

YIELD



MAKING FASHION WITHOUT MAKING WASTE

YIELD

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INTRODUCTION

YIELD: MAKING FASHION WITHOUT MAKING WASTE

Approximately fifteen percent of the fabric used to create a garment is wasted. These irregularly shaped off cuts may be incinerated, sent to landfill or occasionally recycled into other products such as mattress stuffing or insulation. The problem this waste causes is magnified by the rapidly increasing consumption of clothing that has lead an average of 64 new items of clothing per person in the US in 2008¹ and the eventual disposal of 30kg of textiles to landfill per person in the UK². Waste occurs at all ends of the fashion production and consumption chain and both designers and consumers have a variety of opportunities to make a difference. In Yield, we see the work of passionate international fashion designers who have a radical ambition – to make fashion without making waste.

Zero-waste fashion focuses on creating clothes that appear pleasing, but create little or no textile waste. Historically, most clothes were designed to minimise waste. Leftover fabric was not thrown out and patterns were designed like a puzzle of simple shapes, as seen in the Japanese

kimono, or not cut at all such as the Roman chiton and Indian sari. Other examples were cut in more complex ways such as traditional dress from Scandinavia. The industrial revolution had a profound impact on this approach as cloth became cheaper and easier to throw away, and as fashion changed these new aesthetic demands led to shapes which could not be as easily interlocked.

Zero-waste clothing began reappearing in the first half of the 20th century with the futurist activist Ernesto Thayaht, and designers such as Claire McCardell and Bernado Rudofsky in the 1950s. Contemporary pioneers such as Zandra Rhodes emerged in the 1970s and Yeohlee Teng in the 1980s. Since then, more designers have started experimenting with zero-waste fashion design to eliminate waste.

Many designers are borrowing ideas from historical examples utilizing the flexibility of fabric to generate diverse designs from square-cut patterns. Others create a garment patterns that appear more conventional

with gussets, pockets, collars and trims that fit together like a puzzle. Another approach is to cut the fabric as little as possible, draping, tucking and layering it.

Zero-waste fashion design treats the raw materials of fashion, cloth, with integrity. For many zero-waste fashion designers a key component of their practice has been to actively pursue the development of an accidental or intuitive design generation process. In most cases there is a strong desire to achieve aesthetic and intellectual goals with minimal environmental impact. 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.

This leads to the paradox experienced in fashion where despite seemingly endless choice, most people struggle to find garments that satisfy them for long, resulting in vast volumes of garment and textile waste at both pre-consumer and post-consumer stage.

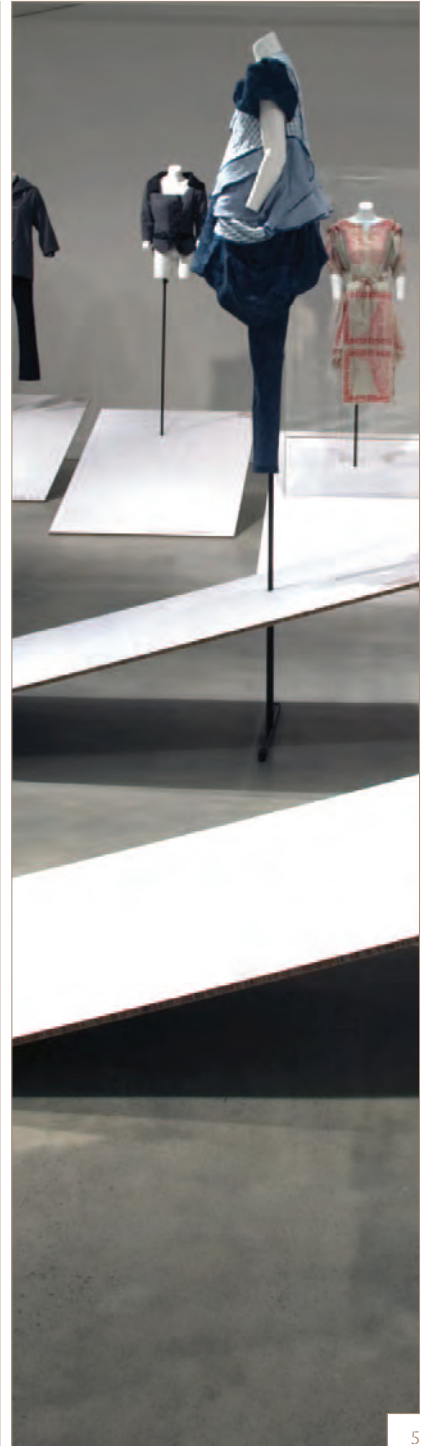
The designers in *Yield* are constantly responding to these issues through design practice, and by attempting to find alternative ways of designing and producing fashion. These alternatives are primarily grounded in what could be termed risky design processes, utilizing variables and limitations not usually employed in the design of fashion.

This way of designing reveals what would normally be invisible in the consumption of fashion garments – the textile, the hand of the designer, the waste generated and the discarded unfashionable clothes we throw out every new season. It is an absence of absence - nothing is missing. It is a process intent on creating wearable and desirable garments through an integrated design/ production/ consumption process that

uses zero-waste and cradle-to-cradle philosophies. Today, zero-waste fashion design has become a focus for many fashion schools, such as Massey University and Parsons The New School for Design, and a realistic goal for the truly fashion forward designers and consumers.

1 Elmore, S. (2009). *AAFA Releases 2008 Trends Statistics Report: U.S. Apparel and Footwear Industry Serves as True Economic Bellwether (Statistics Report)*. American Apparel and Footwear Association. Retrieved from <https://www.apparelandfootwear.org/UserFiles/File/PressReleases/081309aafareleases2008trendsstatisticsreport.pdf>

2 Allwood, J. M., Laursen, S. E., De Rodríguez, C. M., & Bocken, N. M. P. (2006). *Well dressed. The present and future sustainability of clothing and textiles in the United Kingdom*. See http://www.ifm.eng.cam.ac.uk/sustainability/projects/mass/UK_textiles.pdf (accessed 15/11/2009).



-To give forth... in return for cultivation or labor; to produce, bear, generate...
-To surrender, give way, submit¹.

The fashion industry understands the 'yield' of fabric as a measure of efficient pattern cutting - a consideration in pricing the garment to ensure selling as many units as possible in the 'target market'.

Yet this exhibition explores an altogether more holistic interpretation of 'yield'. For each and all the designers represented here have embodied their materials with a certain reverence and respect - intent not so much upon minimizing fabric yardage but upon optimizing the energy and water inherent in the garments they have created. This awareness of and appreciation for 'embodied investments'² in materials is particularly relevant at this time, when natural resources are scarce and competition for their allocation is already fierce.

The tools of Zero Waste design are quite familiar to fashion practitioners - draping, cutting, drafting, sewing. Yet it is through these already-at-hand tools, that Zero Waste opens a new route to sustainability. For in practice, Zero Waste challenges the preordained parameters of industrialized pattern cutting and demands that the designer let go of previously held beliefs in order to move forward into new territory. Whether by understanding that 'sewing is part of the cutting is part of the design'³, or that 'everywhere you draw you are designing 2 pattern pieces'⁴, zero waste demands continuously heightened and deeper levels of engagement.

In this way designers of Zero Waste garments experience and manage complexity on a small scale (the relationships between shape and space, 2D and 3D, intent and outcome), whilst simultaneously exercising and honing skills that are critical to sustainability on a large scale (embracing risk, remaining porous yet alert, ready to adapt and flex to the unexpected and unplanned).


Zero waste then brings a new logic and imperative for design and for the fashion sector as a whole. Through its pluralistic and enchanting aesthetic it subtly notes the drivers underpinning human consumption and opens up the potential for social change. It questions the nature of design and of making clothes, mobilizes designer-makers, gives form to an inspiring new order and yields the potential to transform not only the way we design, but also the way we think.

¹ Oxford English Dictionary at: <http://www.oed.com.proxy.cca.edu/view/Entry/231851?rskey=ZbsxNT&result=2&isAdvanced=false#eid>, accessed on 8/23/2011.

² Rissanen T (2011) *Fashion and Sustainability Workshop Series: Waste*, California College of the Arts, San Francisco, 8/6/2011.

³ Roberts Julian, as cited in McQuillan H (2011) *iShaping Sustainable Fashion, changing and way we make and use clothes*, London: Earthscan Publishing, p83 check.

⁴ McQuillan H (2011) *iShaping Sustainable Fashion, changing and way we make and use clothes*, London: Earthscan Publishing, p83 check.



Yield is curated by Timo Rissanen, Assistant Professor of Fashion Design and Sustainability at New York's Parsons The New School for Design, and Holly McQuillan, leading New Zealand zero-waste fashion designer and Lecturer in Fashion Design at Massey University. *Yield* is designed by Chris Jackson, Lecturer in Industrial Design at Massey University and graphic designer Gerbrand van Melle who also designed the catalogue. Responsible for digital content was Thomas Le Bas and for photography Thomas McQuillan.

Rissanen and McQuillan would like to thank The Dowse Art Museum and in particular Leanne Wickham and Bev Eng, and Owyn Ruck and her team at the Textile Arts Center, as well as Laura Li for editorial assistance on the exhibition catalogue. Rissanen would like to thank the School of Fashion at Parsons The New School for Design led by Dean Simon Collins. McQuillan would like to thank Massey University, particularly Julieanna Preston and Deb Cumming for their unwavering support.

We'd like to thank our sponsors, Purfex Mannequins and PSP, without your support this exhibition would not have been possible.

Zandra Rhodes studied printed textile design at The Royal College of Art in London. In 1969, she took her collection to New York where it was featured in American Vogue. Rhodes was UK Designer of the Year in 1972 and by 1975 founded her own shop in London. The rich and famous including Jackie Onassis, Elizabeth Taylor, Freddie Mercury and Diana, Princess of Wales soon wore her clothes. Awarded nine Honorary Doctorates and a CBE from Queen Elizabeth II, Rhodes has been institutional in setting up London's Fashion and Textile Museum. Today, she continues to clothe the rich and famous with collections sold around the world. Rhodes also designs sets and costumes for opera as well as licensing her name for various products.

The piece shown in YIELD: Making Fashion Without Making Waste is titled Chinese Squares and is part of the Chinese Collection from Spring/Summer 1980. It is a beautiful example of a textile leading the garment design, with the pattern being cut around the hand painted square motif so as to not disrupt the painted lines and form. The resulting garment is both simple - being constructed essentially from a series of squares, and complex - with open pleated sleeves and an ornate print. It wraps around the form of the body without side-seams and hangs languidly in silk crepe de chine. The pattern for Chinese Squares is very close to zero waste, however the selvages appear to have been removed. The design references historical 'square-cut' garments in particular the way the sleeve/body is arranged. Pieces removed for fit around the neckline and waist are reinserted to form the wrap-around mechanism at the waist.

