

Jo Bailey
NRO3
Exhibition

Make/Use

McQuillan, H., Archer-Martin, J., Bailey, J., Fox Derwin, E., Kane, K., O'Hara, J., Menzie, G, Stewart-MacDonald, B. (2015, July 11). *Make/Use* [exhibition including an open source system + zero waste fashion + garment and textile collection + experience design + exhibition + display furniture + workshops + identity + open source typeface + posters + publication + website + video + photography]. Objectspace, Auckland, New Zealand. Retrieved from <http://archive.objectspace.org.nz/Exhibitions/Detail/Make/Use.html>.

Make/Use posters showing visual system design.

- 3 Make/Use exhibition**
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The Objectspace exhibition showing all garments and visual material in-situ.





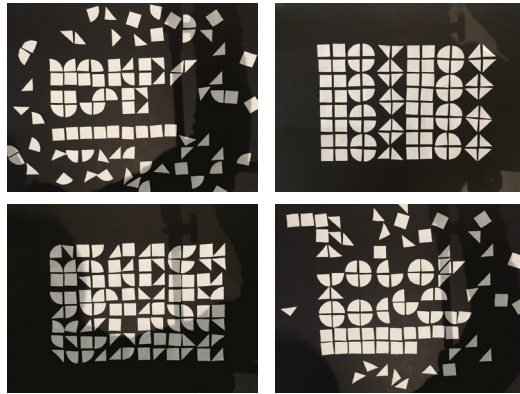
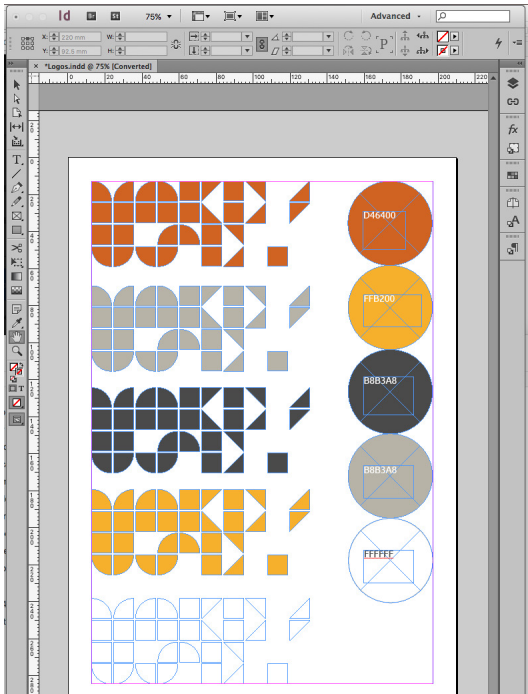
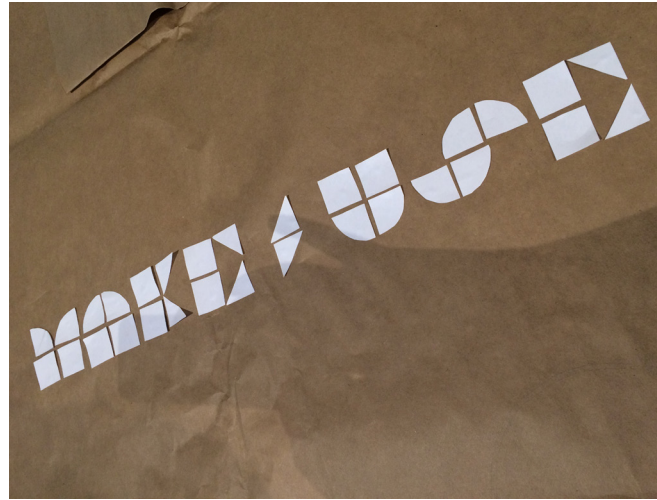
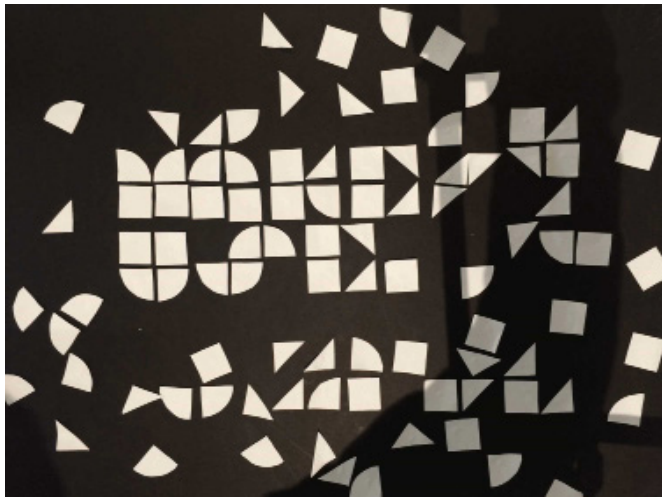
 Two-way relationship between elements
 One way relationship between elements
 Arrows indicate relationship direction

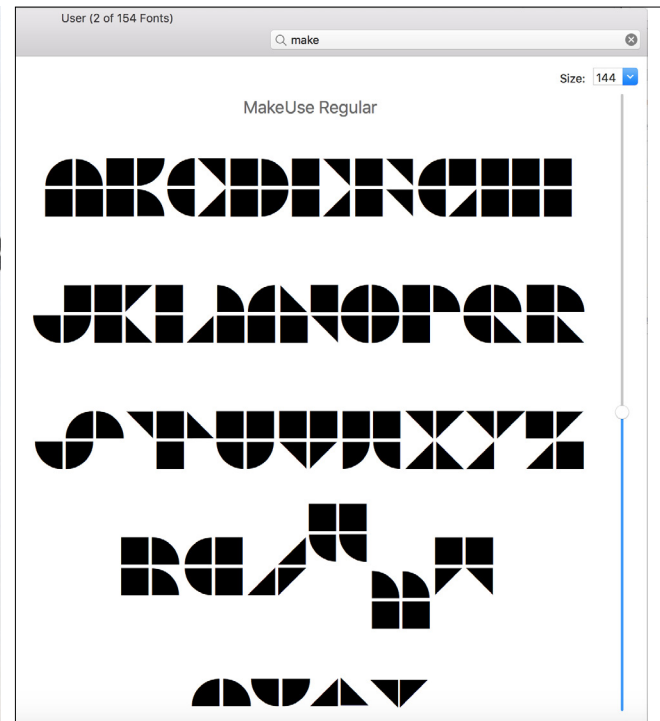
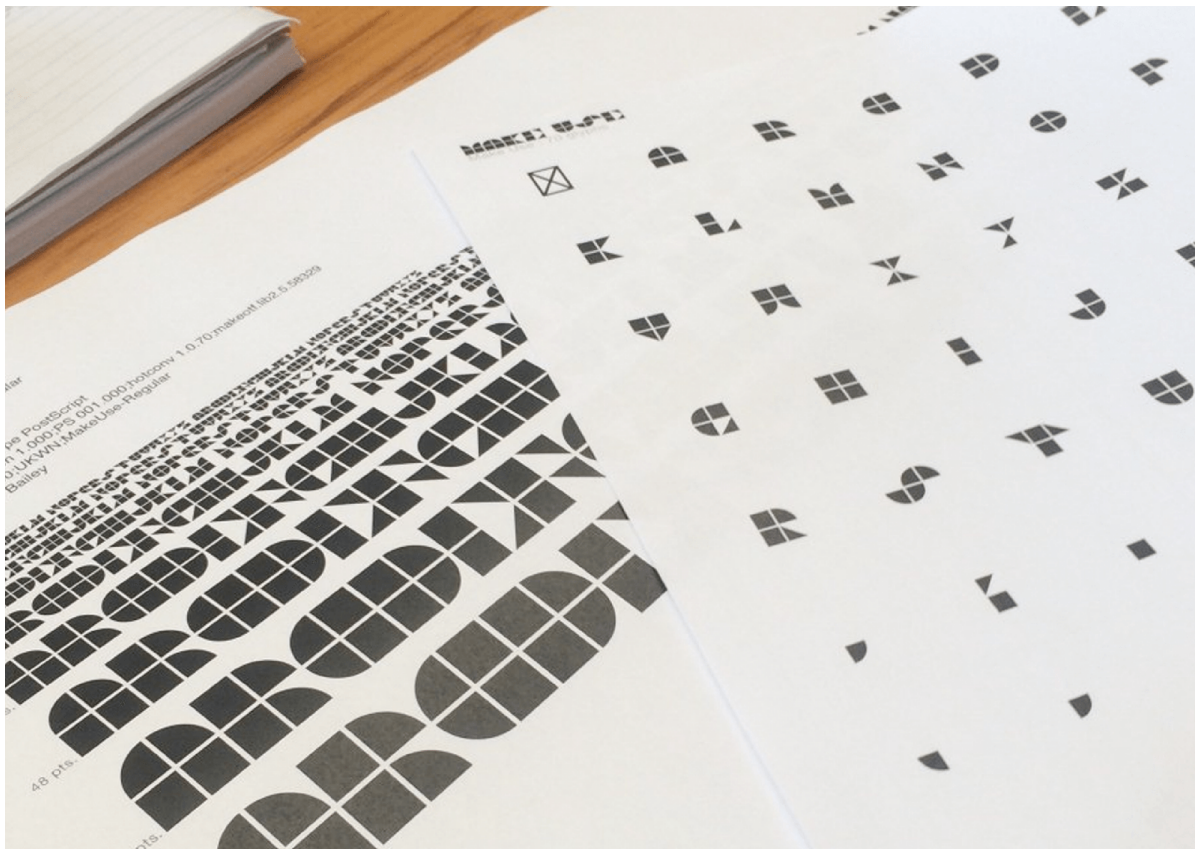
Diagram of the various elements that make up the Make/Use project. Elements in darker tone show my key points of involvement.





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Studio space during the development of the Make/Use open source typeface and tear off publication.



**IDEAS...
 WE NEED A QUESTION
 MARK AND A HYPHEN
 AND AN EXCLAMATION
 MARK AND A COMMA.
 PERHAPS SOME
 KERNING PAIRS OR
 LEAGURES FOR Y
 COMBOS LIKE RT
 ST... GREAT WORK**

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Typeface in development (top left, bottom right), installed on a computer (top right) and in use as a screenprinted logo (bottom left).

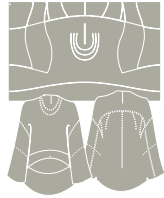


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Studio space during development phase of the Make/Use project.

CROP T-SHIRT

This crop T shirt is constructed in its most basic form, requiring only two cuts. The flat design is derived from a Danish Bronze Age pattern.



MODIFICATION OPTIONS

- shoulder rotate
- sleeve swap
- body rotate
- elbow rotate

FABRIC
end of roll silk crepe de chine

PRINT
screen print

FINISHING
house paint

SYMBOLS
house paint

JOINING
hand embroidery



LONG T-SHIRT

This long T shirt contains two simple modifications. The lower body section is rotated 180° and the sleeves are also rotated at the shoulder for an alternative fit.



MODIFICATION OPTIONS

- shoulder rotate
- sleeve swap
- body rotate
- elbow rotate

FABRIC
silk organza

PRINT
digital print

FINISHING
digital embroidery

SYMBOLS
digital embroidery
digital print

JOINING
hand embroidery



LONG COAT

This long coat becomes cocoon-shaped through the rotation of the lower portion of the garment. The sleeves are also rotated at the elbow.



MODIFICATION OPTIONS

- shoulder rotate
- sleeve swap
- body rotate
- elbow rotate

FABRIC
end of roll wool melton

PRINT
none

FINISHING
house paint

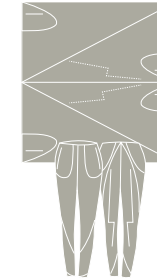
SYMBOLS
digital embroidery
house paint

JOINING
hand embroidery



SPiral TROUSERS

These spiral trousers are one of the most innovative patterns in the collection. A spiral seam allows each leg to be made from a single piece. The waist is darted to fit.



MODIFICATION OPTIONS

- waist dart
- leg dart

FABRIC
linen

PRINT
digital print

FINISHING
house paint

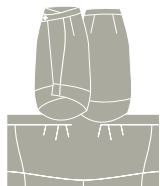
SYMBOLS
digital print

JOINING
machine stitch



WRAP SKIRT

This wrap skirt is shaped to fit via waist darts and vertical shaping. A lower portion rotation is also possible for further draping.



