

Master's Thesis

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Ecological design as a  
result of innovative mindset

Design strategies, potentialities and solutions



**Telemark University College**

Faculty of Art, Folk Culture and Teacher Education

Master's Thesis in Traditional Arts 2015

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Telemark University College

Faculty of Arts, Folk Culture and Teacher Education

Telemark University College, 2015

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# Abstract

The present project contains two components: theoretical and practical. The central theme of this paper is design and it is mainly oriented toward the analysis of sustainable strategies within ecological design. It includes questions, concerning social responsibility, ethical trade initiatives and brand development processes. In order to research these problems, the project has brief discussions about what ecological design is; what kind of criteria are used to delineate notions; if there is any use in naming it ‘fashion’, and finally what makes eco-brands being called so. My work also includes analysis of three fashion brands – *Sølv* (Norway), *Nurmi* (Finland) and *Filippa K* (Sweden) that are presented as being the most open and reliable in their way. Each of these brands has their own history, beliefs and vision. They use different approaches, but at the same time they have managed to find their own niche and be successful.

The project aims to gain a better understanding of ecological design and its aspects through the study of before-mentioned companies. A challenge is to find out, as far as possible what is behind the brand, and whether what they say and what they do is actually the same thing. It also will be about influence towards the costumers and the choices they make.

The theoretical framework for this project has been based on the works of leading experts that bring together fashion and technological innovation, looking for new ideas and approaches to sustainability. I refer to research report, provided by M. H. Austgulen and E. Stø for Norwegian National Institute for Consumer Research. The main topic of this paper is the dualism of eco-labels and environmental standards in the global textile market. The reports, submitted by Environmental Justice Foundation, Organic Trade Association, United States Environmental Protection Agency and World Fair Trade Organization are also presented here. I include numerous examples of brands that use different kind of strategies and supply their works with practical solutions and descriptions.

The practical part of the project is realized through a collection of clothes, made of natural materials. The main idea of the collection is laid in transformation and ability to restore worn-out pieces easily, expanding the boundaries of long-lasting design. In such a way, I present my own ideas on how materials can be used for clothing to give them a second life in the future. This helps me to find the best solutions for my work and gives me an opportunity to use an experience I have acquired for my further development in Ukraine.

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# Preface and Acknowledgements

When I started my education here in Telemark University College I was sure that I wanted to work with textiles. So, when I was said to find something I had to build up my concept on, I realized it had to be something that would be both understandable and useful to everybody. I have therefore chosen to do my thesis on the subject of ecological design. Even though, I did not know much about it when I started, I was so excited to learn new things, so now after two years I can see that the topic is much broader than it seemed to be right from the start. Anyway, I have been engaged in really interesting study and it was a great pleasure for me to work with it!

I wish to express my deep gratitude to my supervisors Bodil Akselvoll and Tellef Kvifte for their highly professional guidance, useful advices and continuous encouragement, extended to me during all working stages. I would like to thank all the teachers I have had while studying here: Frode Nyvold, Arne Wik, Gjermund Koltveit, Mats Johansson for their lectures and seminars. I am also grateful to Veronika Glitsch for her valuable advices and tips, her own view and experience, shared with me during the interview. It gave me a good basis for my investigation.

I am extremely thankful and indebted to librarians Gunn Evensen and Ranveig Tunheim for their support and help with literature and references during this research.

I want to mention Olha Zarytska — a photographer and person of considerable talent, who helped me to realize my practical ideas along with Victoria Turok, Helen Vechurko and Alina Shvets, who helped me with visual part of my work.

In the end, special thanks to organizers of Copenhagen Fashion Summit, who let me being the part of the event; and designers, who found time to answer the questions I raised in my work. I am grateful to everyone, who directly or indirectly has taken a hand in this venture!

Norway, Rauland, 12 May 2015

Lada Poltavska

# 1 Introduction

In today's world, where pollution and destruction of the environment in various spheres of human activity has become a global process, the consequences of which led to ecological crisis and the need for fundamental changes in many areas, the current situation requires a thorough rethinking of means and methods and complete revision of priorities, not only in production, but also in politics and economy, as environmental problems have different origin and reasons.

Globalization has been increasingly imposing patterns of thinking, offering us numerous economic benefits of artificial environment. Earlier such problems often arose because of relationship between man and nature, based on the belief of the first in his own superiority. Today the experts believe overcoming the crisis is only possible provided a cardinal change in views, thinking and values, using the experience, acquired in the way of empirical knowledge. In such a case, formation of new attitude means a transition to a new stage of harmonization with nature and human beings within environment. Whereas transition to ecological thinking means strengthening of environmental humanism, as a basic guideline in human activity.

The formation of ecological consciousness of society and people's understanding of nature, as another living being, over which it is impossible to rule without prejudice to it might be one of the way outs in the future. Ecologization of public consciousness has made less progress in comparison with ecologization of science and culture but, in fact, only that way ecological potential of society is implemented, that determines its prosperity afterwards. The only way to do that, in my opinion, is dissemination of ecological knowledge. Like any others, it should be done on a scientific basis and be free from any emotional and subjective prejudice. It can be realized in many ways – through television or books, but also with a help of art and design in particular.

Issues, concerning ecological design go far beyond the creation of products, made of natural materials. Today designers try to create not only something that could be called 'ecological', but also 'socially responsible' or even 'ethical'. This means that the process of creation includes many aspects, and both communicative and social issues are considered on a level with technological one. Norwegian brand *Sølv*, for instance, produces clothes, made of wool from local sheep. Production of yarn and textiles is concentrated near the place, where raw materials are collected and stored. Although tailoring process takes place outside Norway, designers thoroughly control the entire process. Thus, the brand primarily supports local producers, saving resources on the transportation of raw materials to the place of manufacturing. When choosing a

factory for making their products, they turn their attention to the production that follows the rules of sustainability in all processes. Another example is *Nurmi*. *Nurmi*'s strategy aims at internal processes: the local production and zero-waste strategy. Anniina Nurmi focuses on the idea of creating ergonomic garments; as well as taking into consideration such aspect as transparency of production. *Filippa K*, in addition to the traditional eco-design strategies, relies on technological innovation in production. They have developed a fibre tool, which is widely used to test the raw materials for environmental "friendliness". This tool helps selecting fabrics, being applied, as a controller for using environmental-friendly materials. Although their choice and approaches might be similar in many ways, yet everyone is looking for new opportunities.

Search for new materials, new methods for natural dyeing, use of recycled fibers, restoration of traditional crafts used in the manufacture – all of this has been developed into a stable and universally applicable practice under the general definition of 'eco-design'. There is no doubt that fashion, as one of the areas of popular culture has a huge impact on its followers. That is why, it is very often used by designers as a platform, where any claims and statements will be heard and taken into account.

Eco-design involves the use of easily recyclable and safe materials. At all times, clothing served as protection for the body from various extraneous factors with the help of preference of a certain material, and so became a determining factor in an individuals' social activity, regarding the shape and color. Year after year, the idea of functional potentialities inherent in it, as well as conceptions of style and ideal looks superseded one another. These three determining factors – form / content / color remained unchanged. Clothing involves constant contact with the skin. Due to this factor, it depends whether it is comfortable enough to wear, if we feel our psychological satisfaction, but also economic moments amended the general idea of fashion.

Following the book "Silent Spring", written by R. Carson in 1962 that documented the negative impacts on the environment, the environmental movement turned attention to the relationship between economic development and environmental degradation. That time, the reorientation of the economy was set in through enactment of environmental regulations and standards. An international market for environmental goods and services was organized gradually and concerns about environment became crucial for all business sectors. However, the imbalance began to emerge, when the manufacturers started producing not just what is necessary for survival, but required for the market. The main goal was to gain a profit, and environment has become a perfect mean for getting it. People have started to think about the consequences of their activity only when nature began to malfunction and resources were almost depleted. But real discussion



about design in terms of ecology took place in 1980s, when the International Union for the Conservation of Nature published a world conservation strategy, where the objectives of conservation and requirements for their achievement were revealed in connection with environmental planning.

Ecological orientation has led to approval of a new system of values in design, on the basis of which certain concepts occurred. For example, the concept of development, or the concept of cycles those, according to Center for Ecoliteracy, intersect with larger regional and global cycles. The concepts put social and cultural functions of design in the forefront and its importance as the consistent product of human culture development, and place retrieval in the new situation. If that is so, a thing as an object of design activity is a symbol of lifestyle in general, reaffirming its appeal and appropriateness, so the design is able to act on a certain lifestyle formation. It determines the structure of needs, contributing to consolidation of ecological values in society.

In this thesis I attempt to examine the development of eco-design, a variety of areas, concerned with technologies, materials, ethical problems on the basis of existing literature and analysis of designers' creative works. I also discuss principles, used by different designers: their concern about environment, respect for cultural diversity and traditions; clothing manufactured in the concept of 3R: reuse, reduce, recycle, i.e. reuse the fabric, reduce waste and recycle it; use of easily-recoverable resources for fabric production; reasonable consumption of materials during production processes etc.

In my opinion, eco-design is a very deep, interesting and useful direction with a great potential. It carries not only an aesthetic function, but also considers fashion from the perspective of healthy lifestyle and society as a whole, that neither harms itself nor nature. It generates a responsible attitude toward consumption and waste of natural resources, their sustainable use, and teaches us to live in harmony with environment, creating understandable and healthy future. Recently, it has been enough for textile factory to fit out industrial process, and mass produce low-cost, high-quality, pleasant-to-wear and easy-to-care clothing. However, scientific studies have shown that not all the materials they use can be applied, especially, when it comes to chemicals, commonly used in industrial processes that are dangerous for our health and environment. As a result, it led to the widespread development of eco-design both as an occurrence and movement later on.

The number of proposals from designers of different levels is increasing every year. It is evidenced by publications in fashion magazines, and information in news releases. Under such conditions, the demand does not generate the supply, but the latter tries to find a buyer, a market

and advantageous terms. If it is not about to happen, then there is a large amount of extra goods appeared that first get to the second-stores, and then find themselves in a scrap-heap. At best, such garments can be disposed or used as secondary raw materials.

Eco-designers pay great attention to the protection of the environment over the entire life-cycle of the product. In such a case, all aspects of creation, use and disposal of products should be taken into consideration. Eco-design on a par with obvious and common requirements of beauty, comfort / convenience and price should pay particular attention to the consumption of resources on designing stage, manufacturing, consuming and waste recycling phases. It should allow for provenance of the materials, appreciating many aspects, such as protection of the environment by the manufacturer (supplier), the adherence to the specifications, as well as fair trade, proper treatment, fitting working conditions etc. Such things as safety, lack of detriment, minimization of probable emissions; the same way as simplicity and safety of recycling, re-using of materials with minimal environmental damage are of a paramount importance, especially, when it comes to eco-conscious orientation.

You can find a very few works that address the impact of different technologies on the formation of fashion trends, focused mainly on the description of innovation in textiles. Therefore, I think, it is important to analyze the present state of the processes, regarding innovative technologies and ways of thinking applied. It may be possible on the assumption of similar analysis of the brands that are discussed in one of the sections. Each of designers chooses certain technologies and actively applies them in practice. This allows us to consider the eco-design not only as an approach or set of strategies, but as a relevant aspect of production. For this, it is necessary to consider the use of technologies that are aimed at expanding product life and explore the audience, the target group, analyzing the possibility of competent promotion of such designs, even among more conservative consumers.

All these aspects might make eco-design a long-term stable trend, aimed at people; their individual perception, identification and self-realization, as an integral part of ecosystem, affecting both the environment and, as a consequence, their life. Nevertheless, it is important to go deeper into the problem and find out the essence of eco-design and what makes it ecological.

## 1.1 The area of research

The research area of my project covers the field of ecological design. I am going to take a look at fashion industry and its impact as an insider, exploring it from different angles and perspectives.

For my work I chose three directions. The first direction concerns the processes within social context, another one is focused specifically on concepts and strategies, widely used in design, and the other direction is based on practical implementation of existing design approaches, carried out through a collection of clothes.

It is obvious that our environment is a complicating multileveled and tangled system, which includes people, both social and cultural processes. People consume everything they produce, including clothing. We all have basic needs and demands, which may, one way or another, influence upon us and our choices. We live in the world, where instant decisions are best and there is no time to think over. The processes, which we usually take part in also have a large impact, but this time on our environment, nature and society. Environment here is not only about the place and the nature, but also about the requisites for further development.

The fashion industry today is considered as the most global, engrossing and dangerous. It is dominated by just-in-time production and fashion trends that all in all quickly become dated. Greenpeace released a report, called “Toxic Threads: The Big Fashion Stitch-Up” in which it tested items of clothing from 20 brands and found that items from every of those brands contained traces of hazardous chemicals. The worst offenders were Calvin Klein with 88% of items, containing hazardous chemicals; Levi’s with 82% and Zara with 70% (Mau, 2012).

Fashion puts more stress on appearance and forces us to purchase all these must-have trifles and we buy them without a moment’s hesitation, instead of cherishing our clothes and keep them longer. As a result, it gives us a wrong impression about priorities and about the role of personality in the end. For me, as a designer on the one hand, and as consumer on the other, it is important to find out the motives and the driving forces behind the brands to answer the following questions...

## 1.2 Main problems and research questions

Today, there is no clear understanding in what ecological design is. More and more companies position themselves as ‘green’ and ‘eco-friendly’ just because it is popular, but only few of them are transparent and ready to prove their conformity with requirements, set by world leading environmental organizations. Therefore, my thesis is based on the discussions of what eco-design implies and what kind of strategies are used today and why. I shift my focus to designers’ ideology. I try to understand what kind of meaning they put into their works. In this case, I need to stretch my perception to reveal the nuances, and distinctive features inherent to each of them. So, the present theme is chosen for two reasons: firstly, because of my interest in researching the possible ways and solutions, and enquiring an experience. And secondly, because of the lack of research, concerning the processes I have described.

I focus on the following research questions:

- *What is eco design and what are criteria for ecological compatibility?*
- *What kind of challenges designers encounter in launching the eco-brand?*
- *What do they do to be eco-friendly? How do they get their brands noticed?*
- *What kind of meaning designers put into what they say and what they do?*

I also wonder how I can interpret the experience of designers and transform it into my own, using approaches I learned in practice.

## 1.3 Methods

The research is based on a systematic approach to the study of the empirical material, taking into account the relationship of its components and includes the following methods: *collecting data*, *experiments* and *comparative analysis*. I took personal interviews to get comprehensive information, related to my topic. Experiments were needed to find out the best solution for my practical part. Comparative analysis was used to find similarities and differences in approaches, in order to make a conclusion. Data collection is consisted of reports, surveys and observations.

## 1.4 Earlier works in the field

Ecological design gains in scope with an increasing number of exhibitions and presentations, related to ecological issues. Every day there are more and more designers, who use elements of natural fibers in their works — *Svilu, Kowtow, Edun, Carrie Parry, Chinti and Parker, People Tree* and many others... They all are united with their attempts to protect environment.

The same way as experts, who analyze the issues by making research on ecological materials and fabrics (G. Baugh, A. Gwilt, T. Rissanen), investigating its lifecycle, and the way we wear clothes (L. Bovone, S. Walker, M. Flanagan, H. Clark, L. Finley etc).

The book “*Fashion and Sustainability: Design for Change*” by Kate Fletcher and Lynda Grose examines the potential of sustainability for change in fashion system and designers’ thinking. Authors consider the ways in which negative impact can be reduced. I used some materials from this book in my work, because it has clear explanations of different models that reduce material output, including examples of strategies, used in practice.

Another example is the work called “*The Branding of Ethical Fashion and the Consumer: A Luxury Niche or Mass-market Reality*”, written by Nathaniel D. Beard. This article addresses the branding and marketing of ethical fashion. Consumer behavior, promotion of eco brands, as well as challenges, encountered by designers are also investigated. This gives me a better understanding of important aspects of fashion business and brand strategies that reinforce brands’ position in the market.

## 2 Design: criteria for ecological compatibility

*Various thoughts, arguments and ideas, concerning ecological design and its role in today's society, such problems as consumption and globalization, social identity and consumer behavior are considered in this chapter. The product lifecycle stages, principles and aspects of production, as well as different kind of concepts will also be presented here. It is important to investigate eco-design both as cultural process and social movement, and set it off against the concept of "fast fashion".*

### 2.1 Fashion and design (concept models)

Fashion is not only a profitable business that generates taste to help meeting utilitarian needs and unquenchable desires; it helps to express our own personality, demonstrating momentary predominance of certain styles, color preferences and people's liking, manifested in external signs, especially in clothing. One of the features of fashion is *temporality*. For all that it is a tool that brings a person not only social, but also cultural experience, being a bridge between different social groups.

Martinez sees fashion as an economic industry, an aesthetic referent, a way of social self-assertion before others, a way of communication and a vehicle of definition of personal and social identity (Martinez 2014: 94). It might seem that three last aspects, mentioned by him are the same, but in fact they are not. By social self-assertion in the first place is meant the human desire to belong to a particular social group, not even as a representative of this group, but rather as an observer or passive participant to be at least visually closer to it. The third definition is very similar to the previous one, but also has its nuance. If in the first case (self-assertion) clothes can signal a real or false people's belonging to diverse sections of society, namely their intentions, desires and aspiration, then the third statement emphasizes the present state of things and the attributes of clothes that are "mandatory".

According to Stuart Walker (2006: 71-72), the author of "Sustainable by Design":

*Fashion suggests a passing trend or fad – something transient, superficial and often rather wasteful. It represents the opposite of longevity and, as such, would appear to be an impediment*

*to sustainability. Therefore, inherent to the notion of fashion is time. As time passes, fashions change – things become old-fashioned and consequently no longer desirable. The rate of such change is now probably greater than it has ever been – which is often seen as a good thing for economic competitiveness and market stimulation, but a bad thing for resource conservation and environmental stewardship. However, these negative connotations pertain only to the way in which fashion is manifested and used. Change itself is inherently neither positive nor negative – it is the nature of the change that is important.*

The main advantage of fashion is the ability to provoke people of creating something new, searching for fresh ideas, shapes and designs. Another more or less good thing is that it helps defining your own style at certain space of time; it breaks and sweeps canons on its way, bearing the risk, associated with innovation, skillfully or ineptly emphasizing peculiarities. However, these qualities that are seemed to be good may be turned into something negative, if we mention the way it affects the people and the nature, expanding pollution and waste. It is noticeable that fashion as one of the forms of self-expression often serves the elite class, demonstrating their exclusivity. For people, who are on a lower social level, the use of fashion possibilities helps, at least visually, becoming flush with the more lofty status groups. It can therefore be argued, according to Bovone, that the mainspring of fashionable behaviors is the attempt of lower classes to imitate the style of the upper class (Bovone, 2012: 70).

We can consider fashion from the producers' point of view as an endless search for the new, aimed at gaining consumers' interest. From the consumers' point of view, we can see fashion as access to an inexhaustible market of appearance, in which one can buy elements of sociality, layers in which to wrap oneself before establishing contact with others (Bovone, 2012: 78-79).