The garment looks timeless in person, although it was made in 1980, and is in almost pristine condition. The garment was generously loaned to The Dowse Art Musum by The San Diego History Centre for YIELD:NZ and it was donated to them by Lucretia G. Morrow. Zandra Rhodes' work in YIELD acts as an anchor, as although it is not the earliest example of zero-waste fashion it remains eminently accessible and beautiful despite being made over 30 years ago and the respect for cloth evident in all her work is plain for all to see.



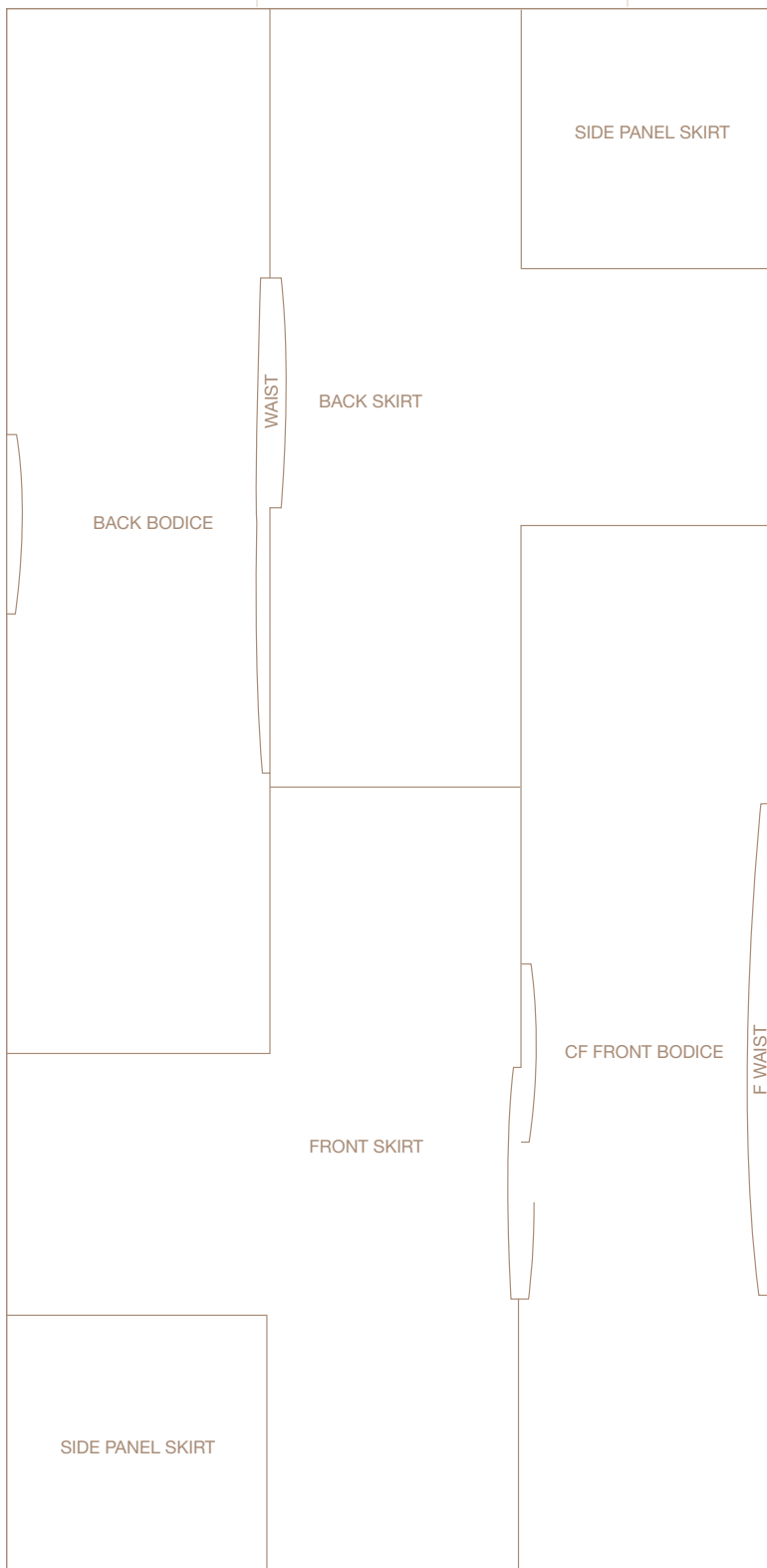
SILK CREPE DE CHÎNE WRAP DRESS
'CHINESE SQUARES'
CHINESE COLLECTION SPRING/
SUMMER 1980

HAND PRINTED
SILK CREPE DE CHÎNE

COLLECTION OF THE SAN DIEGO
HISTORY CENTER, GIFT OF
LUCRETIA G. MORROW
COPYRIGHT ZANDRA RHODES
1980



COLLECTION OF THE SAN DIEGO
HISTORY CENTER, GIFT OF
LUCRETIA G. MORROW
COPYRIGHT ZANDRA RHODES
1980



PATTERN

COLLECTION OF THE SAN DIEGO
HISTORY CENTER, GIFT OF
LUCRETIA G. MORROW
COPYRIGHT ZANDRA RHODES
1980

Yeohlee Teng moved to New York from Malaysia to study fashion design at Parsons The New School for Design. In 1981 she established Yeohlee Inc in New York City.

Teng was the recipient of the Smithsonian's Cooper-Hewitt National Design Award for Fashion Design in 2004. Her work has been exhibited around the world, including at the Victoria & Albert Museum in London, the Aedes East Gallery in Berlin, and The Museum of Contemporary Art (MOCA) in Los Angeles.

Teng's work is on permanent display in Le Musée Galliera in Paris and the Metropolitan Museum of Art in New York. At the latter, the renowned, late curator Richard Martin held Teng in the highest of regards, calling her clothes a "synthesis of reason and magic". Teng is a leader in 'Made in Midtown', an initiative of Council of Fashion Designers of America (CFDA) and the Design Trust for Public Space that has the future of New York's garment industry at its heart. Yeohlee made a deliberate choice to locate her first store in the district and moved her entire operation into

the same building. Committed to locally made fashion, Teng's clothes are manufactured in New York City. Testament to her wearers' steadfast dedication to her clothes, Susan Sontag was buried in Yeohlee.

Teng dresses the "urban nomad", a term she coined for her Autumn 1997 collection, defining a lifestyle that requires clothing that works on a variety of practical and psychological levels. She believes in the efficiency of year-round, seasonless clothes; many pieces remain in production for years, demonstrating the timelessness that comes from astute attention to each minute detail of a garment in the context of a harmonised whole.

For Teng design is universal, becoming refined through time and process. Cloth is always central to her design process; she maximises the use of each fabric by a balanced consideration of weight, texture, colour, and finishing.

Efficiency of fabric usage has been a consideration for Teng since the establishment of her business in the early 1980s, as exemplified by the cape from 1982 featured on the cover of her 2003 book, *Yeohlee: Work*. The Autumn 2009 collection was built on an in-depth exploration of zero-waste and the practice of counting, capturing the mood of Edward Burtynsky's photographs of stone quarries.

Video footage from Teng's catwalk presentations reveal the subtle sense of humour she infuses in her work, humour that further reinforces her approach: creating fashion that enhances the life of the wearer by bringing visual and physical joy, while maximising the positive impact fashion can have on communities.