MODIFICATION OPTIONS

- waist dart
- vertical shaping swap
- body rotate

FABRIC
hand spun, hand loomed cotton from Josi Faye

PRINT
screen print

FINISHING
digital embroidery

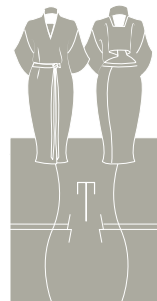
SYMBOLS
House paint

JOINING
machine stitch



WRAP DRESS

This wrap dress is a simple two-cut pattern with two modifications to give it a more fitted shape – vertical curves and cut-and-overlap darts.



MODIFICATION OPTIONS

- vertical shaping swap
- waist dart

FABRIC
hand spun, hand loomed cotton from Josi Faye

PRINT
screen print

FINISHING
digital embroidery

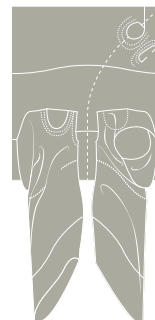
SYMBOLS
digital embroidery

JOINING
machine stitch



TUBE DRESS

This tube dress is the most basic pattern in the collection, needing only one seam to sew. The asymmetric neck and arm holes give it a unique drape.



MODIFICATION OPTIONS

- body rotate (upper)
- body rotate (lower)

FABRIC
silk crepe de chine

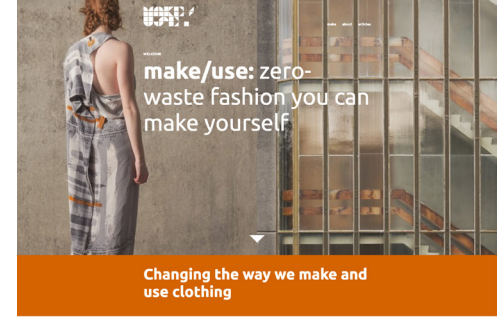
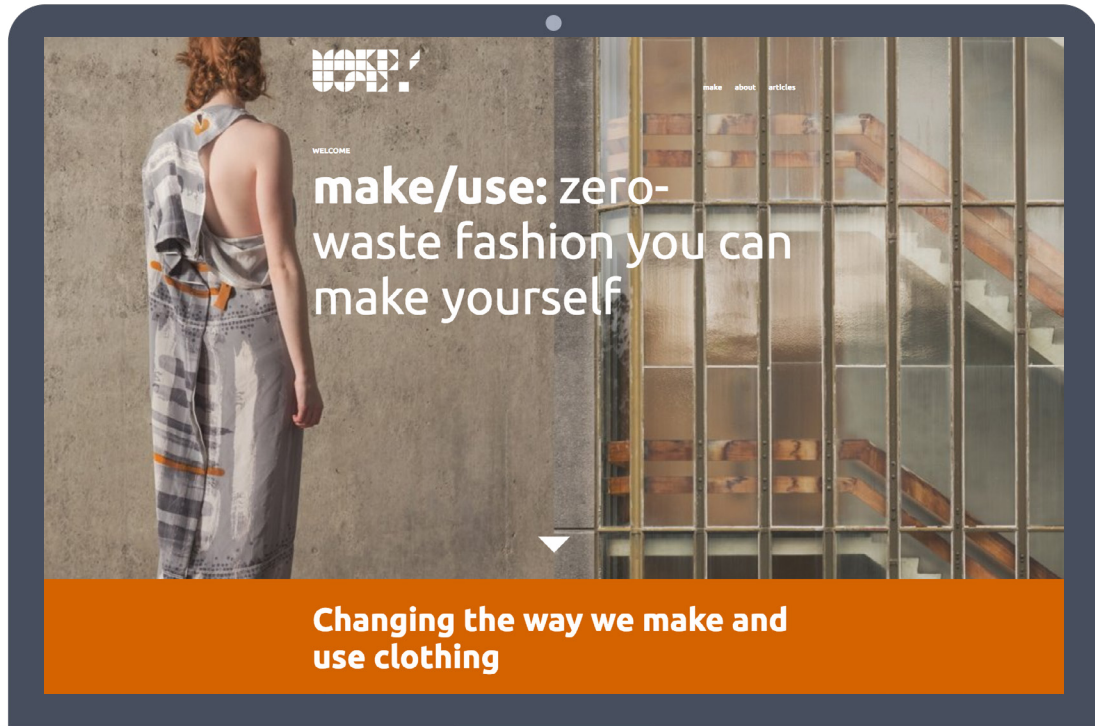
PRINT
digital print

FINISHING
digital embroidery

SYMBOLS
digital print
digital embroidery

JOINING
hand embroidery
machine stitched



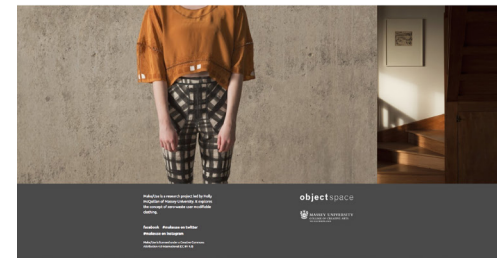


Make/Use is an open source system for making user-modifiable, zero-waste garments. Make/Use provides a user-centred toolset that helps consumers gain agency in the making and ongoing use of the clothing they wear.

For the general public, the system provides a user-centred toolset that helps consumers gain agency in the making and ongoing use of the clothing they wear. The system is designed to be user-modifiable, zero-waste garments. Make/Use provides a user-centred toolset that helps consumers gain agency in the making and ongoing use of the clothing they wear.

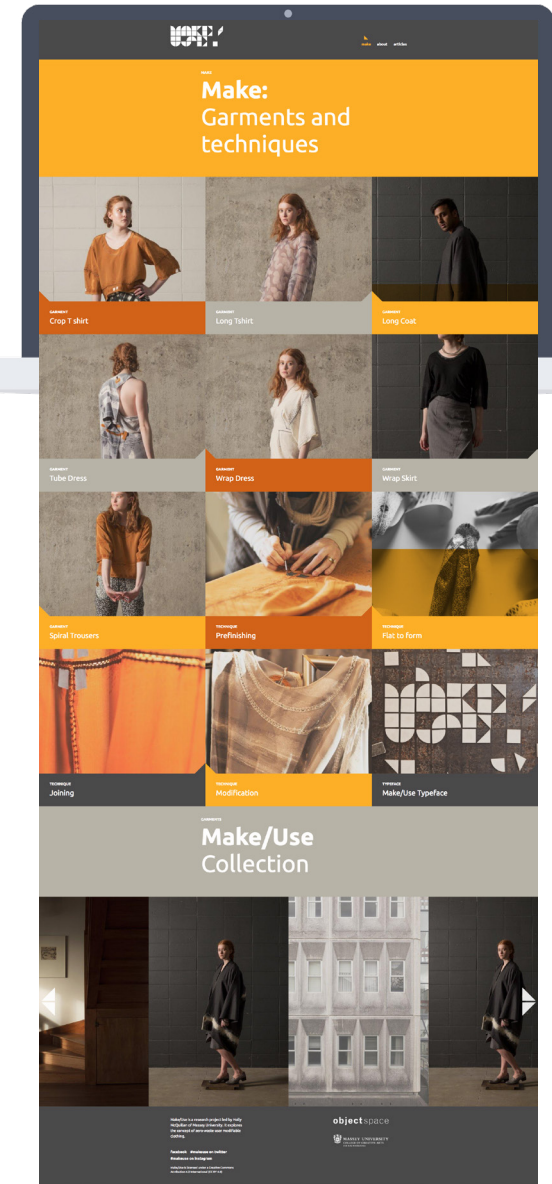


...create clothing that better serves both the user and the environment.

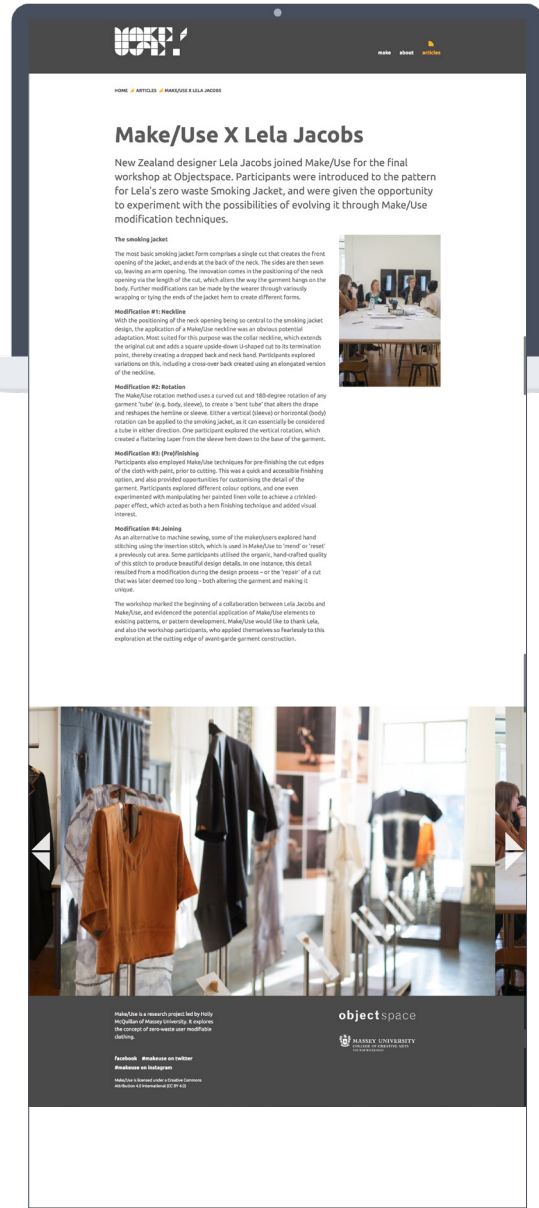
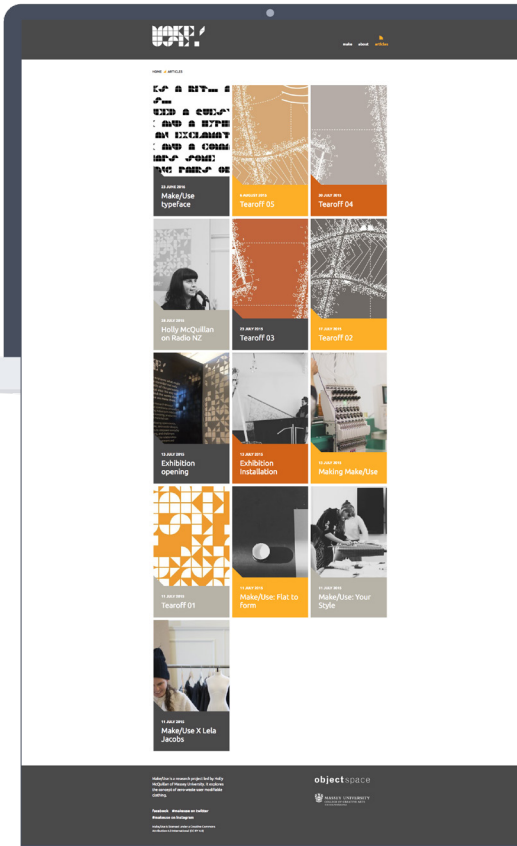
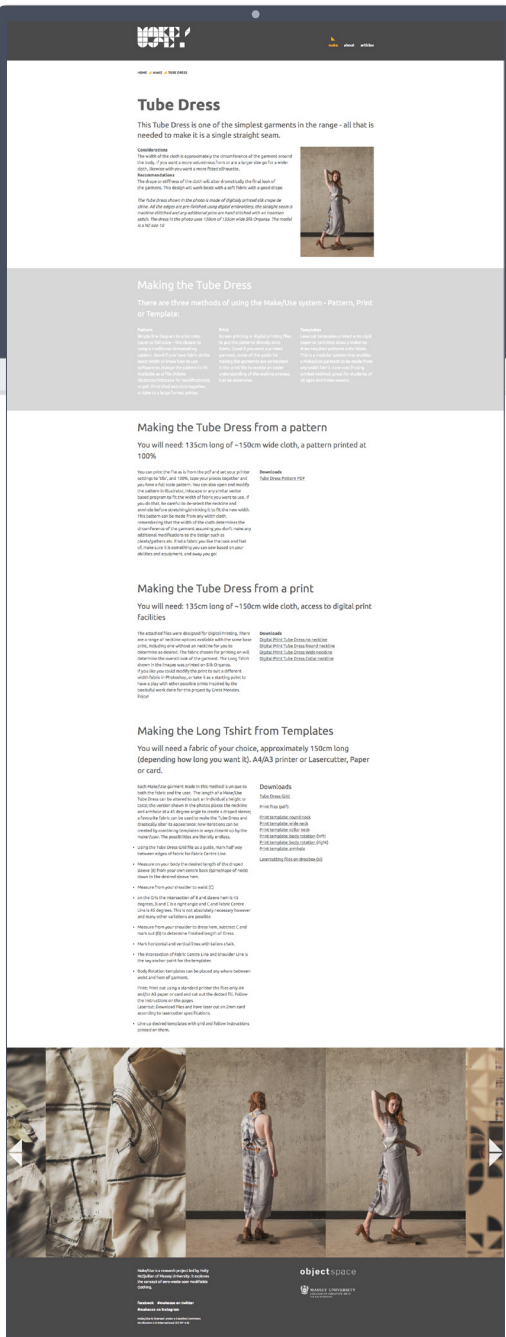


