

# UNMAKING WASTE 2018



TRANSFORMING DESIGN, PRODUCTION &  
CONSUMPTION FOR A CIRCULAR ECONOMY





A Circular City  
Sophia Cameron, Jeongbin Ok, Simon Fraser



# Welcome

The world is full, and increasingly full of waste, much of it destructive of the environment we depend on. This is an insight especially significant in art and design, creating both new responsibilities and new opportunities. This exhibition is the collective response of many individual makers, from many creative disciplines, to this now unavoidable challenge.

The range and depth of this work, assembled together here—we think you will agree—is extraordinary. It ranges from thoughtful and beautiful ‘real world’ designs—reusing discarded textiles, paper, wood, food and plastic towards a ‘second’ more valuable life—to challenging provocations, aiming to encourage us to look again at the long environmental shadows cast by our now global ‘hyper-consumption’.

We are very grateful to all the individual artists and designers who have contributed their valuable time and work to this unique exhibition. We hope that viewing their work will provoke you, the visitor, not to anger or despair, but to more thoughtful reflection.

Indeed, we would like to encourage you to consider with us the possibility of a more ‘circular’ future, where everything useful can enjoy some kind of second life, and where the need to deplete, poison, entangle or burn up the natural world to satisfy our needs is much reduced, if not entirely eliminated. This is our hope, and reflecting on the pieces here, we can see no reason why this should not be so.

**Exhibition Committee:** Anna Brown, Robert Crocker, Asa Jonasson, Amandine Johnson, Andrew Whittaker

**Catalogue Design:** Niki Wallace

**UMW Logo Design:** Christopher Thornton

# Sustainability

The Unmaking Waste 2018 Conference and Exhibition team has worked tirelessly toward a minimum footprint. Some of the actions we took in order to do so include:

Carbon neutral web hosting with Digital Pacific.

Exhibition Opening Night catering was provided by The FoodPrint Experience, a new and local Adelaide café specializing in permaculture-based, organic, native and seasonal food. Find them on Instagram: @thefoodprintexperience

Conference catering was provided by Let Them Eat. Leaning heavily on the vegan and vegetarian side, the conference committee wanted to ensure that more sustainable food options were prioritized. Using local produce, Let Them Eat's vegetarian menu is free of preservatives and chemicals. Find them online: [www.let-them-eat.com.au](http://www.let-them-eat.com.au)

Wine has been generously supplied by Kalleske Wines which are Certified Organic and Biodynamic since 1998. Find them online: [www.kalleske.com](http://www.kalleske.com)

Beer has been generously supplied by Mountain Goat Beers which are naturally brewed avoiding all preservatives and additives and are all vegan friendly. Find them online: [www.goatbeer.com.au](http://www.goatbeer.com.au)

We ensured that marketing materials were thoughtfully chosen, and where possible made from upcycled, local, sustainably-certified and/or responsible materials:

Conference Bags: made by the Mobo Group using upcycled banner materials donated from the City of Charles Sturt. Mobo Group's mission is to help people with all types of disabilities to be the best they can be by providing employment and related support services. Find them online: [www.mobogroup.com.au](http://www.mobogroup.com.au)

Conference ball point pens: made using FSC-Certified timber with no finishing or paints, ensuring minimal processing and better end of product life options—and the inks are refillable. Find them online: [www.buyecogreen.com.au](http://www.buyecogreen.com.au)

Conference badges were made by saltyreign.com (Alex Hayes) using recycled bottle caps. They can be returned for reuse or kept to continue the conversations on UMW 2018.

Conference booklets: designed to minimise and reuse waste wherever possible and locally printed by Finsbury Green on FSC Certified paper, using 70-100% post-consumer recycled content and saving over 400kg in CO2 emissions. Find them online: [www.finsburygreen.com.au](http://www.finsburygreen.com.au)

Saying 'no' to single use materials: a small selection of UMW Keep Cups being sold on site to support delegates in making sustainable choices. Further, a friendly reminder email was sent prior to the conference encouraging delegates to bring their reusable water bottles and reusable coffee cups. Similarly, we chose to provide ceramic crockery for dining—rather than single use options.