ZERO WASTE SARONG
BLACK JERSEY BODYSUIT
YEOHLEE FALL 2009

FOUR PLY ORGANZA,
DOUBLE JACQUARD
SILK/LUREX AND JERSEY

YEOHLEE TENG
2009



YEOHLEE TENG

2009



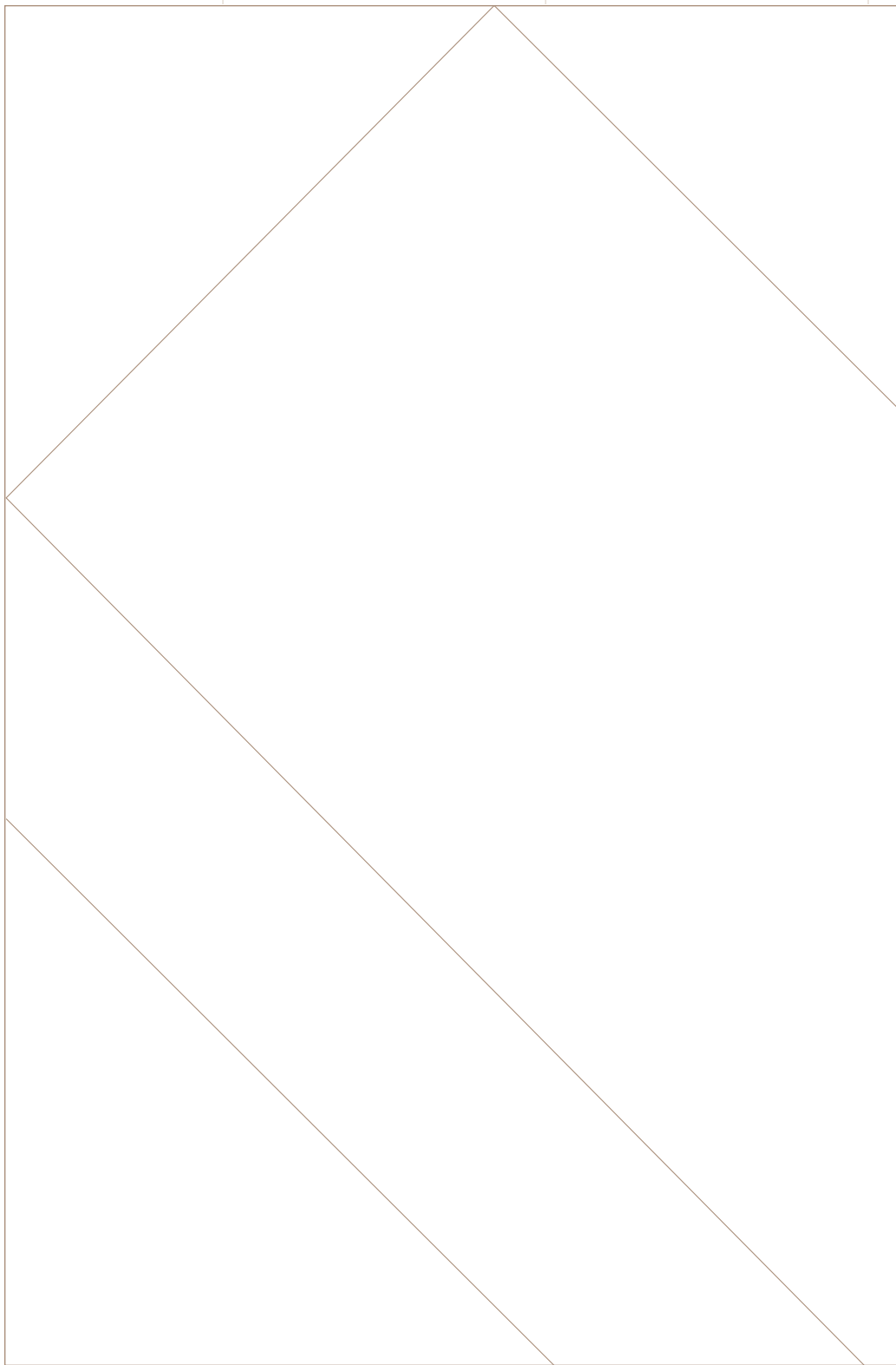
YEOHLEE TENG

2009



YEOHLEE TENG

2009



PATTERN

YEOHLEE TENG

2009

Timo Rissanen is the Assistant Professor of Fashion Design and Sustainability at Parsons The New School for Design. His position entails identifying opportunities for implementing sustainability into the various degree programs in the School of Fashion. Prior to Parsons he taught fashion design at University of Technology Sydney (UTS) in Australia for seven years. From 2001 to 2004 he owned and designed for Usvsu, a menswear label in Sydney, selling to retailers in Australia, Italy and Russia.

His PhD project is titled *Fashion Creation Without Fabric Waste Creation* and Rissanen presented a collection of menswear from the project in *Bad Dogs*, a solo exhibition in Sydney in 2008. In 2009 he co-curated *Fashioning Now* in Australia with Alison Gwilt; a book drawing from the project titled *Shaping Sustainable Fashion* was published by Earthscan in 2011. With Holly McQuillan, Rissanen co-curated *Yield* in 2011.

In 1999 at UTS, Rissanen researched the influence of Madeleine Vionnet on Claire McCardell, Issey Miyake and John Galiano. This research led him to believe zero-waste fashion design might be possible in a contemporary fashion design context. When the opportunity to undertake a PhD arose in 2004, zero-waste fashion design was a natural topic choice for the research project. During the project he was fortunate enough to have been contacted by McQuillan, who had been researching zero-waste fashion design independently for a number of years. From the early conversations between the two *Yield* was born, bringing together two different yet very much complimentary approaches to the topic.

Rissanen's garments for *Yield* were first exhibited in *Bad Dogs* in 2008. The denim jacket is based on a womenswear jacket Rissanen designed in 1999, which was not zero-waste. The shape is based on a rectangle of two squares, with each folded diagonally so one half of the bottom edge meets the other, becoming the centre front. Conventions regarding fabric

grain are broken, while the denim selvedge is used as a visual feature on the fronts and the extended shoulder/sleeve seam. The leggings are an example of a garment designed more conventionally through sketching, where the 'excess' is used as appliqué, considered nevertheless functionally as well as visually. On one hand, areas of greater wear are appliquéd, while overall the aim is to create a visually jarring whole by the deliberate mismatching of stripes. The front pouch is held in place by an internal built-in jockstrap.

For Rissanen, zero-waste is now integral to his design practice and wasting fabric is simply no longer an option, nor a concern. His future research will focus on refining zero-waste fashion design approaches to different levels of the fashion industry, as well as expanding teaching on the topic at Parsons.



MEN'S ZERO WASTE COAT
ZERO WASTE LEGGINGS
SCARF

COTTON/HEMP DENIM, WOODEN
BUTTONS, RECLAIMED COTTON/
POLYESTER INTERLOCK KNIT
AND VINTAGE SILK KIMONO
REMNANTS

TIMO RISSANEN
2008



TIMO RISSANEN

2008



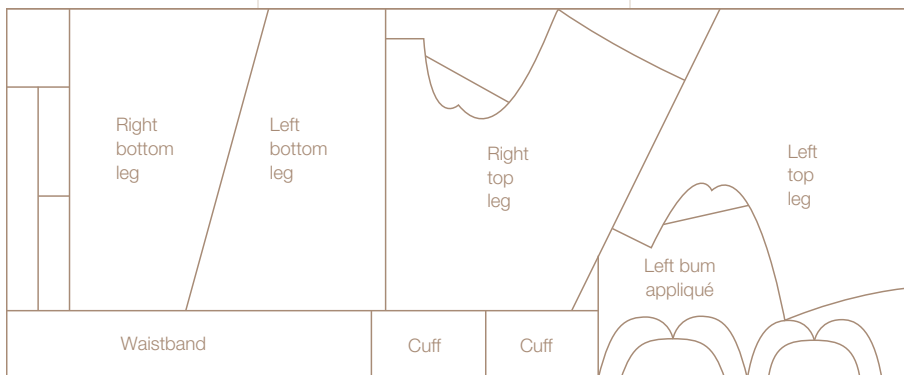
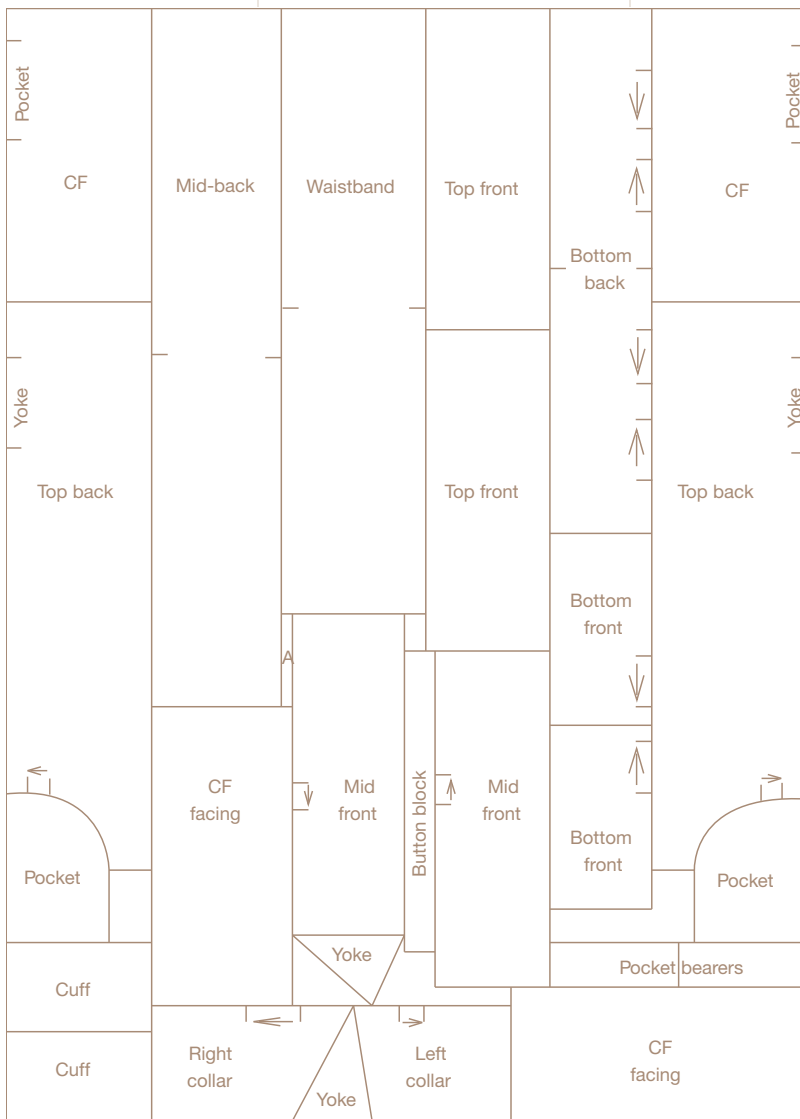
TIMO RISSANEN

2008



TIMO RISSANEN

2008



PATTERN

TIMO RISSANEN

2008

David Telfer is a menswear designer based in the United Kingdom, currently employed by COS. He graduated from the University of Brighton with MDes in Fashion Design, and has worked with labels H&M, Six-EightSevenSix and Gossypium. Telfer has developed tools and systems that not only minimise waste but also address sustainability in other areas of the fashion production process, including manufacturing.

Telfer's Minimal Seam construction system is a technique that aims to reduce costs by reducing the number of seams used in the construction of a garment. This could enable faster garment manufacturing, potentially reducing energy consumption and labour in production. Since 2008 Telfer has experimented with the process of Minimal Seam Construction to evaluate its benefits and disadvantages.

According to Telfer, a balance between aesthetics, fabric consumption, complexity of construction and fit constraints needs to be the aim for Minimal Seam construction to be successful. Telfer combines his zero-waste garments with his technique of Minimal Seam construction. This approach demonstrates that zero-waste, or any other sustainability-related consideration, need not, and likely should not, be the only criterion in the design of a garment.

Telfer has also created The DIY (Do-It-Yourself) Garment Kit, which includes pattern pieces with holes cut out and a string attached, a sewing needle, buttons and detailed instructions. The garment is a simple way of allowing consumers to feel certain that their clothing is fair trade as "the fairest trade", according to Telfer, "is your own".

Telfer's look for Yield incorporates principles found in clothing from various cultures around the world. The sleeves wrap over the shoulders from the front to the back, while the back wraps at the sides to the front. The malleability of the cloth means that a somewhat rigid-appearing geometric cut takes its three-dimensional shape from the body within the garment. Telfer states: "I liked the idea of starting with a square piece of fabric and finishing with a tailored, stylish garment without cutting the fabric into multiple pieces." The pieces in Yield personify Telfer's philosophy perfectly.



