ZERO WASTE Pattern Cutting workshop 13-17.8.2012 in Aalto University

Zero Waste Fashion

Zero Waste Pattern Cutting is design practice that embraces uncertainty as a way of responding sensitively to both materials and the instability of the environment. It is a step away from egocentric, hierarchical design models that prevail and a step toward a new model for garment design and production. It aims to eliminate the production of waste from the production of clothing, while revealing exciting new detail, line and form (definition by Holly McQuillan).

The zero waste fashion method challenges contemporary fashion design because in ZWF the design process starts from pattern making and the approach to use 100% of the material leads the form of a garment. In contemporary fashion design the form and style of clothing is created first and subsequently the patterns are created, often in a completely separated process from design. Very often this may even be in a different unit or in a different country from where the design process happens. The fashion designer and pattern maker are different persons with different knowledge and roles, and as these processes are separated, garment realization needs detailed drawings to communicate the designer’s intentions. Patterns (line drawings) are drawn in flat forms and therefore the three-dimensional body is rendered rather abstract and separated from this process (McQuillan et al. 2013).

The ZWF method is liberating because the knowledge from traditional pattern making is not needed and garment design can be approached as an experimental and creative process. On the other hand the method is very demanding if it is to result in aesthetic and functional garments. Most of all ZWF is a new and interesting approach to combining fashion design and pattern making. It opens up new ways to design and perceive the body form and experiment in a three-dimensional way. Additionally it can generate a new appreciation of textile materials in fashion design and create motivation for fashion designers to create textiles themselves, as will be described later in this article.

The Zero waste pattern cutting -workshop was coordinated by Aalto University School of Arts, Design and Architecture and it was part of the Baltic Fashion project. The objective was to gain practical knowledge of an innovative technique, Zero Waste Pattern Cutting, which could provide new perspectives for fashion design, while also developing sustainable design practices. The participants included teaching faculty, students and designers from partnering organisations of the Baltic Fashion Network.

While the zero waste is one of a new emerging design practices in the field of fashion, it is still developing and the specialist are few in the field. We invited one of the pioneer Holly McQuillan from New Zealand to present and teach this challenging technique to fashion designers in Europe.
Workshop teacher

Holly McQuillan is a lecturer in the fashion design program at Massey University’s College of Creative Arts in Wellington. Her research focuses on sustainable design practice within a contemporary material culture framework. Since completing her Masters of Design, her work has focused on exploring the possibilities that arise when garment design is restrained by one goal – zero-waste.


Workshop timetable

Monday Day One
9.00 getting started!
- presenting Aalto and facilities (workshop premises and sewing studio), presenting workshop leader, presenting participants, presenting workshop goals and timetable
9.30 Lecture + demo
- lecture about principles of zero waste fashion, zero waste pattern cutting with lot of visual examples
- presenting first experimentation with planned chaos technique (more below)
lunch 12.00-13.00
Afternoon: Planned Chaos: 3 hour workshop
- individual experimentation with planned chaos technique (designing own clothing and implementing them in a sewing studio)

Day Two:
9.00 Cut and Drape: 1 hour reflection and 2 hour workshop
- presenting cut and drape method (power point with lot of examples of experimentation and designs with this technique)
lunch 12.00-13.00 (lunch talk with visiting designer working with zero waste fashion techniques)
Afternoon: Geo Cut: 3 hour workshop
- lecture about geo cut method (more below)
- individual work with this technique (design + cutting + sewing)

Day Three:
9.00 Geo Cut: 1 hour reflection and 2 hour workshop
- going through all works done yesterday, workshop leader’s feedback and further guidance
- design work continues, developing technique further
lunch 12.00-13.00
Afternoon: Cut and Drape: 3 hour workshop
- second experimentation with this technique (design + cutting + sewing)
- developing further yesterday design experimentation
- workshop leader gives individual tutoring

Day Four:
9.00 Planned Chaos: 1 hour reflection and 2 hour workshop
- lecture about planned chaos technique
- individual work with this technique
lunch 12.00-13.00  
Afternoon: Consolidation and Refinement: 3 hour workshop – students continue until completed!  
- each participants work foreword with the best pieces to get them ready  
- workshop leader gives individual tutoring  

Day Five:  
9.00 Morning: Photographing the final garments and toiles, project’s photographer 9.30-11.30  
lunch 12.00-13.00 Lunch talk Timo Rissanen Parson New York, zero waste fashion and how Timo does it  
Afternoon: 13.00 onwards Presentations!  
- each participants presents own work to others publicly  
- critique, feedback  

**PEDAGOGICAL GUIDELINES**  

**Teaching zero waste fashion and zero waste pattern cutting**  

**A) Teacher/workshop leader**  
While an experienced fashion designer is needed to lead the workshop, it might be good to create continuation for knowledge transferring. This could be done in following way. One fashion designer who have participated the zero waste fashion workshop earlier could then run the next workshop. International chain of workshops could be created also based on previous.  