One of the key features of fashion development in 1970-80s has become a multi-direction or lack of a single dominant style. There were plenty of styles appeared, associated with subcultures. The lifestyle and clothing of their representatives were increasingly penetrating into high fashion. Since the Sixties, the cycle of fashion has been spinning ever faster — clothes now become fashionable, then out-of-date and then 'retro' at breakneck pace (Godfrey, 2013: 6). Another significant feature is a sudden increase of accessibility for the broadest groups of people and intensive development of mass-market. Seasonal fashion has picked up speed in recent decades. If earlier in 1950-70s the designers made two collections a year, by the end of the twentieth century they covered all seasons, making 2-3 collections per one. That is not counting small collections that are available on stores' request that means that their production is unattached to a certain season.

Unlike seasonal fashion, long-lasting design, that has a few fundamental directions, undoubtedly meet all the requirements of the design and the use of ecological raw-materials (including reuse). It is looking for new ways to improve the production process. The first direction is the creation of collections, where things are versatile, so they do not lose its relevance for many years. Such clothes are discarded because of being torn or worn-out, but not because they became old-fashioned. There is also another direction, and here it is important to understand what makes people to be obsessed by certain things. What makes it a favorite one? Most likely then we can talk about uniqueness, or a small number of circulation, or about handwork or maybe even individual tailoring as it has been recently. Such a thing is not thrown away, when the season is over, it becomes favorite for years, and probably the main thing in one's wardrobe. It might "dictate" what kind of accessories, jewelry or shoes to buy, but without question, both of these trends extend the product lifecycle, and therefore do not contribute to overconsumption. It takes into account all the factors: the sources of raw materials, transportation, proper storing of finished products etc. As about seasonal fashion, again the main trend here is a desire to please the consumer, regardless of the consequences. Fashion trends are not supposed to live very long. Colors, prints, cut change too quickly to allow us to reflect on the oversaturation of the market or the immorality of a treatment, when we are talking about environment.

Fast speed in fashion has become synonymous with the particular type of fashion product and retail environment (Fletcher, Grose, 2012: 126). Such problem as "materialism" or obsession with flashy things, emerged after formation of the ideology of "consumer society", in which the true criterion of successful life was the scope of personal consumption, changes traditional attitudes to clothing. Instead of quality and durability, the manufacturers started focusing on making clothes that are supposed to be sold fast, just as the quality barely stands the season, sometimes losing its original form even faster. At the moment, fashion cycles are short-lived, which today's customers strive for keeping up with. That way, satisfaction of new demands is at the expense of natural systems.

*The complexity of what fashion offers and uses, the speed and scale of the industry, and the difference between fashion and clothes all call for more diverse and systemic approaches to environmental improvement, particularly in the mass-market sector. The environmental challenge that we face demands a deeper questioning of the problem of unsustainability and more creative approaches to creating solutions, especially in the area of design, where 80% of a product, service or system's environmental cost is determined (Tham, 2012: 217).*



Johansson (2010: 22) characterizes similar approach as following:

*Experts blame fast fashion as the reason for the dramatic expansion of our wardrobes, which means that manufacturers are working with shorter production cycles, with some generating up to 15 “seasons” per year. This almost continuous stream of new fashions from factory to store creates a sense of stress among shoppers to buy before new stock arrives (cited after Dirksen).*

Globalization is another source that spreads trends by means of Internet and advertisement.

*Globalization has also increased the access to global fashion media and trends, which have led to the homogenization of fashion design as well as the popularity and profitability of copying top fashion labels. This has decreased the differentiation between high fashion and high street clothing. There is also greater international mobility, allowing buyers to travel and garment designs to circulate. With this access to trends along with the increased production capabilities, the high street stores can copy styles even before they have been sold through the original designer’s store (Johansson, 2010: 23).*

Slow Fashion movement is based on the same principles as Slow Food movement, acting as an alternative to fast fashion and the mass production in particular. “Quality over Quantity” that gives us to understand that materials and work are valued highly. Johansson considers quality as a feature for the production, for social matters, as working conditions and living for the workers, as well as quality in terms of our environment. Quality is also discussed in terms of material, as for the physical garment and the fashion and style of the garments (Johansson, 2010: 61). Initially, Slow Fashion movement rejected all mass produced clothing, recognizing only those that have been made by hand, but gradually expanded its principles and interpretations in the end. Johansson states, it is often linked as an opposition and a reaction against the quantity of today’s fast fashion consumption and fast fashion strategy of the high street chain stores. The key issue is the need to move away from just-in-time production dominated by fast fashion (2010: 61). Ecological direction is mainly related to the ethics of professional activity with a change in the goals and objectives of design in today’s world. Slow Fashion promotes sustainability and ethics. Its development is impossible without strict control over all stages of the production. It tends to slow down the supply chain, reduce the number of trends and seasons in fashion, as well as aspiring to the production of high-quality items and returning to the greater value of clothing.

Cataldi, Dickson and Grover (2010: 7) pay attention to the problem of consumption and fast production in their work:

*Consumerism is a symptom of our inherently fast-paced production cycle and revolves around paradigms that are embedded in today's society. Fast production and fast consumption inevitably lead to the systematic decrease of resources and increase of waste, thus stressing the capacity of the earth of regenerating itself at a natural pace. This is why the 'slow approach' intervenes as a revolutionary process in the contemporary world; in fact, it encourages taking time to ensure quality production, to give value to the product and contemplate the processes' connection with its environment (cited after Honoré, 2004).*

*Slow fashion therefore indicates slower processes from the making to the using; a balance in speed, of consuming, producing and designing that takes the pressure off for designers, customers and workers in the supply chain. It is a strategy for design, production, consumption and use as well as reuse, which offers a sustainable and ethical way of being fashionable (Johansson, 2010: 65).*

Slow Fashion has a number of different tools to extend the product lifecycle. In order to effectively use them, it is not necessary to resort to such extreme ways as boycotting the mass production. In fact, Slow Fashion directs the user to select the way of clothing and locally produced handicrafts to support small businesses, buying vintage clothing and making donations to those, who need it. Designers, who prefer to work towards the Slow Fashion are seeking to create high-quality clothes that will last longer and can be restored. *Etrican* creates affordable designs by using high-quality organic materials, produced in a small factory in Tirupur, India.

**Biletet finst berre i den trykte utgåva.**



Fig.1 A small factory in Tirupur, India (2013)

Biletet finst berre i den trykte utgåva.



Biletet finst berre i den trykte utgåva.



Fig. 2-3 Etrican's summer collection (2012)

All the clothing is GOTS certified. They see it as their responsibility to actively spread the word about the current issues in the fashion industry and let people know fashion can be done differently (Etrican).

Feral Childe, founded by Moriah Carlson and Alice Wu, combines thoughtful choice of materials and attention to quality construction to make smart, wearable silhouettes for forward-thinking women (Feral Childe). The outfits, presented below are rendered in natural fibers, including organic cotton jersey, blended with yak down, silk cotton coating, hemp, tencel and linen blends.

Biletet finst berre i den trykte utgåva.



Biletet finst berre i den trykte utgåva.

Biletet finst berre i den trykte utgåva.

Biletet finst berre i den trykte utgåva.

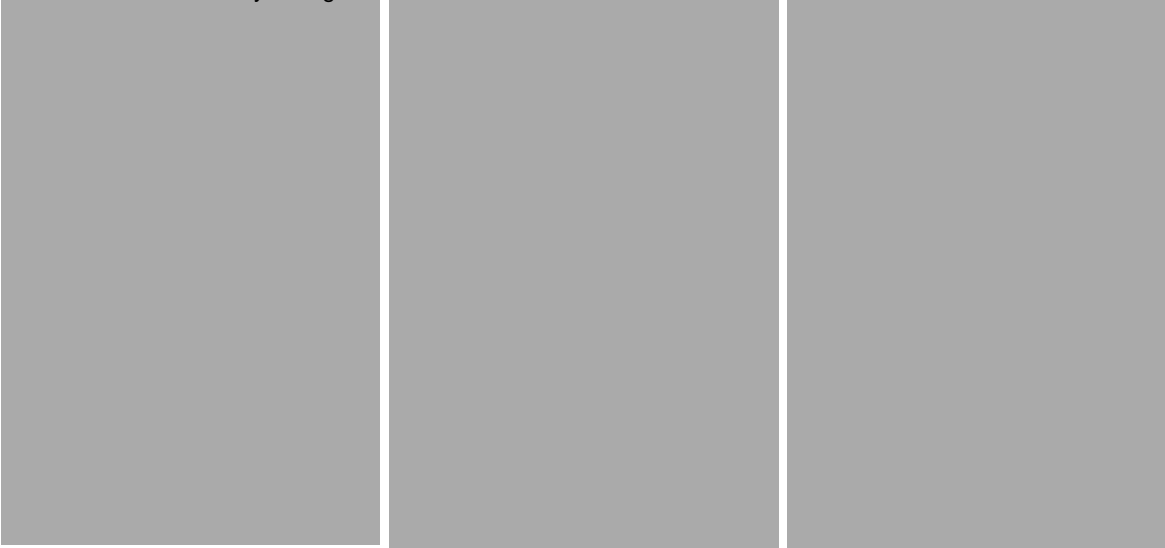


Fig. 4 Feral Childe's collections F/W'14 and S/S'13

An equally important aspect of the Slow Fashion may be the choice of clothing made of environmentally sound, ethically produced recycled fabrics, as well as independent production — manufacturing, repairing, and processing. Another example of sustainable brand, in this regard, is *Worn Again* that started with footwear, made from recycled materials in 2005, and has continuously sought out bigger, better solutions to the challenges of textile waste. Their goal has always been the same: to eradicate textile waste. Today *Worn Again* have left the field of upcycling behind and are no longer producing upcycled products, as they are now making headway with a closed loop textile recycling solution (Worn Again, 2015).

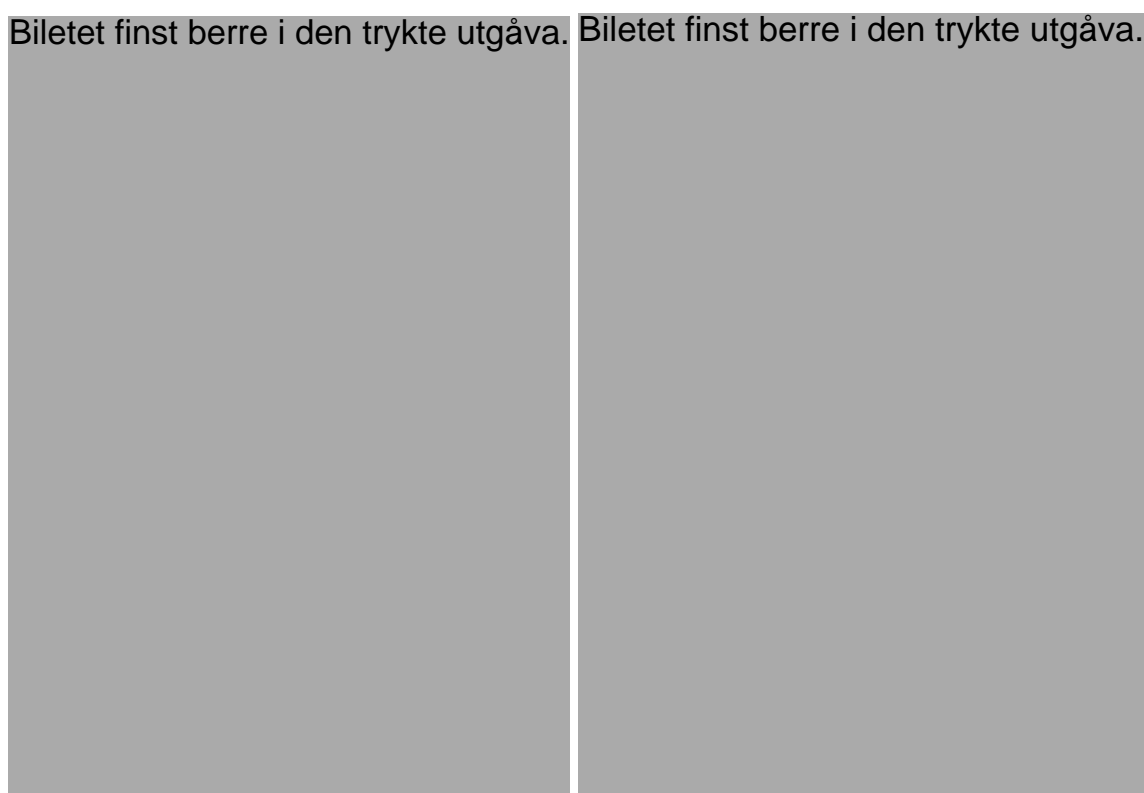


Fig. 5 Worn Again. Jacket, made of recycled materials (2005)

The importance of slowing down the consumption is indicated with the following words:

*Slow Fashion challenges growth fashion's obsession with mass-production and globalized style and becomes a guardian of diversity. It changes the power relations between fashion creators and consumers and forges new relationships and trust that are only possible at smaller scales. It fosters a heightened state of awareness of the design process and its impacts on resource flows, workers communities, and ecosystems (Fletcher, Grose, 2012: 128-129).*

In that way, we can see the importance of all aspects of the Slow Fashion, starting with the careful planning of the production, supply chain and sales. Although, it is not yet officially recognized and established, Slow Fashion is emerging as a more sustainable alternative to the Fast Fashion industry (Cataldi et al., 2010: 8).

In order to compete in an already very overcrowded market, the creation of eco-fashion has emerged as another way for fashion brands to stand out (Beard, 2008: 451). Today designers work out design constructions that can be functional, comfortable, keeping the original quality for a long period of time. Besides the versatility of clothes it can be used in various situations. For this, it is enough to replace / change a minor detail in one's outfit.

Designers' interest in recent developments in the field is an important element in the formation of fashion trends with innovative technology and traditional crafts included. The reputation and authority of the well-known designers in the fashion-oriented environment is very high nowadays. That is why their opinion undoubtedly has influence upon those, who follow. Thanks to this, designers are able to attract wider audience and spread their ideas among the rest. In this regard, it is important to understand what makes the designers create garments of this kind. It is more accurate and more constructive to say that designers create possibilities. They create possibilities of how things could be, but they have given less thought to the question of how things should be. When they pass from could to should, they introduce an ethical dimension, and this is a key feature of a more sustainable approach (Walker, 2006: 37). Hence, the important role of design and designers, in particular, is identified in promotion and dissemination of eco-technologies. Their creativity, imagination and innovation are necessary for the development of trends that integrate production, technology, cultural values and transform them into environmental, social and economic needs.

## 2.2 Consumption (problems background)

Finley refers to the U.S. as a throwaway society, to their excessive consumption of disposal products — “We are a society in which the average family throws out a quarter of its food, and each individual generates around 4.5 pounds of trash every day, all year long (Finley, 2014).

The problem of textile manufacturing that literally choked up stores with cheap clothes looks especially keenly. Excessive consumption along with other equally acute environmental threats

is gaining momentum. But for all that fashion industry acts as one of the main promoters of overconsumption, producing more and more products every day. Perhaps, the actual production is not the main reason, but obsessive thirst for trends and novelty, created by designers and merchandisers, making their consumers being dependent, may be one of the factors of negative impact nowadays. It also may happen because of impossibility to dispose things in time, as the warehouses have been already overflowed with tons of used clothes and materials. Most of them have been in use for only a couple of months, whereupon being discarded and left in a landfill. Hawley states that over-consumption concerns are certainly looming because of it (2011: 144). Gradually, however, some governments are beginning to take the initiative in promoting accountability, transparency and better trading practice. Consumers are demanding better practice from the brands they love, and the pressure on businesses to put content behind their codes of conduct is forcing at least some of them to reorganize the way their teams buy and sell products (Minney, 2011: 23).

**Biletet finst berre i den trykte utgåva.**



Fig. 6 Sorting warehouse in Huddersfield, UK (Black, 2012, p. 266)

## Biletet finst berre i den trykte utgåva.

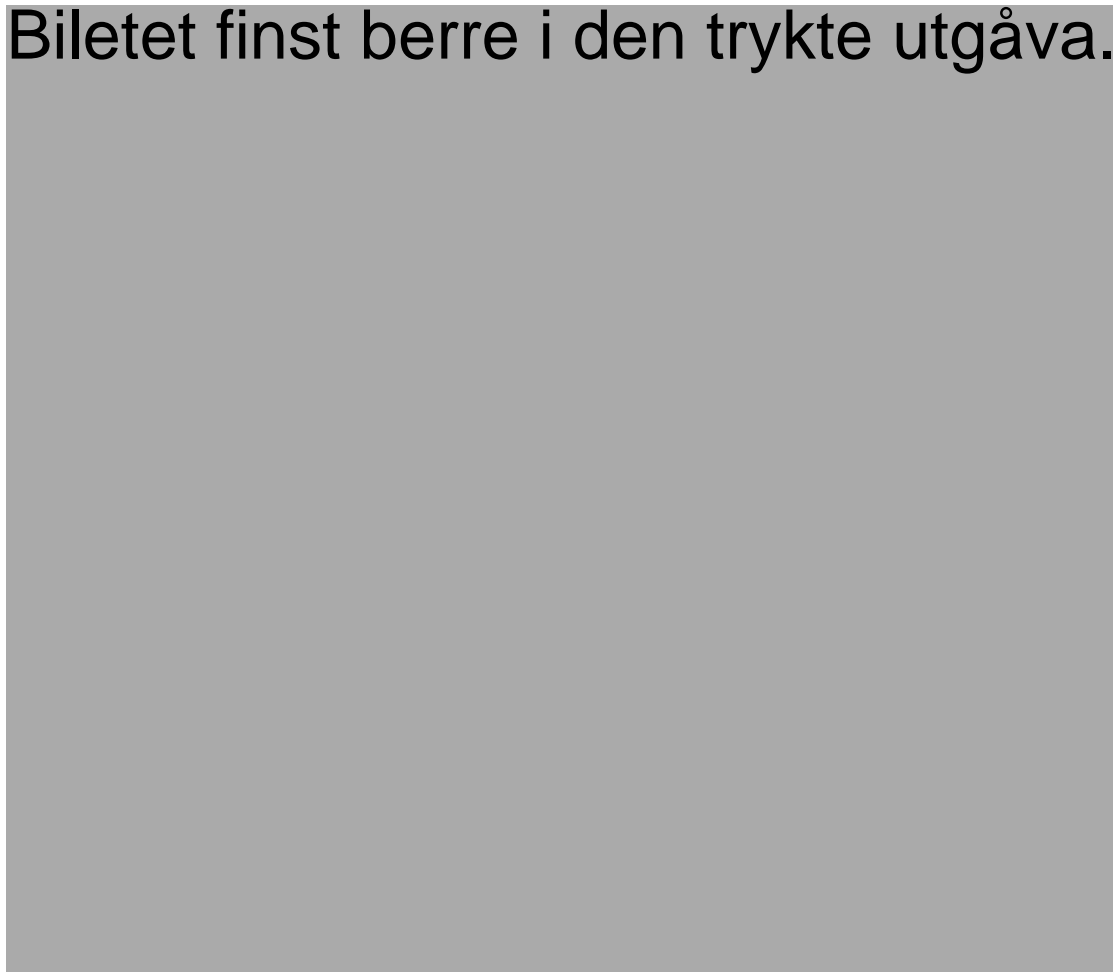


Fig. 7 Tons of imported clothing in a warehouse in India (Black, 2012, p. 267)

If we consider consumption as a social process that supports communicative connection, we can note the following tendencies of contemporary fashion design that claims to be a long lasting tendency. First of all, it is in-depth study of the fashion market, when the designer knows the consumer and focuses mainly on his needs. Second of all, it is about using the latest technologies, and about the uniqueness of the proposed product that, of course, raises the cost, but makes it particularly attractive and valuable to the buyer. Making “moral” durable products by creating emotional connections between the thing and the consumer is also very important. In turn, the overall impression of the product throughout its lifecycle creation, delivery, packaging, sales and so on will contribute to intensification of this connection.