ZERO WASTE MINIMAL SEAM
DUFFLE COAT
MINIMAL SEAM WORK SHIRT
DART POCKET MINIMAL SEAM
TROUSER

HEAVY WEIGHT WOOL
TUBULAR JERSEY AND COTTON

DAVID TELFER
2010



DAVID TELFER

2010



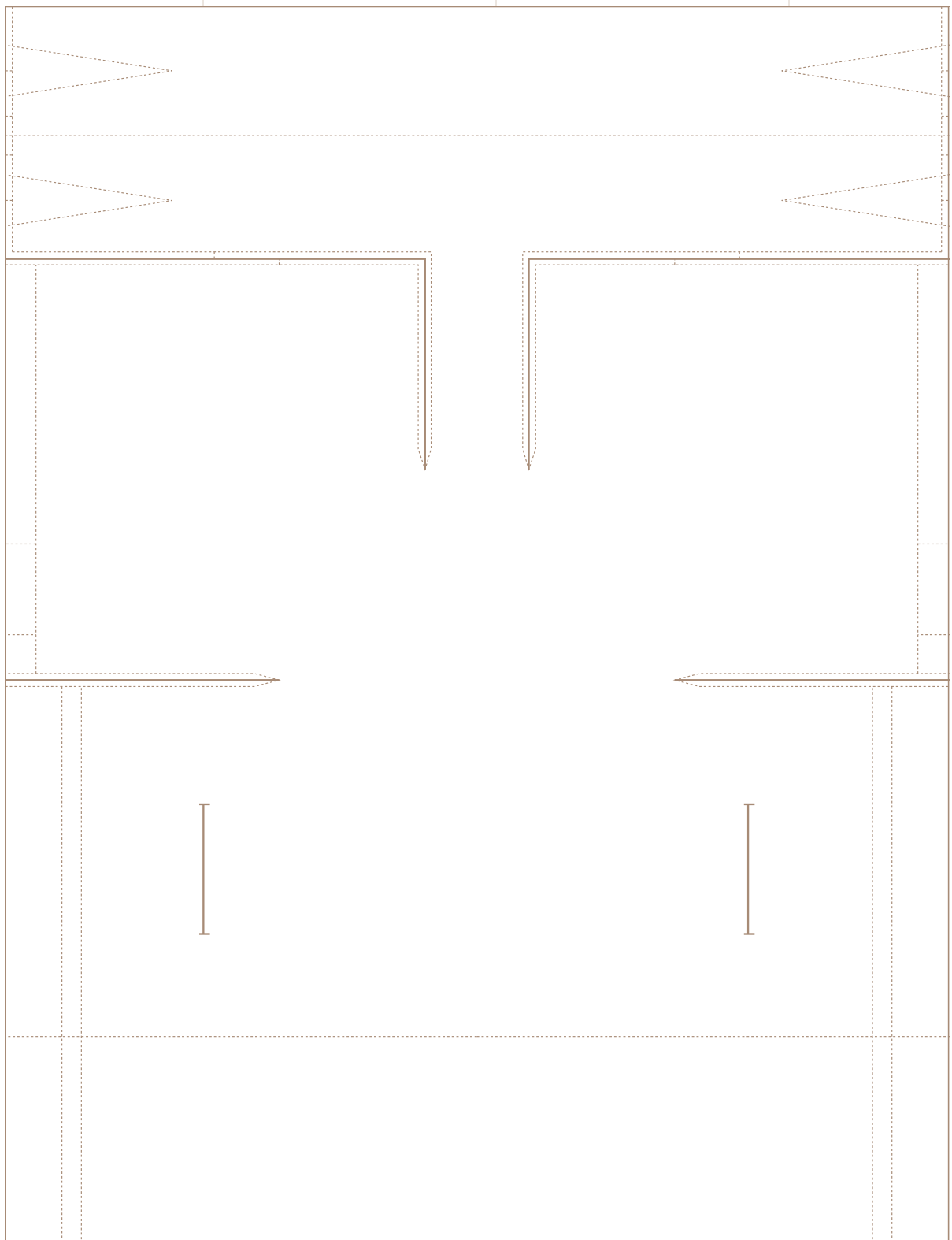
DAVID TELFER

2010



DAVID TELFER

2010



PATTERN

DAVID TELFER

2010

Julian Roberts is a fashion designer and film-maker, who has shown 13 collections at London Fashion Week under five label names: *nothing*, *nothing*, *JULIANAND*, *Julian and Sophie*, *Parc des EXpositions*, and *Tunnel Technique*. He also directed creatively SuperSuper Magazine's two group shows at London Fashion Week in 2007/8 and has won the British Fashion Council's 'New Generation Award' five times. He was awarded a Professorship and set up the new fashion school at the University of Hertfordshire in the UK in 2004, and now lectures MA Mixed Media Textiles at the Royal College of Art in London, and at eight other universities worldwide.

Julian Roberts is the inventor of a garment pattern cutting method called 'Subtraction Cutting', which he demonstrates live in front of large audiences all over the world, teaching people of all ages and levels of expertise how to construct creative clothing. In Subtraction Cutting, the patterns are not cut to represent the outward shape; instead they represent the negative spaces

within the garment. This results in garments constructed from huge sheets of cloth, with unusual shaped holes that the body passes through. This approach incorporates adventure and chance discovery, and the ability to cut fast and inaccurately without using complex numerical mathematics.

The red and white Zero-Waste Sub-Cut Dress is made from seven meters of two contrasting coloured fabrics and can be worn in at least five different ways; thereby further reducing waste by providing the wearer with multiple styles from a single purchase. While not quite 100% yield, the dress explores his innovative pattern cutting process in order to drastically reduce the waste generated without compromising the ethos of his approach. He uses the lining pattern pieces as the subtracted forms from the outer garment, meaning these pieces function as both form making and garment finishing.

The garment drapes and wraps the body in swathes of cloth and only reveals its form only when on the body, creating tunnels for the body to travel through while affecting the exterior view of the garment. The contrasting fabrics reveal the twists and turns of the cloth as the cutting process distorts and rotates the dress front from back, inside to outside, plan to elevation. The connection between body and garment, owner and purchase is important to Roberts and to own a Sub-Cut dress you need to make it yourself or work with the designer in collaboration.



ZERO-WASTE SUB-CUT DRESS

COTTON TOILE

JULIAN ROBERTS

2011



JULIAN ROBERTS

2011



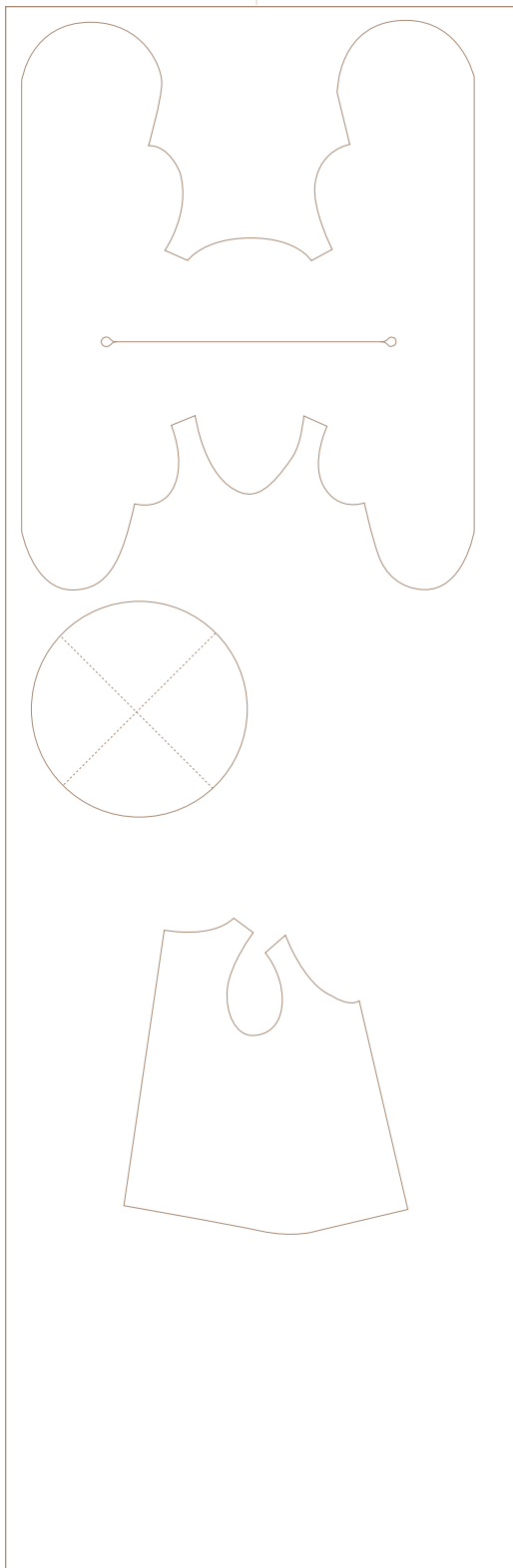
JULIAN ROBERTS

2011

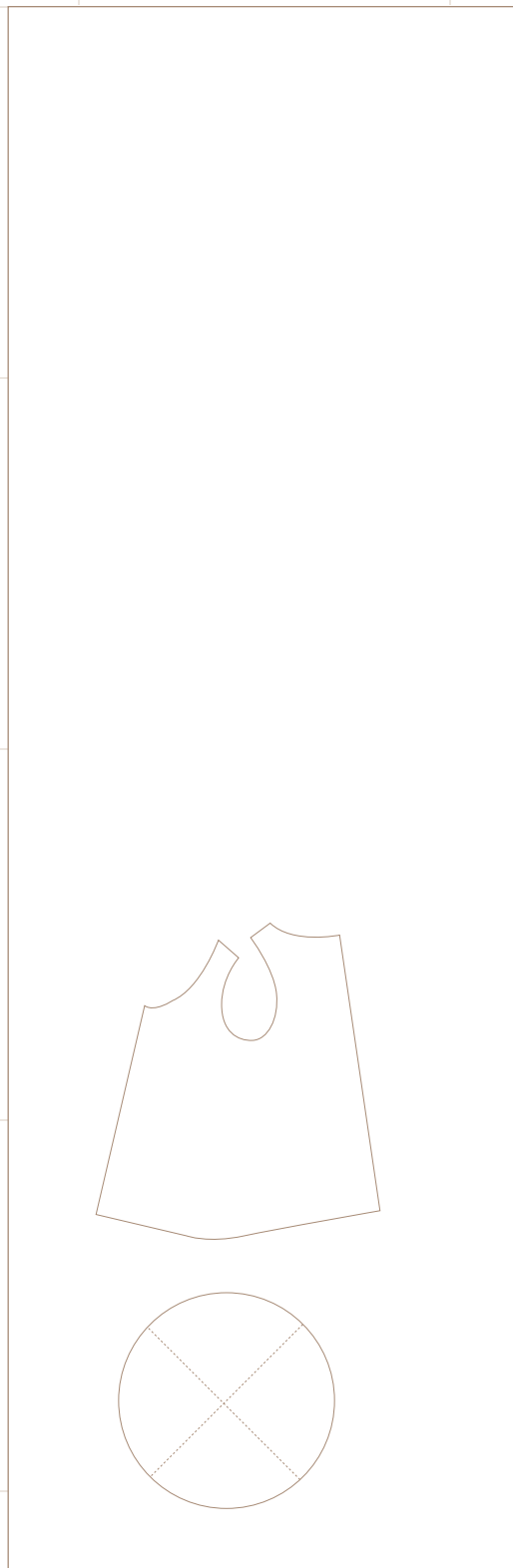


JULIAN ROBERTS

2011



PATTERN



JULIAN ROBERTS

2011

Caroline Priebe's interest in fashion design and sustainability was ignited at California College of Arts where she studied under the guidance of Lynda Grose, the designer behind Esprit's e-collection in the early 90s and a pioneer in fashion and sustainability ever since.

