four approaches support the overall theme of designing for longevity in the following manner: Co-creation ensures that the process of creating is carried out, fully or partially, in collaboration with the future user and creates a sense of ownership of the product, as the user is reluctant to discard products that they themselves have invested in developing. This is closely related to the Embedded Storytelling method – creating an experience when co-creating e.g. participating in the social setting of a workshop, assigns an emotional value to the product which prolongs its overall lifespan.

In the workshops, the participants were encouraged to Re-Use fur scraps and combine waste material to minimise the use of resources and experience the reusable qualities of fur as a material. In the first and second workshop participants were asked to bring an item from their own wardrobe which they were to upcycle with fur, in order to inject a new and higher value to a used and possibly discarded product through design. When asked to upcycle an item from your own wardrobe, you automatically achieve the method of Embedded Storytelling, since the item chosen by the participant is included in a new experience or storytelling along with the past experiences of wear, use and experiences connected to the item.

Thus, this sub-project contributes to the development of new knowledge through which you can incorporate a co-design practise within a fashion and sustainability context. The outcome is a design model for developing workshops which can be aimed at different users depending on context. The result will enhance the understanding of how you can motivate specific target groups or potential users and get the wanted outcome: an increased understanding of the benefits of fur and the emotional value attached to the experience and thereby to the material.

Based on the above considerations, this part of the report is structured as follows:

Firstly, a methodology part which explains the methods put to use in the development of the workshops. Secondly, a section about using Personas as a design tool followed by the Workshop Model, which describes how the workshops are created overall and how the different factors correlate and influence the final outcome. Thirdly, a review of the three workshops using the Workshop Model, displaying how the different factors vary when designing for the different Personas. Fourthly, a part about how the Fur & Sustainability Cards [5] influenced the development of the workshops, and finally an examination of the results and recommendations for future possibilities of implementing co-creational workshops within fur and sustainable fashion.

Methodology

Co-design is a development of a Scandinavian design practice that started in the 1970s and an acknowledged method within design research. It is used as the overall approach in the development of the workshops since it ensures a high degree of involvement of the user in the design process, and, from a business perspective, by focusing on the emotional impact the experience can provide, co-design stages an experience for the customer that goes beyond satisfaction.

Creating personalised experiences requires a thorough understanding of the specific participant, which has prompted the use of the well-known and acknowledged design tool of building personas. Personas are fictional characters who are continuously developed throughout the project in order to reflect the collected data from real people and users. In addition, the aim is to concretise knowledge that has been attained through previous research; therefore Personas is also a design tool that constantly needs to be redefined and reshaped to ensure the most precise definition of a user or a customer.

For this project a catalogue of eight personas has been developed, which represents existing users of fur but also explores potential future fur users, in a continuous exploration of what will motivate certain users or customers to participate in a tactile dialogue involving fur, recycling and handicraft in general.

By methodically exploring the social and personal aspects of three selected personas from the catalogue a general workshop model developed the framework for three individual workshops which have been designed and tested in this sub-project. The workshop model visualises the delicate co-relationship between participant, motivation, setup and outcome.
**The development of personas**

As mentioned, *Personas* are fictional characters which represent the existing or potential customer segment of Kopenhagen Fur, and they were developed to reflect the collected data from previous research and concretise research knowledge. The use of *Personas* is described [3] as a tool that ensures a “(...) close relationship between the engagement of the user and the complex social and political nuances that each participant represents. [...]” and they are continuously developed throughout the project.