The fashion industry creates a demand for new clothes, shoes and accessories, while seasonal change of trends speeds up the process of product accumulation. The reason for excessive consumption or overconsumption, in other words, can also be in the structure of the fashion industry, namely its seasonality and regularity with which the designers set forth their new collections for all to admire. Fletcher claims: “Fashion cycles and trends contribute to very high levels of individual material consumption that are supported by the apparent insatiability of



consumers' wants" (2008: 117-18). Meanwhile, the companies, producing fashionable items in order to gain the profit actively present themselves on the market. They use any possible ways, resorting to various marketing tricks, such as advertisement, seasonal sales and presentations to promote their products at an increasingly competitive environment.

**Biletet finst berre i den trykte utgåva.**



Fig. 8 Piles of used clothing being thrown away (The True Cost, 2015)

Doubtless, marketing and branding help increasing sales. One of the commonly used advertising approaches is the stimulation of conspicuous consumption. Expensive and fashionable clothes, as well as expensive watches, cars, jewelry show the status of their owner. When purchasing clothing, people seek to satisfy not only their basic needs, but also the need for self-identification. As a result, the pressure to constantly reformulate identity, instigated by changing fashion trends feeds insecurity and rising levels of psychological illness. The products themselves exploit workers, fuel resource use, increase environmental impact and generate waste (Fletcher, 2008: 117-18). As mentioned before, fashionable clothing allows people to explain who they are, or how they position themselves in the society.

Thus, famous brands are bought not only because of the high quality of the product or the required functions, but rather for status demonstration which can be both real and imaginary:

*“We meet our desire for pleasure, new experiences, status and identity formation through buying goods – many of them clothes. And because we have an inexhaustible supply of desires, consumption – particularly of new items – continues to grow because we see the purchase of each new item as providing us with novel experiences that we have not so far encountered” (Fletcher, 2008: 117-18).*

Thorstein Veblen was the first who has taken notice of such behavior in his “Theory of the Leisure Class”. He was the one, who called this phenomenon “Conspicuous Consumption”, pointing to the futility of many purchases, made for show to demonstrate wealth and prosperity. From the foregoing survey of the growth of conspicuous leisure and consumption, according to Veblen, it appears that the utility of both alike for the purposes of reputability lies in the element of waste that is common to both. In the one case it is a waste of time and effort, in the other it is a waste of goods. Both are methods of demonstrating the possession of wealth and the two are conventionally accepted as equivalents (Veblen, 2008).

Advertisement constantly foists off goods and services on consumers, which is considered as something usual, being taken for granted in our time. Making a certain product, the company tries to update its product line as soon as possible, often only slightly changing the design, and that is enough to get consumers to buy it. In the end, people become the source in the economic supply-and-demand chain. They should work hard, literally turning into a mechanism for producing resources to satisfy their needs, caused by advertising impact. And this, one way or another, is about trust and power of persuasion. In such a case, the buyer is sure that the “new” goods satisfy his requirements and fit current trends (since it is proposed by company he trusts), that way, he can get rid of those things he had bought before and buy new things instead. Consequently, the market is saturated and store shelves are full of unnecessary details.

Elizabeth Cline in her book called “Overdressed: The Shockingly High Cost of Cheap Fashion” considers various problems, connected with making and selling cheap clothes. Amongst the rest, she writes about the collapse of the fashion industry in developed countries and their impact on the environment, but also about the lack of sewing skills amid vast majority of consumers. In her personal interview she keeps harping on how important it is, when people know sewing. She says: “I think learning to sew makes people better consumers, and that those who have no interest in it should still consider using a seamstress or a tailor to make sure their clothes give them the best fit”. She also reckons that the goal with sewing should be to increase the percentage of home-sewers and to make it accessible to more people (Sarai, 2013). And I completely agree with her, because if earlier people treated their clothes more efficiently because

of high-priced materials and expensive services; they managed to sew and repair things at home, and pass them on from one generation to another (both things and skills), then now the situation has changed. This skill today has lost its relevance.

Besides the fact you never know where and what conditions clothes were sewn in, it almost always has very poor quality. As a result, such clothing not only loses its form and color, but also is being destroyed and turned into waste after a few washing sessions. It should be noted here that the design quality can significantly extend the garment life or, on the contrary, reduce it, sending it directly to the rubbish chute. And it is very important to remember, especially considering the fact that consumption is in a strong interconnection with the buyers' self-esteem and their social status.

Despite the availability of inexpensive clothing, there are more and more people who refuse from the idea of excessive consumption, basically buying less than they can afford, trying to make well-considered decisions when purchasing goods and services. So, they are more conscious, which might be something to start with. According to Stanford Social Innovation Review, the results show that a full 87 percent of the consumers are concerned about the environmental and social impacts of the products they buy (Bonini & Oppenheim, 2008).

If designers pay more attention to social context, practical application, experiences and emotions from clothing wearing, then for buyers these things will not only be a material object, but the object of affection. Clark suggests, when the product is an investment, has functional longevity, and also remains "in fashion", it retains its attraction for the particular consumer or user beyond the fashion season. For this to happen, the subject-object relationship needs to be more substantial than that of the typical transitory, fashion item, which appeals largely through its visuality or image (2008: 440-41).

It is not just about choosing the product or emotional connection between consumers and their purchases, but also about the curtailing of production by the manufacturers. Thus, every designer should make a thing by taking on the role of cultural mediator; understand customers and their needs. This might make garments unique, and then it will be difficult to part with them. Clark argues, such garments and accessories are investments — emotionally, as well as economically and acknowledge that the materiality of what we wear on our bodies is part of their significance (Clark, 2008: 440-41). This approach, meant for individuality in everything — from size, color, fabric selection up to certain design elements might help solving the problem of consumption.

In this regard, the price and quality of such pieces should be high enough to stop the process of consuming or at least slow it down. And the quality should be in line with price. And when the consumers' attitude gradually changes, they might understand that it is much better to invest money in quality, instead of buying cheap clothes they can easily throw away after a while. They need to change attitudes towards the way they consume things. The consumers should learn to be responsible and not use all that is available. The manufacturers, in their turn, should stop creating materials that require a lot of energy, and rather use ones have already been in use.

Summing it up, it is important to list the areas of confrontation, when facing the above-mentioned challenges. The first step is a work, aimed at informing consumers about the wide range of harm, caused by daily consumption. The second step is a search for potentialities in the field and use of technologies. And the third one is design strategies and practical solutions to extend the life span of garments and make them valuable to the buyer. I hope, there will be new leverages of pressure over manufacturers and retailers and everybody, who is involved in this process coming every year, as well as different approaches to monitor excess production, consumption, and utilization being worked out, thereby reducing potential damage.

## 2.3 Product lifecycle stages: principles and aspects of production

Before appraising and disclosing the potentialities of ecological design, I would like to understand what makes it *ecological*. For this to happen, I need to know at what stages of production and creation of garments there are new opportunities appeared. It is needed to optimize the efforts to preserve the environment, improvement of working conditions, logistics and many other things, including the change in consumer behavior and their unrestrained desire for purchasing things without reason.

Kate Fletcher (2008: 37) says:

*The fashion and textile industry's future success will depend on us reducing its environmental and social burden across the entire lifecycle. Part of this is reducing the impact associated with cultivating and producing all textile fibers and establishing a foundation of good practice across the board – a major ongoing challenge. Another part involves developing a new and more sustainable way of thinking about materials that helps us move away from a dependency on a*

*few fibers, to developing a portfolio of fibers, some with low resource intensity, others with rich cultural traditions, and all that celebrate the range of skills, know-how and resources that are available to us. This strategy of materials diversity involves replacing some of the dominant or high impact fibers with alternatives, including low-chemical and organic cotton.*

I believe this demonstrates the purely technological approach to environmental issues in the design, and psychological aspects that allow fashion not only influence the choice of the buyer by various methods, but also make this choice being more conscious.

An important step in creation of ecological design is the cultivation of raw materials that meets all environmental characteristics and requirements. Things, made of natural materials, from the environmental point of view are more preferable, than clothing made of man-made materials. Ideally, the clothes should be manufactured from natural fibers, which are grown, treated and dyed without the use of chemicals (or at least with low-chemical process included) that might be less harmful and energy-intensive in the end. Evidently, it is better if, when growing crops manufacturers will use natural fertilizers. In this case, the harvest process is usually done by hand. But before plant-based or animal-based raw materials are turned into the fiber, they go through the stage of cultivation, and in most cases it has been treated chemically anyway. Kate Fletcher and Lynda Grose — the authors of “Fashion and Sustainability. Design for Change” write about promising outcome of using low-harmful matters while growing: “For certain fibers – most notably cotton – reducing the amount of chemicals applied to the fields during cultivation would bring substantial positive effects to both the lives of workers and the levels of toxicity in soil and water” (2012: 22). It is hard to argue against afore-cited, as scientists around the world have been researching the impact of fabrics treated with chemicals. As the result, these studies have shown a high percentage of risk, when applying chemically treated fibers. Once they realized how dangerous pesticides and other artificial substances might be, manufacturers have turned to the use of organic materials for the production of clothing. Here is how the need for changing the approach towards cultivation and production processes, considered by Scaturro:

*Environmentalists, public figures, and fair-trade advocates need to seek ways to appropriate and subvert the current technological practices to maximum positive and ethical impact. This means the development of trusting, synergistic, and interdisciplinary relationships between designers, independent scientists, engineers, manufacturers, and the public and private sectors with the goal of creating effective technologies that minimize the negative human and environmental impact of producing cotton and other fibers (2008: 479).*

Scaturro proposes to combine the efforts of scientists from different countries and to share the responsibility for the negative impact of existing production methods on the environment and the

people. But even return to traditional farming, where only solar energy, minerals, located directly in the soil and rainwater are needed for growing plants (crops), unfortunately does not give the amount of raw material necessary for the production. In order to achieve environmental benefits manufacturers apply energy-intensive technologies, which in turn affect the value of not only raw materials, but also the final product. Veronika Kapsali states:

*Often the most energy-intensive and wasteful processes occur before the garment reaches the consumer, the key area being fiber production and processing. Both natural and man-made fibers rely on high levels of resources such as energy (temperature, pressure) and water, as well as the use of toxic chemicals (such as fertilizers and insecticides in the case of natural fibers), to acquire grades of fiber suitable for use in textiles for clothing in terms of both quality and cost (2012: 278).*

Such arguments often scare away the potential producers of ecological materials. Nevertheless, there was a conference with number of problems, regarding cultivation being taken up at Copenhagen Fashion Summit, the one I managed to visit in April 2014. The facts promulgated by US EPA, pointed to following results: 7 of 15 basic types of pesticides used during cultivation of cotton are dangerous carcinogens, remaining in soil and water for decades. They say, by their very nature, most pesticides create some risk of harm — pesticides can cause harm to humans, animals, or the environment because they are designed to kill or otherwise adversely affect living organisms (U.S. Environmental Protection Agency).

According to World Health Organization, cotton is the third consumer of water on the planet, embracing the one that could be used for food crops; beside this, it releases a huge amount of hazardous substances. Environmental Justice Foundation in 2007 reported that it is responsible for the release of US\$2 billion of chemical pesticides each year, within which at least US\$819 million are considered toxic enough to be classified as hazardous by the World Health Organization. Cotton accounts for 16% of global insecticide releases – more than any other single crop. Almost 1.0 kilogram of hazardous pesticides is applied for every hectare under cotton. (Environmental Justice Foundation). Although, Bergman (2013) claims that “the main advantage of organic cotton is that the cotton farmers and people working on the plantations escape having to handle chemicals that could be harmful to their health”, which seems to confirm the idea of another expert Ferrigno (2012: 195), who claims that organic cotton might be an ideal solution for many small farmers. “In cotton plantations around the world, however, toxicity is a far too frequent health problem” — Bergman argued.

The following definition of “organic” was passed by the NOSB at its April 1995 meeting in Orlando, FL. Organic Trade Association (2008) considers ‘*organic*’ as a labeling term that

denotes products produced under the authority of the Organic Foods Production Act. The principal guidelines for organic production are to use materials and practices that enhance the ecological balance of natural systems and that integrate the parts of the farming system into an ecological whole.

If we are talking about organic materials, they must be grown without the use of pesticides. The labeling of the product as 100% environmental friendly might be considered as a violation of the law, if using pesticides or noxious chemical fertilizers. Today farmers, growing eco-friendly materials, should refuse from the idea of using insecticides and chemicals, containing artificial substances. Instead, they should use sparing techniques, favorable for soil to ensure a steady crop growth, in contrast to traditional methods of cultivation that make barren soil, polluting water and food sources. Rodale Institute's report (1999) provided by Petersen, Drinkwater and Wagoner, considers organic methods as efficient, economical and financially competitive as conventional methods, and better for the soil and the environment.

To consider raw materials, and later the finished product as environmental friendly articles, they need to get eco-labeled according to EU standards, as well as USDA organic standard which, according to Baugh (2008), provides strict guidelines for the production and certification of organic food. As noted by the specific USDA's requirements in using the term "organic", there are costly and time-consuming procedures that must be followed to meet that labeling standard (2008: 331). This standard implies that the types of crops are grown without the use of heavy equipment and were not treated with pesticides. But this is not true. After all, even natural fabrics are not always made with environmental-friendly methods. Scaturro (2008: 480) argues:

*Manufactured fibers like Ingeo, bamboo, and lyocell rely on their derivation from renewable and compostable biological sources as in automatic qualifier that they are an ecological or natural fiber. However, the reality is that they are created through chemistry, using vast amounts of energy, chemicals, and processes that are not necessarily environmentally conscious.*

Unfortunately, the standardization of the production of natural plant fibers and fabrics, made from them cannot be considered as completely environmental friendly. Therefore, in order to keep driving organic cotton farming forward, Scaturro (2008) believes that environmentalists and organic advocates should continue to push for the development of alternative cotton farming and manufacturing technologies that coincide with the adoption of standards forcing disclosures on the environmental footprint of the entire production cycle of cotton yarns (2008: 477).

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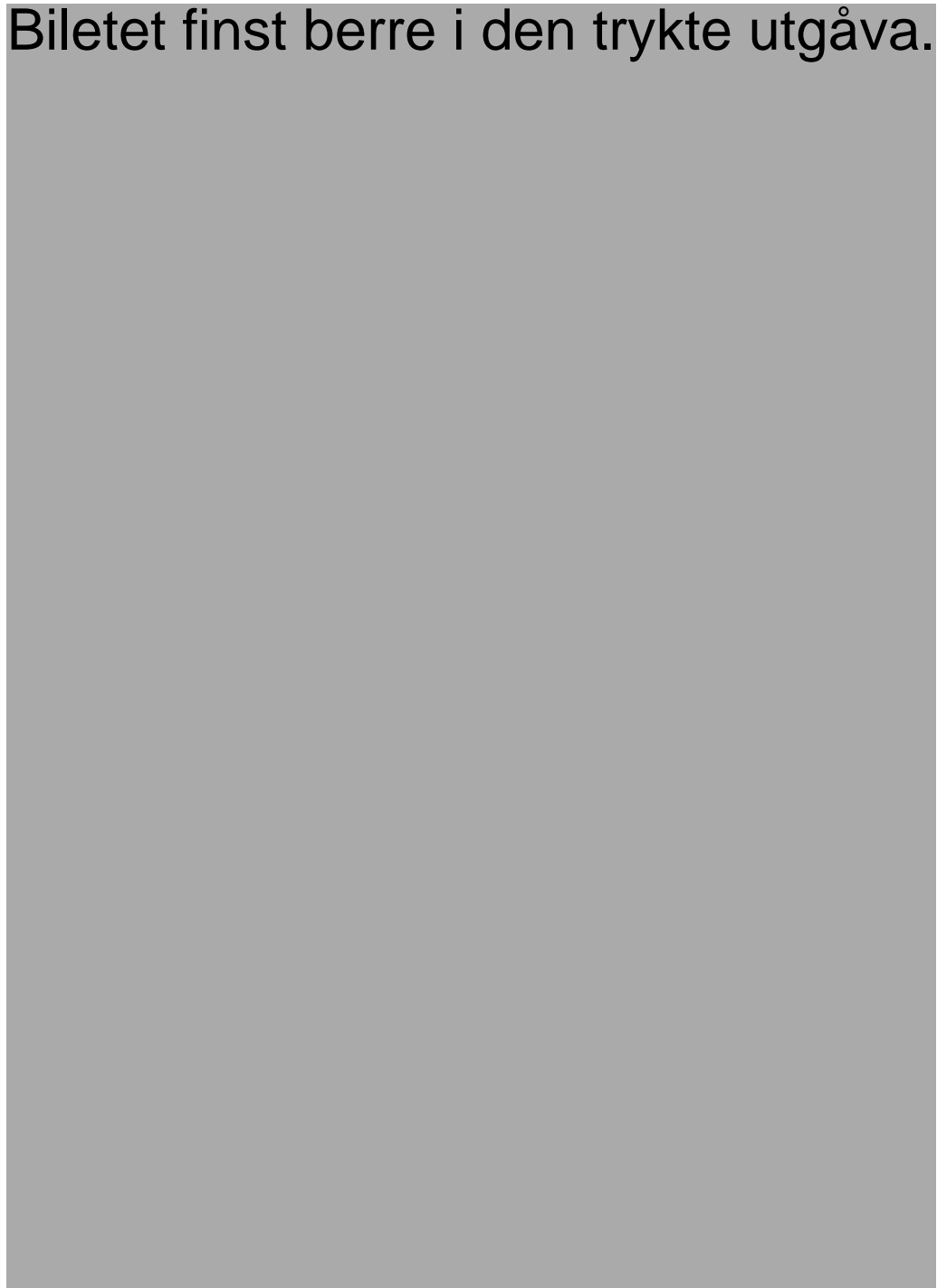


Fig. 9 Collecting cotton in Uganda (Black, 2012, pp. 34-35)

Responsibility for the final product, however, starts with the cultivation of materials, and collection of raw materials, strict control of the conformity of raw materials and environmental performance standards. In addition to traditional crops (cotton and flax), hemp, bamboo, corn fibers may serve as the raw material for the production of ecological clothes. While alternative



natural fibers cannot reach the quantitative level of cotton or linen, the progress in this area is conspicuous anyway. More and more well-known companies are paying their attention to such materials. First of all, taking into account the fact that quantity cannot replace quality, nor extend the life span of the product.