Priebe founded Uluru in 2004 and co-founded the designer retail collaborative *5 in 1* in Brooklyn, NY, with designers Tara St James, H. Fredriksson, Mary Meyer, and Dirty Librarian Chains. In addition to designing, Caroline has worked as a stylist, as well as consulting with a number of companies on sustainability and business models. She is sought after as a writer and a public speaker, and has taught zero-waste fashion design at Parsons The New School for Design.

Highlighting the value she places on sharing and collaboration, Priebe has collaborated with Natalie Chanin of Alabama Chanin; a piece from this collaboration was exhibited in *Ethics + Aesthetics = Sustainable Fashion*,

curated by Sarah Scaturro and Francesca Granata in 2009.

Priebe's approach to design is characterised by intention in every seam and detail. Not unlike Madeleine Vionnet, for Priebe, every seam is an opportunity to enhance the aesthetic resonance of a garment through careful consideration of seam finish. She believes that fashion should speak to the wearer's identity and that identity should not be defined by a label. In Priebe's garments there is space for the wearer to interpret, move, accessorize, layer, and wear, echoing the philosophy of Claire McCardell some sixty years earlier.

Priebe is influenced by history but perhaps not in the most obvious sense we have come to expect of designers. She re-values a time when the pace of fashion was slower, where the producer and consumer were more closely connected, and quality was valued over quantity.

Priebe strives to create pieces that could potentially be worn for a lifetime and beyond, both in design and fabrication. She exemplifies this by wearing pieces that belonged to her grandmother. When it comes to her approach to business, she strives for a model where everyone from primary producer to designer, manufacturer and wearer wins.

The Westlake dress in *Yield* embodies Priebe's values holistically, in visual and physical durability on one hand, and infinite versatility on the other. As is typical of all her work, each detail is carefully considered and executed to contribute to a quiet composition that is ready to accompany the wearer for a lifetime.



WESTLAKE DRESS

SILK/ HEMP CHARMEUSE

CAROLINE PRIEBE OF ULURU

2010



CAROLINE PRIEBE OF ULURU

2010



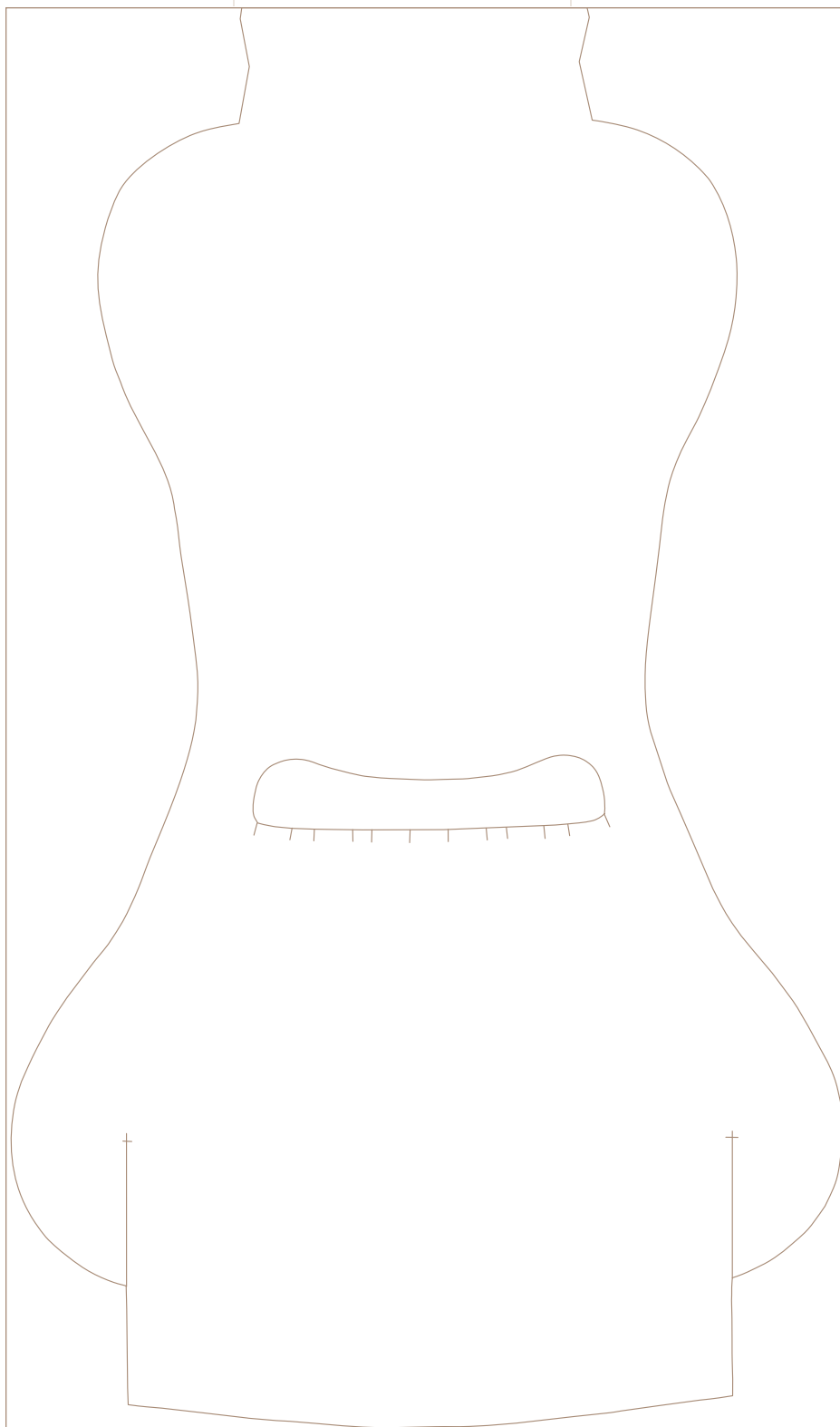
CAROLINE PRIEBE OF ULURU

2010



CAROLINE PRIEBE OF ULURU

2010



PATTERN

CAROLINE PRIEBE OF ULURU

2010

Carla Fernández is the founder and designer of Taller Flora, a company built on a curiosity about the wisdom embodied in traditional crafts and artifacts. Fernández was the winner of the British Council's International Young Fashion Entrepreneur Award in 2008. She is a visiting lecturer at Harvard University, MIT and the CCA Kitakyushu, and is a sought after public speaker, notably at Design Indaba in 2011.

Unlike the pattern-cutting taught in the Western (European) tradition, indigenous clothes are often constructed from large geometric shapes. Fernández uses these traditional forms as the conceptual basis for Taller Flora garments, while collaborating with rural communities to create the label's fabrics and garments. The cloths are often woven with traditional back-strapped looms; these are hand-crafted into carefully considered garments that celebrate not only the cloth but the culture and wisdom from which it originates.

Taller Flora is known for a unique style, and is regarded a pioneer for its business model that has fair trade and environmental policies at its core. Fernández has led the way in bringing traditional Mexican craft wisdom to a global marketplace.

Her parents' diverse professional links to contemporary and traditional dress played a role in Fernández developing an interest in fashion early, further consolidated by her incorporation of indigenous garments into her own everyday wardrobe. By deconstructing and tracing the patterns of traditional Mexican clothes, Fernández realized that most of these were made of geometric shapes, somewhat at odds with what she had learned about pattern-cutting.

Taking influence from early twentieth century avant-garde movements, and particularly artists who ventured into dress, Fernández established her workshop, or laboratory, as a space to put her research into design practice. The company works to develop the skill sets of indigenous communities, introducing their wisdom to the broader world, with the goal of these collaborations enabling the communities to use their existing expertise to become economically self-sufficient.

The piece by Fernández in *Yield* embodies succinctly the wisdom of indigenous Mexican communities, while speaking to a global fashion-consuming audience. It serves as a reminder that we have much to learn from history, and that often history is in fact still the present. Fernández demonstrates that fashion can be a positive force with a potential for communities to flourish, thus providing a possible model for socially engaged entrepreneurs and communities around the world.



CHAMULA OUTFIT

WOOL, HAND DYED WITH
MUD AND HAND WOVEN IN A
WAIST LOOM, BY WOMEN FROM
THE CHAMULA CHIAPAS IN
SOUTHERN MEXICO

CARLA FERNÁNDEZ

2010



CARLA FERNÁNDEZ

2010



CARLA FERNÁNDEZ

2010



CARLA FERNÁNDEZ

2010

Tara St James is the founder of Study NY, a design studio and incubator for creative individuals with a concern for the environmental and human aspects of the fashion industry. St James founded Study NY in 2009, after having worked as the creative director for Covet. As part of Study NY, St James established Study Hall, a program that supports interns to develop, produce and sell their own capsule collections.

She is also the Fashion Director for The Uniform Project, which harnesses design to raise funds for under-privileged children, and is a mentor for the Awamaki Lab, a programme that fosters partnerships between young designers and Awamaki, an indigenous weaver collective in Peru. St James is the winner of the 2011 Ecco Domani Fashion Foundation Award for Sustainable Design. St James' considered approach to zero-waste fashion design and sustained collaborations with artists and textile designers are the key components to her success.

New York City is a constant influence for St James. Whether music, art, or its people, the city's energy keeps her inspired. Tara aims to build upon her brand's sustainability and evaluate the chain of production to see where possibilities exist for further transparency. Future plans include a menswear line as well as further expansion into accessories and fabric development. She continues to work with artisans in India to create limited runs of hand-woven textiles.

A believer in open sourcing and information sharing, St James shares her sources and contacts on her blog (4equalsides.com). By doing so she supports her suppliers, often smaller, fair-trade textile mills and fashion manufacturers.

St James set up Study Hall, an internship programme where each intern is given the skills and guidance to create their own collections under Study NY, which is presented and sold to stockists. The interns are on board throughout the entire process from developing designs, sourcing

fabrics, calculating costs, making samples, sales, production, and delivery to stores.

