

Panel 2.3 Fashion & Costume 時尚服裝

A discussion about eco-fashion and its impacts on fashion design

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Abstract

The concept of eco-fashion has been proposed for years. More and more people in different industries are starting to respond to the idea of manufacturing products in a sustainable, recycling loop. This article gives a brief introduction to the dominant culture of eco-fashion. This paper will discuss the main strategies in sustainable fashion design, the interdisciplinary technologies applied to textiles and the future of textiles. The author will integrate related information and figure out the future development direction for eco-fashion.

In the current fashion design field, two examples of individual designers and fashion brands' designs and campaigns indicate response to the eco-fashion philosophy. A series of strategies called "TED's TEN" has been introduced in its second part, which encourages designers to use organic or recycled materials to design multi-functional and value-added design works, and to apply new technologies to reduce the waste and energy use. The third part involves interdisciplinary projects discussing the combination of environment and human needs, and how user participation can demonstrate the trends in fashion and textile industry.

In the 1970s, in particular, environmental concerns, including the energy crisis and the inhumane treatment of animals, led to major changes in the textile, fur, and cosmetic industries. Subsequently, it became very fashionable to wear multilayered natural materials, such as wool, cotton and hemp, fake fur coats and to wear natural complexions. The term, eco-fashion, or sustainable fashion, is a growing design philosophy and trend. Under the concept of eco-fashion, products are created and produced with consideration to the environmental and social impact they may have throughout their total life span.

Current Trends in Sustainable Fashion

Fashion designers re-introduced eco-methods at the source through the use of environmentally friendly materials and socially responsible methods of production. Kate Fletcher's essay (2007), 'Clothes That Connect', argues that, in order for eco-fashion to be sustainable, its clothing must be fashionably stylish as well as environmentally correct. Individual design houses such as YSL adopted the strategy of up-cycling preconsumer waste; and Issey Miyake designed a series of cutting edge lamps, which employed a re-treated fabric derived from recycled plastic bottles in the IN-EI ISSEY MIYAKE project to create by collaborating with the Italian lighting

company Artmade. (Figure 1)



Figure 1: A series of cutting edge lamps designed by Issey Miyake that employed a re-treated derived from recycled bottles

Many big fashion retailers also insist on the eco-fashion philosophy and regard the campaigns to be a positive response to the crisis in sustainability. Arcadia Group and Marks & Spencer, whose marketing campaign 'Look behind the label,' highlighted its use of fair trade cotton and food products, becoming its most successful consumer campaign ever (Attwood, 2007, in Beard, 2008:452). Wal-Mart, the largest retailer in the world, became the biggest US producer of organic cotton in 2009. In 2011, H&M launched its first eco-collection called Conscious made from recycled polyester, organic cotton and Tencel®, a natural manmade fiber; H&M caused a buzz when it partnered with the French fashion house Lanvin for its Waste collection. (Figure 2)



Figure 2: H&M launched Waste collection and Conscious collection

partnered with Lanvin

Sustainable strategies in Fashion Design

Ethical issues in fashion relate to the aspects of design, sourcing and manufacturing of clothing. Designers and brands try to optimize these aspects in order to maximize benefits to people and communities while minimizing impact on the environment. This paper mainly focuses on the factors that may impact on environment in the design period.

A research project on textile recycling at UAL has informed the development of a set of strategies called TED's TEN for sustainable design. The research encourages designers and the fashion industry to make better informed decisions at the design stage of production. In the fashion design process, the selection of textiles used for design is a critical factor and closely linked to whether the design is environmentally friendly or not. TED's TEN mainly emphasizes textile recycling in combination with new technologies to create valued and recycled textile products. Moreover, these ten strategies help designers lower the environmental and economic costs in the final design stage.

According to TED's TEN, to achieve the goal of minimizing waste, designers should select long-lasting textiles or recycled/re-used materials for design; re-work existing garments to produce up-cycled and value-added products; design multi-functional, rather than single function products; pay attention to the cutting method to achieve zero waste cutting; and use technology to "re-surface" pre-consumer polyester. When discussing textile treatment methods, it is better to consider using natural dyestuff for dyeing and seek convincing alternatives to harmful chemical processes. The strategies also recommend using organically – produced materials, using mechanical technology to create non-chemical decorative surface pattern, such as laser, digital printing and coating rather than the traditional printing methods which need a high volume of electronic energy and water. Moreover, designers should consider the washing factor in the consumer use stage and design and produce no or low launder products during the design stage.

Interdisciplinary Technologies Applied To Design And The Future Textiles

Fashion and textile design in the future will be interdisciplinary and combined with the newest technology, which can respond to both environmental elements and human needs. Designers will continue to explore techno-materials that can intelligently respond to the surrounding environment. More and more machines have been developed to make fashion production more like 3D printing in order to decrease the materials used and wasted in each period. Designs will be more interactive, allowing consumers to play with the versatility of products. Designs will move away from single use designs that consumers tire of, wear out, and throw away.

The design of the "Rain Palette" by Dahea Sun, a Korean-born and London based designer, is a clothing line that acts as an indicator of local air quality. (Figure 3) The garments in this series are in an acceptable traditional "H" silhouette and colored using a natural dye by Sun, which changes color depending on the pH levels of rainwater. This design can increase people's awareness of the quality of their environment, and urge them to take charge of their surroundings.



Figure 3: Rain Palette

Another design called "Listener," created by Mete Ramsgard Thomsen, is regarded as a living fabric. (Figure 4) This material is a flat CNC knit surface swirling with an irregular grid of four different fabrics, each with its own structure role. These conductive fibers are knitted directly into the fabric, making the material touch sensitive: the composite fabric responds to touch by inflating or deflating different segments, essentially sending air rippling below the surface of the textile, transforming it into a sea of small cocoons.



Figure 4: Listener

A project called "The People's Print" by Melanie Bowles, takes on a special role in providing toolboxes for consumers to design their own fabrics, and draw on Bowle's previous projects. Bowle does this, she says, 'for emotional, durable and sustainable design through bespoke digital print'. (Figure 5) Another project "Repair It Yourself," consists of a pair of shoes designed to be repaired, rather than thrown away, when worn out. (Figure 6) Through mechanical fastenings on the bottoms that the soles can be easily replaced by using an accompanying repair kit

includes needles, thread and fabric. It also enables wearers of the shoes to sew in the unique story of their use.



Figure 5: Post Modern Play by The People's Print:
How to create geometric repeat patterns from cutout
pieces of paper



Figure 6: Mechanical fastenings on the bottoms that
the soles can be easily replaced by the consumers
themselves

Conclusion

The paper discusses the current state of eco-fashion. It proposes two examples of individual designers and fashion brands' campaigns to demonstrate the philosophy of eco-fashion. A series of strategies called "TED's TEN" has been introduced in the second part of the paper about the sustainable methods in fashion design stage. The strategies suggest designers use organic or recycled materials to design multi-functional and value-added design works, and apply new technologies into textile exploration to reduce the waste and energy using. In third parts, some interdisciplinary projects have been demonstrated in the paper to reveal the trends in fashion and textile industry. The future designs need to pay attention to the combination of environment and human needs, give users more chance to participate the design during the using period.

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