The starting point and inspiration is derived from authentic people, some of them well-known to the public. The aim is to build on their existing personality traits, equivalent to the information found in the research, as well as their general attitude towards fur and their technical abilities within handicraft considering their forthcoming participation in a tangible workshop. The *Persona* catalogue consists of eight different personas ranging from 18-100 years of age; a set of keywords and images are attached to each persona to describe and visualise their type and personality traits:

**ARTIST ANDREW, 26 years**

*Persona keywords: hipster, classic, city cool.*

Artist Andrew does not own any fur yet, but he considers himself to be quite fashion conscious and willing to try new things. Andrew has the potential of growing fond of fur provided the design is right. He does not have a particular interest in handicraft but he finds it naturel to take good care of his belongings. He prefers to buy quality items and would send minor things like a loose button or hand in trousers that need an alteration to the tailor. **Andrew has a great potential for becoming a future fur customer.**
LONGEVITY LISE, 100 years

Persona keywords: Nostalgia, quality, memories.
Longevity Lise really loves fur for its great quality, high durability and the nostalgia surrounding it. She likes a classical brown mink fur coat, which she wears because her mother wore one when she was a child. She has a good set of handicraft skills, but she prefers to go to a professional for repairs.

BEAUTIFUL BEATE, 35 years

Persona keywords: exclusivity, mainstream, girly.
Beautiful Beate is very conscious about her image and feels quite fashionable; she loves fur because of the look and the exclusivity. As a consumer, she feels like she is environmentally conscious, since she does not shy away from buying second-hand items. She views her own sense of style as being very personal, but she will shop for what is currently trending e.g. the latest H&M Co-labs like H&M x Erdem etc.

DESIGN DEEDEE, 27 years

Persona keywords: experimenting, conscious consumerism, trend-conscious.
Design Deedee is the typical participant in the Imagine Talent competition. She studies fashion and textile and is quite fascinated with materials and textures. Her relationship with fur has turned ambivalent over the last couple of years, since she is very keen on fur as a material but has her personal doubts on whether it is ethically correct to work with, considering the tendencies within the fashion industry where big brands like GUCCI and VERSACE have denigrated fur and have stopped using it. At the moment she owns a second-hand fur coat, but it is doubtful whether she would ever buy a newly produced fur coat.

GOLDEN GIRL GUN-BRITT, 67 years

Persona keywords: luxury, status, brand-orientated.
Golden Girl Gun-Britt views fur as a status symbol and a necessary luxury. Basically, she cares a lot about her appearance and her image. As a consumer, she is leaning towards the security inherent in buying specific brands and is not as focused on the quality of fur. She bought her very first fur coat from CÉLINE. She does not have any particular interest in working with her hands and she is not orientated towards any current tendencies within upcycling and redesign.

RATIONEL RASMUSSEN, 75 years

Persona keywords: Conservative, quality, wear and care, discretion.
Rational Rasmussen owns a coat with a discreet fur collar. Style-wise he is very conservative and would rarely try out new things. He appreciates fur as a material and is very fond of good old-fashioned handicraft. He does not have any handicraft skills of his own and his interest in such matters is non-existing. When he purchases anything new it is because his wife told him to.

OUTTA-THE-BOX-Oskar, 18 years

Persona keywords: gender bender, unique, treasure hunter.
Outta-the-box-Oskar has a very unique and fashion-orientated style and is a part of a new generation who does not distinguish between menswear and womenswear, when shopping in high-street shops e.g. H&M or Zara. His experience is that the traditional expectations for what to wear as a young man is quite old fashioned, and he is not afraid of mixing garments from both ends of the gender spectrum. He likes to distinguish himself in his way of personal styling and regularly goes to second-hand shops with friends where they go treasure hunting. He found his first fur in a second-hand shop, and in the future Oskar has a great potential of becoming a future fur customer.

SUSTAINABLE SUSSIE, 56 years

Persona keywords: Practicality, quality, sense, handicraft.
Sussie really appreciates the practical aspect of fur as a material. She does not spend an awful lot of money on buying garments, but she likes to buy stuff that she will use for more than one season. She is more consumption conscious than she gives herself credit for, and even though she likes to dress well, she is quite relaxed when it comes to fashion and prefers to have a personal long-lasting style. When she goes shopping she always uses her common sense and she will rarely get rid of garments or toss something before it has been worn out.
Three of the personas, *Design Deedee, Artist Andrew* and *Sustainable Sussie* were selected to be the main participants in the workshops, prompting a further research process and development of these specific characters. The final choice of these personas emerged from previous research conducted within the partnership agreement, as well as through dialogue with Kopenhagen Fur Studio.