St James started Study NY with an entirely zero-waste collection for Spring 2009 and she has continued zero-waste fashion design in subsequent seasons. For example, for Spring 2011, St James created a zero-waste skirt from a hand-woven silk ikat from Uzbekistan. Each season St James repeats a version of a square-cut dress, which can be worn in a number of ways. This is an efficient example of zero-waste fashion design, as a square of fabric with intricately placed buttons and buttonholes allows the wearer to play with the garment and find her ideal way of wearing it. St James' piece for *Yield* captures her trademark versatility, by allowing the wearer to customise the garment.



4 WAY JACKET

TWEED WOOL/POLYESTER BLEND
AND OVERSTOCK VINTAGE FABRIC

TARA ST JAMES
2010



TARA ST JAMES

2010



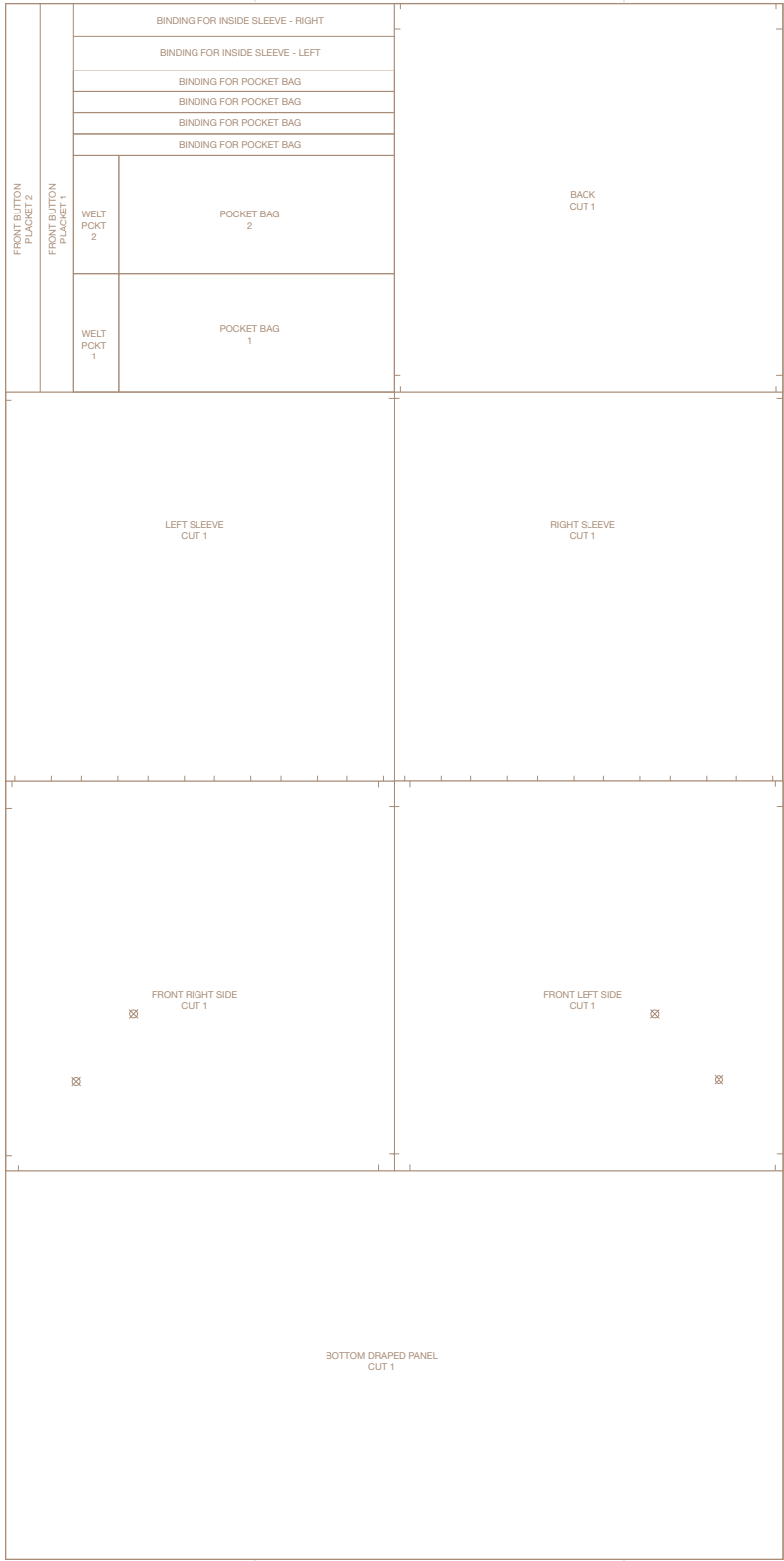
TARA ST JAMES

2010



TARA ST JAMES

2010



PATTERN

TARA ST JAMES

2010



HOLLY MCQUILLAN
NZ

GENEVIEVE PACKER
NZ

Holly McQuillan is a designer and lecturer in the fashion design program at Massey University's College of Creative Arts in Wellington. She presents her research at conferences and symposia, and has exhibited in Seoul, Chicago, Kent, New York and Wellington. She is profiled in Sass Brown's book *Eco Fashion* and a chapter in *Shaping Sustainable Fashion*, edited by Alison Gwilt and Timo Rissanen. She is co-curator of *Yield* and co-founder of The Cutting Circle, a collaborative research project exploring risky fashion design processes. McQuillan embraces risk when designing, using the constraints of the fabric width and length, a typeface, or animal shape to guide the pattern.

Genevieve Packer is a New Zealand textile designer, maker and craft enthusiast. Her design practice explores New Zealand's national identity, material culture, and overlooked things in the everyday - while indulging an obsession with repeating pattern. She has a multi-disciplinary approach to contemporary craft-based design, which

covers a range of materials, hands-on and digital processes, and techniques. After eight years teaching textile design, she is currently working full time on textiles for costumes for film, while juggling making her own range of textile-based products and jewellery, as well as one-off gallery works, commissions and collaborations.

Twinset is a collaborative fashion/textile design that was developed through research at the intersections of digital textile design and zero waste fashion design. Through an iterative process of exchange and response the design evolved out of the junctions between Holly McQuillan's zero waste fashion research and Genevieve Packer's digital textile print exploration. Twinset embeds a dress, vest and pant into a single zero waste pattern, exploring the opportunities that embedding multiple garments in a single pattern reveals and the advantages that digital printing lends to this approach. The garments appear to be made from very different fabrics but in fact are all produced from the same piece of

cloth. This approach gives greater flexibility for zero waste fashion design by enabling more control of the process while ensuring all consumers are provided choice in a sustainable manner.

The foundation of the zero waste design is the slim fitting pant, using curved panels and cut on the bias in order to allow ease of movement. The pants were pattern made in a traditional manner to ensure an exact slim aesthetic, something that is difficult to achieve in zero waste fashion. The pieces for the pant were then laid out on the cloth to create negative spaces that became the dress and vest. This approach enables a degree of control in parts of a design and embraces the fluidity of McQuillan's design process for the other garments, enabling balance between fit and fullness, tradition and innovation.



TWINSET

DIGITALLY PRINTED 100% LINEN

HOLLY MCQUILLAN
(PATTERN DESIGN) AND
GENEVIEVE PACKER
(TEXTILE DESIGN)

2010



HOLLY MCQUILLAN
(PATTERN DESIGN) AND
GENEVIEVE PACKER
(TEXTILE DESIGN)

2010



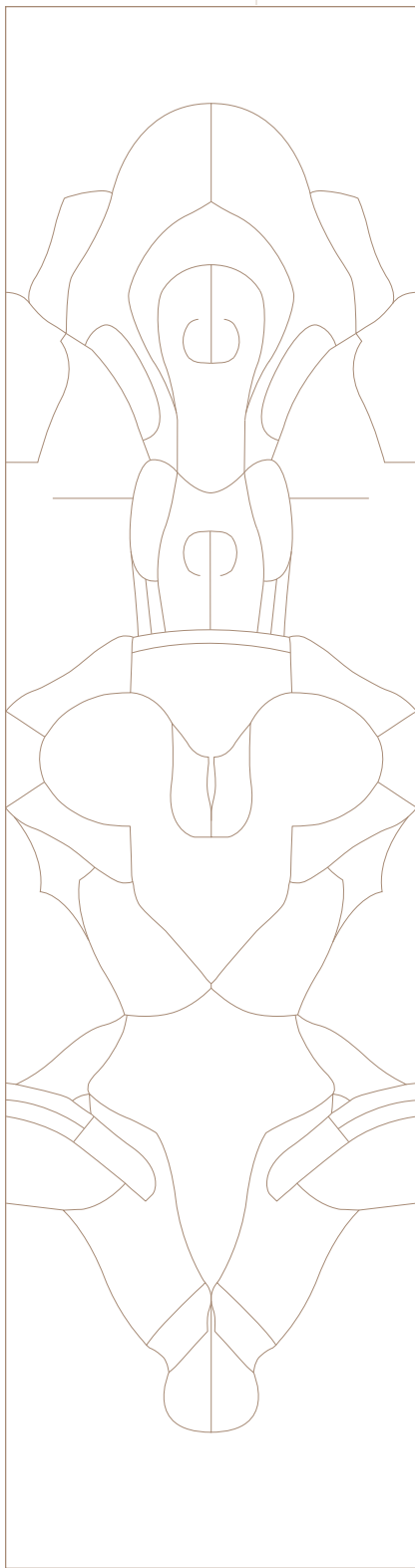
HOLLY MCQUILLAN
(PATTERN DESIGN) AND
GENEVIEVE PACKER
(TEXTILE DESIGN)

2010



HOLLY MCQUILLAN
(PATTERN DESIGN) AND
GENEVIEVE PACKER
(TEXTILE DESIGN)

2010



PATTERN

HOLLY MCQUILLAN
(PATTERN DESIGN) AND
GENEVIEVE PACKER
(TEXTILE DESIGN)

2010

New Zealand-based, Irish designer Jennifer Whitty's creative research practice advances the relationship between clothing and wearer through interrogation and integration of traditional clothing approaches and emerging technologies. Her work envisions sustainable links between fashion design as a material and cultural object enabling a deeper, more complex engagement with our garments.

Whitty's outfit in *Yield* incorporates a method of zero-waste fashion design, which she calls 'Free Flow'. This method of cutting uses the excess fabric, traditionally eliminated in Western menswear tailoring design, in combination with a cutting and modeling approach that embraces serendipity as a guiding force. It is informed by the contrast between western and eastern approaches to clothing, Wabi-sabi, symbols of eternity, embracing mistakes, and the dualities of order and disorder, and spontaneity and control.