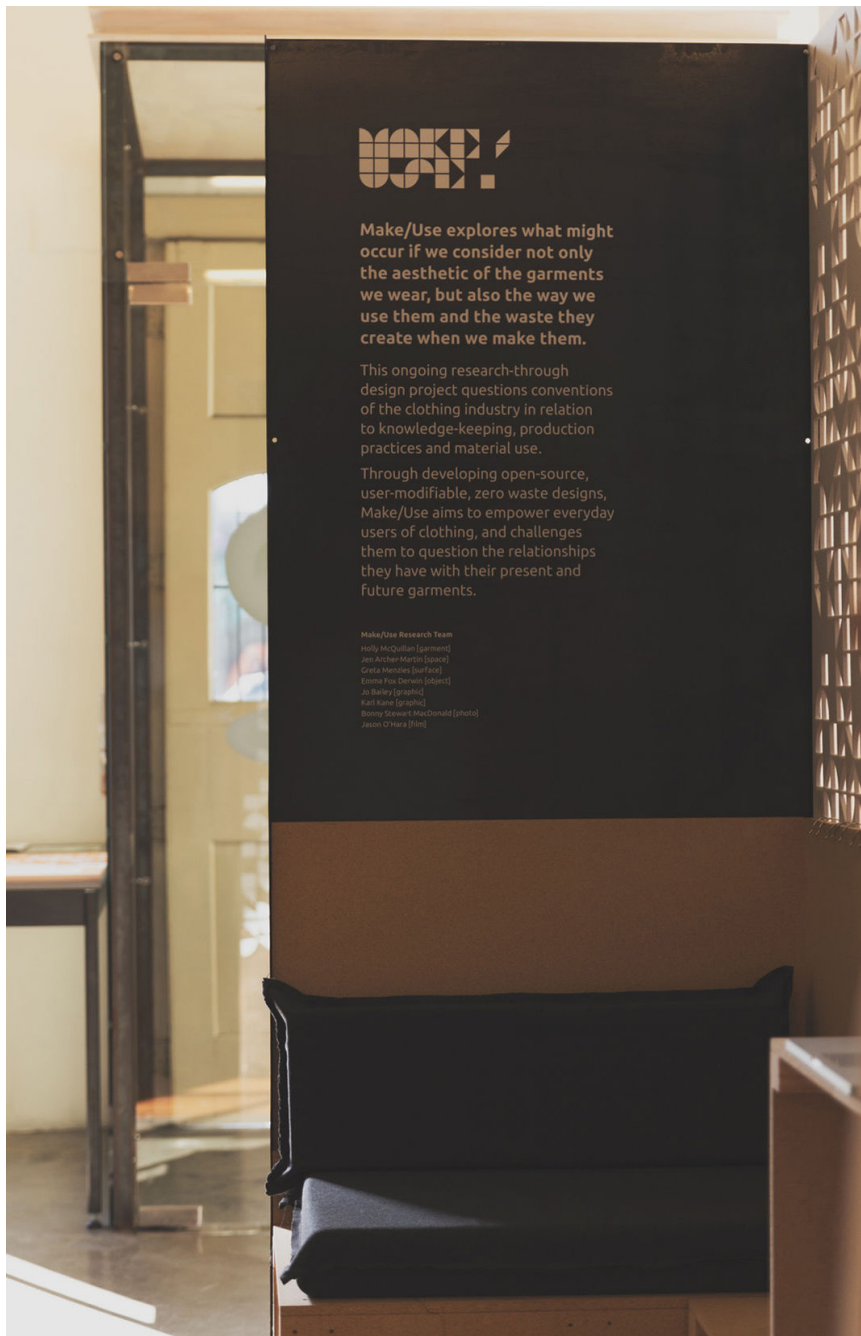
MAKE

Make: Garments and techniques



Garment landing page on website. Modular block elements with arrow detail from the identity system evoke the zero waste garment construction.

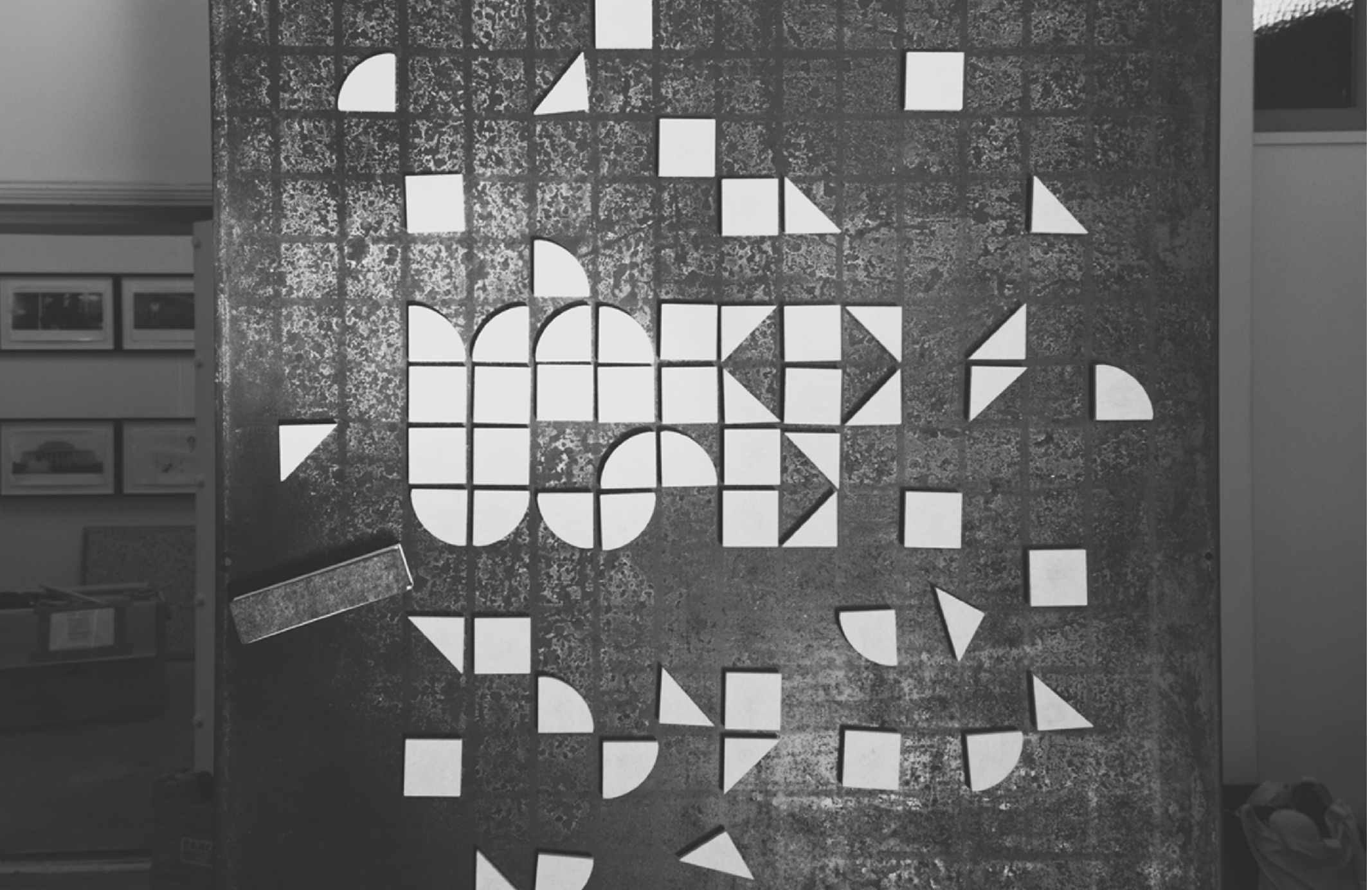




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Make/Use



Identity elements in situ in the Objectspace exhibition, July 2015. The body copy is Ubuntu, an open source typeface that like Make/Use is open for modification by users.



NRO3 **Jo Bailey**
Make/Use

Typeface elements recreated from Autex panels and attached to magnets. Also part of a zero-waste strategy, these shapes were the cutouts from a screen used in the exhibition and became an interactive part of the exhibition.



WRAP SKIRT

This wrap skirt is shaped to fit via waist darts and vertical shaping. A lower portion rotation is also possible for further draping.

MODIFICATION OPTIONS

- waist dart
- vertical shaping swap
- body rotate

FABRIC
hand spun, hand loomed cotton from Josi Faye

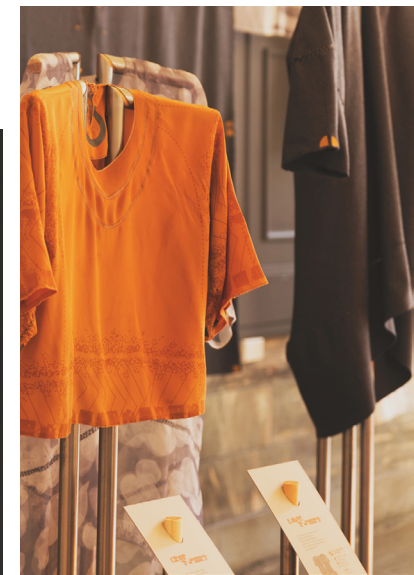
PRINT
screen print

FINISHING
digital embroidery

SYMBOLS
house print

JOINING
machine stitch

USE!