**B) Sharing information**  
While zero waste fashion philosophy is based on knowledge sharing, the openness during the workshop is most essential. Even though each student can work on their own design, each day one or two shared session should be organized were all experiences are openly shared and documented. This needs skilled workshop leader who can create right kind of atmosphere and trust among workshop participants. Even other more radical ways of co-designing could be experienced, for example shared designing. In this each student start with one idea, which is them passed to other student and then to third and so on. Finally the design is finalized but it is nobody’s design or it is everybody’s design. Accordingly it really is a shared design. While zero waste fashion workshop do not have to be too serious, more exploratory and creative pedagogical methods could be used.  

**C) Content**  
At least three following methods could be taught in the workshop  

1) “Planned Chaos”, in which garment blocks are used as fixed guidelines;  

In “Planned chaos” traditional garment blocks are unified so that they create the body of the garment and all pieces are not cut separately. McQuillan explains that this technique “requires understanding the rules of traditional pattern cutting but being willing to break them.” (McQuillan 2013).  

2) “Geo Cut”, which is based on using geometrical shapes such as squares, triangles and circles; “Geo cut” involves geometrical forms and has historical roots in, for example, kimono designs. The design is based on simple forms such as triangles and squares.  

3) “Cut and Drape”, a combination of random, fluid cutting and draping. “Cut and drape” is very exploratory, it is based on fluid cutting and on-dress-form manipulation.
The zero-waste pattern cutting methods could be used to create any type of garment. For example, the method of “Planned Chaos”, i.e. utilising garment blocks as the initial guideline, was applied to create a coat (Figure 1 Mara Binde). Both “Geo Cut” and “Planned Chaos” were used in designing a jumpsuit (Figure 2 Petra Leino). The “Cut and Drape” method and geometrical shapes were utilised in making a skirt and a top from the same piece of fabric (Figure 3 Andrej Subarew). In Figure 4 can be seen the “master’s” work; Holly McQuillan’s Geo cut experimentation which is based on letters from AALTO –word.

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Figure 1. ZWPC Coat by Mara Binde (Photo: Keijo Ilvy)  
Figure 2. Geo Cut and ‘Planned Chaos’ methods were utilised in design by Petra Leino. (Photo: Keijo Ilvy)
A shirt and skirt were designed from one piece of fabric. Design by Anning Subrow. (Photos: Keija Takagi)

Holly McCourt's inspiration for these experimental outfits has been the works from Ataka and "Geo Cut" method. (Photos: Keija Takagi)
One interesting creative and experimental possibility is to combine textile design with zero waste fashion design. As in traditional kimono design, the design of the textile can be central, and through this it is possible to create a new fashion aesthetic. The most sophisticated surface and color design can be the starting point for fashion design.

During the ZWF course in Aalto University fashion student Varvara Zhemchuzhnikova experimented with how to combine hand printed textiles with the zero waste fashion approach. She used the Geo Cut method with geometrical blocks – squares and triangles. After the garment pattern was ready she continued the experimentation with printing. After adding the cutting lines on the fabric but before cutting the fabric she went to the printing studio and printed the fabric. She used leftover inks to keep the process sustainable and well connected to the zero waste philosophy. She intuitively “sketched” the motif by directly printing it on the fabric. She did not have a clear idea of how the print would look after cutting the fabric and sewing the garment. She describes that the whole process was an adventure: “This is my way of intuitive art making with the risk of an unknown result, but at the same time with a higher level of responsibility in my field of work. With this workshop I started a project ‘Ready to’ where I connect the processes of art and slow fashion: I use around one meter of fabric and print it spontaneously by hand. Then I cut and sew it without creating waste. The patterns and print is inspired by an art work.” See Figures below
D) **Visiting specialists**

Experienced zero waste fashion designers could be invited to have “lunch talks” during the workshop week. This could be organized also through Skype so that the international specialists could be attending for these sessions. These could also be documented and saved in YouTube so that this information could be shared publicly.

E) **WEB**

Blog page should be created, in where results from the workshop could be documented as well as experiences shared. While zero waste fashion philosophy is based on knowledge sharing this principle to open the work to public is most important. Even the patterns behind each design could be shared. Other webpages and earlier workshop’s blogs could be linked to each other, which could create international and open zero waste fashion community.

F) **In fashion practice**

The method is best suited to small studios, unique fashion design and production, and design experimentations. Nonetheless it is possible to adapt the system also to the larger scale and even industrial scale production, for example by creating a system based on fewer different sizes in production (e.g. S, M, L). Furthermore it is possible to regulate sizes through different size trimming mechanisms in the garment itself. Therefore the wearer could make her own adjustments and modifications in the garment to make it better fit her body and individual measurements or even changes in her body size. This approach would make the garment longer lasting, as the wearer could make small size adjustments herself according to individual preferences or body changes.

**Workshop Outcomes**

-A blog of zero waste was created and can be found from [http://zwpcworkshop.wordpress.com/](http://zwpcworkshop.wordpress.com/)

-Petra Leino continued her work in the field of zero waste as a final thesis in Novia and she will be graduated during 2013

-Lois Pittman is continuing her doctoral dissertation in the area of zero waste fashion

-In year 2013 a couple of articles will be published from this workshop and an exhibition will be organized in Aalto University in autumn.

**Publications**


**Literature**


In Aalto University 2012 Workshop Participants

From Aalto University
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From Baltic Fashion project:
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All students 13

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