In her quest to uncover new, more flexible and versatile ways of thinking about fashion, Jennifer has sought to gain broad experience in the field of fashion design as a practitioner, educator and researcher. Jennifer worked in the fashion centres of London, Paris and New York. She received her Masters from the Royal College of Art, London and was the winner of the Onward Kashiya New Designer Grand Prix Competition, Tokyo in 2005. Her work has been exhibited internationally in Italy, Ireland, U.K, Japan, Greece, and N.Z. Jennifer held a lecturing post in Ireland, and was a visiting lecturer in Estonia and Denmark. She is currently a Senior Lecturer at Massey University, Wellington, New Zealand

'Free flow' is an innovative three-piece tailored menswear suit (jacket, reversible waistcoat and wrap trousers). It is an extension of Jennifer's long-term work in this field of enquiry as she has been exploring alternative, more sustainable methods of garment creation, since her Masters degree in 2004 and her

Bachelor of Design in 2001. The 'Free Flow' garments oppose the current model of static design, as the pieces possess evolutionary souls which continue to adapt and grow, building a relationship with the wearer. Each garment has hidden compartments and unorthodox features, which aim to stimulate, surprise and challenge the wearer expanding their experience of daily life. The outfit proposes a new genre of design beyond the normative view that there is only one way to engage with or wear clothing.

Whitty proposes that there is a need for garments that incorporate fantasy, and that encourage diversity, and spontaneity. It challenges processes to create unfamiliar outcomes, which may trigger new directions for menswear. The fabric is made by Bower Roebuck, a traditional weaving company based in the U.K for over 100 years. Supporting such a mill aims to ensure the preservation of local industry and the survival of traditional craft and knowledge.



FREEFLOW

SUPER 120S WOOL SUITING

JENNIFER WHITTY

2010



JENNIFER WHITTY

2010



JENNIFER WHITTY

2010



JENNIFER WHITTY

2010



2010

Natalie Chanin graduated from North Carolina State University in 1987 with a degree in Environmental Design, focusing on both industrial textiles and design theory. She worked creating sportswear and what she calls “unnecessary fashion”, before leaving her job in 1990 to become a stylist in Europe. After ten years she returned to New York to start up her first design company Project Alabama, which she left in the mid 2000s to start Alabama Chanin.

Chanin established Alabama Chanin based on principles of sustainability. She began by cutting up t-shirts and hand stitching them back together without the initial intention of it being the foundations of a business. On reflection, this was an adventure into becoming a designer and manufacturer now renowned as one of the pioneers in American fashion and sustainability. Chanin strives for fostering a company where the results of one production process become the fuel for another. One of the goals at Alabama Chanin’s is to reduce the company’s envi-

ronmental impact by reducing the ecological footprint of each garment. The company states: “We seek to be a sustainable company, creating beauty and meaning without the excess waste or [by] destroying natural resources.” What began as designing and making simple clothing driven by a particular passion, has spurred a unique business model, developed not by intention but through process. Each garment passes through dozens of hands before it is completed, and the primary stitcher signs it. Both old and new techniques are used, resulting in modern clothing with a traditional flavour. The stitchers are artisans, extremely skilled and valuable.

The company states it “builds” each piece it designs, manufactures and sells. The company manufactures vertically (Alabama Chanin’s particular approach can also be referred to as ‘lean manufacturing’) by consolidating the manufacturing process in-studio, resulting in shorter delivery times. This also means that the company has more control over the end product and the

kinds of relationships it has with its customers. Through a continuous process of recycling and up-cycling waste empowered by a critical look at wherever waste occurs, the company is nearing its goal of becoming a zero-waste employer and manufacturer.

“Life is in the details” is the motto at Alabama Chanin, and Natalie Chanin’s piece in *Yield* exemplifies the motto, through its embroidery and the products that accompany it. The company was built around the concept of the quilting tradition, striving for craftsmanship and beauty, but also function and utility. This, and the company’s creative approach to re-using production by-products, point to centuries of frugal resource use that need not compromise beauty.



MAGGIE DRESS AND SKIRT

100% ORGANIC COTTON JERSEY

ALABAMA CHANIN

2010



ALABAMA CHANIN

2010



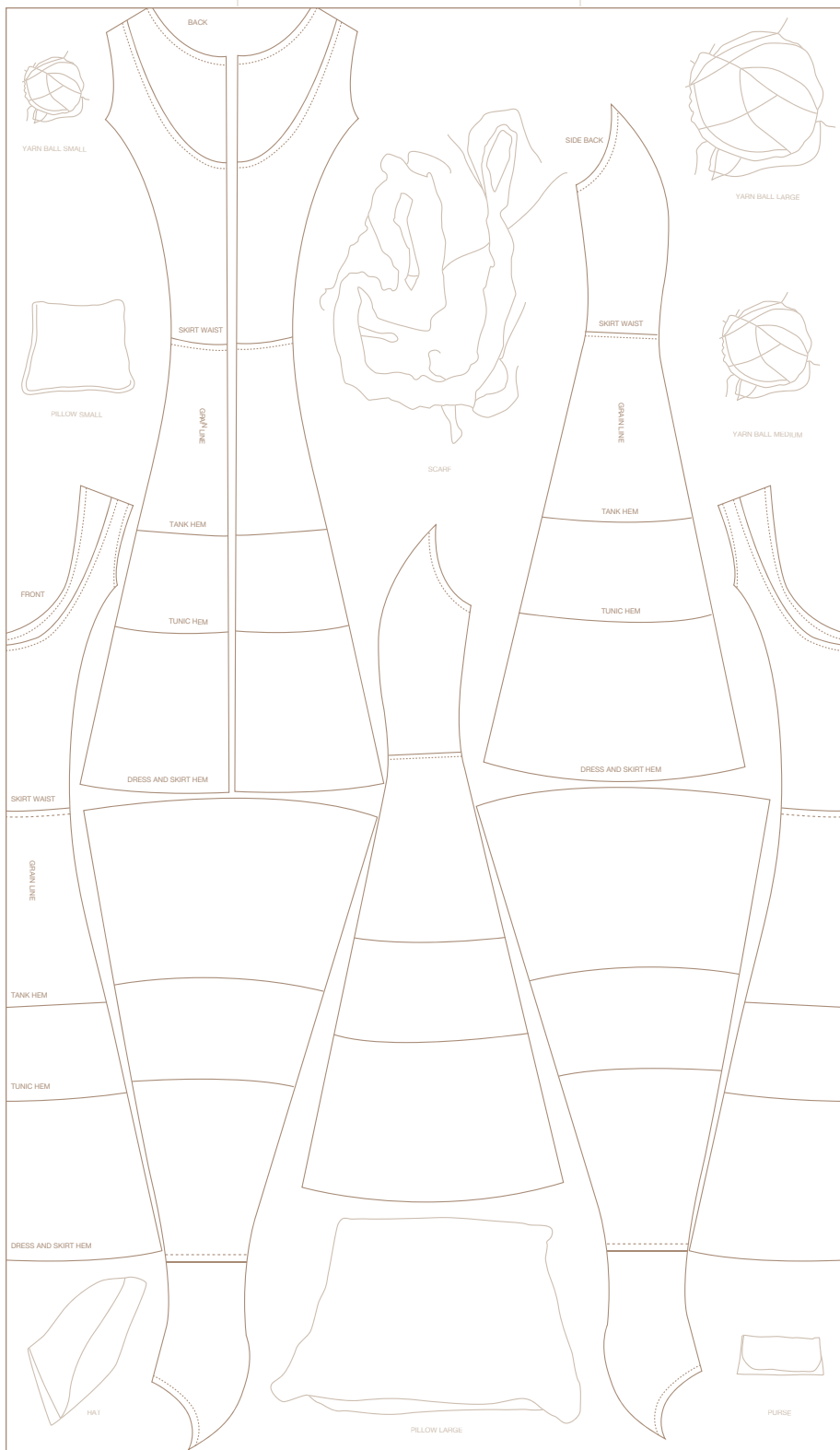
ALABAMA CHANIN

2010



ALABAMA CHANIN

2010



PATTERN

ALABAMA CHANIN

2010

Sam Formo completed his degree in fashion design at the California College of the Arts in Francisco under the sustainability visionary Lynda Grose. He has also studied with the renowned Sandra Ericson of the Center for Pattern Design, giving him a solid foundation for fashion design informed by innovative cutting.

Alongside leaders in architecture and product design, Sam's zero-waste jacket earned him the place as a finalist in the Metropolis magazine's 2009 Next Generation Design Competition. Formo was also a finalist in the Fashioning the Future competition, a leading international student competition for design and innovation in sustainable fashion, run by the Centre for Sustainable Fashion at London College of Fashion.

Formo's fashion design practice is constantly informed by his concern for the environmental and social impacts of fashion; these are to him equal to the more traditional concerns about aesthetics. Formo has called for, and in his design practice acted as an exemplary, for fashion to undergo a transformation for the industry to become an arbiter of not just beauty but global human and environmental wellbeing. This comes from Formo's recognition that fashion is a part of the everyday human experience, and that humans are inseparable from the world that surrounds us.

Formo's jacket in *Yield*, developed further from his entry to the Metropolis competition, is not only concerned with zero-waste; he also focuses on overall efficiency of fabric usage: the jacket can be cut from approximately one yard of fabric of an appropriate width.

Making the most of the cloth's properties, original solutions to garment construction are explored to their full extent, eliminating unnecessary sewing where appropriate. Furthermore, given that the original jacket was developed more than two years previously, Formo demonstrates that original, thoroughly considered do not date in a season or two – they have longevity well beyond the accepted fashion calendar.