# Sponsors and Acknowledgments

We would like to extend our heartfelt thanks to the generous sponsors of this exhibition, especially the China Australia Centre for Sustainable Urban Development (UniSA and Tianjin University), the University of South Australia's 'Scarce Resources Research Theme', the Design Institute of Australia (SA and NT Branch), Green Industries SA, Veolia, Zenith, Mountain Goat Beer, Kalleske Wines and The Food Forest. We should also thank Finsbury Green for printing the catalogue at a reduced rate, and of course ODASA for generously donating the use of this fantastic space for this significant exhibition. We are very aware that this exhibition would never have taken place without their generous support.

Last but not least, many individuals gave their valuable time and skills to make the exhibition possible, including Professor Gini Lee, who wrote the introduction and kindly agreed to open the exhibition, Alison Gwilt and the members of Redress who offered a number of valuable fashion pieces to be displayed in the exhibition, Niki Wallace who designed this catalogue, and Anna Brown, Robert Crocker, Asa Jonasson, Amandine Johnson and Andrew Whittaker, who all organised both the exhibition and the conference.

## Platinum Sponsors



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## Gini Lee

### Making do with what we have: post production, the novel circular economy and in praise of the waste dump.

Implicit in the works offered for the Unmaking Waste exhibition is the intent to unmake prior to re-making, -working, -mixing, -covering, -cycling and so on. Designers, artists and cultural commentators concerned with alternative practices and processes for regenerative futures are escaping from the strictures of industrial production and consumption to experiment with the everyday, in order to negotiate a world overcrowded with stuff no longer deemed to be of acceptable use value. Their endeavours explore the multitude of possibilities present in discarded materials washed up in places that would not normally host them, or deposited in left over sites considered suitable for discard. Waste materials originally come from somewhere and are installed somewhere else, fundamentally altering the landscapes of things in or for places.

Recognising that a cyclical approach to material re-use merits a creative opportunity for novel design, these projects infer an altered language for design knowledge and practice that embraces re-thinking normative practices and processes. French theorist Nicolas Bourriaud recognised contemporary practices as postproduction works that use techniques drawn from other sources to remix and reprogram products already present.

*‘(Art) practices that (re) work forms that have already been produced to (re)make and (re) configure such works into something else.’*

Through blurring notions of the original form and/or author new products and representations emerge in Unmaking Waste; from a cultural landscape of things that echo the materiality of what they once were, alongside referencing their origins and altered states of discard. The authors of these new objects and processes take pains to relate where and why their raw materials are being regenerated, to confirm an ethics of appropriation of that which already exists, in the cause of a more reflective environment of alternative things for spaces and people.

Through exploration and experimentation these creators have invented protocols for practice towards a revised design language through adopting an expanded language for design activism, assuming that waste products and processes are their base material. They attend to a kind of beach-combing practice, both literally and in the abstract, as many of the remade objects are gathered

from the beach and its polluted material (dis) contents. Concepts for practices drawn from waste knowledge inform design methods and include making anew through: collecting, upcycling, salvaging, reconfiguring, manipulating, mutating, finding, deconstructing, realigning, recombining, overwriting, reprogramming, repairing, replacing, recutting, reprogramming, recovering and representing.

In a circular economy that promotes regenerative and restorative practices, the contribution of novel design thinking and making is critical to shifting everyday practices to provoke a new aesthetic of practical forms for objects that also convey something of their origins and life cycles. When regarding the making practices and attention to detail presented in Unmaking Waste, it is also necessary to recall the provenance of the ideas, materials and forms that are being remade. The source, the figurative and associative dump sites the world over, makes possible the remade, the repurposed and the reprogrammed to transform the unmade into an expanded something else.

<sup>1</sup> Bourriaud, N (2002) Postproduction: Culture as Screenplay: How art reprograms the world, Lukas & Sternberg, New York, p11



# Two wrongs could make a right

*Ashley Eriksmoen*

**Materials:** found furniture, danish cord, paint

**Photographer:** David Lindesay

The original wooden chairs were recovered from the local tip's 'green shed'. Even in the context of the second-hand market, the chairs had lost any perceived value and were unfashionable enough to be unsellable despite remaining functional. The chairs had become 'wrong' in the context of an affluent, contemporary consumer society; as 'matter out of place' they are thus 'waste'. The work addresses the issue of the world being full of 'too much stuff' by consolidating and compacting the waste, addresses issues of natural resource consumption by redeeming the value of the materials in a 'new' object', and presents a wryly critical response to environmental degradation for the sake of product by presenting a mutant, franken-furniture as a post-modern medley of traditional forms.