**The Workshop Model – a tool for development**

The *Workshop Model* has been developed to create an overview and systematise the different variables in developing a co-creational workshop for different participants. The different variables are as following: *Persona, Design Challenge, Motivation, Keywords, Setup, Expert, Method* and *Output* explained below.

*The Persona* describes the workshop participant; what type of person they are, where they are in life, their interests and what type of customer they are or potentially could be.

*The Design Challenge* is the purpose of the workshop formulated as a research question.

*The Motivation* is the key factor in the development of a successful workshop. Different people have different motivations and this is where the outcome derive from.

*The Setup* describes the overall framing of the workshop. What is the social setting and the personal relations to consider.

*Method*: What type of method or skillset is practiced by the participants during the workshop.

*The Output* describe the outcome or result of the workshop. Participants will usually have some sort of take-home like a physical object and/or an experience.

*Keywords* describe the motivation of the participants and therefore the overall theme of the workshop.

*Expert*: Besides the workshop facilitator, an expert can be present at the workshop. It could be a seamstress, a furrier or other specialists.
When adding the persona to the Workshop Model, a specific outline for the co-creational workshop for each individual persona can be developed, taking the variable factors of motivation and personality traits deduced through research into consideration. Below is what the design for a co-creational workshop would look like for the first workshop participant Design Deedee: As a starting point, it is important that the invited participants are as similar to the created personas as possible, but the Persona is a malleable tool and a continuous dialogue and re-shaping of the persona takes place, before, during and especially after the workshops when a higher level of understanding of the participant has been achieved.

As Design Deedee is designed to be very comparable with students at Design School Kolding, six students were invited to participate in the workshop. To ensure that the participants were somewhat diverse within the compatible framework of Design Deedee, 1 textile student and 2 fashion students, without previous experience working with fur, were invited to participate along with 1 textile student and 2 fashion students with previous experience working with fur.
In this way, the pilot workshop was tested with a group of participants with different approaches, as well as different skill levels regarding fur techniques. As described above in Model 1, the Design Challenge was to make the participants re-use fur and upcycle an optional item from their own wardrobe. As mentioned, the use of a personal item would ensure that an emotional relationship with the item was already being established.

The participants were given the challenge to re-use a red fur coat, which had been discarded from Kopenhagen Fur Showroom because of its sun damages. The students were asked to incorporate it into a re-design of their own item, which was showcased and discussed at the beginning of the workshop. This had the purpose of starting up an open dialogue and ideation process where participants would want to support each other’s ideas.

An excessive amount of materials was at the participants’ disposal besides the discarded red coat; fur, leather, mesh fabrics, knitted fabric, embroidered fabric, lace, pearl ribbon, embroidered ribbon, plastic flowers etc. The idea was to underline the feeling of exploration and playfulness compared to the motivation of the Persona. The criteria were for the participants to finalise at least one item, which was to be photographed at the end of the day, providing a natural deadline or closure at the end of the workshop.

A variety of different items was upcycled with the re-use of the discarded fur and given new life; an interchangeable furry bag strap meant for several bags; a second-hand Swarkara coat, which was too cold in the winter; a pair of average sandals; a shirt for special events; a soft pair of sandals; a fur-to-tie scarf and multi-functional strap-on fur elastics which make shoes ‘make a statement’.

It is important to underline the fact that the point of the workshop for Design Deedee was not to develop finalised products, but, as stated in the Design Challenge, to make her re-use fur and explore new possibilities for how to use it, in other words igniting her curiosity and giving her a positive experience of the re-usable aspects of fur, since her starting point, as a Persona, is to have ambivalent feelings towards fur.