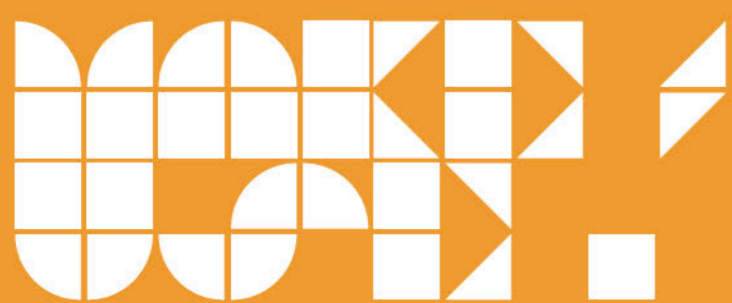
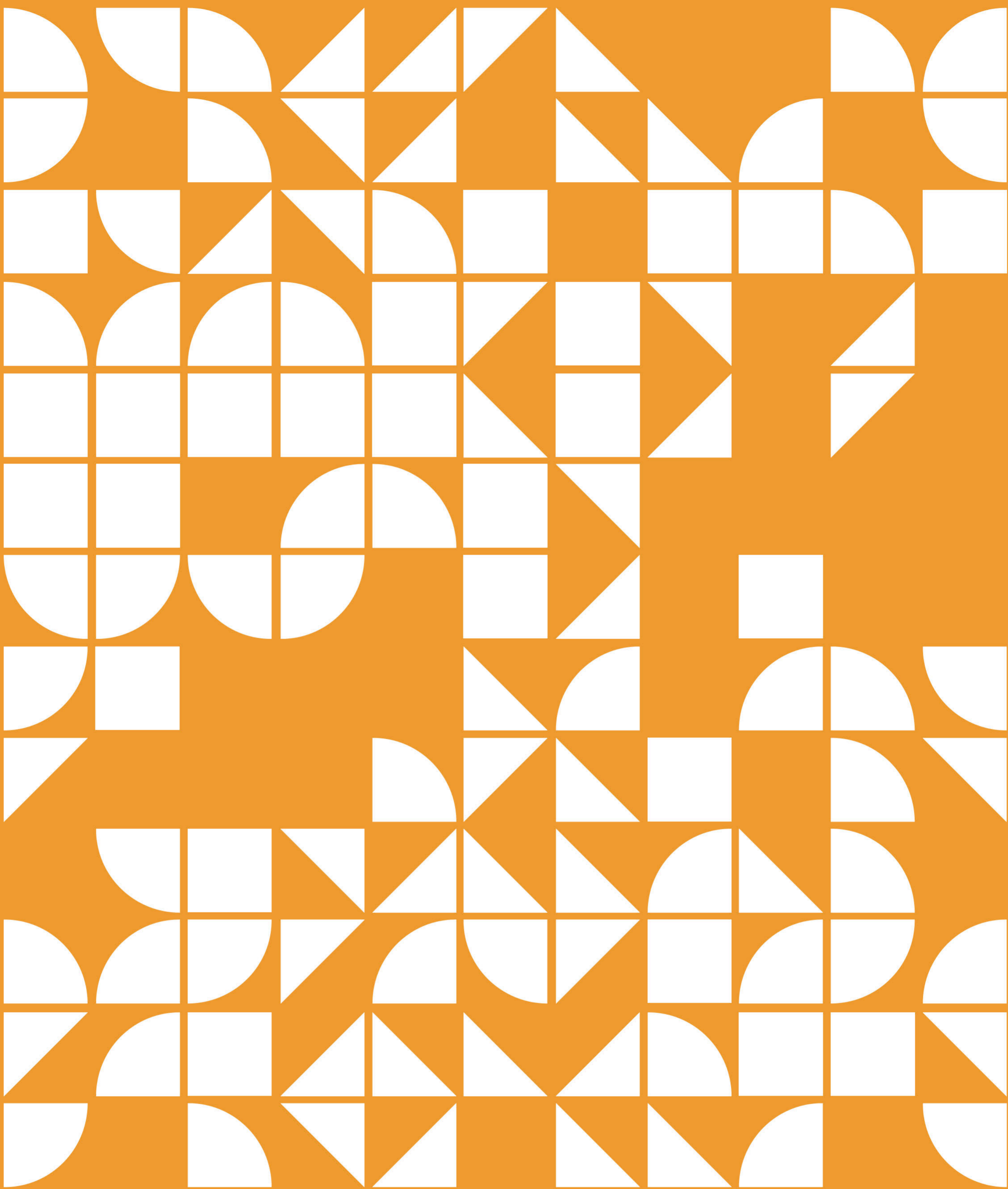






NRO3 **Jo Bailey**
Make/Use

Assembled tear off publication. Following pages are the files for editions 1-5 that came together for this item. The format is A2. Te Papa hold this publication in their permanent collection.



An exhibition and workshop
series exploring user-modifiable
zero waste fashion

makeuse.nz



MAKE/USE
 A FIVE-EDITION
 SERIES FOR THE
 MAKE/USE AT
 OBJECTSPACE
 RESIDENCY
 11 JULY –
 8 AUGUST 2015



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 978-0-9941228-6-5 (vols. 1–5 set)



Make/Use explores what might occur if we consider not only the aesthetic of the garments we wear, but also the way we use them and the waste we create when we make them.

The Big Challenges The Issue

Make/Use seeks to build a community of early adopters around a new wave of garment/product design strategies that empower users to make, use, remake and reuse. The project centres around the development and testing of an embedded navigational system by which users can formulate a functional understanding of the construction of a garment and its opportunities for manipulation. It explores how the encoding of navigational clues and markers into a garment or product might aid in its facility for creation and modification by the user, thereby enhancing emotional investment and connection, and extending its functional and desirable lifespan. In addition to further reducing material waste, Make/Use seeks to slow the demand for the production of new consumer goods and materials, to the benefit of global ecologies.

The fashion and textiles industry is the second largest generator of pollution and waste in the world. From textile manufacture through to retail and end-of-life, clothing has a massive impact on both natural and human resources. Make/Use attempts to address waste generation at three stages in the garment life cycle - production, retail, and (dis)use.

This ongoing research-through-design project questions conventions of the clothing industry in relation to knowledge-keeping, production practices and material use.

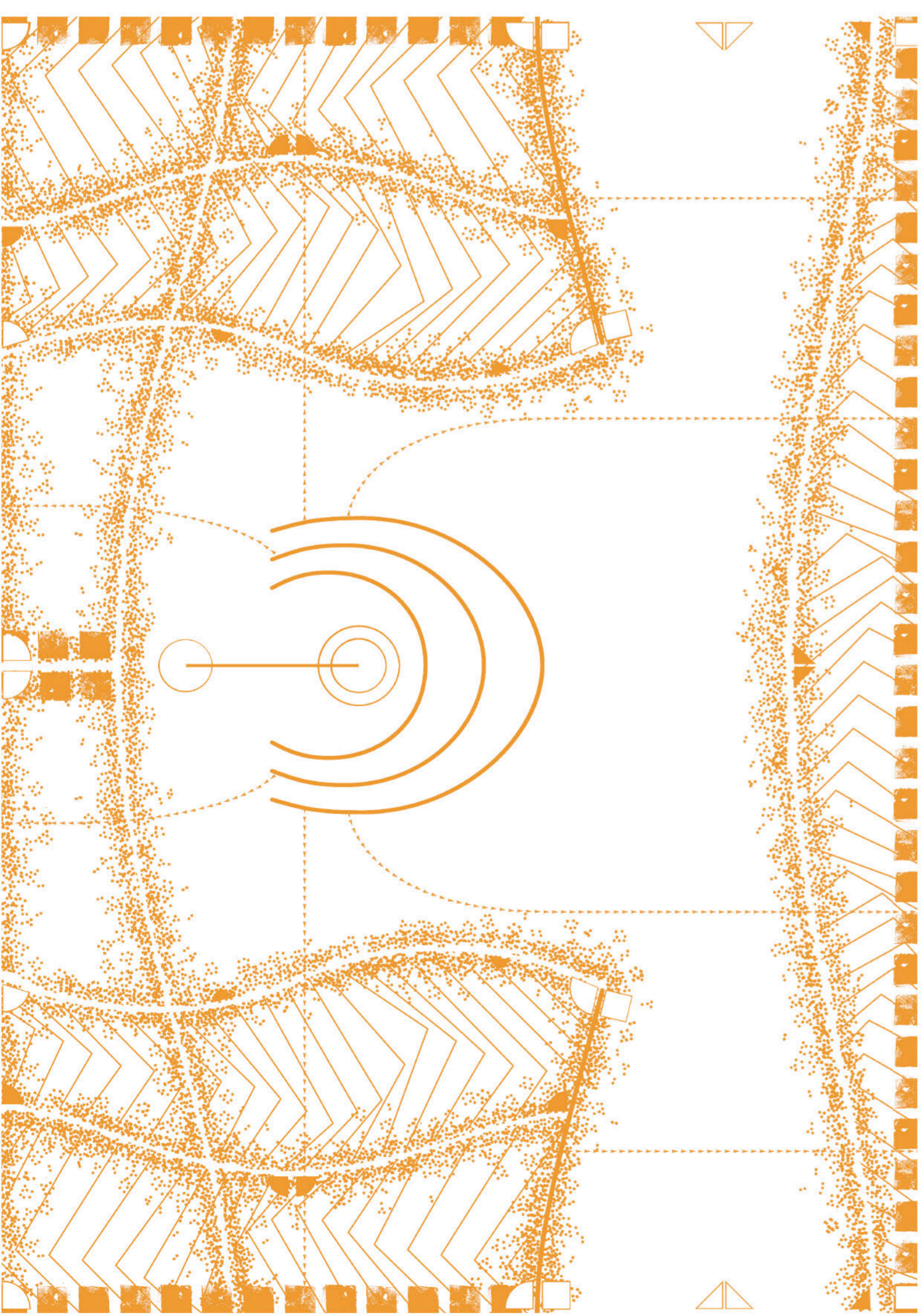
In conventional garment production, an average of 15% of the fabric is unused. In 2015 alone, it is estimated that this will add up to around 60 billion square meters of discarded cloth worldwide, from the making of around 80 billion garments. Embodied in each scrap of wasted cloth is the resources used in its own production – when you consider that the amount of water used to make a single T shirt could sustain one person for three years, the accumulative impact is staggering. This understanding of the true value of materials underpins the zero waste philosophy.

Through developing open-source, user-modifiable, zero waste designs, Make/Use aims to empower users of clothing, and challenges them to question the relationships they have with their present and future garments.

Building on current leading research in zero waste design and production strategies, this research also addresses the postproduction part of the garment life cycle. Postproduction waste is generated when garments themselves are discarded, through the disposal of unsold stock, unworn purchases or items that are no longer wanted – the average consumer regularly uses only 30% of the garments in their wardrobe. Research around maker and user practices has informed the development of the Make/Use system, which aims to turn passive consumers into active, informed and emotionally engaged makers and users.

The Pattern

This is a pattern used to make a Make/Use garment. It is a cropped T shirt that has 48 customisable variations embedded in the design. Cut along the solid lines as marked and chose from one of the three necklines to get started. Get your own full size pattern by collecting these publications from Objectspace during the exhibition.



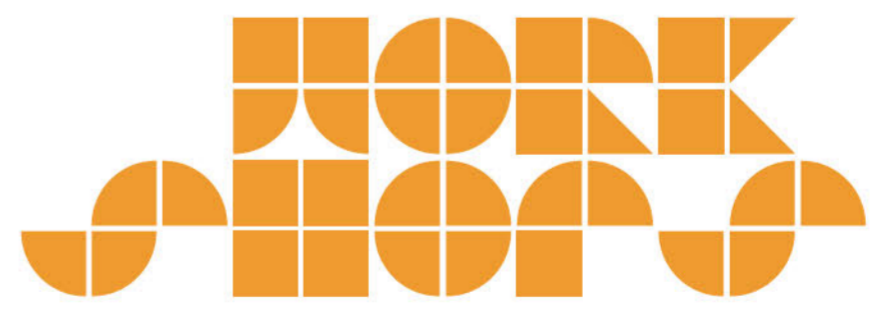
Make/Use @ Objectspace

The Objectspace exhibition presents the current stage of the research into development of the Make/Use user-centred system, illustrated through a collection of seven garment designs. Each garment has a few simple variables embedded into the one pattern, which can combine to create numerous permutations of the design. The level of complexity of the garment construction can be set by the maker, making the system accessible for beginners while also offering more challenging modifications for experts.



Over four weeks the Make/Use design team will be working in the gallery designing and making zero waste garments and leading weekend workshops that engage participants with the practical application of the zero waste garment concept. Through encouraging visitors and participants, including novice sewers, to make their own simple but experimental garments, Make/Use hopes to assist others to re-evaluate their understanding of making, wearing, modifying and designing clothing.