*Ashley Jameson Eriksmoen heads the Furniture program at Australian National University; she has a studio practice that straddles contemporary studio craft and critical design. Eriksmoen exhibits internationally, and has been awarded an Australian Council grant, Windgate Fellowships at San Diego State University and Centre for Art in Wood (Philadelphia), and the Norwegian Marshall Fund Grant. Eriksmoen studied fine woodworking at the College of the Redwoods and Furniture Design at Rhode Island School of Design (MFA). Her work addresses the gap between living and built worlds through furnituresque objects. Eriksmoen's research centres on issues of sustainability, natural resources, and waste.*





## The Marine Debris Bakelite Bento Box

### *Super Cyclers*

**Location:** Sydney, Australia

**Materials:** Marine Debris Bakelite

**Dimensions:** Bento: 115mm x 90mm x 55mm

Cup: 80mm x 50mm

Plate: 220mm dia

The Marine Debris Bakelite Bento Box is made from 100% plastic washed up out of the Great Pacific Garbage Patch onto Australian Beaches—so when you purchase it the weight and size of the equivalent amount of plastic has been removed from the ocean.

The Box is designed as a lunch or snack box with a removable divider which creates two compartments and a lid that snaps shut to seal with a rubber band. It's equally as useful as a storage container, toiletries or jewelry box.

All Marine Debris Bakelite tableware is coated in an impervious food safe wax resin which means that the plastic itself won't come into contact with your food.

Recycled and recyclable. Help save the oceans in style.



*Supercyclers* was founded by designer and curator Sarah K in order to address and elevate the issues of sustainability in design and to focus on those creating original sustainable solutions in design thinking while still staying strong on aesthetics.

In 2010, Liane Rossler and Sarah K launched the first *supercyclers* project with their re-imagining of the most discarded and ugliest of waste, the single use plastic bag, turning these into delicate coloured vessels. The aim, which has become an important principle of *supercyclers*, was to make the discarded desirable again. Since then *supercyclers* has evolved as both a platform for the profile and exhibition of works by designers from all over the world, who are raising the bar of sustainable solutions in design. and as an international design brand, producing works by a growing number of world class designers.

# By-Product

## *Where North Meets South*

**Location:** Adelaide, Australia

**Materials:** Bamboo

**Dimensions:** 1200mm x 1202mm

By-Products are the resulting art pieces of the waste material created by WNMS from their product manufacturing processes. These wall pieces celebrate the beauty of waste materials that are ordinarily discarded when making objects. At the outset of the design process the waste material from manufacturing is also considered in order to create the By-Product. The product and the art piece are essentially treated as one project. By-Product—Shape Interference 1 is the outcome of overlaying the waste material sheets from a production run of place mats.

*Where North Meets South is the partnership of Swedish/Australian designer duo Asa Jonasson and Peter Harding. Their design studio brings together influences from both cultures to create unique products for the home. As a parallel and integrated process WNMS create artworks from the potential waste materials of their products' manufacturing processes.*



# New life to bottle caps

Alex Hayes

**Location:** University of South Australia, Adelaide, Australia

**Materials:** recycled bottle caps

This product is a zero waste approach to rescue plastic bottle caps from the landfill and pull them back into the recycling system with the main objective being 'keeping our beaches clean'. It is a proposed solution for recycling bottle caps and giving the material a new life and purpose by forming them into products for the surf industry, with an end-goal to help fund waste management organisations with the proceeds. The product featured is a surfboard wax comb, a tool used for scratching up the coat of wax on the deck of the board for better grip. A small and cheap product usually made from injection moulded plastic that he hopes to bring value to through utilising a material that would usually get lost in waste.

Alex is 23 years old and an Industrial Design student at the University of South Australia, currently commencing his Graduate Diploma. He also runs a small clothing label on the side that reflects the youth of the surf and skate culture that comes with growing up by the coast. He has ambitions to soon introduce more recycled plastic products using the brand as a marketing platform to launch and hopefully push them to a large scale retail market, helping fund more waste management organisation's.





## Between Horizons

*Kim Thomson*

**Location:** University of South Australia, Adelaide, Australia

**Materials:** salvaged, includes pallet tray, poly-cotton rubber backed curtain fabric, outdoor paint, acrylic, pencil, fishing line, faux pearls, anodised aluminium kitchenware.