From the top left the original design donated from Kopenhagen Fur Showroom, remaining pictures show dissembling and processing by students.
Images of final outcome of Workshop 1, where the red coat becomes integral in ‘pimping’ students’ own garments.
Workshop 2

The second workshop was supported by a series of wardrobe studies (Klepp & Fletcher 2017) on people who were similar to the character which had been built, developing a more nuanced image of Artist Andrew. Analysing the result and thoroughly understanding what the interviewees have said and done, taking into account their choice of word, tone of voice and even subtle signs in body language helped her identify what they thought and felt disclosing their goals, needs, desires and most importantly their motivation, which is the key in creating a successful co-creational workshop.

Thus, when developing a workshop for Artist Andrew, the scenario started at the very invitation and the presentation of the workshop, which had to speak directly to his motivation in order to make him participate in the first place. As stated below in Model 2, Andrew is a man with confidence in his sense of style, who is motivated by demonstrating his abilities in general and receiving acknowledgement from professionals, or people he respects; based on this, a scenario was created – a design competition named ‘Fashion Futures’.

When inviting Artist Andrew, the pdf ‘Fashion Futures was sent out to potential participants online. The choice of words and the graphic design is carefully chosen to directly spur Andrew’s motivation. It communicates masculinity, professionalism and solemnity. Fashion Futures is a fictive redesign competition and represents a collaboration between Danish menswear brand HAN Kjøbenhavn, Copenhagen Fur and Design School Kolding, the claim being that Fashion Futures is looking for new ideas for ‘how to transform personal items by applying fur in a modern and fashionable way, with no need for participants to be able to sew, and all sewing assistance provided.’
It is important to notice, when consulting Model 2 above, that the participants are at no point in the process presented with the specific Design Challenge, which is the actual purpose of the workshop (as it was the case with Design Deedee, see Model 1). In the case of Artist Andrew it would not have been possible to achieve the wanted Outcome of the workshop by informing him of the actual Design Challenge, because it does not spur his motivation. From a design research perspective, this means that the formulated Design Challenge, which also decides the Outcome of the workshop, does not necessarily have to be presented to the workshop participants – sometimes it can directly obstruct the wanted Outcome.

As described in Personas, Andrew feels quite fashion conscious and is willing to try new things. He has a great deal of self-confidence and he likes to feel ‘on top of the game.’ How can I make Andrew take the ownership of a creative process involving fur and develop a re-design which makes him conscious of the positive aspects of fur?

Andrew is a confident man and he trusts his own sense of style. He likes a challenge and is motivated by demonstrating his abilities. He has a competitive edge and likes to compete for a prize and especially if there is the possibility of gaining acknowledgement from professionals and people he respects.

The Scenario is a mens-only competition made in collaboration with Han Kjøbenhavn, KF and DSKD where the participants are invited to re-design an item from their wardrobe.

Upcycling an optional item from their personal wardrobe with re-used or new fur.

The output for Andrew is the exhilarating experience of competing for a prize, as well as being judged on his aesthetics. Furthermore he takes home his re-designed item along with the story to tell in what he has been a part of.
Another point worth highlighting is the choice of words, when describing in the invitation that there will be *sewing assistance* provided during the workshop, which is a way of ensuring that he takes *ownership* of the creative process. If the invite had stated that we provided *‘professional furriers to supervise their work’*, it could have been an impediment to the Design Challenge of wanting Andrew to take ownership.

Six men between the ages of 19 and 30 participated, representing a geographically as well as socially satisfactory variation; travelling from Copenhagen, Jutland and Funen, two sets of friends and two with no previous social relationship partook in the workshop. They were officially welcomed by the Head of Fashion at Design School Kolding, who briefly explained the outline of the competition and the setup. The variation in personal items that the participants brought to *upcycle* were the following; a coat, a pair of new shoes, a pair of shorts, a sweatshirt, a gun casket, a suede jacket and a cap.