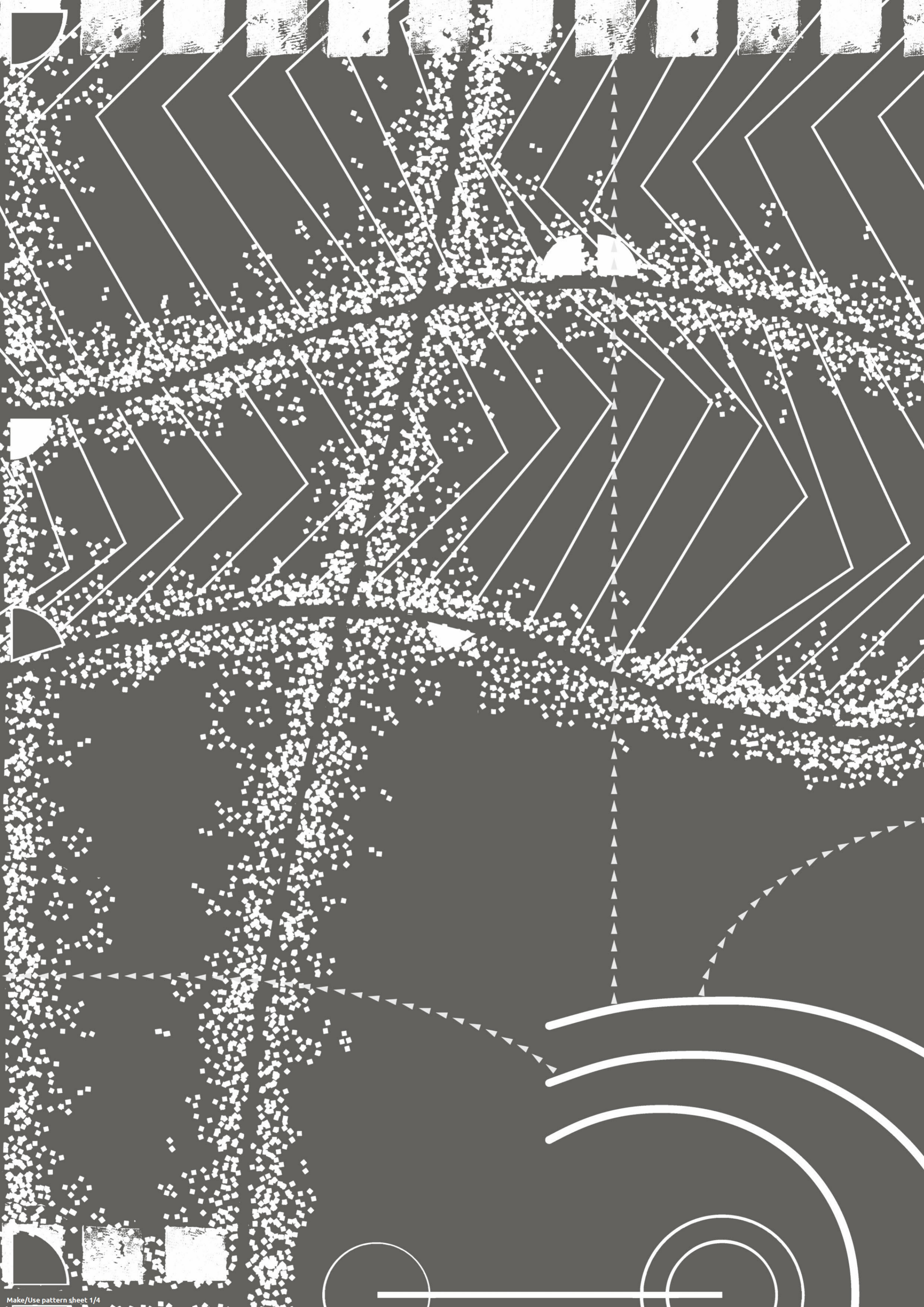
MASSEY UNIVERSITY
 COLLEGE OF CREATIVE ARTS
 TOI RAUWHĀRANGI
 creativenz
 ARTS COUNCIL OF NEW ZEALAND TOI AOTĀROA
 objectspace



The Make/Use team will also be offering three workshops at Objectspace where you can test out the Make/Use system and garments for yourself.

- Make/Use Flat To Form**
12 July 2015 10am – 5pm
- Make/Use Your Style**
19 July 2015 10am – 5pm
- Make/Use x Lela Jacobs**
2 August 2015 10am – 5pm







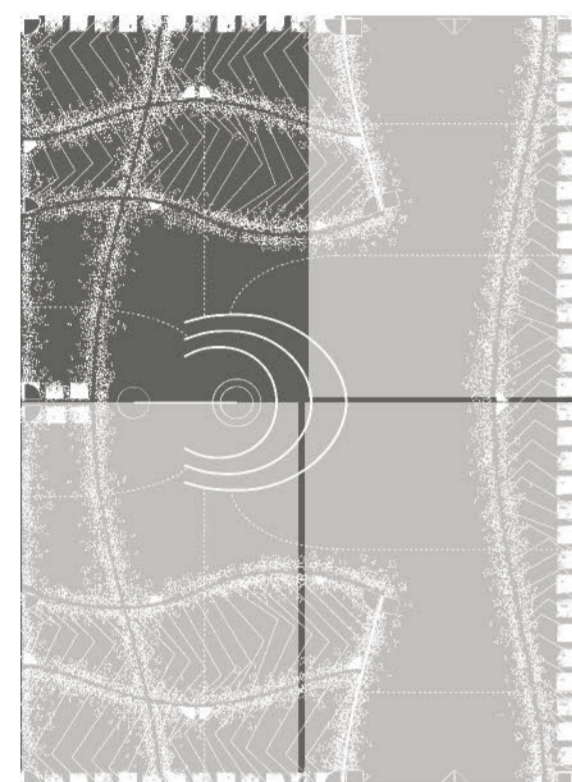
MAKE/USE 2/5
A FIVE-EDITION
SERIES FOR THE
MAKE/USE AT
OBJECTSPACE
RESIDENCY
11 JULY –
8 AUGUST 2015



Make/Use explores what might occur if we consider not only the aesthetic of the garments we wear, but also the way we use them and the waste we create when we make them.

This ongoing research-through-design project questions conventions of the clothing industry in relation to knowledge-keeping, production practices and material use.

Through developing open-source, user-modifiable, zero waste designs, Make/Use aims to empower users of clothing, and challenges them to question the relationships they have with their present and future garments.



The Pattern

Overleaf is a quarter of a full size cropped T shirt pattern that has 48 customisable variations embedded in the design. Collect the other parts during the Make/Use exhibition.

WORKSHOP 1

Make/Use Flat to Form

This workshop was about understanding the construction of a Make/Use garment from two dimensional flat pattern, to finished three dimensional form.

Utilising the screen printed Make/Use T shirt 'flat', participants were guided through the creation of their own individualised T shirt from the 48 different possible outcomes the pattern allows. A group of participants with varied backgrounds and levels of sewing experience engaged in this novel process – with amazing results.

The System

The Make/Use system is unlike any traditional garment construction process, and as such, requires a different cognitive understanding of the relationship between flat fabric/pattern and garment form. This seemingly complex shift in thinking is in fact very simple. The whole system hinges on two basic concepts, the first being the creation of volume through the joining of two edges of a piece of fabric to form a tube – a space for the body to pass through. The basic Make/Use T shirt pattern can be understood as two conjoined tubes: a vertical one for the torso, and a horizontal one for the sleeves and shoulders, with a neck hole that allows the garment to pass over the head. The second concept deals with the manipulation of those tubular volumes, which is essentially achieved through the slicing of the tube at an angle, followed by a rotation of one end through 180 degrees to form a 'bent' tube.

In fabric, this bend may translate to the shaping of a sleeve, or the alteration of the drape around the lower body, creating more volume at the back while raising the front hem.

Participants in the Flat to Form workshop explored these concepts through playing with paper scale models of the T shirt pattern. This unimposing method, which has similarities with the Japanese art of *origami*, is not only a fun and easy way of providing a first engagement with the system, but also reflects one of the techniques that designer Holly McQuillan uses to quickly test and iterate zero waste design ideas.

The Construction Process

Having gained confidence and understanding of these core concepts of the Make/Use system, workshop participants explored opportunities for customization of the T shirt pattern, using both the paper models and half-scale calico versions. In this workshop, the paper and fabric 'flats' were pre-printed with the print pattern developed by Greta Menzies in collaboration with the Make/Use team. This print pattern is both aesthetic and informative – it encodes navigational cues into the print that operate as way-showing devices for the user to aid in construction and decision-making. Rather than presenting a prescribed set of instructions, the way-showing system was conceived as an intuitive 'landscape' of mark-making that the user could negotiate in their own way, while retaining a sense of security and orientation provided by route markers at key points of connection or intersection.

The workshop beautifully illustrated the benefits of this design strategy. Not only were participants empowered to engage with the embedded opportunities for modification, some even quickly moved on to exploring their own 'hacks'; uncovering new possibilities. While some of these moves proved more successful than others, they nevertheless demonstrated the ability to test and adapt the pattern to suit the tastes and desires of individual maker/users.



MAKER/USERS

Make/Use is Zero Waste fashion viewed through the lens of use practice. The ultimate goal is not to produce a collection of garments, but to enable a community of maker/users.

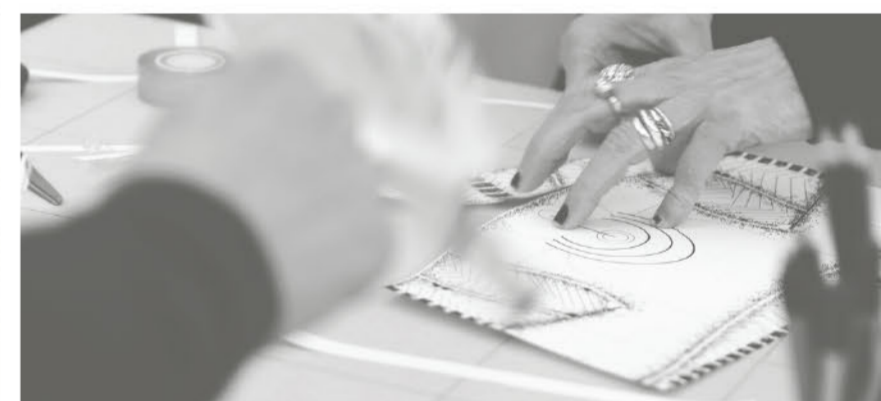
Make/Use places zero waste fashion in the context of use practice, where the user becomes an agent in both the design and ongoing use and modification of the garment. The research taps into a desire for the expression of creativity in users – people who may not have made or customised their own clothes before, but are drawn to the idea of doing so. In order to allow these people to become maker/users, they must be provided with tools. To enable this, the role of the design researcher becomes one of facilitation and 'scaffold' building. Providing both user modifiable zero waste fashion products and tools that facilitate the maker/user experience, the breadth of the Make/Use system acknowledges both the opportunities and limitations each user brings, while amplifying their skills, knowledge, needs and desires.

Emotional attachment to clothing and textiles can entice us to hold onto clothing for longer, which leads us to consume less. These attachment values include things such as memories, heirlooms or family ties. They might also be produced through notions of effort and achievement, where items are handmade, bespoke, self-made or self-designed. Similarly, qualities associated with future use, such as durability, multi-functionality, reparability, and the possibility of future modifications suggest a much more complex relationship with clothing than is often assumed and offers many opportunities for designers and users to take action.

Just as multiple markings on a single court surface enable different games to be

played in the same space at different times, Make/Use embeds future modifications in the design to enable the user to make changes to their garment throughout its life. This approach exploits a key aspect of zero waste fashion design – no part of the cloth is discarded – enabling future modifications to suit changing fashion or needs to be embedded in the garment's initial production. Production is zero waste, construction is simplified, and ultimately product life is extended through engaging the consumer, enabling ongoing modifications and the application of conspicuous mending. Make/Use caters to a variety of maker/users by offering the product in varying stages of completion and intervention. In addition, optional embellishments such as digital print and embroidery, and DIY hand finishing processes, function in multiple ways – as decoration, embedded instructions and pre-finishing – ensuring the user experience is as accessible and flexible as possible.

While many products employing mass customisation have been developed, none have integrated this with the benefits of zero waste fashion design, or through this sought to transform the fashion *consumer* into a fashion *user*. Make/Use proposes a vision of a fashion industry comprised of connected individuals and groups engaged with the making and ongoing use of garments. By enabling users to make their own simple but experimental garments, the research aims to challenge the understanding we have of making, wearing, modifying and designing clothing. When the process of garment-creation is facilitated rather than *owned* by the designer, an enriched designer/maker/user relationship is possible, bringing into question the role of design in the fashion context and transforming the traditionally passive consumer into active agent of change.



The Finishing Detail

In the second half of the workshop, participants moved on to a full size pre-printed T shirt 'flat'. Prior to cutting and sewing, the group was introduced to different possibilities for pre-finishing the edges to be cut, which allows for future modification and the re-setting of the fabric back to flat cloth. Beyond the more obvious methods of hand or machine sewing, and the less accessible high-tech option of digital embroidery, a much more low-fi, quick and engaging method was demonstrated – hand painting directly onto the fabric with acrylic house paint. In encasing the fibres, the paint provides a flexible and user-friendly edge finishing technique, and can also offer opportunities for personalised decorative mark-making and creation of visual interest through colour selection.