Fletcher also argues that:

*It is naive to think that fiber alternatives as varies as wild silk, soya bean and naturally colored cotton can make inroads into established textile markets overnight. Their volumes are small, their cultivation and processing technologies in need of major research and development, and their long-term impact untested. Novel fibers like these are exciting; they can play a part in more sustainable product development and also promote a debate about a shift in consumption away from quantity and towards quality (2008: 37).*

Equally important are fabrics, made from animal-based raw materials. Brester (2012) provides the following statistics: “wool production totals approximately 2.8 billion pounds per year”. Organic wool, however, comes to small amount of wool produced, since small part of animals involved in the production, are grown in natural conditions, without the use of auxesis or chemical additives.

If there are not fully environmental standards acted yet, consumers have to rely on the honesty and transparency of manufacture processes. Ethical fashion starts with ethical cultivation and open production. The manufacturing process starts with transportation of raw materials. After all, the norms, those allow to consider one or another product as eco-friendly is violated, while carting. Therefore, many manufacturers are looking for opportunities, either for using local raw material resources, or transporting it with lower percentage of contamination.

The brand Carrie Parry, for instance, make clothes locally, all materials they use: fibers, fabrics, trims etc. are sourced from indigenous artisanal communities (Carrie Parry). That way, they are supporting and preserving traditional arts and crafts for generations to come, let alone protecting environment from emissions and resource depletion that seems to be inevitable, if acting irresponsibly. To them, quality is not only about durability or product longevity; it is about being intent and responsible for what they are doing, so no detail is overlooked.

Clark believes that utilization of localized physical and social resources can provide an alternative to standardization, centralization, and moreover, to identical products. This gives rise to ideas of “multi-local society” and a “distributed economy” where the global is comprised of a network of local systems (2008: 430).

# Biletet finst berre i den trykte utgåva.



Fig. 10 Carrie Parry's Classic Button Up blouses, made of cotton and silk (2015)

Holdstock states: “consumers are increasingly motivated by factors other than their health, with factors such as carbon emissions and animal welfare becoming increasingly important considerations” (2012: 200). Thus, buyers are concerned not only about appearance. And if on the one hand, it can be said, it is not that hard to notice that purchased goods are not always in line with environmental standards, and that in the concept of “eco” is laid a lot more sense, than just “green”; and that to know it, in most cases, it is enough to look at the available quality marks and numerous symbols on the label, applicable only for textiles. The same is not true for eco-labels, because criteria for quality conferment are sufficiently varied and numerous, the same way as the establishment of certification and certified enterprises. Thus, according to the surveys and the research, studied by Marthe Austgulen and Eivind Stø for the Norwegian Institute for Consumer Research, a majority of the respondents expresses confusion over the existing labels, as there are many labels that they do not know the meaning of. The combination of confusion because of “a jungle of labels” and a weak mistrust to the information on the labels might weaken the meaning and effect of the labels in general (Austgulen, Stø: 15).

Until now, the various European countries have failed to agree on the implementation of a single quality mark for textiles, which could have been based on basic quality standards. However, this has a positive aspect, which is that in many sectors of the market, conscious control and voluntary certification is prevailed, thanks to the existing opportunities and conditions. Meanwhile, consumers feel lack of the openness and transparency of the established standards

and regulations. For example, along with a variety of standards and quality labels, which are given by independent regulatory authorities for certification is often quite difficult to distinguish the signs of quality and quality guarantees, operating within the company (in-house quality marks). Among other things, what is at issue is a variety of evaluation criteria (quality criteria) that are very different for each sign, and for which one quality mark differs from the other. Generally accepted social norms, such as “fair trade” also plays a role in the evaluation criteria of products, such as, for example, environmental friendly production. An example of a successful attempt of standardization might be the experience of *The Soil Association*, which has always developed their own standards, ensuring that they embody the basic principles of the organic movement worldwide, as well as considering the expectations of British consumers. Lee Holdstock, a trade relations manager for certification for the Soil Association:

*“When the Soil Association is on a textile product, it means that the production of the fiber on the farm, its processing into textiles and the manufacturing of the final product have met organic standards, and have been checked at every step of the processing supply chain for social and environmental responsibility” (2012: 200).*

Ecological design is often called *ethical*, which is developed based on human rights (ILO convention), that reduces the impact of the textile industry on the environment, taking into account urgent issues and aspects, starting from fabric development to final production and processing. In short, it is a sustainable production, based on caring for the environment and social responsibility. Although, before the environmental trends appeared in fashion, almost all the designers have used materials without worrying about the harmful effects of production.

Fletcher (2008: 5) states:

*Diversity of materials and ideas is hard to find in today's fashion and textile industry. It is dominated by a large number of similar, ready-made products in a limited range of fiber types. Indeed, cotton and polyester together account for over 80 percent of the global market in textiles. The result of producing large volumes of limited fibers is to concentrate impacts in specific agricultural or manufacturing sectors, to increase ecological risk, to make the sector less resilient to changing global conditions in both business and the environment and to reduce consumers choice.*

In today's design and production the matters, related to the environment and ethical side of the issue are usually neglected; social and economic aspects in this case are ignored. Walker states: “In order to promote fresh sales in an already saturated market, the appearance of products is

regularly reworked and updated. This strategy kindles new interest and encourages what we might term the aesthetic obsolescence of previous models” (Walker, 2006: 71).

One of the main aspects in ethical production is the use of principle “Fair Trade” — a fair treatment of each member of the production process. All production must comply with international labor standards, which require respect for the rights of workers, a ban on the exploitation of minors and the ban on child labor. Within the WFTO (World Fair Trade Organization), there is a number of principles that organizations must follow to be considered Fair Trade. According to which, the transparency and accountability, as well as ensuring good working conditions and respect for the environment are of a paramount importance. That means that the communication channels are good and open at all levels and the organization trades with concern for the social, economic and environmental well-being of small producers and does not maximize profit at their expense (The World Fair Trade Organization).

*Edun* is the fashion label, initiated by Ali Hewson to promote ethical principles and fair trade. They support manufacturers, creating initiatives, developing ethical production and supporting local communities throughout Africa (mainly in Northern Uganda). As they say, the initiative was formed out of a need to help farmers who were displaced from their homes and farms, due to civil war. When it broke out, CCIU (the initiative established in 2009 in collaboration with Invisible Children, a non-profit organization that develops social programs) was helping 800 displaced farmers, but today in partnership with TechnoServe, it supports 8,535 farmers in Northern Uganda. According to Black, the company works on micro level to build skill sets and create volume work for factories that produce the clothes, and on a macro level to explore partnerships for sustainable communities (Black, 2012: 34).

While *Edun* must keep up with the grueling fashion cycle, *Edun Live* keeps things simple with consistent looks that do not require constant reinvention. That gives on-the-ground operations the freedom to maintain a consistent source of business and revenue for African people, without having to compete for cutting edge design. (Bedard, 2011) Overall, their mission is to share the fair trade ideas, producing things in a way that would be both profitable for those who make it, and those who buy it. Compliance with ethical values, implemented through garments they make is one of the core principles they are keeping working on over a long period of time.

According to Case Western Reserve University report, the goal is to build a brand that produces desirable and wearable clothing while providing sustainable employment and stable commercial relationships in developing areas of the world (Case Western Reserve University: 2005).

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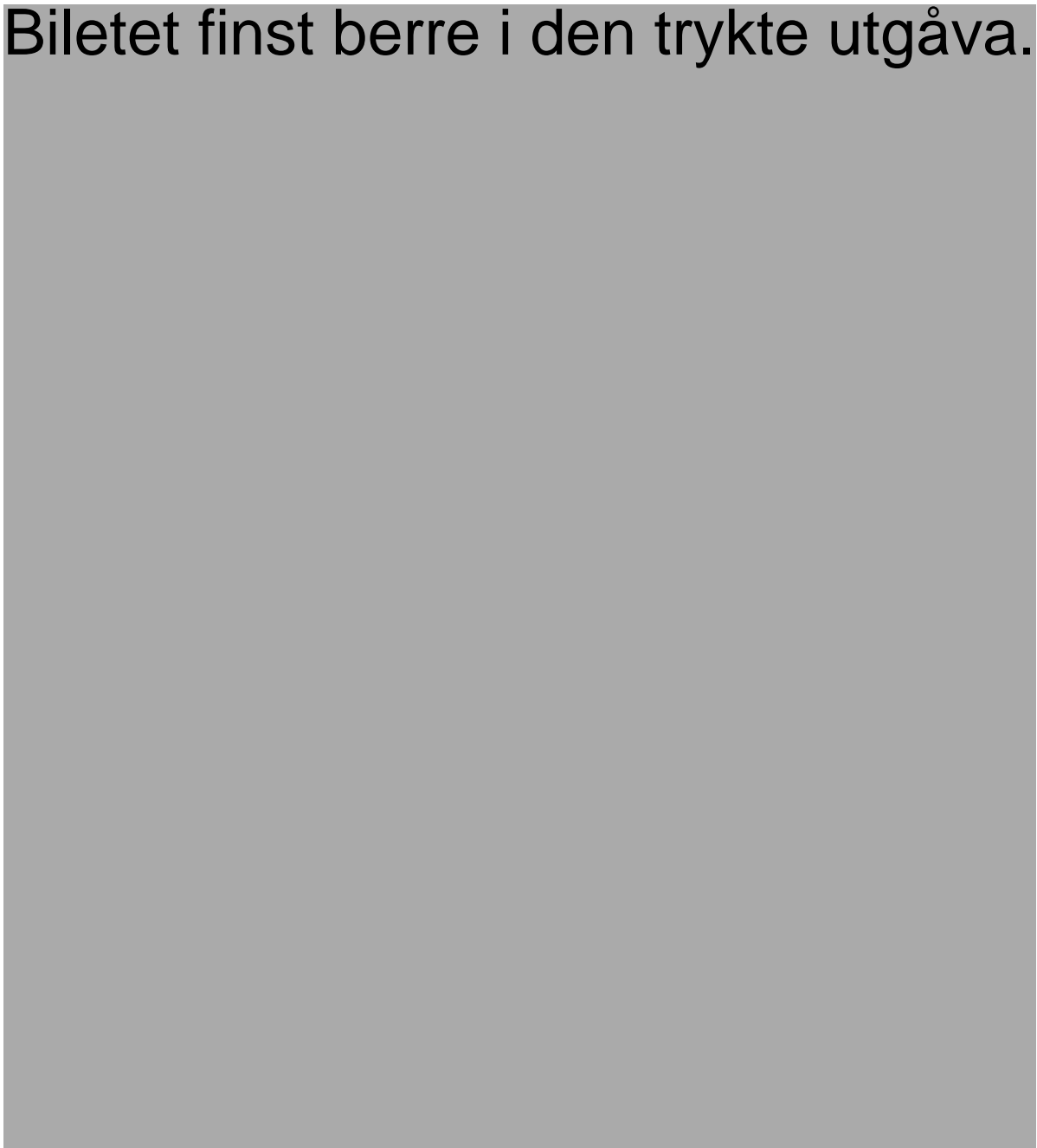


Fig. 11 Edun's Fall collection, consisted of long coats and jackets (2014)

Liz Parker describes high street retailers' initiative to improve working conditions with its supplier in Bangladesh, taking as examples *New Look* and *Echotex* labels. As she mentioned, this case-study is an example of how a mainstream high-street retailer is acknowledging its responsibility for working conditions in its supply chains and is taking concrete steps with companies to address them. Parker believes, the activities implemented in the project are not the only way a company can improve working conditions, nor has the project necessarily created a model factory, but it is a good illustration of a collaborative approach that has opened dialogue about what need to be done to bring about lasting change (Parker, 2012: 186). Both of these brands are working out the projects, aimed at reducing overtime, rising / improvement in the

standard of living and working conditions, as well as rising in wages for people involved in manufacturing processes. Together with designers, manufacturers, logistics team, and managers, they are trying to create commercially viable production, and are continuously working on its development and improvement.

New Look's 'Leaving a Legacy' report gives a summary of what they are doing to build more ethical supply chain, giving a quick rundown on approaches and principles they pursued. The New Look Group believes that it is their responsibility to be fair and ethical in the way they trade: to their customers, suppliers, and the people who make their products. "We try to make a difference in an authentic, practical and honest way by engaging our people, partners and customers in doing little things that together lead to big differences" is said in a report. Their primary goal is to make sure that working conditions in the factories, producing for their business meet labor standards, taking care of production in such countries as Bangladesh, Cambodia, China etc.

The next step in product lifecycle is manufacturing process, ending its way through disposal stage. The ways of waste disposal will be discussed within the 3R concept.

Biletet finst berre i den trykte utgåva.



Fig. 12 Dye pots near Delhi (Black, 2012, p. 100)

Biletet finst berre i den trykte utgåva.



Fig. 13 The production process in a garment factory in Dhaka (Black, 2012, pp. 141-145)

Biletet finst berre i den trykte utgåva.



Fig. 14 Sewing jeans at Forteks factory, Istanbul. Photo by S. Henningsson (Black, 2012, p. 158)

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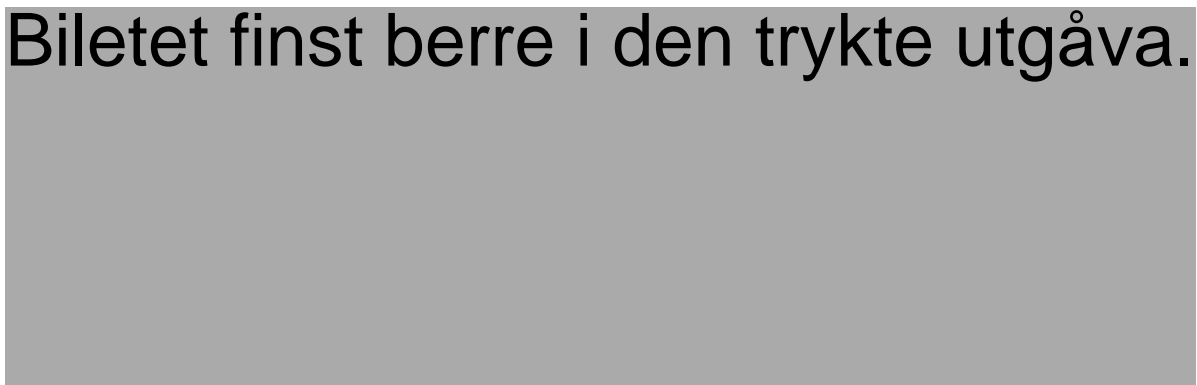


Fig. 15 Tirotext factory (Moldova) and dyeing fabric at Yilteks, Istanbul (Black, 2012, p. 159)



An important condition for sustainability is manufacturing in places close to the place of collection and commodity markets, transportation and rational price, in which is rather the price of human labor than speculation on raw materials incorporated. A special place in the ethical fashion is taken by made-to-order clothing sector, as it is considered to be high-quality thing, which is the reason why consumers keep their clothes longer and do not strive for buying more. Clark (2008: 433) claims:

*Such “productive communities” have begun to be established elsewhere, which link local communities with more transparent production systems and less intermediation to produce garments that have greater cultural and material value to the consumer. Some examples are quite culturally specific in origin, but can reference wider cultural groups in their transformation into new products.*

**Biletet finst berre i den trykte utgåva.**



Fig. 16 Planting dye plants for coloring locally sourced fibers (Fletcher, Grose, 2012, p. 172)

Today small companies review its scope to encourage the production and make it more profitable. With small-scale production, which is oriented to the local market, it is easier to trace the consumer demand that does not lead to a glut of the market, the manufacturer losses, etc. *StudyNY* is an ethical label based in Brooklyn, NY that makes seasonless clothing. Their goal is to create the ideal wardrobe, producing things locally. “Although we cut and manufacture all our clothes in NYC, we source fabric from elsewhere. Even so, we look carefully at our suppliers to

make sure that our fabrics are coming from an ethical place. We have asked our suppliers a series of questions about their labor policies and conditions, the compensation of workers, and the transportation of materials from one place to the next” (StudyNY). According to Allwood (2006), of the total textile fibre produced, up to 65% is lost, post-consumer, to landfill, incineration or composting, which represents between 400,000 and 700,000 tons per annum in the UK. Of this, at least 50% is said to be recyclable. To struggle against this problem, *StudyNY* utilizes sustainable techniques and materials.

**Biletet finst berre i den trykte utgåva.**



Fig. 17 StudyNY, “Campaign” collection (2014)

Positive role, played by the local production of raw materials, can significantly reduce the cost of the final product, on account of simplifying delivery. Production of such clothing should be economically verified. No less important aspects of life product extension is an ability to restore, update and reuse of the materials. It minimizes the harm; the creation of new green technologies should lead to optimization and life extension. The relatively high prices are compensated by high quality, durability, relevance and universality. It is also important to take into account the proper storage and care. Forward-thinking suppliers, as to Mowbray, are already starting to act; for instance, some leading polyester yarn producers are already making commitments to turn their entire product ranges into recycled offerings. (2012: 198)

Like it was said before, one of the ‘stonecorners’ of any production process is transparency and willingness of the players for accountability and open communication. Here I want to take a look at *C&A* — an International Dutch chain of fashion retail clothing stores that might be a good example of transparent policy with their very promising motto — *Everyday, Everywhere, Everyone*. At first sight, when surfing the front page, it becomes clear the whole way they went through to become ‘green’ due to every detail they reasoned out. They provide the buyers with short messages about the direction they chose and the way they achieve sustainability. They believe that it is time for *C&A* along with the apparel sector as a whole to take measures towards extending the positive effect on the environment, acting in a more sustainable way. In general, the brand policy is designed to minimize surplus products, and to help each to find its buyer. According to achievements report for 2012-2013, presented by *C&A* Company, they managed to strengthen their strategic approach with focusing on implementing their commitments on sustainable products and supply, contributing to multi-stakeholder-initiatives. Now more than 20% of their collections are made from sustainable materials. They set themselves as an object to turn 100% of cotton they use into more sustainable ones by 2020.

Ingrid Zeegers (2013), the Head of Sustainable Business Development for *C&A*, points out initial priorities, as the main guideline for the brands, which includes sustainable raw materials — they want to increase organic cotton production and use; also sustainable chemical management that implies acting upon commitment to the zero discharge of hazardous chemicals, and capability building in supply chain, that is about acting in partnership to improve workers’ conditions, productivity and quality of life.

Brenninkmeijer (2013) claims:

“We can only operate, if we maintain the trust of people inside and outside the company. We must earn people’s trust by being fair and responsible in everything we do”.

So, they cooperate with external stakeholders, and are interested in open communication with government representatives, organizations of a different kind and public. It is vital, when solution discussions are well underway, and everybody who is involved in the process, those who are concerned with what the company is doing.

Flanagan believes, clothes should carry labels stating how much energy and water have gone into their manufacture and distribution, how much carbon has been emitted, and how much energy and water will be used under different buyer habits of washing, drying and ironing. (2012: 214) That might be helpful and easier to make clear for buyers how important it is to look for

alternative ways of production, and consumption, discouraging the high-energy-and-water-use materials application.

Although eco-clothing is more expensive, than one, made of conventional materials, the point of production in that it does not harm nature at any stage, corresponding to the real production costs. Even though they are high because of the cost of technology for reducing pollution at cultivation of raw materials, production and transportation stages, but the brands such as *Fashion-Conscience* or *People Tree* fix reasonable prices, owing to the high circulation. The latter, according to Black, works in partnership with more than fifty fair trade groups to provide technical assistance and supports local social projects (Black, 2012: 170). In addition, there are other strategies for distribution, invented and realized by companies and independent designers.

