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

makeuse.nz
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 Big Challenges
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.

Since its beginnings in 2012, the Make/Use project has been testing a simple premise: that zero waste practice might combine with use practice to create clothing that better serves both the user and the environment. Initially conceived as part of Dr Kate Fletcher’s international research project Local Wisdom (see p.16ff), Make/Use is now in its third iteration. While each iteration of the project offers outcomes that are complete in themselves, the overall project continues to develop and push the boundaries of what might be possible.

All patterns and templates for the creation of the garments in the Make/Use collection are available for download from makeuse.nz.

The Issue
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 aims to address waste generation at three stages in the garment life cycle: production, retail, and (dis)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 30 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.

Building on current leading research in zero waste design and production strategies, this research also addresses the post-production part of the garment life cycle. Post-production 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 discards 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.

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 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.
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The Pattern

exhibition.

MAKE/USE

MAKE/USE 2/5

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

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Make/Use and the Grid

The Make/Use Grid is 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.

The Make/Use Grid and Templates allow the user to create a garment tailored to their needs. The system enables a maker/user to select the templates they wish to use, in order to generate a garment that is unique to both the fabric and the user.

Each Make/Use garment made in this method is unique in both the fabric and the user. The length of a Make/Use tube dress can be altered to suit an individual’s height, a favorite 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 discovered by participants in the Make/Use 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.

Make/Use provides multiple levels of access – 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 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 Grid

The design of Make/Use is unique in that it is not only a fashion system, but also a research tool. The Grid enables a maker/user to select the templates they wish to use, and to combine them in order to generate a garment that is unique to both the fabric and the user.

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 inserts, sleeve wrap, 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 rotation cut, which would result in altered severity of bending/ shaping. 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 that are designed will form the basis of a piece of software or a coded digital interface that enables a make/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’ pattern.

Make/Use would like to thank the participants in this second workshop, and those that took part in the earlier workshops. Your enthusiasm and commitment to making 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!
The Pattern
Collect the other parts during the Make/Use embedded in the design.

8 AUGUST 2015

MAKE/USE 4/5
A FIVE-EVENT SERIES FOR THE
MAKE/USE AT OBJECTSPACE RESIDENCY
11 JULY – 8 AUGUST 2015

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-crepe and asparagus 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 yarn from a textile manufacturer, she created the triangular shape of each trouser leg by quilting strands of yarn together with a wash-away stitchback. The user-modifiable fabric, imperfect in its organic-looking machine ‘weave’, can be cut without frayimg 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. Danted 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/suing 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.

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 User 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/suing, 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 lace, 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.

Isaac Dalkie [graphic/system]
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. Placed 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 worked the construction of the Make/Use garments, with a model enacting 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 humankind’s relationship with nature and each other.
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The Objectspace exhibition has been part of an ongoing research-through-design project. You can follow the project’s progress at makeuse.nz.