Once pre-finished, the fabric flat is cut and assembled according to the design decisions made by the maker/user. Again a variety of seam joining options is available, including machine and hand stitching. The Make/Use display collection also includes a coat that uses needle-felting as a joining technique.

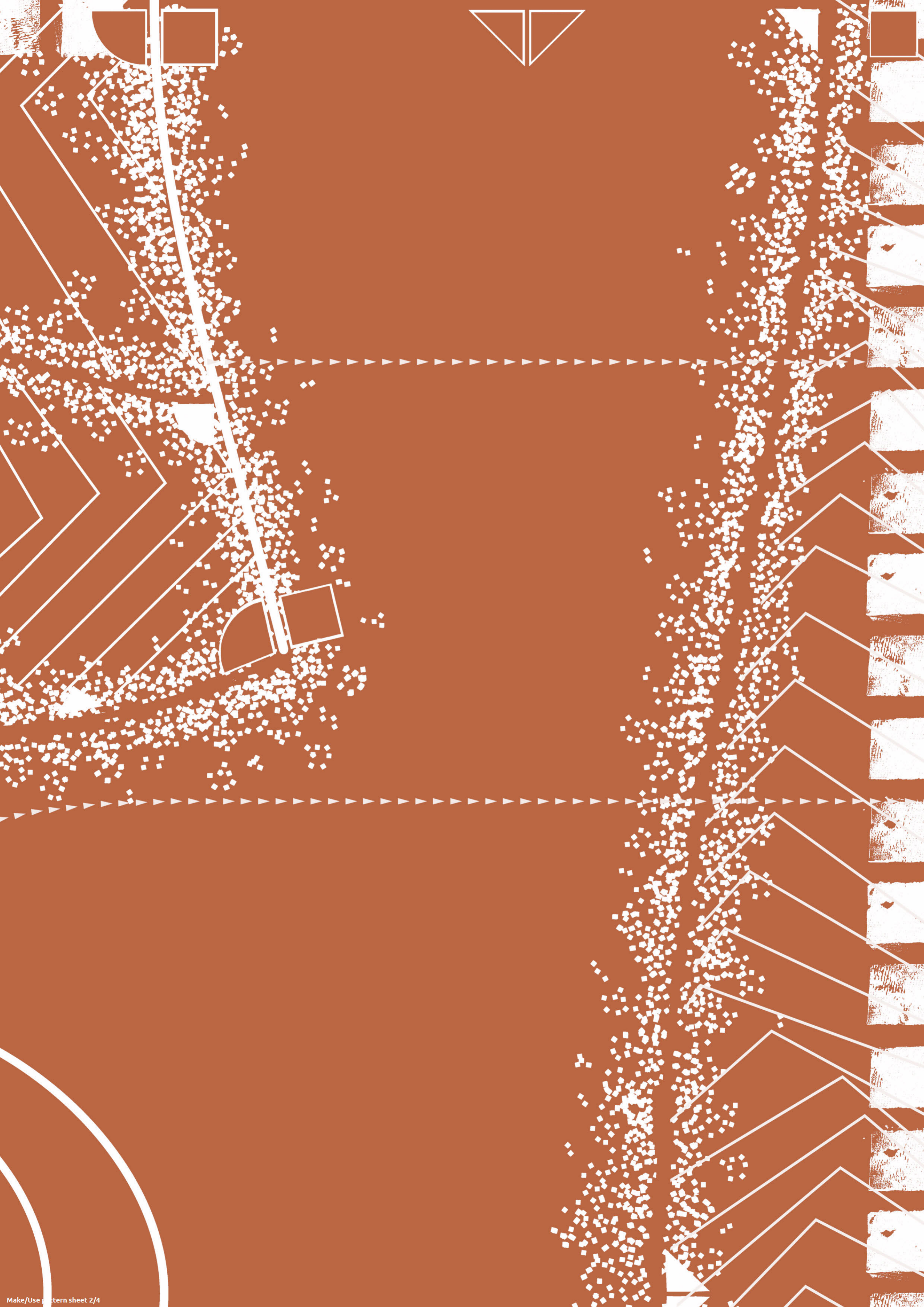
A key feature of the Make/Use garments is their ability to be re-set and re-made. In some instances a special hand-stitching technique, called an insertion stitch, is used to facilitate this re-joining. The insertion stitch is relatively simple to implement and is both functional and effective to look at, drawing the eye to this detail. It forms a kind of conspicuous mending, borrowing from the Japanese concepts of *kintsugi* and *kintsukuroi*: the art of the beautiful repair.

Make/Use would like to thank the participants in this first workshop. You are pioneers in what we hope will become a growing community of maker/users. We trust you enjoy your garments as much as we enjoyed helping you to create them!



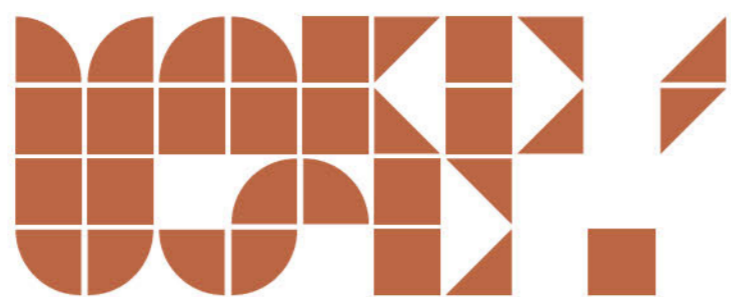
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MAKE/USE 3/5
A FIVE-EDITION
SERIES FOR THE
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This ongoing research-through-design project questions conventions of the clothing industry in relation to knowledge-keeping, production practices and material use.

Through developing open-source, user-modifiable, zero waste designs, Make/Use aims to empower users of clothing, and challenges them to question the relationships they have with their present and future garments.

MAKE/USE SHARED

Make/Use makes Zero Waste User Modifiable Fashion accessible to Maker/Users through open source distribution and a range of low and high tech options for engagement.

Make/Use provides multiple levels of access and modes of distribution through a variety of technologies – from paper patterns and templates to screen or digitally printable textile designs. The design of Make/Use garments is not gate-kept by the designer, but is offered as a set of open-source resources that any home-sewer, teacher, hacker or designer can use as they choose. By facilitating a different kind of user engagement, the Make/Use project hopes to demonstrate possibilities for transforming the fashion system.

The collection showcased at Objectspace represents a tiny fraction of what might be possible. The Make/Use system and tools have been made available to the public, both in person through workshops and exhibition, and soon, via the Make/Use website. Continuing research and development by the Make/Use team aims to engage with its emerging community of Maker/Users, rather than being locked away in an academic research setting.

The bigger picture

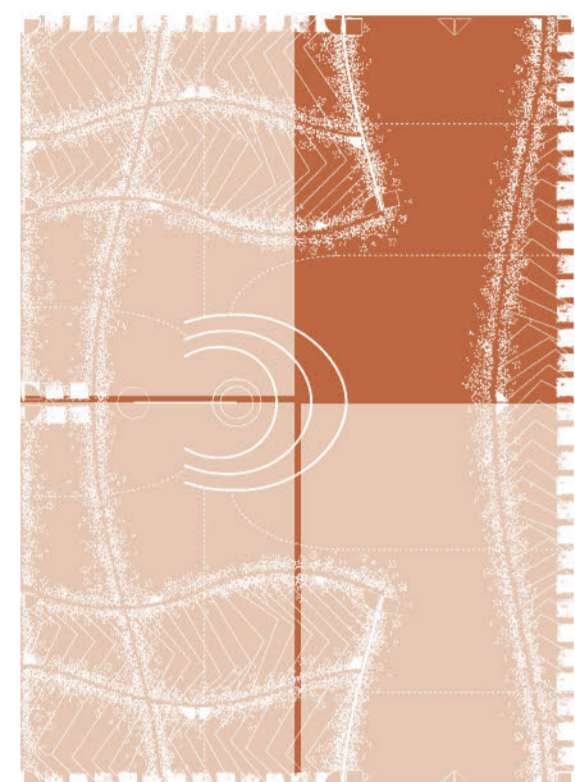
The Make/Use garments are part of a larger system that is designed to encourage the ongoing and iterative use of the clothes we wear. Existing within a cradle-to-cradle system, Make/Use aims to disrupt the dominant flow of fashion consumption from producer to consumer to waste. Potential garment patterns are offered by the designer, but are entirely open for modification by the Maker/User. There

are multiple avenues of engagement to suit different levels of ability and desired commitment of time, money and materials. Each open source garment design is available in a variety of forms: as a basic pattern without textile print information; as a customisable print file; or as set of templates that can be used to apply a Make/Use pattern to any piece of cloth.

It is also envisaged that the garments will be able to be purchased as a pre-printed and/or pre-finished fabric flat, or a fully finished garment, as a less time or skill intensive introduction to making or modifying.

The wider community

Make/Use aims to build a global community of engaged Maker/Users through this open-source online platform, and to facilitate connections within local communities. As well as online support mechanisms, the hands-on nature of the process encourages different forms of face to face knowledge sharing. The user may choose to undertake the process on their own, or to engage a local expert at any stage. To create the garment 'flats', the user may apply the patterns by hand to the fabric using downloadable templates, or they may take them to local facilities to be printed. Similarly, the garments could be taken to an experienced tailor for finishing, construction or alteration. This model encourages the re-localization of manufacturing and fosters engagement with local businesses and communities. This wider networked community traverses conventional boundaries between industry professionals and individual Maker/Users. Make/Use thus challenges the dominant monological discourse on fashion as consumption, by offering an alternative model for engagement with fashion design and production.



The Pattern

Overleaf is a quarter of a full size cropped T shirt pattern that has 48 customisable variations embedded in the design. Collect the other parts during the Make/Use exhibition.



WORKSHOP 2

Make/Use your style

This workshop explored the application of the Make/Use system to any piece of cloth.

It covered the basics from Workshop 1, however this time participants brought along fabric of their choice. Maker/users were guided through the laying-out of their own custom 'flat' using the Make/Use Grid and Templates, from which they then constructed a finished garment. Participants chose from a selection of six Make/Use designs and experimented with modifications to suit each individual's body, taste, sewing experience, and sense of adventure.

The Make/Use Grid and Template System

In its simplest form, Make/Use is a set of zero waste garment patterns that are drawn, screen-printed or digitally printed onto fabric, and contain built-in opportunities for user modification – the maker/user has the ability to make, use, re-set, re-make, and re-use. Taking this a step further, Make/Use also provides options for customising the patterns themselves. A key limitation of most zero waste patterns lies in the difficulty in easily modifying the pattern for different fabric widths – something that would usually require a re-design of the pattern, which is beyond the skills of many everyday makers and users. A similar problem occurs with the need to alter patterns to change the fit or to suit different body types.

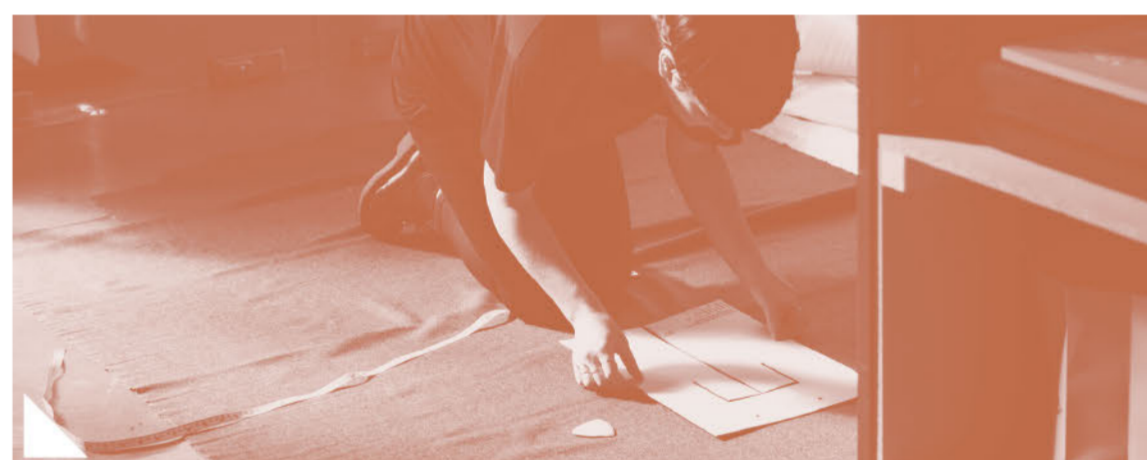
By way of a solution to these issues, the Make/Use Grid and Templates allow the system to adapt to different parametric variables – the width or length of the fabric, or the desired fit of a garment. Furthermore, by separating out the key components of the Make/Use garments (neckline, body rotation, sleeve cut, sleeve rotation etc.) into different templates, an additional level of interchangeability and adaptability is introduced. Not only can a maker/user configure these components on any width or length fabric, using the Make/Use Grid to aid placement, they might also explore different combinations, for example, combining the T shirt pattern with the neckline from the coat or wrap dress. Beginning with the grid set-out, maker/users can apply the templates directly to the fabric to mark out their own custom 'flat' pattern.