This is confirmed by Kate Fletcher and Lynda Grose:

*Thinking critically about distribution systems, inventory management, transport and energy use in stores, as a whole, can lead to innovative carbon reduction strategies. Clothing company Nau, for example, developed small retail stores and stocked them with sample garments primarily for the customer to see styling options and assess fit (2012: 58).*

The public in general tend to believe that ecological clothing has a limited number of opportunities to be achieved, and might be too boring, but it is not exactly so. The designers have long taken care of styles, colors and silhouettes, designing garments, made of high-quality materials, providing transparent ways and sharing social and environmental responsibility. They are constantly improving and developing new ideas that favor the development of industry, as well as the timeless relevance of its products through the concept of long-lasting design. And one of the examples is the brand *Carrie Parry*, which I have mentioned before. It creates timeless clothing, based on classical style (silhouettes and cuts), and produced in small series. Versatility and elegance are what Carrie Parry is all about. These two things you can see in every collection, no matter the season. “Instead of following the typical fashion cycle of seasonal collections, we release a select set of fashion styles each month in limited production runs” is said in their story. That way, consumers are provided with a chance to buy what they want all year round. Generally, their mission is “to implement a symbiotic relationship between social, environmental, and economic practices. Inspire and empower our community through connection to drive positive change, both personally and in the world”. (Carrie Parry) Even though ecological design has been originated not so long ago, thanks to designers and initiatives they provide, as well as great recognition and understanding of environmental problems, it is gaining momentum and consumers’ demand for this type of products is constantly growing.

## 2.4 The concept of 3R: reduce, reuse, recycle

Designers, who work with ecological aspects can be divided into two groups. Both groups provide holistic projects, designed for the consumer and are relevant to their needs. The first group includes designers, those who create extremely functional and rational design. The important point is the utilitarian aspect of apparel that meets the needs of the consumer. For this, exclusively new raw materials are used, which have environmental characteristics. For the second group of designers, who have the *concept of 3R* that stands for *reduce, reuse, and recycling* strategies; for these designers longevity and quality characteristics of the product (contributing to longer use and lasting attachment) are of a great importance.

It is evident, if there is no waste produced; there is no need to reduce it. According to Zunft and Fröhlig, the proper application of the waste hierarchy, that includes waste prevention, as the preferred option, that is followed by reuse, recycling, recovery, including energy recovery and safe disposal, as a last resort, has several benefits. It prevents emissions of greenhouse gases, reduces pollutants, saves energy, conserves resources, creates jobs and stimulates the development of green technologies (2009). The most sustainable option is to avoid excess production, but if this is not possible, then it makes sense to fall back upon above-mentioned concepts. Designers, who work with eco-design choose one or the other strategy; sometimes picking out two or more at the same time. They vary, depending on the tasks, set by a designer.

One of the most common concepts and effective ways to reduce waste is recycling. It is a process of collecting materials, that is not necessarily to be fabrics, and turning them into new products with the help of different design approaches. There are several approaches to recycling. The first one is creating new products out of worn-out / dated pieces. For example, many eco-friendly bags are made from used / finished articles or any part thereof. Another view on recycling makes it possible to create a new material from old things and use recycled materials for the production of new things. For example, recycling of plastic bottles for producing polyester can be used for clothing and footwear. In the first case, the product may have traces of time; in the second case, the new material is not inferior to the newly produced one, but at the same time it reduces energy consumption and the amount of domestic waste, using it as possible raw material for the production, and finally prevents further environmental pollution. According to Wheeler, about 60% of all clothing collected is sustainable for reuse (2012: 264). The success of these initiatives for recycling that returns waste to fibers and take-back products, when consumers are done with them will ultimately depend on consumer and business environmental awareness, consumer assistance to ensure the availability of used products, effective business

logistics systems, and profitable recycling economic structures. (Loker, 2008: 123) According to Alison Gwilt and Timo Rissanen,

*Upcycling provides a designer with the opportunity to reassess the real worth and value of a waste material through the design and manufacture of new products. Rather than recycling, which can result in the downgrading of a material, informed designers are engaging in strategies such as upcycling to further prolong the life and value of a product and material. This reuse and repurpose of existing materials allows a designer to divert textile matter away from incineration or landfill. (2011: 35)*

Perhaps such approach does not provide large format processing, but makes each item unique. Reusing as any other strategy is not ideal, and may entail many problems, associated with wasteful industry. After all, not always used raw materials can be recycled on an industrial scale. At the same time, the designer, who is trying to re-use fabrics cannot be as effective as in the first case. Extending the product life entails the reuse of materials and remaking ability, hence the durability of the product is taken into consideration. Clothing repair, as well as resale possibilities, revealed in the concept definitely change our perception about the value of the products and the way we consume them. A new element appears is a handmade thing that contributes to the creation of individuality, as opposed to mass producing. Hawley states:

*Textile recycling can be classified as either pre-consumer or post-consumer waste; a textile recycling company removes this waste from the waste stream and recycles it back into the market (both industrial and end-consumer). Pre-consumer waste consists of by-product materials from the textile, fiber and cotton industries that are re-manufactured for the automotive, aeronautic, home building, furniture, mattress, coarse yarn, home furnishings, paper, apparel and other industries. Post-consumer waste has been purchased and worn by the consumer (2011: 147).*

Another important object of study is recycled materials. After all, biodegradation of natural fibers in a landfill takes hundreds of years, thus during the decomposition there can be released number of dangerous substances, such as methane and CO<sub>2</sub> into the atmosphere. The dissociation of the synthetic fibers in a landfill lasts significantly longer and thus can release toxic substances into the soil and groundwater, so the problem of processing of textiles rose very sharply. Unlike conventional processing (for example, metal processing), the processing of fabric has appeared recently.

# Biletet finst berre i den trykte utgåva.

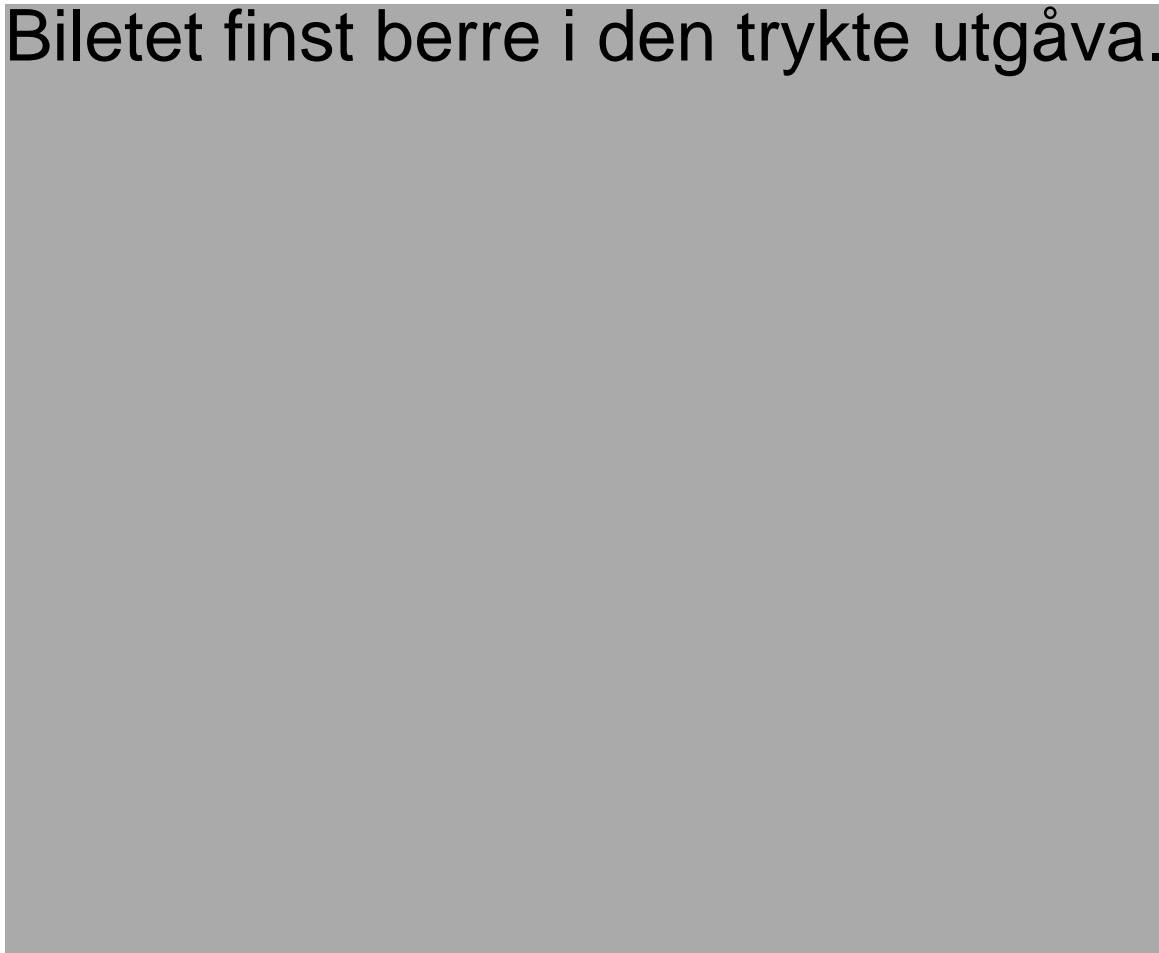


Fig. 18 A wholesale market for used Indian clothing in Delhi (Black, 2012, p. 269)

Especially progressive, in my opinion, is the production of fabrics made of biodegradable fibers. The successful solution of this problem could be a breakthrough in eco-design. But I agree with the authors, it is necessary to take into account the fact that the fabric cannot be used along with others that do not have the same qualities, otherwise, the effect of biodegradation disappears.

*Biodegradation is possible only when it is designed and planned for it advance, so that fiber blends, non-biodegradable thread and garment trims are avoided at the outset. This being said, from an energy perspective, electing to compose a garment, rather than to recycle it or incinerate it with energy recovery, wastes of majority of energy embodied in the garment, for it converts a complex, high-energy product without attempting to extract higher value first (Fletcher, Grose 2012: 17).*

The largest retailer of eco-fashion *Patagonia* was founded more than 40 years ago. The company has developed a range of technologies and initiatives to reduce environmental pollution and regularly gives a part of its profit to environmental organizations. Yvon Chouinard, an environmentalist and *Patagonia*'s founder states: "Our Common Threads program has grown.

Now more than just a recycling program, it's our next step in reducing consumption, getting the most out of existing gear and sharing what we discover". Quality, innovation, responsibility and simplicity, these are the words to describe of what they are working on. In his personal interview, Yvon Chouinard reveals one of the key-steps towards environmental commitment — the contract with customers to make clothing as responsibly as possible. That includes asking their clients to think twice before they buy anything. (Welch, 2013) "We want people to feel like that jacket is something they are going to have the rest of their lives. And if it does get worn out, send it back to us, and we will use it for something else" — Chouinard says. "We want to close that loop between consuming and discarding", that might be a way out in the end, and a good support for long-lasting design development.

More and more well-known brands successfully create things out of recycled materials. For instance, *Melissa* makes shoes from mono plastic; *Chevignon* and *Timberland* use synthetic waste; *Stella McCartney* has launched another line with secondary synthetics, produced under the brand. *Topshop* makes jackets, made from recycled materials. In 2010, *Nike* recycled more than 13 million plastic bottles, through the use of recycled polyester. In total, they recycled about 82 million plastic bottles. "We want to do more than less bad, what we want to do is create a vision on what does good ultimately look like for Nike," Lorrie Vogel, the head of Nike Considered, explained. "For us, it is about creating closed-loop products, taking materials from an old shoe and an old shirt, grinding it up and turning them into a new shoe, a new shirt" (From personal interview with Wheeland, 2011).

**Biletet finst berre i den trykte utgåva.**

Fig. 19 Shoes with recycled rubber soles (Black, 2012, pp. 113-115)



No doubt, textile recycling has positive impact on many entities and contributes significantly to the social responsibility of contemporary culture, including the goodwill associated with environmentalism, charity and disaster relief that also plays a significant role in the global marketplace (Hawley, 2008: 208).

I should note here that the designers can develop the same idea for several seasons, unlike other members of the fashion industry, who are in accordance with the requirements of fashion regularly offer new ideas. The womenswear brand *Eileen Fisher* provides various recycling and reusing initiatives, focusing on how products are made, looking at production process through very carefully, and taking into account each manufacturing stage.

Biletet finst berre i den trykte utgåva.



Fig. 20 Eileen Fisher's collection, which combines light fabrics and soft colors (2015)

Shona Quinn, sustainability leader at *Eileen Fisher* speaks about the steps that brand is going to take in the nearest future. “A first step may be to get a place when all of our fibers, trims and packaging can safely return to the earth or be melted down to be used again”. This provides them with an opportunity to make new products. “A second step — create a sustainable production process that does no harm to the environment”. With this step they are able to reduce negative impact on the environment after production, as well as reducing such sources as water and energy that are inalienable components of any production, no matter what is produced. “A third step would be delving deeper into the wants and needs of consumers and finding ways to shift the “wants” from high-eco-impact products to sustainable products” (Quinn for Sandy Black, personal interview). That might be difficult, as she points out, especially when designers do not

have much materials to work with to make a finished product. But still if consumers are buying things out of recycled materials, they help closing the recycling loop (United States Environmental Protection Agency).

It is important to mention second-hand, as a source of raw materials and one of the strategies within recycling concept that allows extending the term of output, and defers discarding for a while. The trend to wear vintage clothing has come into fashion lately that made people to be more attentive to what is fashionable and what is not. Indeed, for the consumer, “vintage” and “ethical” are seemingly synonymous; after all, recycling a garment by passing it on for resale in a second-hand clothing shop appears to be a practical solution (Beard, 2008: 457). Before giving up any designer thing, many people began to think that it has some artistic value and, perhaps, it can be worn once again in the future. Beard argues, gaining a new, stylish and unique item, at the same time reducing the consumption of a “new” clothing item, answers the ethical and sartorial dilemmas of the eco-conscious customer. This is, however, not so clear cut, as often second-hand clothing items need to be dry-cleaned, necessitating the use of chemicals, which may negate the “ethical” element of such a purchase in other ways (2008: 457). Beside this, wearing vintage fashion transports you back in time and provides a connection with people from the past (Godfrey, 2013: 8), that way creating emotional connection between the wearer and the garment.

No less interesting is the process of creating a second-hand shops chain, where you can swap, sell or buy goods of famous fashion brands or less-known designers; the ones that have not been sold on high season. Even though, second hand clothing has for some people an association with poverty and need. These clothes are often not seen as fashion, and therefore are seen to be without value (Jenß, 2005: 184), but in a way this makes it possible not only to expand the product life, but it also offers better conditions for purchasing and distribution. According to Palmer (2005), experience in acquiring second hand clothes can also lead to connoisseurship that is explained as important because:

*Every experienced consignment, vintage or thrift-store shopper has the same gripe: resale shopping takes an awful lot of time... Here is where connoisseurship comes in. Once you have strengthened your expertise, you will be able to move down a rack at speed. Your fingertips will be sensitized to top-quality materials. Your eyes will latch onto the properly set-in shoulder, the expensive button, the extraordinary tweed. In this way you will go straight to the best goods, leaving the other stuff behind for less choosy shoppers (cited after Weill: 199).*

Another important strategy is “zero-waste”. This method makes it possible to reduce the cutting of up to 15% fabric losses that today’s industry encounters during cutting process. That way,

pattern model should be included in the entire process to achieve such reductions; and the pattern must be tested on fabric in advance to understand the possibilities of further design. Rissanen states (2011: 135)

*Increased physical and visual durability can emerge from an increase in the amount of fabric used per garment, as well as an increased investment of time and energy in its construction. Hypothetically, greater durability could result in a lesser need for new clothes. With most garments currently produced through conventional mass-production methods, a considerable amount of fabric wasted.*

To minimize waste, *StudyNY* uses zero waste cutting in some of their designs. They do not agree with a statement that such strategy might be time consuming and less efficient because of depreciation of clothes as such. They believe differently. They say it can help reduce waste, if using materials that do not need to be replaced rapidly. Therefore, they use high quality textiles they can be fully assured nothing will happen to them in the long run. Another way to cut back on waste is to work with *upcycling* strategy that addresses using recycled material, old garments or, for example, fabrics from old collections, transforming useless products into new materials for environmental value.

**Biletet finst berre i den trykte utgåva.**



Fig. 21 StudyNY, “Campaign” collection, made of natural materials (2014)

Biletet finst berre i den trykte utgåva.