ZERO WASTE JACKET WITH
BUILT IN CLOSURE

BOILED WOOL

SAM FORMO
2011



SAM FORMO
2011

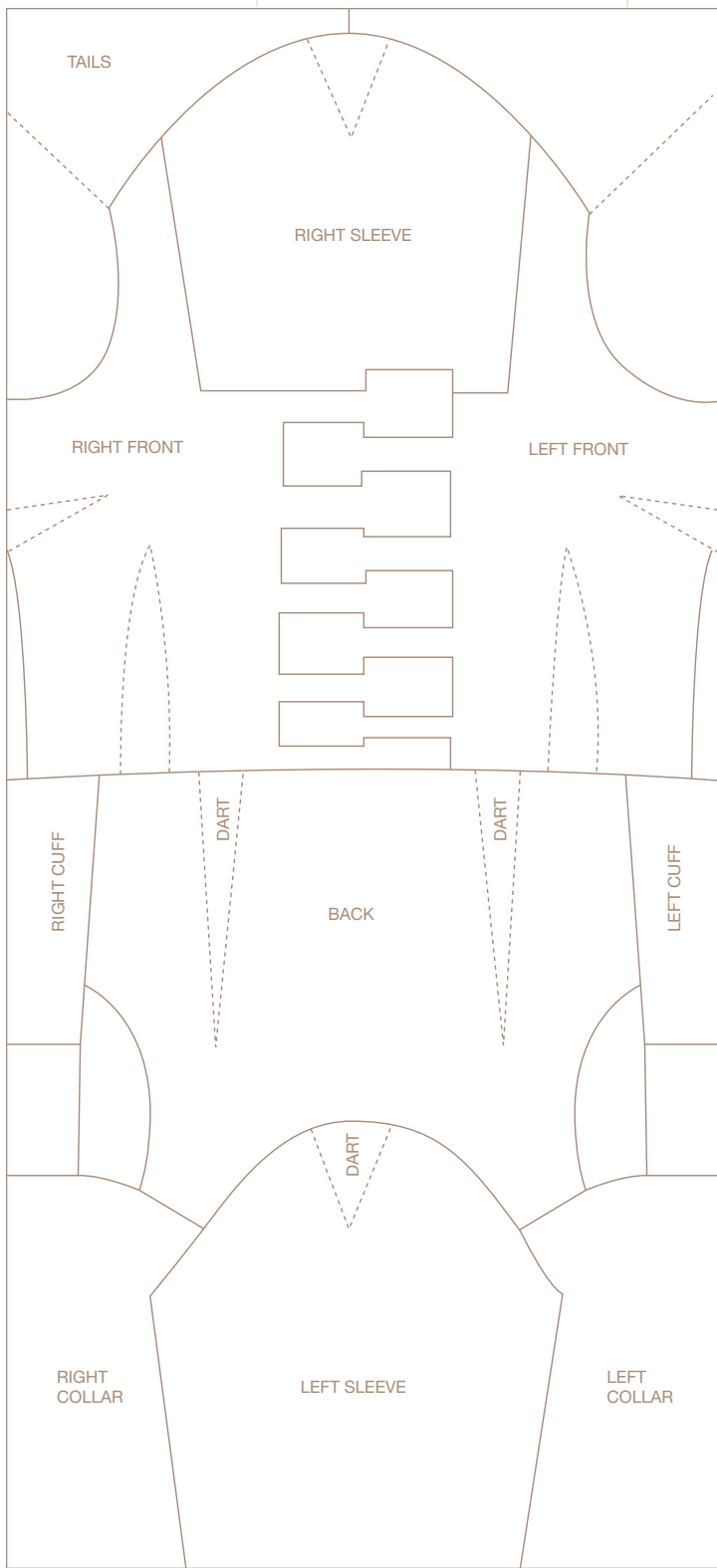


SAM FORMO
2011



SAM FORMO

2011



PATTERN

SAM FORMO

2011

Julia Lumsden has recently completed her Masters of Design Degree at Massey University Wellington, developing techniques for designing zero waste menswear that she first explored in 2009 for her undergraduate collection. Her research explores pattern making as a design tool for zero waste garment while still maintaining a minimalist tailored design aesthetic. Julia also aims to use a shorter than usual length of fabric in her zero waste designs, eliminating waste and reducing the amount of fabric required to produce the garment.

The jacket explores her zero waste pattern-making - beginning by eliminating/straightening all the curved lines in a classic mens three-piece jacket pattern. This was done to test if straight lines made zero waste design easier (as seen in straight cut garments) and also if it lent its own aesthetic to the final design. This was achieved using the 'Alterations Menu' in the CAD software Gerber and she continued to use this software to develop the pattern to eliminate waste. Once the pattern was

laid out in a marker in Gerber, pieces were overlapped in places where removing a section of the jacket would not be detrimental to the fit. The negative spaces were then incorporated into adjacent pieces creating normal shaped pattern piece but with additional 'tabs' extending from the pattern piece.

Once resolved the garment pieces were cut out and when constructing the tabs were folded to the interior and top stitched down creating subtle detailing, shaping and reinforcement. The resulting Jacket is both minimalistic and highly detailed in parts - the fit and aesthetic harks back to a classic Dinner Jacket.

The other garment in *Yield* is a zero waste men's shirt that was developed as part of a range of zero waste shirts. The shirt refers to a formal style similar to the dinner jacket, with a bibbed front and a 'bow-tie' effect. It is key to Lumsden's design practice that the final garment look like a traditional shirt in many ways - it is important that the garment be 'approachable' by not just fashion

forward men, but by everyday men - something seen as a success in her work.

The pattern for this shirt was developed through a complex process of modifying a standard contemporary men's shirt pattern using techniques she identifies as Piecing, Blending, Nesting, Merging and Creating - helpfully giving names to the techniques that many zero waste designers use everyday. Identifying and naming these techniques was a key part of her masters project and gives other zero waste designers a language to use and add to.



HABILIMENT'S

COTTON/POLYESTER, SHELL,
WOOL AND METAL

JULIA LUMSDEN
2009-2010



JULIA LUMSDEN

2009-2010



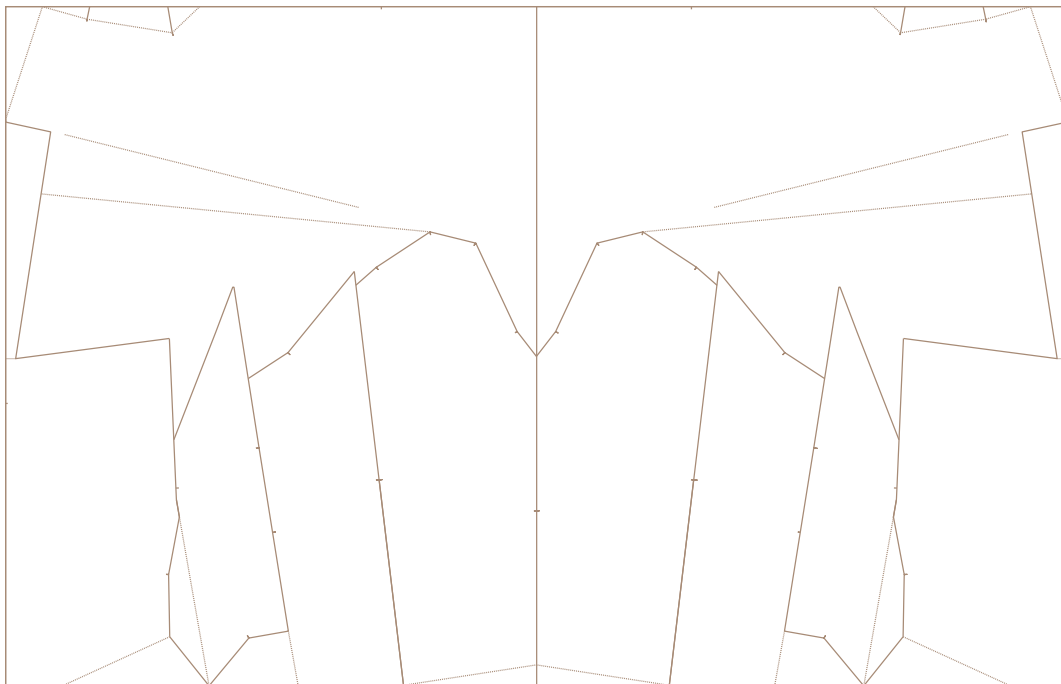
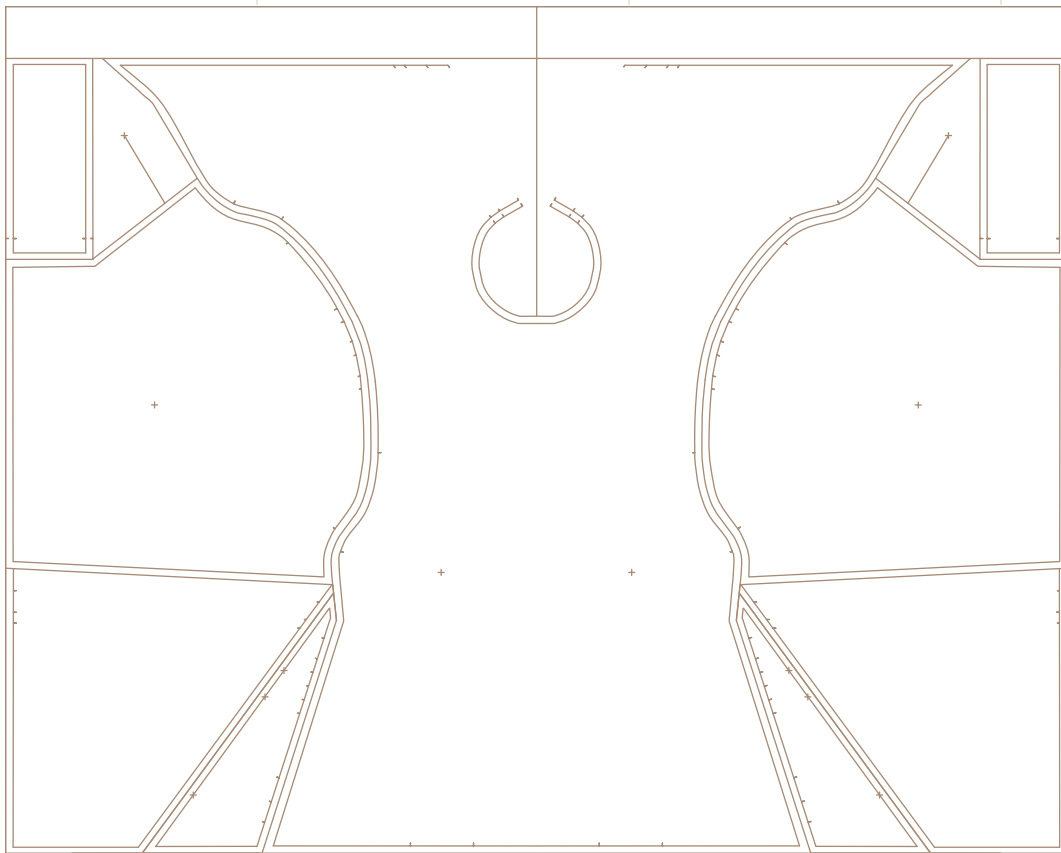
JULIA LUMSDEN

2009-2010



JULIA LUMSDEN

2009-2010



PATTERN

JULIA LUMSDEN

2009-2010

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