**Photography:** Kim Thomson

Between Horizons is an immersive installation designed to engage the viewer in the nexus between natural and industrial cycles, leading to an understanding of the circular economy. It is composed of a series of paintings depicting various colours seen in the sky at different times of the day/seasons. These paintings were created from discarded curtain fabric, salvaged paint and salvaged pallets. Hanging in front of the paintings is a 3D hanging sculpture of anodised aluminium clouds, hand beaten from salvaged kitchenware. The work is designed for disassembly and can be entirely repurposed and or recycled.

*Kim Thomson has established herself in three main fields of endeavour, firstly as a contemporary artist/jeweller, secondly as an educator and thirdly in sustainable design. Her career as a contemporary artist/jeweller has spanned over 20 years, and as an educator, over 15 years. Knowledge gained from her recent studies (Master of Sustainable Design), combined with her rich skillset is currently being utilised in the development and delivery of a an educational program centred on engaging young people through creative practice to act as a catalyst for change from a linear to a circular economy.*

# ReWrap

Kirsty Máté

**Location:** University of Tasmania, Australia

**Materials:** Various, including cotton, wax, scoby, reused textiles, reused plastic bags

**Photo:** K. Máté, original ReWrap c1995

Giftwrap is a single-use item, usually made with paper, plastic film or foil coated paper, to decorate and conceal a gift. In the USA four million pounds of giftwrap are manufactured each year representing 30 million trees. Christmas in the UK, 8,000 tons of giftwrap is used per year, enough to wrap around the world nine times. World-wide approximately 17 million tons of giftwrap is used each year.

This work addresses different techniques for creating reusable giftwrap to reduce the volume of raw material and waste created by this currently decorative and yet wasteful item. The Japanese for example, practice the art of Furoshiki using fabric to creatively fold



and wrap gifts. Through an exploration of various textile materials sourced from recycled, reused and biodegradable resources, utilising their characteristics for folding and wrapping, this work will seek to address different forms of reusable giftwrapping, revaluing and engaging both giver and receiver.

An initial design for this concept was completed in the mid 1990's using undyed cotton material screenprinted with a design that allowed the fabric to be cut and used at different sizes without affecting the overall design of each piece. These giftwraps are still in use today.



*Kirsty Máté is Senior Lecturer, Program Director of Interior Design, University of Tasmania. She has over 25 years of experience in education, research and practice in sustainable design particularly for the commercial sector.*

*Currently completing a PhD at UTAS, her thesis focuses on the impact new forms of sustainable consumption will have on the design of shopping 'scapes'. As part of this research, she created the ongoing Bye Buy! project creating pop-up events challenging concepts of consumerism. More recently she has engaged in the exploration and transformation of waste materials through the traditional skill of knitting, and edible materials to further test their use within interiors.*

# A Circular City

*Sophia Cameron,  
Jeongbin Ok,  
Simon Fraser*

**Location:** Victoria University of Wellington,  
New Zealand

**Materials:** upcycled post-user plastics from  
the Wellington region

These works showcase over 15 different combinations of post-user plastic waste from around Wellington in small 3D printed models. Along with these smaller experiments, a range of larger scale design applications demonstrate the material's potential. These design applications were influenced and decided upon based on the material outcomes and speak to their unique and individual qualities.

*Sophia Cameron is an Industrial Design masters student at Victoria University of Wellington, New Zealand. Her ongoing research focuses on how additive manufacturing can be employed for sustainable design. Throughout this process, she has made more than 15 unique upcycled materials.*





## Book of (lost) knowledge (series)

*Alison Harper*

**Location:** Bath, United Kingdom  
**Materials:** Two found paper cups, one deconstructed and made into a concertina book

The work comprises of two found paper coffee cups, objects currently discarded in their millions in our sophisticated modern lifestyles. One cup has been deconstructed and reconstructed to form a small concertina 'book'. The title of the work refers to the intuitive 'knowledge' we used to possess to enable us to live in harmony with our environment, so that mutual flourishing was an accepted part of existence. Unfortunately exploitative practices have endured; capitalism and globalisation have taken their toll, hence my practice seeks a realignment of the material world, a reconsideration of what waste is and an equalisation of our relationship with it.