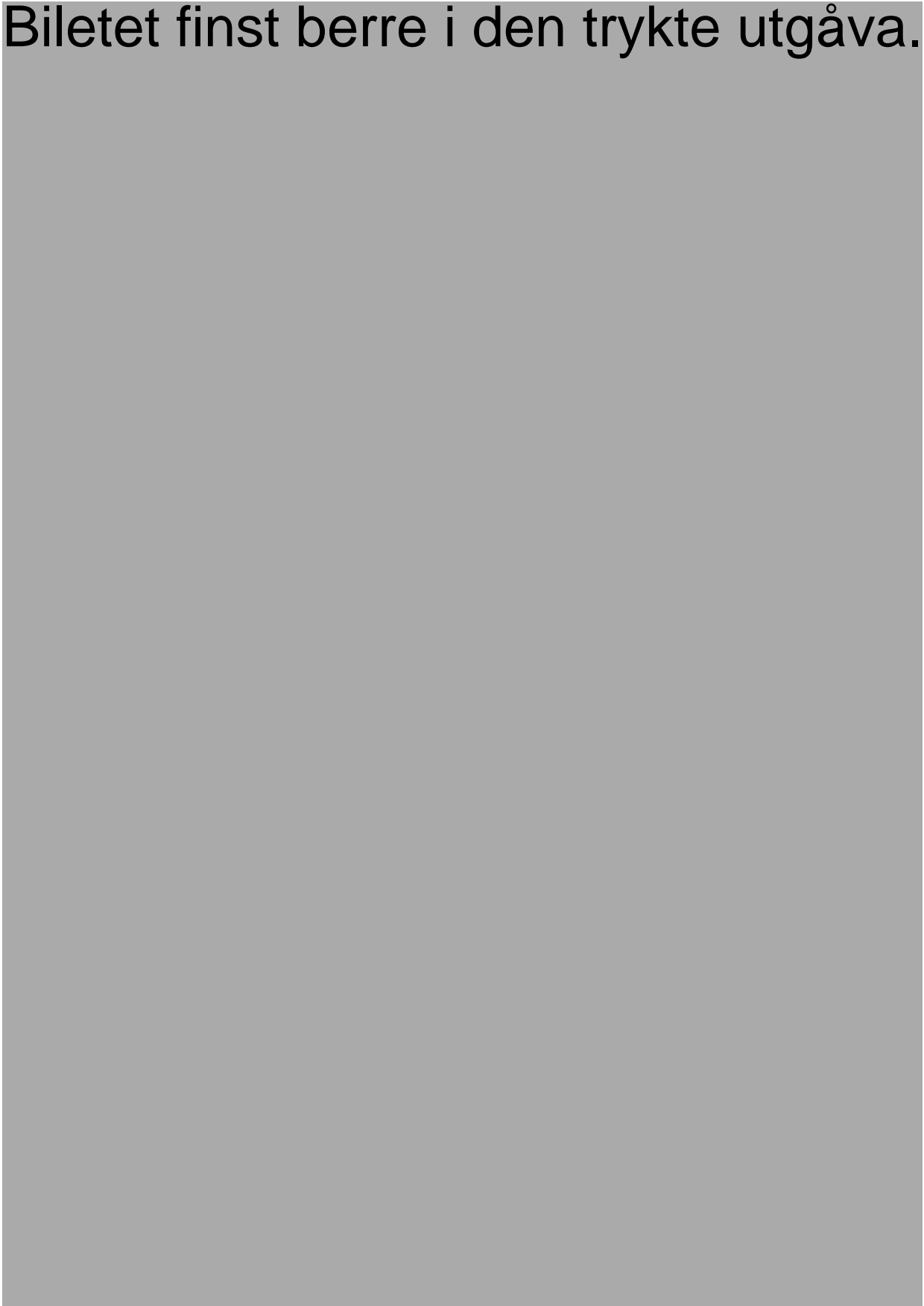


Fig. 22 StudyNY, “Uniform” collection (2015)

*Zero-waste garment design begins by treating the raw materials of garment production with integrity. The fashion industry traditionally aims to minimize risk and play it safe by following predicted social, aesthetic, manufacturing and economic trends and norms in order to be financially successful. (McQuillan, 2011: 85)*

**Biletet finst berre i den trykte utgåva.**




Fig. 23 Sam Forno's jacket, made by morphing pattern pieces (Fletcher, Grose, 2012, p. 45)

As to the production of waste, it is necessary to mention opportunities for renewal of clothes with additional materials applied. Many designers create collections from used materials:

*Reconditioning does require inputs: maintaining or restyling garments needs a reliable source of waste materials, parts and labor. Reconditioning, by its very nature, is labor-intensive and based in a non-standard, unpredictable source of raw materials (particularly when using post-consumer waste). While many companies have used these features successfully as the point of difference to create unique, hand-crafted and be-spoke collections, a major challenge is how to scale up operations to a point at which more significant volumes of waste can be reused (Fletcher, Grose, 2012: 69).*

Here we are talking not only about the re-use of raw materials, but also the creation of new jobs, which is also very important. Design of individual items in order to create unique objects, samples or the development of new processes, design concepts and principles in this case are not always formulated methodically. Designer works out the piece good, made of recycled materials, considering the specificity of the material, amending things on the go. Here is another source that confirms the thought about the importance of the use of recycled materials — the industrial and post-consumer waste are set to be more widely acknowledged as important resources, rather than simply as problems to be solved. The use of post-consumer textiles will likely move toward upcycling and the production of higher-value materials (O’Mahony, 2008: 307).

I would like to mention the company, called *Junky Styling* that uses old, worn-out pieces and gives them a second chance, actively achieving the goal with the help of upcycling strategy for repurposing textiles and adding value to them. Black says, “each piece is individual: although patterns and stiles are repeated, the ever changing selection of recycled fabrics means that no two garments are alike” (Black, 2012: 256). Another brand that is worth mentioning is *Fogle*, founded by designer Tamara Fogle, who uses vintage fabrics, according to Black, primarily for their aesthetic value, without deliberately setting out to be known as a ‘sustainable designer’, but her choice of materials has significantly the environmental footprint (Black, 2012: 261).

Thus, it can be argued that all these strategies extend the life of garments, reduce energy costs to producing new materials, employ more people and preserve natural resources. Unique items, created in a single copy are eventually becoming collectibles and live much longer in the end. Designers tend to experiment and innovate, applying the latest technology, innovative materials and techniques, not forgetting about the concept of 3R.

### 3 Fashion brands: new way of thinking

*In order to answer the main research question, I need to consider the criteria of sustainability and find out whether the eco brands correspond to these criteria.*

Issues, concerning ecological design go far beyond the creation of products, made of natural materials. Today designers try to create not only something that could be called ‘ecological’, but also ‘socially responsible’, or even ‘ethical’. This means that the process of creation includes many aspects, and both communicative and social issues are considered on a level with technological one.

More and more designers are involved in this sphere. Some companies work with supply chains and transparency; others pay more attention to materials they use and the way they treat them, while the others set the quality above all. Some have devoted their whole life to what they believe in entirely; others are, on the contrary, limited to one or two collections and then give up. They have different approaches and attitudes, but they all are united by one goal — they are concerned about the product development processes within their companies, or at least, they say they are. So, what makes them do what they do? And what makes them call it ‘ecological’? To answer the questions we have to study the brand concepts, the strategies they use in their work, and get it all figured out in the end.

My choice fell upon such designers as *Sølv* (Norway), *Nurmi* (Finland) and *Filippa K* (Sweden). I want to understand what the difference of their concepts and strategies is, finding out which of chosen destinations gives the highest result for the development of the brand. Although, their choices are similar in some way, yet every designer is looking for new opportunities and ideas.

### 3.1 Sølvs: Norwegian promoter of local goods

Norwegian brand SØLV was founded in 2010 by fashion designers Oda Midtlyng Klempe and Mari Stølan, and can be considered as one of the most outstanding brands, that shows preference to ecological direction. In just five years, SØLV has managed to find regular customers, who appreciate high quality products. The main concept of the brand is based on the principles of long-lasting design that helps to reduce consumption: “We think there is a need to slow down in today’s society, for environmental reasons and for our own well-being” (Klempe, Stølan). SØLV refused to create several collections a year; instead, they produce only one collection, focusing on a specific type of clothing.

*“SØLV has gone through a big change the last year and a half. The goal has been to find an alternative to the fashion business’ constant search for renewal. We started up promoting the long-last values of consuming. To let these values have more space, we saw that we had to take a parallel path to the traditional cycle that fashion is run by”.* (Klempe, Stølan)

**Biletet finst berre i den trykte utgåva.**



Fig. 24 Sølvs workshop (2014)



Biletet finst berre i den trykte utgåva.



Fig. 25 Sølvs showroom (2013)

SØLV uses high-quality wool from Norwegian suppliers and cooperates with local craftsmen, farmers, weavers. “One of SØLV’s main interests is to take advantage of the resources, found locally in Norway. It has a long wool and knitwear tradition, and we are excited to be able to collaborate with local suppliers, when creating our winter collections” (Sølv).

Biletet finst berre i den trykte utgåva.



Fig. 26 Materials check-up (2014)

They are in constant contact with their suppliers, controlling the quality and processes of production. Thus, SØLV supports small family farms, helping them to develop their business and get stable income. They cooperate with Hillesvåg Ullvarefabrikk — a family owned wool spinning mill, founded in 1898, and considered as one of long-established manufacturers in Norway. Factory produces yarn for hand and machine knitting, as well as textile manufacturing. SØLV uses 100% Norwegian wool.

No wonder, the choice of design made in favor of Norwegian wool and local producers, since the quality of the wool is appreciated far beyond Norway. They use the wool from the Spælsheep breed for their woven outerwear. The Spælsheep is a breed, considered by many to be the original breed of sheep in Norway. The wool is characterized through having two layers: an outer longhaired, glossy undulating layer of wool protecting the underlying layer against wind and rain, and an underlying layer, which keeps the sheep warm. (Sølv)

Continuing the tradition that formed during the time of the Renaissance and Baroque, SØLV uses the same kind of wool that has been used to create ancient Norwegian tapestries — long wool from which the yarn is formed in two strands. It has the qualities that are necessary for today's clothing. Here I mean durability and water-resistant qualities. For summer collections SØLV uses Fur. This is something a cross between Swedish Fur and Norwegian Spælsheep. It has a lot of the qualities seen in Spælsheep, but is much softer and has curly structure. Fur-sheep is particularly great for knitwear because of its shiny, mohair quality, which does not shed or lose its shape. (Sølv)

As to textile factory, the choice fell on Krivi-Vev, which was founded in 1988 and located in Tingvoll outside Kristiansund. This factory specializes in natural materials such as wool, linen, silk and cotton. In addition, the weaving, made by local foremen, combines traditional craftsmanship with the requirement of the industry for the quality and stability of supply. “And as a result, we are now, for example, able to create our own fabric here in Norway with local weavers and local traditional wild ship yarn”. (Stølan, 2013).

Choosing the factory for making their collections, SØLV was oriented primarily on the high quality of the garments. That is why the choice fell on Riopole — the factory that is focused on customer satisfaction and distinctive features, such as *innovation*, *quality* and *reliability*. Here is how their cooperation commented by designers: “We visit Riopole four times a year to follow the prototype development and production”. (Sølv) Riopole values represent the organizational identity, ethical principles and conduct that should guide the day-to-day of this organization employees. (Riopole)

Biletet finst berre i den trykte utgåva.



Fig. 27 The designers Oda Klempe and Mari Stølan are preparing for making a new collection  
(2014)

Another aspect is that the factory positioned itself, as a company that enhances communication with the market leaders and brands all over the world, working together to develop solutions that meet the expectations of the consumers, providing them with what they need:

*“It is intended that the values defined are able to distinguish positively Riopelle by its ability to innovation, who guided the company’s course over its 85 years of existence, by a culture of cooperation, by betting on developing people, thus aligning employees to focus on results and focus on costumers, and thus consolidate the leadership position, in designing, developing and producing fabrics for Fashion industry. The Riopelle Group believes that the defined values distinguish positively, creating a strong brand, products of excellence and customer preference”.* (Riopelle)

Bringing together the potentials of producers, textile and tailoring makers, SØLV is able to implement their principles, design and understanding of long-term fashion. Mari Stølan (2013) described the process of development of the brand and its promotion in the retail chains:

*“We started up promoting the long-last values of consuming – loving what you own, caring for it and may be even passing it on. But as the business grew, it became more and more difficult to hold on to those core values. We would visit our retailers and we would see our beautiful, hand-woven coats, hanging on last-minute sales racks and all of a sudden it’s felt us as if it were shampoo and toiletries we were selling, that basically became the perfect example of a sustainable business losing its mission in its ambitions to grow”.*

This quote demonstrates a new level and new frontiers, they managed to reach. It is not about quick profits, but rather the ethical side of the business. It is about the need to maintain initial desire to combine the design and production in a single cycle that carries the principles of eco-design and extends the product lifecycle. SØLV is not trying to conquer the world market. Although, the quality of the product is so high that having high levels in production, SØLV could have gained a real profit and obtain the recognition in many countries. They have set other goals, though. They seek to know more about the customers and their needs that is possible only doing business as a small company:

*“Knowing who the owner is before the production has opened up the whole new way of communicating with our customers. By including them early in the process, we are able to share with them the whole journey from raw materials to final garment. By knowing who they are, we are able to do things, like sending postcards from our factory in Portugal and embroider their initials in the back of their coats. The efforts like this might seem costly and time-consuming to some, but to us it is an investment and an important part of our marketing plan” (Stølan, 2013).*

Customers place their pre-orders and six months later get their clothes back. This suggests that the design and quality of things are so high that the customer is willing to wait. “This gives our customers the opportunity to follow the garment journey from raw material to the sewing table, while it is being made. Our sales model also enables us to avoid over-production completely” (Sølv). Thus, the designers almost completely refused from the idea of retail services. The credo of the brand is to work with clients without intermediaries: “To be able to take fully control of our business and the stories we want to tell, we decided to cut the middle link – the retailers, even more, instead of producing our own stock and selling it on, we would now let our customers pre-order the collection before production and then collect the orders and produce it.” (Stølan, 2013).

Biletet finst berre i den trykte utgåva.



Fig. 28 Sølvs winter collection (2014)

As about collections, these are long-term garments that do not require a change from season to season. Colors are mainly restrained. There are gray, blue-gray, beige shades. But sometimes designers use bright colors, especially in accessories. Quite often SØLV uses for its models the decorative braid of contrasting shades, which makes the clothes more elegant.

Models almost always photographed in front of very modest landscapes, where there are no unnecessary details that might distract the attention of potential buyers. The presence of nature creates the impression of high purity and freshness, which we subconsciously expect to be there.

A distinctive feature of the design is a simple cut and legible silhouettes. These qualities extend the life span of clothing and attract customers of all ages. That way, SØLV, seeking to bring understanding of their role in today's fashion industry, is able to find its own niche, while maintaining the uniqueness, and following ethical principles.

Biletet finst berre i den trykte utgåva.

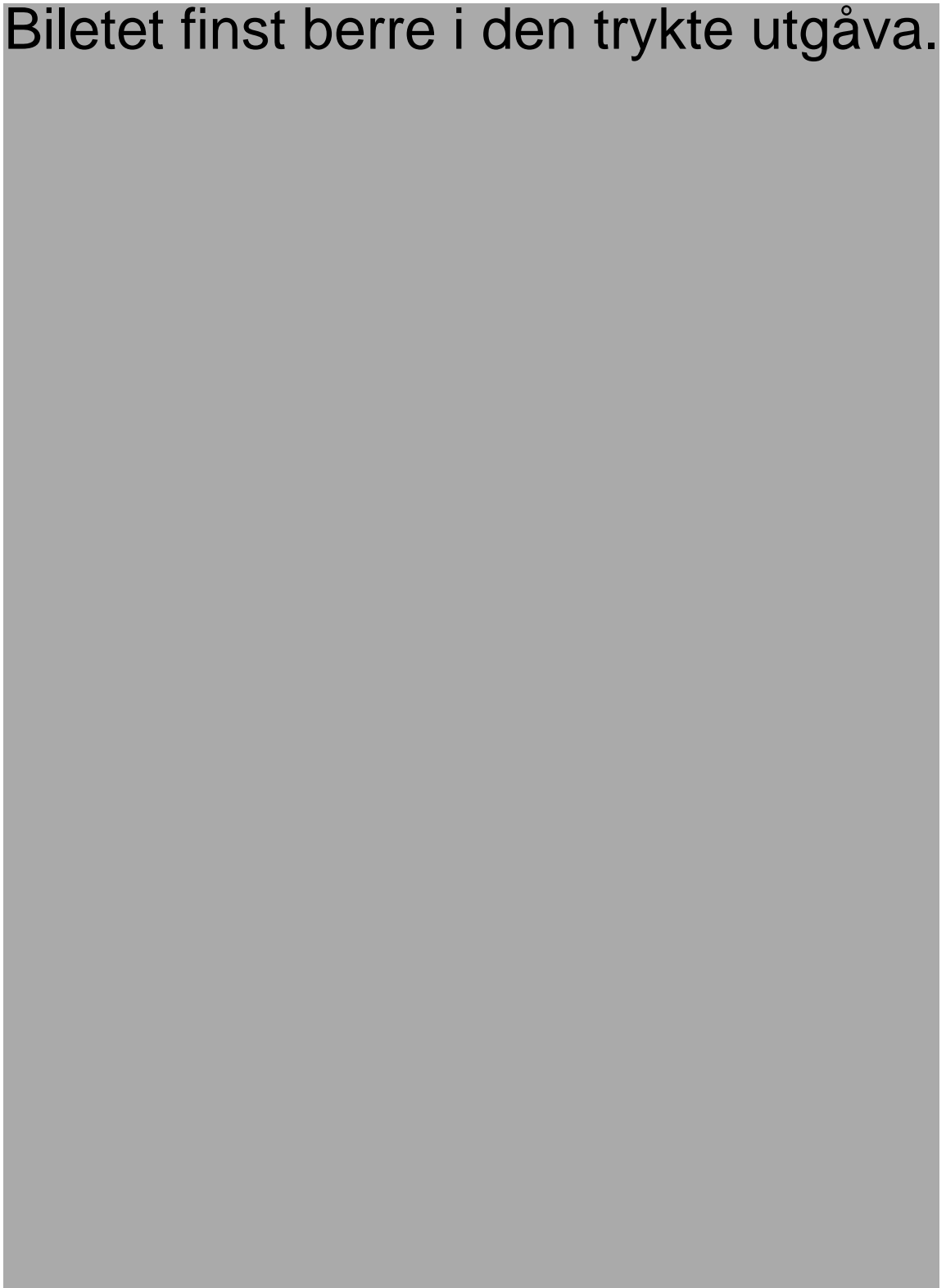


Fig. 29 Sølvs winter collection, made of high-quality Norwegian wool (2014)

## 3.2 Nurmi: tradition of minimalism and long-lasting design

NURMI was established by Finnish designer Anniina Nurmi, who dreamed of building more ecological and transparent way of making clothes. She argues, for her design and sustainability goes hand in hand – there is not one without the other. At the same time, NURMI wants to bring back the old days, when clothes were meant to last (Nurmi, 2011). Therefore, she focuses on such things as *quality* and *durability*, putting them together through creation of minimalistic functional things, making her clothes while wearing, as much comfortable, as possible.

Essential guides are sustainability, which means long-lasting tendencies, eco-friendly materials, the transparent manufacturing, ethical working conditions and the design, which the buyer will cherish for a long time.

Biletet finst berre i den trykte utgåva.



Fig. 30 Nurmi's collection F/W 2011

Anniina Nurmi acknowledges,

*Unfortunately the globalization of clothing production has given us the false presumption that clothes can be produced as fast and with such low prices as we have nowadays become accustomed to. In the long run fast fashion cannot continue as it is. It has a huge negative impact on the environment and the textile workers around the globe. (Nurmi)*

Thus, the special place there is given to the concept of longevity, which should be an integral part of the brand. From my point of view, making clothes designer always have to remember — it is better to make less, but something that will live on longer in terms of quality and design, instead of just following the latest trends. That is what NURMI does. The designer believes, it is important, since the styles are changing rapidly and garments go out of fashion and become useless, as soon as something new comes on the scene (Personal communication). Today designers make clothes affordable for all comers by way of low prices and seasonal sales, making it easier for them to buy things and then throw them away, but yet not excepting the poor quality of the latter. They literally break emotional connection between the customers and their purchases. NURMI pays special attention to ensuring that the finished products look nice not only from the outside, but also the inside is executed flawlessly.

NURMI uses materials as organic cotton, hemp, recycled textiles, second-hand furniture, leftover materials, found in warehouses, and even domestic waste, used as the raw materials for fabrics to come. They believe they can significantly reduce the environmental impact of the material production in that way. They also admit that the cultivation of organic cotton can be as water-intensive as conventional cotton. This is why it is not an answer to use only organic cotton but to find also even more ecological fiber alternatives (Nurmi, 2011). Therefore, they are constantly looking for better solutions to be able to make the process less harmful, paying attention to every stage of the work.

As the key factor for creating eco-friendly clothing NURMI puts openness and integrity on all levels. Designer stands for transparency, use of local production, ethical standards and strict control (from the cultivation of raw materials to their transportation and upcoming disposal). “For us, Nurmi says, the most important way to make sure the whole supply chain is sustainable is to know everything about it” (Nurmi, 2011). It is not only about the inner processes – the way they make things or the place, where they are produced. It is also about outer politics and relations between them and their customers, as well as suppliers and partners they work with, who are in fact depended on each other.



Biletet finst berre i den trykte utgåva.



Fig. 31 The manufacturing process (2012)

Another direction they work in is manufacturing of clothing, made of recycled pre-consumer waste. Using them as raw materials, they manage to reduce adverse effects on the environment.