Prior to the workshop, the ‘sewing assistants’, two young women, who both had previous experience working with fur from the *Imagine Talent* course, were instructed to be very positive and supportive towards the participants in order to ensure their engagement and optimism throughout the workshop. The assistants guided them, but the participants took complete control of the creative process.

At the end of the workshop, a photoshoot took place and their final designs were examined and judged by an actual designer from Han Kjøbenhavn, who took her time to comment and offer feedback on each individual design and hereafter announcing the winner. The prize was a gift certificate for HAN Kjøbenhavn’s online shop for DKK 500. To underline a relaxed atmosphere and a masculine vibe, cold beer was served after the workshop, similar to what the persona *Artist Andrew* would do in the company of his friends after e.g. a football match.
The outcome of the workshop showed different variations of how to incorporate fur in menswear from pocket lining, a cap warmer to statement sweatshirts and a hunter’s gun casket.
Workshop 3

The third workshop was developed for the Persona Sustainable Sussie, a practical woman in her mid-sixties who uses her common sense and appreciates quality and handicraft. When applying her persona to the Workshop Model, the different variables would look like what is depicted below in Model 3.

When designing the workshop offering Sustainable Sussie a creative experience, it was important to take into consideration that she is a person who needs to feel safe when exploring her creative competencies, which gave the idea of creating a ‘social sewing event’ as the Scenario for the workshop. When inviting Sustainable Sussie it was also important to give an impression of an informal event, which had the purpose of socialising as well as learning new techniques.

As described in Personas, Sussie values great quality and good handicraft. She herself has quite a bit of sewing experience, but she lacks confidence and needs guidance and support.

How can I give Sussie a creative experience working with fur where she can explore the endless possibilities of upcycling and sampling the material?

Sussie is motivated by learning new hands-on techniques. She likes developing herself and her own creativity and refers to making something for herself ‘a little egoistic’ but enjoys it to the fullest. She works best in a group setting, where she can get support and recognition from friends or colleagues and feel safe to explore her own creativity.

The Scenario is a ‘social sewing event’ in the safe company of trusted colleagues where the participants are able to help and support each other. Each participant is given a tool kit consisting of a simple pattern including fabric, scissors and knife.

Sampling of leftover fur with new fur developing her own design using the provided pattern.

The output for Sussie is the development of her own personal design within the pattern, which she can take home and use again. Furthermore the output is the social experience of working together with her colleagues, bringing them closer together as a group and pushing her own creative development.
A group of eight colleagues working in office and administration were invited to the workshop, with the invitation handed in personally and similar to the invitation in Workshop 2 it was carefully designed to communicate a message saying 'this is primarily a social event and the expectations for your handicraft skills are not very high; you can safely participate.' This happens to ensure that the women invited did not feel any pressure to perform, but were still allured by the fact that they had a possibility to design something for themselves and learn a new skill set.

Invitation to Fur Workshop in English

DESIGN AND STICH YOUR OWN FUR MITTENS

Dear

You are invited to a Fur Workshop on 18 April, 2018 at the Fur Workshop at Design School Kolding. The course will open at 16.00 with a brief introduction to fur and techniques after which each of you will be handed a pattern that can be adjusted to various degrees of difficulty and designed according to your own vision. We’ll help each other and will spend the afternoon in cosy company learning about fur techniques and designing a unique pair of fur mittens which you may take home after the workshop. You may want to bring a sandwich so we can take a short break at some point.

Please register with Solveig at xxx@xxx.dk or xxxxxxxx. RSVP by 1 April.

Kind regards,

Solveig, Lab for Sustainability

At the beginning of the workshop the women were handed a kit consisting of two patterns; one for mittens and one for a pair of baby shoes, a piece of wool fabric for lining, a pair of scissors, a pencil and a furrier’s knife. The reason for providing two different patterns was that one interviewee had expressed a wish for making something for her granddaughter and not for herself.