*Alison has recently completed a PhD with practice at Bath School of Art and Design, Bath Spa University. She has presented her work at conferences and exhibitions and is continuing her socially engaged art practice in her home town of Bath, England. Her work is about resources, she rethinks, reimagines and remakes single use objects commonly taken for granted, passing through our hands, seen but not felt. Her work seeks an elevation of our relationship with matter, for we too are material.*





# For Sun and Surf

Cate Sexton

**Location:** Adelaide, Australia

**Materials:** Canvas, collected beach rubbish (plastic, rubber, metal, string), glue, thread

**Dimensions:** 910 x 610 x 50mm

'For Sun and Surf' was created entirely from collected rubbish found on the beaches of South Australia, primarily from 'pristine' Kangaroo Island, with the exception of the second-hand canvas. The central image, surrounded by a colourful border of rope, string and larger, more recognisable pieces, is a replica of a 1920s government poster advertising tourism in Australia. The piece is meant to satirically criticise the 'love' Australians' have for their coastlines as it recreates this boastful image using the very wrappers and bottles that have been dumped on the beach without a second thought. The poster image is quite detailed, but completely made of rubbish, which shows just how many pieces of plastic are actually out there—the fact that any size and shape can be found to fit in together and to form an intricate image means the quantity available is immense.

*Cate Sexton is a year 12 student at Concordia College, Adelaide. In between school commitments she tries to find time where she can make, draw and paint, and loves the relaxation and joy she finds in this when she can. This is her first professionally exhibited work. She's passionate about making a difference in the environment and her drive to do things differently and to go against the crowd is evident in all areas of her life.*





## Rethink, Reinvent, Reuse

Wajiha Pervez

**Location:** Qatar

**Materials:** Denim, Abaca & sisal

This work is a result of my MFA research to find a sustainable production solution to the wasteful one-off hotel and airline slippers. The accessories are designed using discarded, reformulated denim—an abundant and underutilized byproduct of the fashion industry—to reduce waste that currently occurs every time hotel chains and airlines produce disposable giveaway products from new materials.

This circular system enables to unmake waste in 2 streams:

1. Utilize fabric offcuts and recycle paper.
2. Circularly manufacturing a product that is usually abundantly discarded.

The works exhibited consist of 4 slipper categories, 2 falt packed, 1 sizeable to fit a broader hotel guest sizes and 4 handcrafted samples of detail-oriented iterations. The material experiments that went into making these products are also a part of the exhibition.

*Wajiha Pervez is a sustainable fashion and circular economy specialist. Dividing her time between work, teaching, exhibitions, research, and workshops, Wajiha aims to share her knowledge and create meaningful dialogues between humans, environment, and culture through design interaction.*

# Do you need a bag?

*Kathryn Symonds*

**Location:** Bath Spa University, UK

**Materials:** Plastic bags, embroidery thread.

'Do you need a bag?' is a question thousands of people hear every day when shopping. It's a short and seemingly innocent question, however this low cost purchase is killing the planet. For the past 2 years the artist has been researching into the effects of plastic pollution, and finally the rest of the world is starting to see the damage. Embroidered on to these plastic bags you'll see marine life, which is affected by our plastic usage—and if you look even closer you'll be able to read the consequences that plastic has on them. Please think before you buy plastic.

*Kathryn Symonds is a 21 year old artist from Manchester, UK, living and studying for her arts Bachelor's degree at Bath Spa University. Mainly focusing on environmentalism and animal rights through her work, she explores these issues through both sculptural and textile media, specialising in embroidery.*



# Mended tea towels

*Erin Lewis-Fitzgerald*

**Location:** Melbourne, Australia

**Materials:** cotton (tea towels and sashiko thread); miscellaneous fabric patches; adhesive

Tea towels are the most affordable form of art you can display in your home. I only buy tea towels that I love, because they make me happy whenever I see them, and I make long-term commitments to my stuff—I know I'll mend them and wear them out until they're threadbare.

People are often surprised that I mend tea towels when they're so inexpensive and easily replaceable. These tea towels are at least 10 years old, originally purchased in clearance sales for a dollar or two, and have accrued quite a few holes and stains. Many people would have seen them as lost causes and chucked them out. I practise visible mending, though, so I see holes and stains as creative opportunities. I don't just fix what's broken—I aim to make things better than new.

I made the patches from fabric scraps, using fusible web to adhere them. They're reinforced with Japanese sashiko thread. Every time new holes appear, I add more patches. Eventually they will be more patch than tea towel, which I find a bit thrilling. I love knowing that I'm adding to their history with every mend.