Nurmi (2011) says:

*“There can still be found a lot of dead stock fabrics which are leftovers from Finnish textile industry. Rolls and rolls of fabrics have been laying around for years in warehouses untouched. Always when we find out about dead stock fabrics for sale we go and search through the heaps of fabric rolls and pick the best and most high-quality ones to create limited edition styles”.*

Nurmi believes that the work of people, involved in the production process should be paid fairly; working conditions should be safe and there should be reasonable working hours. No matter, whether it is local production or clothes are produced in other countries, the ethical aspects are always equally important. NURMI is constantly looking for new suppliers with high ethical and environmental standards. At the moment, they work with suppliers, located in Finland.

As about transportation, NURMI tries to minimize contamination, even though it is impossible to implement it, as long as they use materials such as organic cotton. They say “it would be untruthful to talk about fully local production”. Even though some of their materials are produced far away, the rest of the production chain is done nearby (Nurmi, 2011).

For business to be sustainable, NURMI is trying to develop and build a brand, based on long-term prospect, which in the future might increase the chances to be environmental-friendly, indirectly making changes on a large scale within the apparel industry and local communities.

NURMI’s collections mainly include ready-to-wear clothing, which are quite versatile and are not liable to change very often, due to basic elements, such as t-shirts, jeans etc., that are used in everyday life, and restrained color palette. All the components are sort of continuation of the same line over the years. Such details as pockets, lapels, as well as accessories go smoothly from one garment to another, rarely being changed in size or color. Designer calls it a “continuous process”, where they improve the existing design, complementing old outfits with the new ones. Many of them have the evident signs of unisex, but what looks courageously on boys, looks very feminine and elegant on girls (fig. 34).

Biletet finst berre i den trykte utgåva.

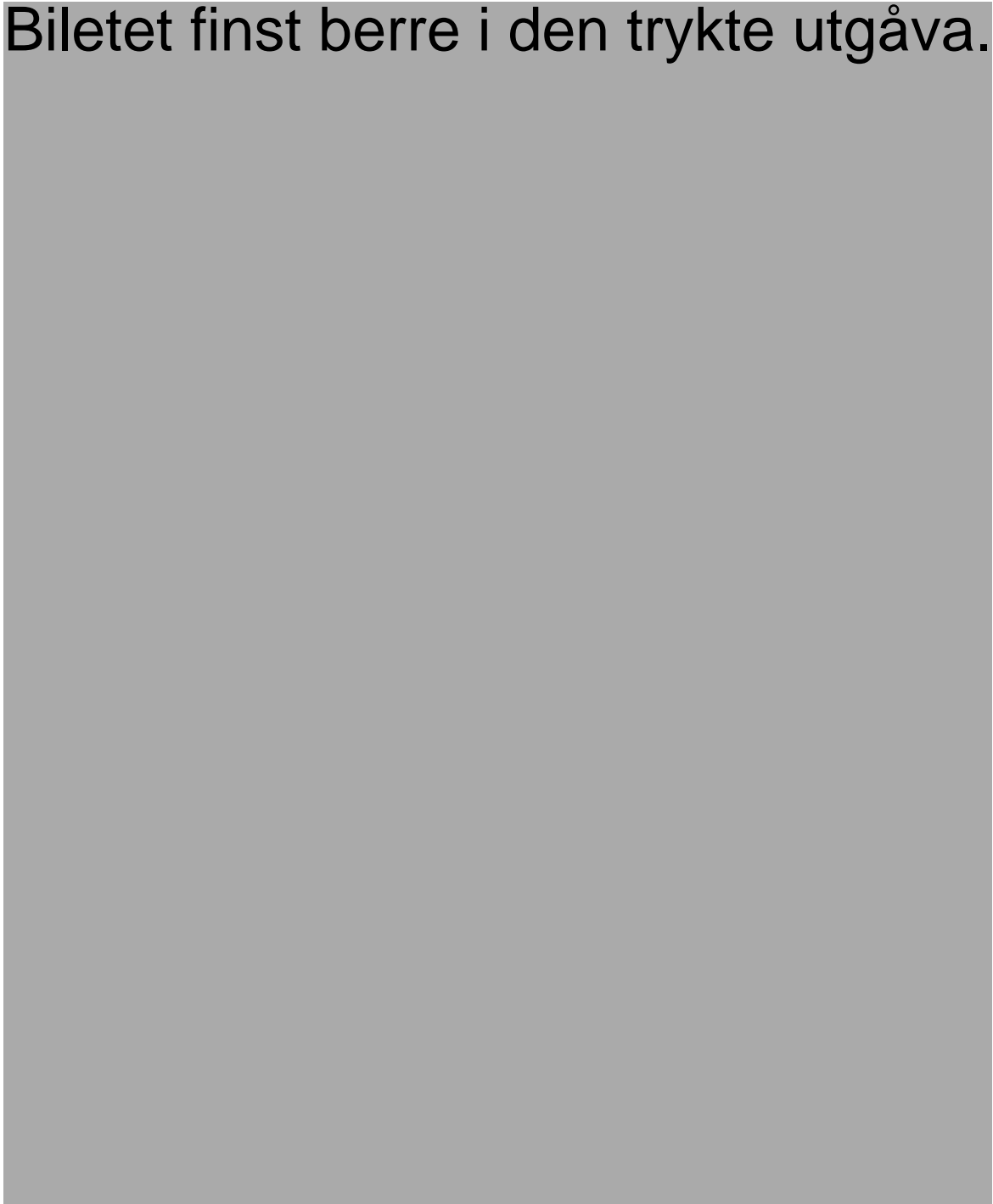


Fig. 32 Nurmi's collection F/W 2014, which combines minimalism and elegance

The color palette is very calm and neutral. You can see blue, gray, black and white colors that rarely are diluted with bright specks of orange, yellow and red.

**Biletet finst berre i den trykte utgåva.**



Fig. 33 Nurmi's collection SS'14

It is also worth saying about prints. They never look deliberately intrusive or out of place. They rather skillfully stress the cut, and the figure. Accessories such as hats, jewelry, bags are something what NURMI would lose some of its appeal without. The jewelry here is an accent, the focal point of whole outfit, whereas the bags and hats are their extension that gives us an impression of completeness. Striving for minimalism is manifested in the way they present work.

**Biletet finst berre i den trykte utgåva.**



Fig. 34 Collection, made of 100% hemp and leftovers from Finnish clothing industry (2014)

### 3.3 Filippa K: fashion where sustainability is the guide to growth

The concept of the brand is pretty much based on what we have already seen in the previous one. It starts with aspiration for quality, simplicity, lightness, practicalness, wearability, longing for sophisticated design and many other attendant things. They might be seen as something usual and common for all eco-brands, but in reality it only confirms the correctness of chosen path.

**Biletet finst berre i den trykte utgåva.**



Fig. 35 Filippa K's spring collection for men (2011)

The idea of creating a brand was born out of a personal desire of Filippa Knutsson to “pure” fashion, and the belief that there is a market demand for wearable things. So, they turned their attention to the quality, taking into account individual needs of the people. The brand immediately pursued a course of using natural materials and investigating product life extension.

Biletet finst berre i den trykte utgåva.

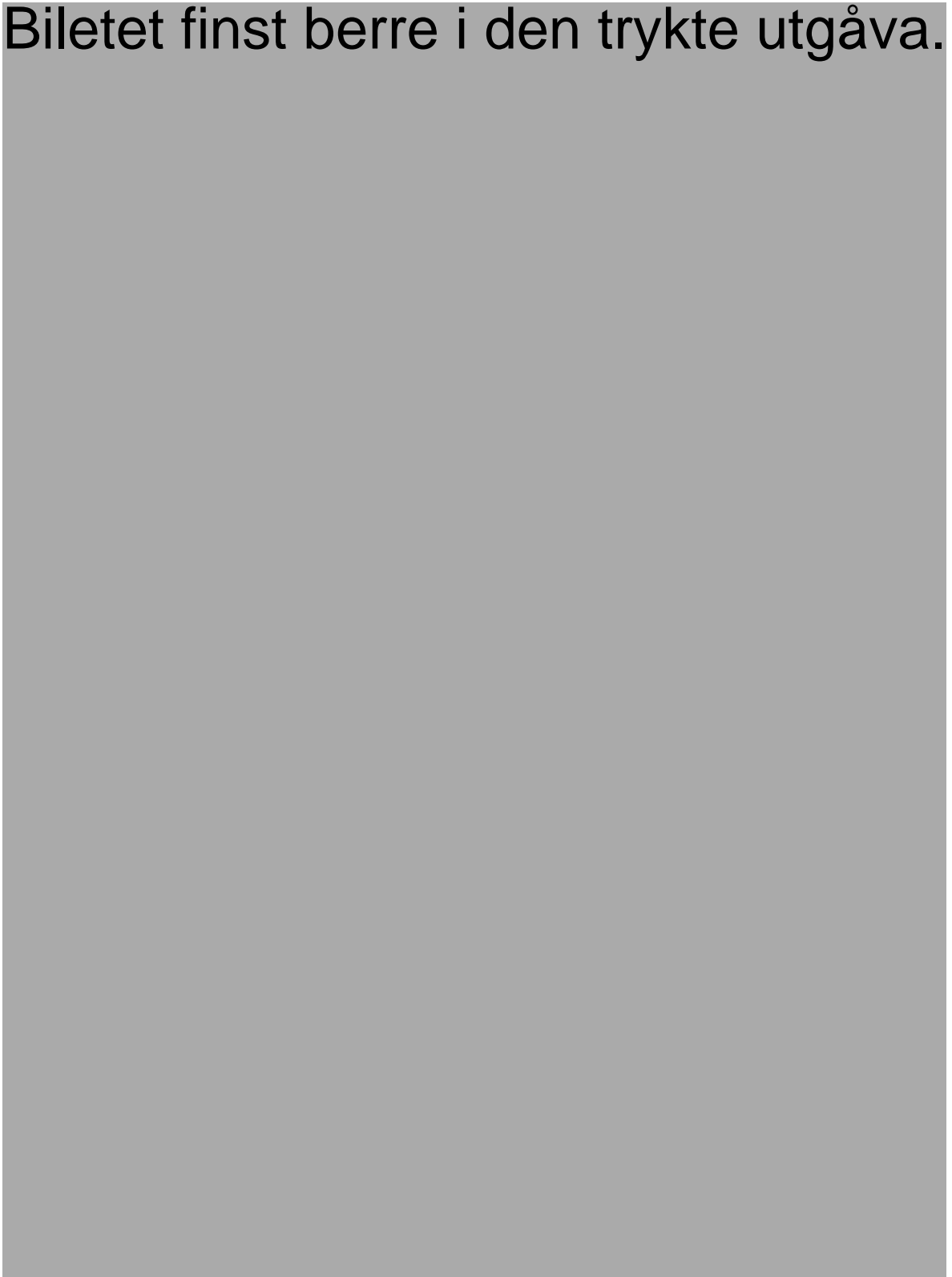


Fig. 36 Filippa K's collection A/W 2013. Photo by Lachlan Bailey (2013)

According to Knutsson, in its first year, they created the conceptual vision, designed the first collection and run the business from the kitchen table at home. Their entrepreneurial spirit together with a strong feel for modern design and quality, allowed the business to grow very quickly (Knutsson).

The brand concept is that all garments should be technically simple, but at the same time, they should have very high quality, both in terms of design and materials. Every new collection reflects the core principles of the brand: *simplicity*, *style* and *quality*. Knutsson describes it as following: “We strive for the pure and simple. We stay personal and genuine. We are timeless within our time”. These values are crucial in doing business and developing concepts. They recognize that design, production and sale are based on the processes that require significant resources, and not always it has a positive effect on the environment. Therefore, the company is constantly striving for minimization of the harmful impact.

Right from the start, they paid attention to selling through the retail network as different kind of concept stores. It allowed tracing the route and conditions of the product movement from producer to consumer. By the time they created the space, where they could show their things.

**Biletet finst berre i den trykte utgåva.**



Fig. 37 Filippa K's fall collection. Photographed by Patrik Sehlstedt (2009)

You can see everything you want — from underwear and swimwear to outerwear, footwear and accessories. Both lines for men and women are developed in parallel, and carry signs of one indivisible style. The garments are designed for young, modern and self-confident people.

These clothes are made for the big city, where the conformism and practicality are closely interwoven with one another.

The company is trying to reduce the negative impact, with the help of materials they choose. They control the way in which products are produced, under what conditions and by whom.

Magdalena Rodell Andersson — the acting CEO characterizes the brand activities:

*“We know that designing, manufacturing and selling fashion garments is based on processes, which requires resources in different, not always positive, ways. However, in pursuing our business we have a sincere and humble intent to work in order to secure and improve our effect on the environment and on people”* (2012: 4).

FILIPPA K has invested much time and effort to the development of collections, improving production quality, due to many years of partnership and trust. They achieve full cooperation between production department and suppliers, considering it as a key factor to attain the best result. Larsson claims: “It is of great importance for us to feel proud of the products we create, and we invest a lot of time and effort in the product development” (2012: 5).

No less important aspect in the production process is the desire to produce less, in order not to favour an excessive consumption that entails many problems. The choice of materials for the production is a critical factor both in terms of quality and from ecological point of view. FILIPPA K offers clothing and accessories of high quality and durable design, successfully combining them with eco-friendly materials. In their work, they use tencel, organic cotton, wool, silk and linen. Beside this, they use recycled materials. They see leftovers as valuable resources; by using them, they need fewer raw materials, and this makes them a better option as they put less strain on the resources. (Filippa K)

They carefully explore the possibilities for everyday improvement. They do it with a help of technologies and latest developments in the field, as well as materials, strictly controlling the way products are produced. In order to encourage the use of more sustainable materials, they have worked out a tool that registers CO2 emissions from transportation and helps to choose the most pure materials. According to Sustainability report, presented by FILIPPA K in 2012, this tool provides understanding for the environmental and social impact that comes with the choice of fabric, and is used as a driver towards increased use of environmental-friendly materials. The tool divides fibres into four categories. Class 1 and 2 are considered as sustainable fibres and class 3 and 4 as non-sustainable and are to be phased out by year 2030. (2012: 12)



An equally important factor is the choice of energy-efficient transportation. Since they do not produce things locally and have to do long-distance journeys, the preference is given to maritime transport. To lower the time, they prepare things in advance, building extra hours into production process. For packaging, FILIPPA K prefers to use paper, made of recycled materials without the use of harmful adhesives. This is very important, in terms of saving natural resources. The brand is committed to phase out hazardous elements in their work. They control the use of detrimental substances in the production process, watching over the working conditions and safety of the workers, in order to be sure — neither them, nor consumers will be harmed.

**Biletet finst berre i den trykte utgåva.**



Fig. 38 Filippa K's fall collection (2012)

This is the moment, when quantity is transformed into quality, and I come to realize that the development of long-lasting products is the only way out. This in turn creates a need to watch over the demand for a particular product. And so, the brand makes clothes, designed for long-term use and the ability to offer products a second life. Larsson claims: “We want our customers to trust us and to feel satisfied with their purchase so that the product will be used for a long time, so that it becomes a wardrobe favourite that will be used season after season”. (2012: 5) In addition, the demonstration of each product in the store runs for a longer period of time (up to 6 months), whereas usually collections are superseded every month, or even more often.

In this case, the choice of materials is determinant as well. “We want to offer clothes and accessories, which we can be proud of and believe that pride for the products is achieved, when high quality and long lasting design are successfully combined with environmentally friendly materials” (Sustainability report, 2012: 12).

FILIPPA K has found an original solution — they started to cooperate with a well-organized second-hand shops chain, and in a while opened their own in Södermalm, in 2008. Larsson says, “We are proud over this way of working with sustainability. Our quality and design have made it possible for our products to become the base for a successful second-hand concept” (2012: 14). They offer their customers the opportunity to sell things they have purchased before, and buy something they need at the moment. Beside this, FILIPPA K cooperates with Lånegarderoben — a non-profit organization that serves as a clothing library. The idea is that consumers can renew their wardrobe without contributing to excessive consumption. “We believe this is a fantastic idea and we here get a chance to show that our clothing really stands the test of time both in quality and design” (Sustainability report, 2013: 24).

FILIPPA K does not limit itself in search of color. Pastel colors are combined with bright ones, as well as materials with modern prints, checked fabrics, and those with classical lengthways stripes. Quite often the basis of the collection consists of items with neutral colors such as white, gray, black and beige ones. They are not as prone to frequent changes as others; that is why the clothes made of such materials are worn much longer. Minimalistic shapes and rich contents are the key idea of their collections. At first glance, all things seem to be very simple, but there are a lot of details and complexity in every piece. Soft comfortable clothes with a loose cut; elegance and purity; the compound of the silhouettes and fancy details... This style could be defined as ‘casual’, where the comfort and personal expression prevail over formal superfluously traditional things. FILIPPA K uses a wide range of possibilities — from the creation of new proprietary technologies to a network of second hand stores. All this suggests that the brand has chosen the direction they would follow for many years, developing, rethinking and looking for new ways to improve their products.

After analyzing the development of three fashion brands that position themselves as promoters of eco-friendly goods, it can be said then they are similar in their aims and principles but if we go deep and look at what they do, it is evident, each of the brands has found its own way.

For *Sølv* it is, first of all, the support for local producers and Norwegian traditions in the production of woolen products. *Nurmi* solves ethical problems, when creating their collections; they pay great attention to ecological ways of delivery, and are interested in the opinion of their

customers. As to *Filippa K*, this brand is developing technologies that help to determine the degree of contamination. They thoroughly plan the release of their future collections, achieving limitation of the output in that way. All of them are responsible for the protection of the environment, sometimes waiving their interests, but being fully aware that the future of fashion depends on them.

Their experience might help other designers, who have chosen eco design as the way in which they are developing; encouraging and inspiring their customers and followers...

## 4 My own vision: from sketch to finished articles

*Here I throw light on my own vision and the way I perceive things around me. All presented below is rather a logical continuation, so called interpretation of experience I obtained during research. In this chapter you will find a lot of descriptions of design working stages I went through. You also will see conceptual ideas, implemented through sketches and try-outs, and my own reflections on the occasion. I hope it provides the reader with inspiration and incentive set of ideas, and it brings us a little bit closer to comprehension of design altogether.*

### 4.1 Conception

Like it was said in Chapter 2, one of the reasons of ecological crisis is an excessive use of resources, which led to a qualitative change in primary design goals. If earlier the form and the function came to the foreground, then now the materials are of a paramount importance. So, I would like to design things that can last long and be still good for wearing in years, but at the same time I want to cut down the amount of waste products. It can be done in many ways, for instance, with a help of technologies, which provide minimal loss of raw materials. It can be solved with the help of design strategies I learned during research that might be, in the end, a good response to inefficient use of resources. For this to happen, I need to find out what challenges I am about to face with during my work, and what things are to be taken into consideration to develop the design ideas for sustainability.