Providing the participants with different options would give them the opportunity to choose a smaller project (the baby shoe) if the mitten was found to be overwhelming. No participants, however, chose to make the baby shoe. To provide inspiration, three different types of test mittens were showcased, and the women were urged to create their own personal expression as they were guided from beginning to end. Above is an image of the kit (left) and examples of test-mittens (right).

As described in the Workshop Model for Sustainable Sussie, Model 3, no experts were present at the workshop in an attempt to make the women engage even more in the working process of fellow participants, supporting and helping each other.
Images from the participants creating their designs in workshop 3
From the top left: Image of the ‘workshop kit’ and the example mittens made for inspiration.
Below from the right: example of final results. Far right: one of the participants is photographing her process with her phone.
Conclusion and Reflections

When building workshop experiences, it is essential to thoroughly understand the specific users, their social nuances and personal motivations by organising a variety of factors and keeping a close relationship between them using tools such as The Workshop Model and Personas. These tools concretise how different Personas have a huge variety of different needs. Some Personas, like Sustainable Sussie, prefer a safe atmosphere in the company of people she can trust; she cares about the social bonds that can be built during a workshop and the support that she can get amongst a group of colleagues. Sustainable Sussie has a better experience when receiving concrete instruction, and she needs a lot of support and encouragement because she expects to do a technically good job.

When thoroughly understanding and sorting the different needs and motivations of participants, a pattern evolves which reveals that workshops with a similar purpose can be repeated for each developed Persona, not only locally but also internationally, when remembering to adjust factors like Personas, Motivation, Scenario etc. to fit the cultural environment and potentials of the participants.

When assessing the workshops it is important to remember that the item which the participants created during the workshop is not the Outcome; rather the experience the participants had of making them is the Outcome. It is impossible to become a furrier in the duration of a workshop for obvious reasons, and some of the participants (Workshop 2) did not even have experience in working with handicraft, which should not prevent us from providing them with the tools to experience and retrieve an understanding and a relationship to the actual material. For the persona Artist Andrew I found during the research that one of the interviewees was excited about HAN Kjøbenhavn as a brand, which is why that company was included as part of the fictive scenario. The combination of a competition as a framework, the perception of the brands involved and the other important variables connected to the workshop made the participants highly involved and engaged, taking ownership of their own creative process and resulting in final responses from participants like Phillip, who said about his own design:

“There are very few things in fur I could see myself wearing, but I could easily see it being used in this way and then still being something that I would use.”

Or Jonas, who was also interviewed after the workshop, answering the question of what he had gained from participating:
“Besides a lot of respect for people who do these things from scratch, I would say determination, do-it-yourself power and … not being afraid of fur in men’s fashion. Actually, I think it is pretty cool.”

As expressed in the Persona catalogue about Artist Andrew, statements like these suggest that he truly has the potential of becoming a future user of fur. When participants partake in an exciting experience, they will always connect this to the subject at hand and as such it is the connection between workshops and fur, when having a positive experience in a motivating environment, involving a technique or a material, an emotional value will unconsciously be linked to that experience which the participants might even share with friends:

At the top right is an image of one of the workshop participants’ personal Instagram profile, where he posted three images of his gun-casket:

“(…) Invited to the Men’s Exclusive re-design competition (…) We were asked to bring an ‘item’ from our wardrobe and re-design it ourselves with sustainable fur from @Kopenhagenfur (…) Unfortunately I did not win the competition, but I like my gun casket much better now.”

This image alone has 63 likes and 9 comments as well as two tags of Kopenhagen Fur, which demonstrates how a single workshop experience can result in genuine positive publicity for the companies involved and showcases a new opportunity for spreading a positive message involving fur, re-use and upcycling through micro-influencers.