Each Make/Use garment made in this method is unique to both the fabric and the user. The length of a Make/Use tube dress can be altered to suit an individual's height; a favourite fabric can be used to make any of the garments in Make/Use; new iterations can be created by combining templates in ways imagined by the maker/user. The possibilities are endless, as was discovered by participants in the Make/Use Your Style workshop. Individuals from a wide variety of backgrounds and abilities brought with them different bodies, tastes, fabrics and aims. Each was able to gain an understanding of the system and customise a Make/Use design to suit their fabric, body and preferences.

The Grid

The workshop began with an exploration of the Crop T shirt flat on paper to understand the fundamentals of the Make/Use system, including key concepts such as volume creation (making a tube for the body to travel through) and volume redistribution, where the tube is 'bent' to transform its shape around the body. The participants were then guided through an explanation of the Make/Use grid that underlies the garment pattern. All of the Make/Use garments utilise this grid in some manner – in fact, it is the main reason behind the essential simplicity of the system. The grid system establishes key markers on the fabric relative to fabric, body and desired garment design that can then be used to place the Make/Use Templates. Rather than being based on set measurements, the grid instead uses interrelated parametric variables that relate to the way in which the width or length of the fabric is divided into sections. Fractions of the width of fabric, and units based on the maker/user's own body are used to determine the grid set-out, enabling them to create a garment tailored to the specificities of both their fabric and their body.

The Templates



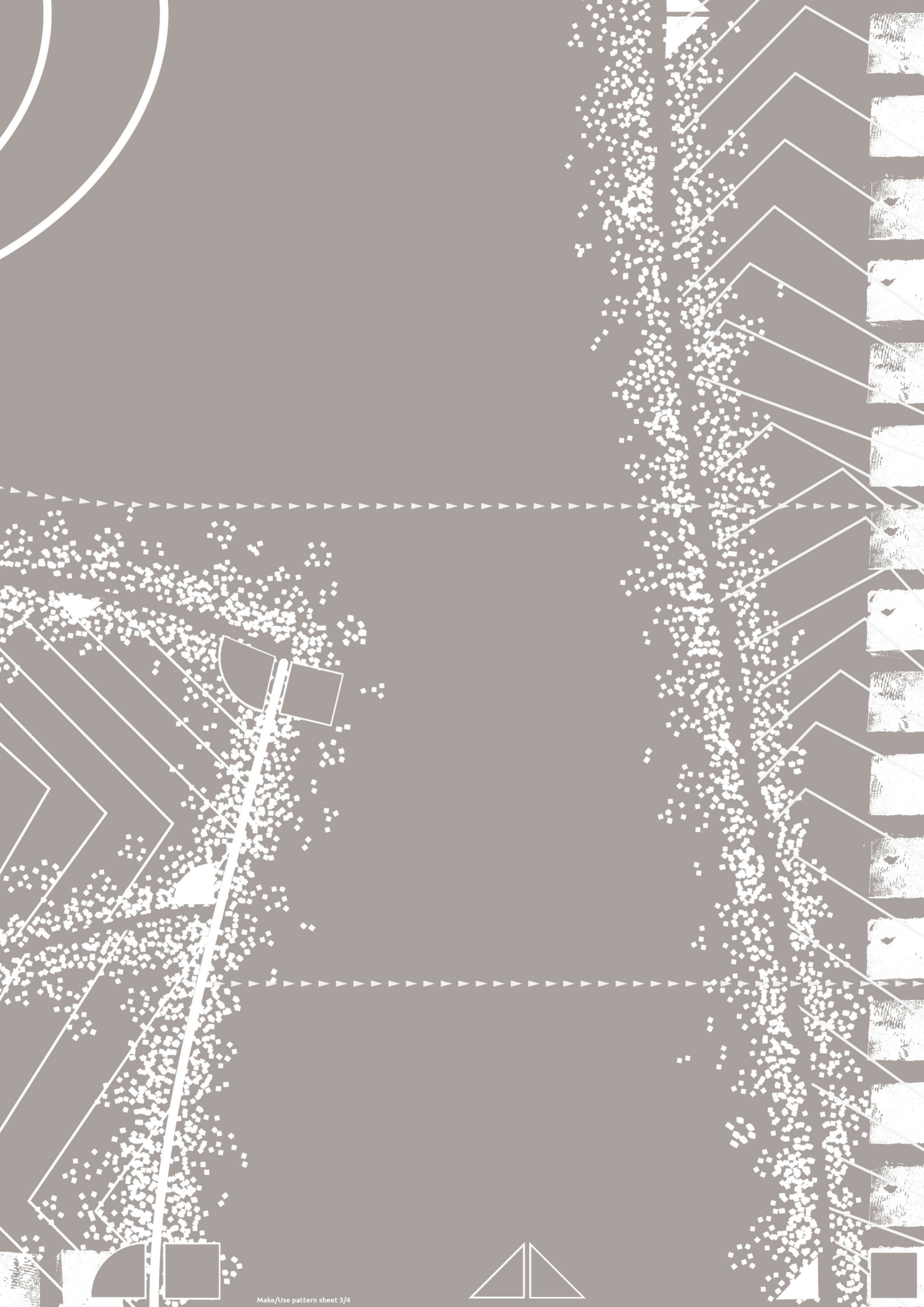
Once the maker/users had set out their grid on their fabric, they were ready to start placing the templates. These templates are essentially a Make/Use garment pattern broken down into separate components. The T shirt pattern, for example, can be made using two essential templates – neckline (choice of round, wide or collar) and sleeve/body cut – and the following optional templates: body rotation, sleeve swap, shoulder rotation and elbow rotation. Each template contains basic information that allows the user to orientate the position of that component within the overall pattern, and to locate the template with respect to key points on the Grid. Some templates offer options to select, for example, one of three different curves that would alter the steepness of a curved rotational cut, which would result in altered severity of bend/drape. The templates also offer flexibility in extending or contracting a curve to suit a different width or length, whilst maintaining the integrity of the desired shape.

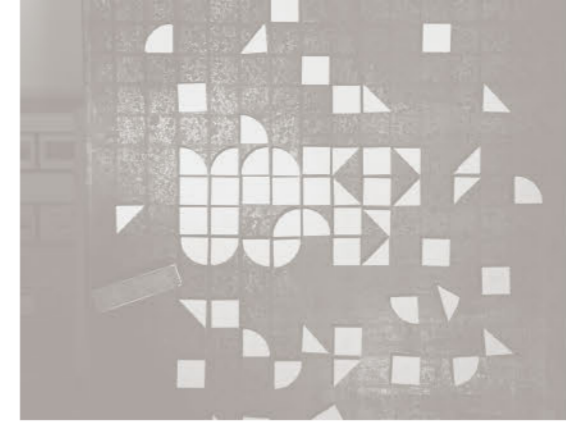
Once again, the potential complexity of this system is simplified and made accessible

through the efforts of the Make/Use team to develop user-friendly tools that empower the users to engage confidently with the creative process. The workshop participants were able to employ these templates to achieve some incredibly diverse, personalised outcomes. In the future we imagine that the templates and grid will form the basis of a piece of software or a coded digital interface that enables a maker/user to select the templates they wish to use, input their measurements and those of their chosen fabric, and adjust these parameters to generate a personalised Make/Use pattern. This pattern could then be printed as paper templates or digitally printed straight onto the fabric to create the 'flat'.

Make/Use would like to thank the participants in this second workshop, and those that took part in the earlier test workshops in Wellington. Your enthusiastic engagement with our system has been invaluable in its continuing development. It gives us great joy to see the designs and templates employed successfully to produce such an array of unique garments!







Make/Use explores what might occur if we consider not only the aesthetic of the garments we wear, but also the way we use them and the waste we create when we make them.

This ongoing research-through-design project questions conventions of the clothing industry in relation to knowledge-keeping, production practices and material use.

Through developing open-source, user-modifiable, zero waste designs, Make/Use aims to empower users of clothing, and challenges them to question the relationships they have with their present and future garments.

MAKE/USE PRACTICE

The Make/Use residencies

The Make/Use residencies aimed to bring the live research process into the gallery, and allow Make/Use researchers and student designers to explore Make/Use concepts in relation to their own varied practices.

Holly McQuillan (fashion researcher)

As well as overseeing the residencies, Holly explored variations on two of the simplest Make/Use patterns – the T shirt and the tube dress – testing possible permutations of form and material through using the same base pattern on different fabrics. Holly made two versions of the tube dress, one using a 3m long tube of silk georgette and organza, and the other, a heavy merino knit ribbing usually used for cuffs and necklines. Her T shirt experiments involved spreading thick layers of house paint over a light-weight silk material to modify its behaviour, and using quilted fabric to exaggerate the rounded form on the back of the T shirt.

Greta Menzies (textiles researcher)

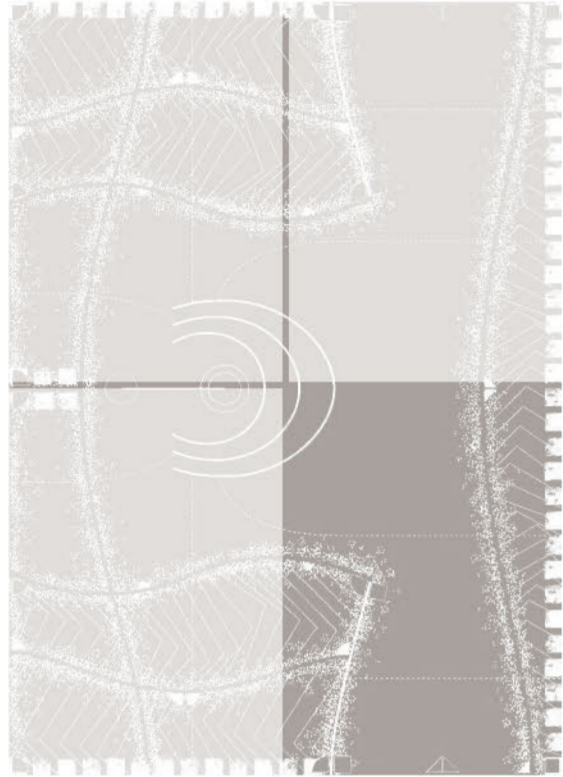
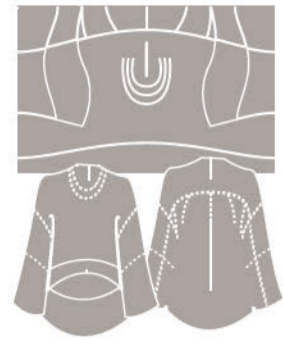
Greta, a Masters student in textile design and collaborator on the Make/Use project, approached her week in residence at Objectspace as a chance to use the techniques and ideas she had gathered from the project to make some experimental garments. These included a dress made from a tube of silk-cotton and a piece of mattress foam, a clown-like denim jumpsuit, a version of the Make/Use T shirt embellished with paint, and a giant beast of a rug-tufted jacket. Greta also helped to lead two of the Make/Use workshops, in which she observed participants creating fresh, interesting iterations of the Make/Use designs.

Alana Cooper (fashion student)

In her residency, Alana experimented with the Make/Use trouser template. Using waste yarns from a textile manufacturer, she created the triangular shape of each trouser leg by quilting strands of yarn together with a wash-away stabiliser. The user-modifiable fabric, imperfect in its organic-looking machine 'weave', can be cut without fraying and then have additional yarns added in wherever the maker/user desires. This process of using textile waste to create purpose-made fabric for any zero waste garment pattern offers exciting possibilities for future iterations of Make/Use, and is something Alana hopes to continue to explore.