The first problem is so-called *wearability*. Sometimes, we buy clothes and in a while we find out it was worn-out, even though it has been a little since they were bought. And there can be plenty of reasons for it, but the main one is low quality materials. In order to avoid it, we have to pay attention to *materials* and their *durability*. These two qualities are the most important, when it comes to clothing, and exactly these qualities become determinant in my work. Another problem is a low interest of the wearer in clothes he wears and the way he wears it. In order to change his attitude and inspire the consumer to cherish the garments he buys more, I need to work out good designs that propose two and more options for the buyer, so he can choose those he is interested in the most, according to his personal preferences and needs. In this case, *multi functionality* and *modularity* are principal characteristics that I used in my final work, which is realized through a collection of clothes made of natural materials.

The main idea of this collection is laid in transformation, changing shapes and ability to restore worn-out pieces easily: such problematic zones as collars, cuffs, hems etc. It is incorporated in snap-on elements, for instance, pockets, which may have different configuration and design, or lapels with different combinations of color. Buyer must not buy a new jacket, he can buy a set of pieces with and change the outer appearance of his clothes. He can change the design, diversifying his wardrobe in that way.

The task is to create universal multifunctional clothing that can replace many other things in our wardrobe, which is consisted of things, suitable for any occasion and do not belong to any particular product group. It can be achieved by means of following qualities: *simplicity* of the form / silhouette, small number of trimmings / decoration, neutral *colors* / closely-related tones — the ones that work across different seasons. They are *practical*, *universal* and *time-lasting*, and can have the potential to be combined with any other color, and suit well to any type of clothes. Correspondingly, collection is oriented on general needs of people, who lead an active lifestyle; those, who do not want to spend much time on shopping, but have enough clothes on their shelves to feel comfortable. I focus on the creation of things that again might save resources and reduce negative impact on the environment that is extremely important from the perspective of eco design. As about color palette — sometimes it can be difficult to harmonize shape with color. So, first I work with the form, which is expressed in lines, spots, texture, and then switch over to the development of achromatic composition.

Like I mentioned, I chose natural materials such as *cotton*, because it has moisture-proof properties. It is breathable, as long as it let through the air. It does not stick to the body; it can be considered as a highly hygienic material, inasmuch as it does not cause allergies nor irritate skin. It is comfortable as a whole; and what is more important, it is nice to the touch. Cotton has high strength, sufficient resistance to stretching and bending, as well as repeated washing and ironing operations. Another fabric I used is *linen* because of its high strength and durability. Its texture can be tough and rough, or on the contrary very soft and smooth, which gives a wide range of opportunities, when it comes to aesthetic qualities manifestation. It is easy to care for, it can be washed frequently, and it resists stains and dirt. The only essential shortcoming is that it is not elastic. Nevertheless, today's technologies can efficiently solve the problem. Beside this, I used *old clothes* (jackets and shirts for lining), which I have cut and used as a decoration for constructional lines to lay stress on form and cuts. Collection is consisted of three outfits and different pieces as the supplement to the garment, and can be applied together or separately. Each of these pieces is united by one idea and stylistic characteristics, but differs from one another through variations you can see in my look-book, in the end of the chapter.

## 4.2 Project stages

**The first stage** was the creation of sketches, when shapes and silhouettes of future collection were defined. These sketches were developed, according to certain colours and specific materials. A preliminary selection of outfits, which later were realized into paper models and fabric mock-ups, was one of the main goals. For each model I created several options, from which I chose the best versions and continued to work on them in accordance with the basic idea of the collection — the *transformation* and *interchangeability*. In parallel, I worked out the sketches for detachable parts (sleeves, hoods, pockets and so on). It was important to elaborate each piece in details to make the process of sewing easier, and avoid technical complicity that in some way appears in the process of work that might lead to unexpected results.



Fig. 39 The selection of final sketches with two outfits presented (2015)

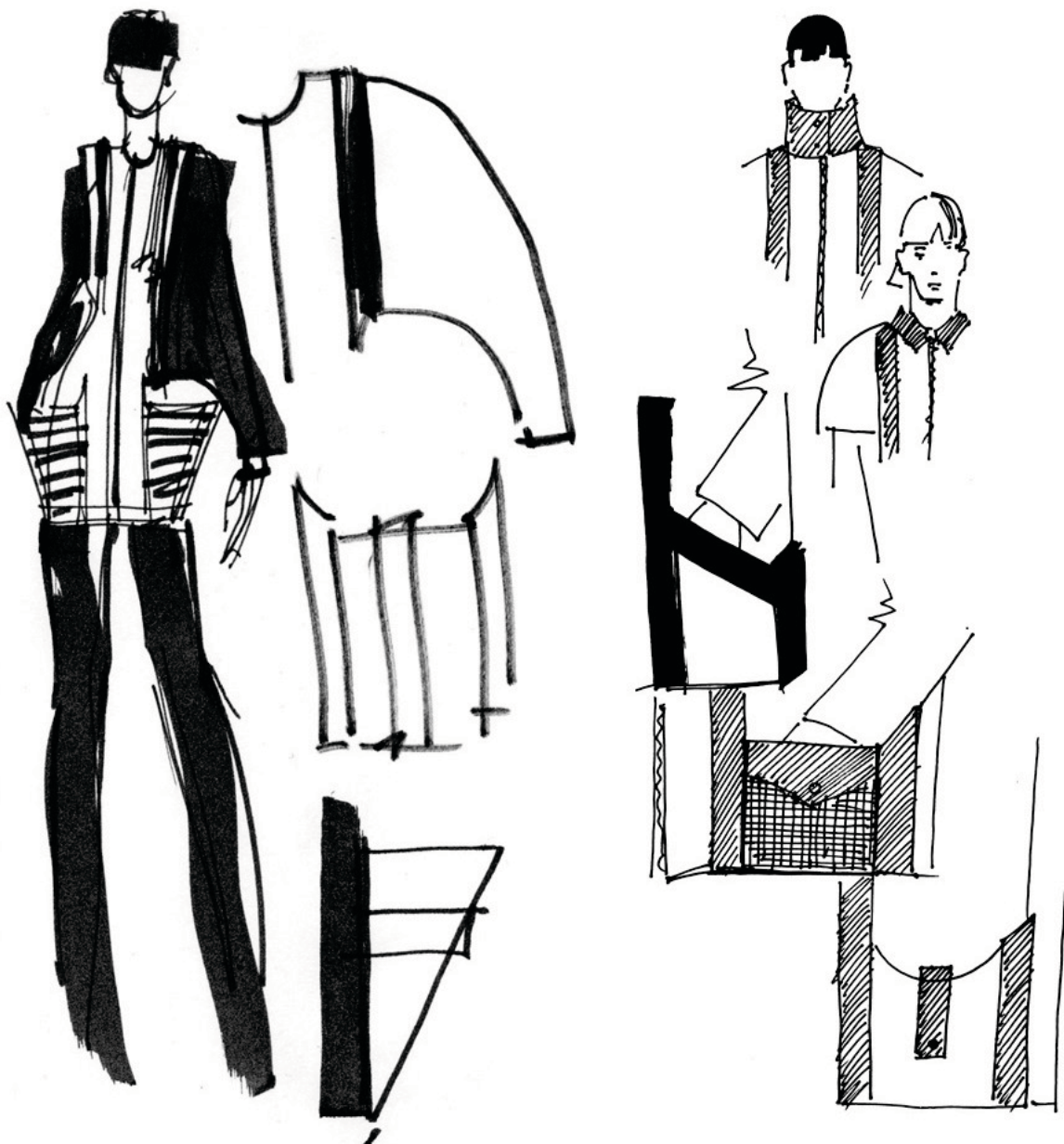


Fig. 40 The sketches for one of the outfits with pockets and sleeves variations (2015)

**The second stage** is the creation of model construction by means of design. For this I used the patterns of basic models, transforming them and giving more precise features to each. For this, I created several versions of the basic model and the large number of variants of technological components. Also at this stage, I thought out the technical implementation — lining, trimmings, different kind of fasteners (snap fasteners, Velcro, zippers), as well as the way pieces are fastened and everything required. Before proceeding to make fabric mock-ups, which were supposed to be the exact copies of finished products, I performed a number of life-size models, which greatly helped me to take into account the proportions of the human body and size. Another important thing I paid attention to were correct fit and comfort. I tried to achieve a good

fitting of things. Paper models (fig. 41) allowed me to create volume and mark defining lines on mould templates. I managed to cut the length of future outfit directly on the mannequin and finish pasting of necessary details in the course of design stage. The analysis of composite connections of models helped me to decide on the principle of organizing and discover its weaknesses and eliminate the shortcomings at the initial stage right before final improvements.



Fig. 41 The process of making a paper mock-up (2015)

**At third stage** I created fabric models, based on the sketches, patterns and paper models on which I checked the construction and compliance with materials I chose for trial work and final project. In this case, the fabric should have the same quality and characteristics. As a result, I had to change the design of the removable sleeves, so it makes it easy to lift arms up or do some movements. Also I had to clarify the location of pockets, yokes and other details, so that they are comfortable enough for using. The fabrics and trimmings were selected further at this stage. Models, made of fabrics were photographed, which made it possible to consider all potential models of the collection, and make the final selection, resulting in three models. I calculated the amount of materials for each of them, as well as the lining and technical fabrics supply. In addition, I did some experiments to adapt recycled materials to combine new and old fabrics in



one outfit. I used old suede jackets (fig. 42) that I had bought at second-hand store. I undid the jacket, selected suitable pieces, brushed them and stretched them out on a special machine.



Fig. 42 Used materials (jacket and shirt) (2015)

I also tried different versions of colouring (fig. 43) with natural dyes (oak bark, buckthorn, gray willow). However, I had to give up, because huge length of fabrics did not allow dyeing evenly. As the result, I turned to a local factory, which has carried out colouring for me.



Fig. 43 Coloring try-outs done with the help of buckthorn and oak bark (2014)

**The fourth stage** is the embodiment of design ideas. Here I mean cutting and sewing with mock-ups I have previously made alterations in, placing the fittings etc. The fact that models were not sewn for individuals, but with given dimensions, it corresponds to the concept of my collection — the versatility and adaptation to any figure. Before cutting, the fabric from which the product was sewn, I sanforized it, that means it is moistened and dried by iron. This process is performed for the overall shrinkage of fabric, as well as wet-heat treatment of seams and the individual parts to avoid differences in colour and material deformity. Another challenge I had set for myself was to reduce amount of waste left after production. I made precise estimations in the process of creating patterns and trial models, which certainly affected the silhouettes of the

products. After cutting stage some parts of fabric were pasted on interlining for higher density. The materials were selected based on sustainability: the fabric and fusible nonwoven. Each model has common features and general characteristics, so the process of tailoring was held in parallel. First, all three models were cut and ready to sew. I basted all the pieces (tacked them together), stitched and ironed to shape all the details. I finished my work with setting of fasteners and buttons. Velcro fasteners, for instance, were sewn in the process of tailoring. The other parts I sewed separately with conformable fasteners thereto.

The first outfit is a light-blue short jacket. The patterns for this model have been worked out that way, so it makes it possible to reduce waste. Large vertical flaps have fasteners that allow, turning down the flap, fix the belt or fasten the two halves of the jacket in front. (Fig. 44)



Fig. 44 Variations of jacket with flaps being turned down (2015)

Large hood can be fastened to the flaps (on the top and on the back side). It is rolled in different ways, changing its shape, depending on what part of the jacket the wearer wants to show. The back side of the jacket has a box-pleat, therefore gaining in breadth downwards. This model also has detachable sleeves, so the jacket can be transformed into waistcoat.

The second outfit (fig. 45) is a jacket with plenty details. It is made of linen that has pale beige and pastel pink colors. I used cotton I took from used shirt. I have sewn pockets, lower part of the flaps, and one side of the hood out of it. I also made a set of collars and pockets.



Fig. 45 Variations of jacket with two different types of sleeves and a cape (2015)

I have sewn two pairs of sleeves for this piece: the usual narrow removable sleeves and the figured ones, designed specifically for this model. (Fig. 45) They are fastened with the help of vertical flaps and Velcro fasteners, the same way as pockets. Each pair of pockets has two sides

that allow you to use four different variants. There is one more two-sided detail is a cape, which can also be turned into a hood. Two removable belts adjust the width of the jacket, changing the silhouette. In that way, the jacket gets about ten different variants of wearing. The lining is made of lightweight natural linen.

The third outfit, presented in the end of my work (fig. 48-49) is a long coat that can be transformed into a short jacket, using zippers, located on both sides. It has side pockets, which are decorated with details, made of natural suede. For this purpose I chose suede used jacket. The same material I used for flaps on the front and the back side. It has removable sleeves and belts.

### 4.3 Final work

The ideas of my collection arouse and changed throughout the study of theoretical materials, and literature, related to environmental design. Like I said, it is based on the method of transformation and rearrangement that imply a change in the elements and individual components and their replacement with others. I wanted to let the potential buyers replace parts of clothing, not only in the case of wear, but depending on the weather conditions, or even their mood. Study of various trends and opportunities of eco-design inspired me to create images that, in my opinion, meet the requirements of people. Also, I wanted to put such methods, as reusing and zero-waste strategies into practice, and work out simple silhouettes, taking into account such things, as functionality and versatility.

The method that I have used discovers a great potential, in fact, endless opportunities in fashion design. It can be described as “a combinatorial search for arranging decisions”. It allows me to change the shape of the product, its purpose and even style. In the design process, I had a lot of new ideas that changed and supplemented the original idea of collection. After all, except for the product shape, the designer (and later the buyer) can change the colour, move the accents and details to transform the garment. Thus, the consumers would be involved in the process that helps to understand their needs much better. If such clothes freely sold in stores, it would be enough to select only those items that are liked by specific buyer; and universal sizes that fit to all would lead to the fact that the consumers could touch up their wardrobe at any time.

Vertical buildings, bridges and their reflection in the water, the modern part of Oslo with its constant traffic, glass and concrete — all these tiny details inspired me to make up a set of models that would be timeless and fit into the urban landscape. In this small collection I tried to

take into account the social needs of today's consumers, who gear up for long-term tendencies and not just seek to save money, but to change their lifestyle, preserve the environment and resources. I was looking for images in associations that arose during solution search, from the simple to the more complex forms. I also wanted to demonstrate my knowledge and skills, and creativity in my collection, combining those things I have known before and the ones I have learned during research. My task was to create a model that would be simple and complex at the same time with obvious constructive solution, but having a high potential with the possibility of growth and development.

The main means (approaches) of combining models of clothes in my collection were the proportions and rhythm of basic elements and their components. It was necessary to unite different models and their parts in a single collection, which would correspond to the original concept, on the basis of primary elements of form and their properties. For this I used the following qualities: similarity, as well as the proportion of the form, different kinds of rhythm, repetition, and symmetry.

Since I wanted to avoid monotony, I alternated types and properties of the primary elements and tried not to apply them equally. At the same time all three models are united by repetition of simple geometric shapes in silhouettes and the materials used. They have the same dynamics shapes, similar volume and segmentation. The selection of colours I carried out in a consecutive order, intensifying the tone, the degree of lightness, and series of related combinations. I wanted to emphasize the change in the mass by its vertical segmentation, and use the properties of the colour and texture in all three outfits. Comparing dynamic and static forms, stable and unstable ones, I wanted to achieve the contrast, which makes each model more expressive.



Fig. 46 A short waistcoat. Photo by Olha Zarytska (2015)



Fig. 47 The jacket with two-sided details. Photo by Olha Zarytska (2015)



Fig. 48 The “short” version of the coat. Photo by Olha Zarytska (2015)





Fig. 49 A long coat that can be transformed into a short jacket. Photo by Olha Zarytska (2015)

# Conclusion

Environmental orientation has led to the approval of new values in design, developed on the basis of certain concepts that put forward the socio-cultural function of design, as a natural product of human culture. In the eco-design movement, there is a wide-spread belief that design is able to influence the formation of lifestyle and might change peoples' perception in some way. It determines the structure of needs, contributing to strengthening of environmental values. It also can make the transition to environmental way of thinking, and precipitate the approval of environmentalism as the fundamental guideline of human activity. After all, each designer and the company independently determine the criteria that help to make not only a creative collection, but also work on the concept of business development. What is more, these criteria aim to identify the "moods" of the market and its willingness to accept new trends, due to the use of new materials. Today it takes full advantage of technology for the production of innovative materials, which in turn allows designers to create variations and propose new set of capabilities, inherent in each garment.

The search for new materials, techniques and complex approaches to the matter, used in manufacturing — all this was turned into a steady practice, namely a strategy of development, rather than a short-term trend. In my work I examined the development of eco design, as well as variety of areas, related to technologies, materials and ethical problems, based on the available literature and the analysis of design strategies, considered as interesting and useful area with its means and potentials. I also discussed variety of ecological aspects, principles and practical approaches, used by designers along with sustainable concepts and ways of production.

Taking, as examples, such brands as Nurmi or Sølv, or any others presented, I tried to understand what they all had in common, and what kind of features differentiated the concepts from one another. One of the main questions I had set was "What makes design ecological?" or how we know this thing is eco-friendly, or it is another deception that designers try to endear us. For that to think out I needed to know what kind of opportunities and solutions might be seen in that case.

When it came to ecological congruence, I could not help touching upon the question of materials, since it has grown from just-a-fashion-trend into trying the actual solutions for urgent ecological problems being solved. Therefore I gave special attention to materials I used for my final collection. It was very important to use natural materials and used fabrics that could be recycled and used all over again. This suggested an idea to me, that even if the designers are still choosing fabrics, based on aesthetic qualities, the popularity of ecological trends in fashion design today contributes to the ability, where fibers and fabric meet its quality demands and the consumers'

needs are satisfied. The main point here, as I see it, is that they should keep their initial qualities as long as possible, corresponding to ecological concept. According to which, the manufacturers are obliged to reduce the amount of fabrics produced, and the process itself must cause the least harm to the environment, if not being eco-friendly altogether. And the materials, or rather the fibers should be grown in a certain way, being thoroughly tested at the prime stages of the process, and laid off in case of rejection.

While I was working on my practical part I also paid attention to the principles, used by today's fashion designers. Analysis of which confirms that eco-design is a long-term stable trend. The same principles have been used in my work (i.e. zero-waste strategy, reusing, long-lasting design approaches). Such qualities, as durability and longevity became determinant. The idea was to create a set of elements that could be interchangeable. Materials, colors, aesthetic characteristics (silhouette and forms) were worked out that way, it could be called long-lasting because of simplicity and utility.

Like I said in one of the chapters, eco-design pays great attention to the protection of the environment during all lifecycle stages. This allows identifying the most promising way for development. Alongside the obvious requirements, fashion designers allow for the consumption of resources on the design, manufacture, and disposal levels; as well as taking into account the provenance of materials, and other aspects, such as protection of the environment, fair trade, minimization of noxious emissions; simple and safe disposal, reuse of materials with minimal environmental losses etc.

From above-mentioned arguments I might assume that fashion can be a catalyst for new ideas, and an assistant in addressing environmental and social issues. Its positive qualities can become a strong argument in a market economy that is changing rapidly and requires new solutions to stimulate the market and competitiveness. It can promote sales, maintaining the viability of the market and creating new jobs. And the firm conviction that long-lasting design has many advantages, compared to the seasonal fashion, which bears traces of past eras, when economic factors were significantly more important, than ethical, aesthetic and environmental issues, it can be a key element, when using its positive qualities in a proper way. Thus, the design might be a tool to achieve sustainable future.

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