Barlow & Maul [4] state that emotional value is a part of the ever-expanding service economy of today rapidly changing the business culture. In addition most companies have not yet taken full advantage of the economic opportunities
stemming from retaining customers by adding emotional value to their products. They argue that to be competitive in today's economy, businesses need to produce a distinctive personal and emotional experience for each of their customers. In their publication, *The Future of Competition: Co-Creating Unique Value with Customers* [7] they state:

“The meaning of value and the process of value creation are rapidly shifting from a product- and firm-centric view to a personalized consumer experience. Informed, networked, empowered and active consumers are increasingly co-creating value with the firm.”

The fact that we are moving closer to the future user within co-creational design also provides design research for the opportunity to observe how the user obtains a higher sense of influence, a space to act as an expert and participate in the development, as well as the idea and concept development, in the early stages of the design process.

For the development within the fur industry and sustainable fashion the creation of experiences for users or customers offers an enormously lucrative potential and has several advantages: it enlightens people about the positive aspects of fur creating an emotional value associated with the material and its positive abilities of re-use, repair and upcycling. Workshops are a relatively cheap format considering that you are able to re-use fur scraps and provide an exciting experience for people and communities with an expanding interest in do-it-yourself, hacking, upcycling etc. As described, it also provides new channels for advertising on a grassroots level, which has the potential of becoming very influential in the future. Consumers are to a greater extent looking for opportunities to experience and to feel capable and actively involved other than merely purchasing. Future consumers want to feel like they can be a part of something for which workshopping provides an obvious platform.
The purpose of this report has been to look into longevity strategies as an essential part of forming a viable circular economy model in the fashion industry. We have positioned fur as a learning example, as fur as a material and the industry around it holds valuable properties and practices to develop such a model. Whereas the first part of the report outlines the current debate and the state-of-the-art research on longevity, circularity, assessments and materials, the second section forms the basis for the three sub-sections described in the second part of the report. In this part we bring together the strategic insights from the projects and position them in the discussion.

As outlined in section one, the concept of a circular economy has been widely celebrated and has to some extent been hijacked. In some cases, circular economy models have been seen as a way of cutting costs by returning specific types of material resources into production of new products, and it has in turn become a way of maintaining a wasteful and unsustainable production system. Secondly, the promise of technological fixes is seen as solutions that will enable circularity without requiring fundamental changes to systems, business models or consumer cultures. This report presents a critical reflection on these problems but also an attempt at an alternative narrative and new suggestions for change. When looking at material properties, it is concluded in this sector that organic materials such as wool, leather or fur fare badly in current LCA measurements such as the Higg Index, as these models do not include the use phase of products, and the environmental damage inflicted here. This happens first and foremost as the use of things is hardly quantifiable through a technocratic perspective, and that is why this phase is not included. The ‘mess’ of real life interaction with consumer products, however, seems to researchers and NGOs to be the very key to understanding how a new and more sustainable future might be formed.

In section two of the report, we have first documented the bumpy road of garments’ life cycle as they are being placed in the hands of furriers and tailors to be mended, repaired, maintained or re-designed. We have looked at the wear and tear of day-to-day life, and documented evidence of why these garments are valued, to the extent that the owners wish to pay for a prolonged life span. Secondly, we have specified how we have worked with perspectives of longevity when teaching at Design School Kolding, exemplified by the Imagine Talents master class of 2018. Thirdly, we have carried out two artistic development projects in order to test opportunities for longevity within the framework of Re-New: first, a smaller design project carried out by designer Mette-Julie Bundgaard Nielsen for the subsidiary brand of Kopenhagen Fur, Oh! by Kopenhagen Fur. Second, a series of three workshops based on user-involvement was tested in order to uncover a space of opportunity for Kopenhagen Fur to engage deeper with new and existing markets. On that basis we bring forward the following strategic insights:

The sub-projects, each in their own way, address the need for fundamental reconfigurations and a change of culture in the fashion industry and in consumption. Whether through education, user experience or detailed industry knowledge, the projects demonstrate that human ingenuity and adaptability as well as nuanced industry structures are necessary to ensure a longer life of garments. In the area of sorting used fibres, for example, the promise of mechanised sorting systems has been widely celebrated, but the reality is that the technology is limited and generates new problems along the way. The view from what could have been the end-of-life of the garments supports the argument that technical solutions cannot stand alone, and that ad hoc solutions are required. No matter how efficient the system waste is always generated, and products break down.