Isaac Dalkie (visual communication design student)

With little sewing experience, Isaac used his residency to test the Make/Use system's viability for novice garment makers. Daunted at first by the scope of modification possibilities and flexibility in each pattern, Isaac soon realised that the lack of a 'right or wrong' method of making/using was liberating. He found the experience of being an agent in the creation of your own unique clothing deeply satisfying, and completed three successful garments. Isaac's participation in and observation of Make/Use will be used to generate a feature for a journal of speculative design projects, as an exemplar of theoretical alternatives of future systems.



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MAKE/USE TEAM

The Make/Use collaboration

The Make/Use project has provided a platform for genuine interdisciplinary practice.

The research team co-developed the Make/Use system, which extends Holly McQuillan's zero waste fashion research, looking to encode fabric patterns with a wayshowing system that enables user modification. This design thinking exercise combined expertise around spatial cognition, visual communication, textile print, and the translation from 2D surface to 3D form. Each collaborator also developed elements of the project towards its public dissemination via the Objectspace exhibition and workshops, and the accompanying Make/Use catalogue and website.

Holly McQuillan [garment]

Holly's Make/Use project began as part of the global research consortium Local Wisdom, where researchers examined the re-conceptualisation of fashion consumers and users, and explored the design implications of this reframing. Holly's background as a zero waste designer informed her exploration of what Zero Waste might look like, viewed through the lens of Use Practice. This first iteration of Make/Use used simple zero waste garment design and digital printing to explore User Modifiable Zero Waste Fashion. This has now been extended in scope and resolution through collaboration, first with Jen Archer-Martin and later with the rest of the Make/Use team.

Jen Archer-Martin [space]

Jen helped instigate the wider collaboration, and contributed to the development of the Make/Use system and maker/user experience. This took the form of a series of cognitive tools, aids for making/using, and the design of the exhibition and workshops. The project aligns with Jen's wider research, which seeks to promote human and ecological wellbeing through the design of places for meaningful experience, and more specifically the role of spatial design in facilitating deep learning. The activation of new behaviours and practices is already evidenced by the growing community of maker/users emerging from Make/Use at Objectspace.

Karl Kane and Jo Bailey [graphic/system]

As well as creating the dynamic Make/Use identity, Visual Communication Design researchers Karl and Jo were instrumental in the facilitation of several core aspects of the project. Their approach centred around the core philosophy of Make/Use: making it accessible to all by democratising complex theories, methods and techniques. The resulting modular system formed a key component of the garment wayshowing – the 'route marker' symbols – and also extended throughout the project's visual identity as expressed via print, digital and spatial communications. The resulting visual lexicon expresses the ability of the Make/Use system to generate any number of artifacts from a simple underlying structure.

Emma Fox-Derwin and Jen Archer-Martin [object/space]

Emma and Jen brought their skills as three-dimensional thinkers to the notion of 2D-3D transformation, excited at the potential this held for both fashion and other areas of design. The Make/Use exhibition furniture is considered the first phase of an ongoing furniture design exploration. While the main aim at this stage was to facilitate the exhibition and workshops, the furniture also explored the zero/minimal waste manipulation of flat sheet material via cutting/folding; and the creation of angular forms via rotation of cylindrical materials. These 'clues' to the understanding of core Make/Use concepts were embedded throughout the exhibition.

Greta Menzies [textile]

Greta was instrumental in the translation of the Make/Use 'wayshowing' system into instructional surface pattern. Print motifs arose from an interest in democratic mark making, and are able to be replicated at home with simple tools and fabric paint. She also explored edging/joining solutions for the textiles, using latex, house paint, digital embroidery and needle felting. Greta was inspired by the truly collaborative engagement in the development of the Make/Use system, which challenges a more conventional 'service provider' model of textile design. Understandings gained from Make/Use are further informing her ongoing Master of Design research.

Bonny Stewart-MacDonald [photo]

In conceptualising the editorial photography for Make/Use, Bonny was inspired by the translation of something flat to a form with physical depth - a concept that resonated with her own design sensibilities. Bonny sought out domestic and industrial spaces that she could photograph to suggest this shift. Paired with her fashion portrait shots, these images create a conversation about clothing as a 'space for the body to move through', as Holly has described. Bonny has also documented Make/Use from development through to the exhibition and workshops.

Jason O'Hara [video]

Jason developed and produced the Make/Use film and cognitive videos. For the film, he conceptualised a sequence that evoked the construction of the Make/Use garments, with a model enticing the garments to form around her while she dances. His production team used the latest in high-speed video camera technology and innovative thinking to capture a balance of edge and elegance. The Make/Use project's zero waste philosophy is an extension of Jason's ongoing research into humanity's relationship with nature and each other.







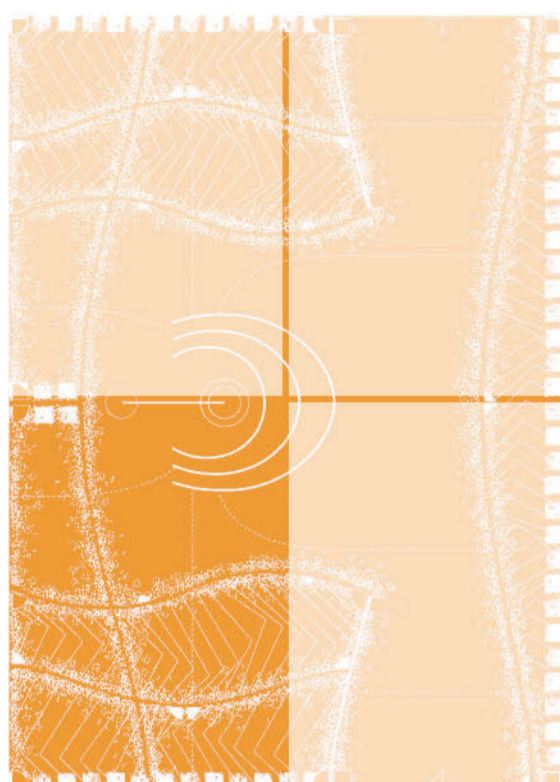
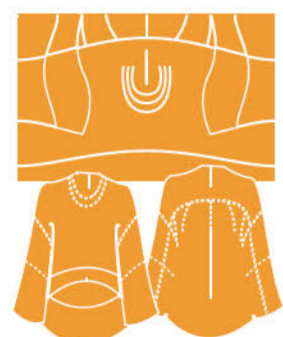
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A FIVE-EDITION
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Make/Use explores what might occur if we consider not only the aesthetic of the garments we wear, but also the way we use them and the waste we create when we make them.

The Objectspace exhibition has been part of an ongoing research-through-design project. You can follow the project's progress at makeuse.nz.



The Pattern

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Make/Use was made possible thanks to:

Sponsors/partners
Massey University
Objectspace
Creative New Zealand

Make/Use research team
Holly McQuillan [garment]
Jen Archer-Martin [space]
Greta Menzies [textile]
Emma Fox Derwin [object]
Jo Bailey [graphic]
Karl Kane [graphic]
Bonny Stewart-MacDonald [photo]
Jason O'Hara [film]

Student designers in residence
Isaac Dalke
Alana Cooper

Research assistants
Annabelle Fitzgerald [garment]
Grace Redgrave [garment]
Sarah Cook [textile]
Brendan Knight [space/object]
Glenn Catchpole [space/object]
Tom Rutledge [object]
Isaac Dalke [graphic]
Mon Patel [film]

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Amy Sio-Atoa [textile]
Ken Howe [space/object]
Oliver Blair [film]

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Open Lab [graphic]
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Photobook & Film
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Hannah Dellow @ Kirsty Bunny [model: film]
Libby McLeod @ Willis York [hair]
Elise MacMillan [makeup]
I Love Paris [footwear]
Vanessa Arthur, Fran Carter [jewellery]

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Sam and Yvette @ Mainfreight
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Sal and John

All of our workshop participants and friends and families for being awesome!

MAKE/USE LELA JACOBS

A conversation with Lela Jacobs

Jen Archer-Martin and Holly McQuillan interview Lela Jacobs.

Lela Jacobs is known for designing clothes that are both beautiful and enjoyable to wear. Do you see your work having an impact beyond the business of fashion?

LJ I feel like my purpose is to garb humans, and to make them feel comfortable, so they can think about more important things, including other people, different ways of existence, non fashion related topics, anti-trend, anti-fast, all of this stuff. I'd like to think that people could just get up and throw the same thing on every day. It frees up a lot of time and energy, and then the emphasis can be on caring for each other. So I have a desire to have a kind of personal uniform, and I think there's a lot of potential for this in the parallels between my work and Make/Use.

We have been excited about your engagement with Make/Use zero waste user modifiable fashion. What does zero waste mean to you?

LJ Sustainability didn't really play much into my thoughts when I first started; that has come about with time. It was more that I was poor but liked nice fabrics – I'd paid for the fabric so I didn't want to waste it. I once designed a jacket that had waste and it hurt my feelings so much that the jacket ended up being sold with a teddy bear in its pocket, made from the scraps! The other side to it was that I actually started discovering form by seeing how abstract you could get with cloth, so folding it, slicing it, opening it up, joining it back together in different ways, and seeing what shape that delivered. So the zero waste thing came from being poor, and then it moved into concept.

Make/Use is obviously about user modification as well as zero waste. Do you have any examples where you consider user modification in your work?

LJ The blanket. The blanket's so great. You wrap it around you, you use it as a scarf, a poncho, in a sense – the poncho is a

modification from the blanket. So, there's always a blanket, always a poncho, maybe a blanket with an arm hole in it, that you can put your neck or your arm through, but you still get all of the uses of the blanket. There are so many things that have modifications on them, really. Even just flipping something up the other way, or wrapping it around – like the smoking jacket.

You generously provided the pattern for the smoking jacket – one of your favourites – for the last Make/Use workshop at Objectspace. Is open sourcing your patterns something you would do in the future?

LJ Of course! Open sourcing is awesome. As a designer, you're coming up with new things all the time, so something like the smoking jacket, which I've been doing for years, I have no problem open sourcing. Also, it's simple for people – it's one pattern piece, two seams – I think that's the bridge, to get people into sewing. For one of my next zero waste collections, I'm actually looking at providing the paper pattern when people purchase the garment, which is a form of open sourcing.

Do you have any reservations about open sourcing devaluing your work or brand?

LJ Some would, but I don't think it will be damaging for the brand. I like the idea of encouraging change, or a new direction, or a new model, and figure I live once – I don't need to just hold on to all of this stuff. I guess it depends on how you see damage...

And how you see brand!

LJ Definitely. Going back to that idea of something being like a uniform, if you open source something, and it does become uniform, it means it's correct – for society at that time, for the environment... that interests me.

Do you feel that Make/Use could have this sort of impact?

LJ I feel like once people understand it, they could have it for the rest of their lives. And I think that's incredibly powerful, because you're easing up people's existence financially, and giving them freedom to embrace other important things in their lives – teach them how to get rid of the trend mentality – and so, you're giving them confidence. So it's huge, and I think the philosophy, the psychology behind it's brilliant. As a package that could help change the system, it's one of the most exciting things that I have seen in a long time.

Do you think that it's because of the knowledge that you have, that you can see the potential in it?

LJ Possibly, but I think that anyone that comes from the pattern world – be it hard or soft materials; fashion, architecture, or industrial design – should be able to see the benefit.

Make/Use has obviously benefited so much from your involvement, but do you think that this will in any way influence your work?

LJ Oh yeah, absolutely. I'm keen to use some of those templates! It would be great to have a set to play with. I'd also like to include a collaborative style in the next collection – maybe the Make/Use advancement off the smoking jacket from the workshop...

So you're already envisaging Make/Use becoming part of your collection?

LJ Yes! Would Make/Use look at selling anything?

Well obviously the key thing is that it's open source, but it's also about accessibility for people with different levels of time, money or ability. In future, the website might enable people to buy the pre-finished fabric, or a partially finished garment that they can then modify, as well as accessing how-to videos and software to determine parameters based on fabric widths, body measurements etc.

LJ You could buy your whole wardrobe printed on a roll of cloth! It's so exciting – it could go so far. I'm really happy to be on board, and I can't wait to learn more.