As the ethnographic studies show, each product needs individual consideration. The knowledge from repair professionals also shows that unintended use challenges systemic fixes. In order to catch the waste and the broken products a more nuanced, reduced and slower system is required. The higher the value of the product – whether economic, emotional or cultural – the better the chance is of creating longevity.
As examples from teaching and learning through design experimentation show, there is a wide area that needs further investigation when it comes to circularity. This counts for approaches for broadening the spectrum on designer roles, material usage and user involvement. The *Outcome* of the workshops points to new ways of teaching fashion design in a circular economy that involves valuing. The *Outcome* of the workshops tentatively illustrates that a circular mind-set might influence and hence reconfigure a design process by using already used materials and garments as material resources, by including users directly in the process, and by sharing the design authority between workshop facilitator and workshop participant. This is important as there is another key factor to consider when designing for a circular economy, namely the people who ultimately must want to use the products. This emphasises the relevance of finding ways of bridging material-driven and user-driven design approaches and develop new types of teaching formats, not least for the field of fashion design, where the economic and sustainable potential of user involvement and co-creation in the design process is still an under-researched subject.

Based on these considerations a strategic focus of the report lies in what could be termed strategic innovation. It urges increased questioning of the nature of design innovation, and how it can be brought about from a sustainability perspective. Thus there are more lines of circular thinking that could well be applied more effectively at Kopenhagen Fur Studio, as well as in the fashion sector in general.

1. There is a need for a documentation system that can value the phase of use when measuring LCA, for example, a system that takes into consideration the emerging research being conducted that documents how garments are actually being used and worn in real life settings. This would readjust the current lack of balance between synthetic and organic materials considerably, as research points to the fact that materials such as wool, leather and fur are kept in the loop in the use phase for a considerably long time, well supported by services of repair, mending, and re-design.

2. The connection between design, production, sales and services must be coordinated more holistically in order to stimulate a new luxury strategy that builds on longevity and experience. As the market is inundated with trend-based garments consumers move towards wanting experiences rather than products; this introduces the use phase as an interesting point of departure for developing new business models and design approaches for longevity. This idea of luxury is supported by hand-held ad hoc services carried out by specialists, skilled designers, who develop emotionally treasured styles together with users or user segments, and business models for re-sale or rental that preserves material resources.

Altogether, our argument is that technological fixes and current fashion industry practices are integral parts of the problem of unsustainability and, as such, these measures are not viable in solving our current problems – neither in the fur sector nor in the fashion industry in general. However, technology and fashion can play a vital role in RE-NEWING fashion cultures and bringing them into the 21st century. We believe that the practices from the fur sector described in this report can be exemplary, even for actors in the fashion industry for whom fur itself is controversial. By shining a light on these practices and identify their potential in a circular framework, we show that they can provide a pathway for implementing this change in order to create a new and more sustainable future.
Literature


We wish to extend a warm thank you to all Kopenhagen Fur staff who have kindly helped us by sharing their knowledge and providing access to retailers through workshops and knowledge centres in Denmark and China. You are too many to mention here, but you know who you are. We are very grateful for the support and exchange of ideas from Fur Europe, especially CEO Mette Lykke Nielsen. We highly appreciate the flexibility and support from the management at Design School Kolding. And not least, we would like to thank our reviewers, Professor Emerita Karen Tranberg Hansen, Siobhan Magee, ERC research fellow and Julie Maria Iversen, VP Design and Creativity at Kopenhagen Fur.