*Erin is a repair enthusiast and Australia's leading visible-mending practitioner. In 2013 she organised Australia's first Repair-Café-style community workshops for Fix It! Melbourne, rescuing all manner of clothing, zippers, umbrellas and toys and guiding their owners through the process. In 2014 she founded Bright Sparks, a social enterprise that reused and repaired more than 15 tonnes of e-waste from landfill. A sewist and mender from the age of 9, she now creatively mends other people's clothes on commission and teaches mending workshops around Australia. You can find her at [erinlewisfitzgerald.com](http://erinlewisfitzgerald.com) and on Instagram.*





## As if walls could converse

Gini Lee

**Location:** University of Melbourne

**Materials:** Digital images

Urban walls invite unsanctioned interaction, arguably enabled by the location, condition and accessibility of a seemingly blank canvas as an opportunity for expression not to be wasted. City walls were once employed as containers for the news of the day and the art forms here sourced from Yogyakarta and Berlin seek to recover the agency of overlooked 'news' walls as sites of renewal and opportunity. Beyond the authoritative eye of city managers that regard the walls as evidence of the wasted spaces of

the city, these sites are rather containers for expression that suggest that the presence of the over-written wall recovers the public life of the activist city.

As if walls could converse provokes a relational perspective through drawing the urban wall as setting into sharp relief as both the container and instigator of public expression for the marginalised, while bringing to life contemporary societal and political concerns through a transparent action of appropriation that would otherwise be left unexposed. Reading works of wall art in the urban realm as pertinent to unmaking lies in confronting the crowded and arguably meaningless landscapes of marketing imagery witnessed while moving across cities that are increasingly camouflaged by the wastelands of advertising infrastructure. The imagery is recorded while travelling, exposing the interactions of wall to street to art form as indicators of the cultural and political climate of the place, mediated by the materiality of the urban context, then overlaid with superimposed, collected narrative annotation

*Gini Lee is a landscape architect, interior designer, pastoralist and is a Professor of Landscape Design at the University of Melbourne, Australia. Her research and teaching focuses on cultural and critical landscape architecture and spatial interior design theory and studio practice, to engage with the curation and postproduction of complex landscapes.*

# Honk!: A smart mobile recycling platform to empower traditional trades

*Dr. Lyle Fearnley, Poon King Wang  
Andy Zheng, Shaun Lim, Pearlyn Neo*

**Location:** Singapore University of Technology & Design, Singapore

**Materials:** Retrofitted truck

**Photography:** Lyle Fearnley

We designed and created a mobile app that aims to enhance the connectivity and efficiency of informal recycling entrepreneurs (known in Singapore as karung gunis) and charity-run recycling programs. Much like a taxi-booking app which links clients who need a taxi with empty taxis, the app links householders who wish to dispose of objects to karung gunis and/or charities. In Singapore, according to recently released data, the informal recycling sector recycles 18% of domestic waste, while the government-managed National Recycling Program (NRP) only recycles 2% (i.e. nine times less). Our app aims to enhance and improve the informal recycling sector, so that can continue to complement the NRP, using mobile technology.

*Lyle Fearnley is Assistant Professor of Anthropology, SUTD. Poon King Wang is Director of the LKY Center for Innovative Cities, SUTD. Andy Zheng is Adjunct Research Fellow at LKY Center for Innovative Cities, SUTD, and founder of the start-up Aspriting Citizens Cleantech (ACC). Shaun Lim is Research Assistant with the International Design Centre, SUTD. Pearlyn Neo is Research Assistant with the International Design Centre, SUTD.*



# Hanging Tiles

*Duncan Baker Brown*

**Location:** Brighton University, UK

**Materials:** Oyster Shells

**Photography:** Local Works Studio

Over 7 million tonnes of mollusc shells are discarded by the seafood industry every year. These shells consist of over 90% calcium carbonate. Crushed shells can reduce soil acidity in agriculture or be fed to egg-laying hens as a calcium supplement. However calcium carbonate is also a common ingredient in the production of cement that is one of the largest sources of harmful CO2 emissions. Currently the majority of the cement industry's calcium carbonate is coming from ecologically harmful and unsustainable limestone mining. Researchers at the University of Brighton's School of Architecture and Design, in partnership with specialist material consultants Local Works Studio, are working on an EU-funded INTERREG SB&WRC research

project looking at the potentials of sourcing waste material flows local to construction sites to provide material for insulation and rain screen cladding of social housing developments. One of the projects has the University of Brighton team partnering with restaurants recycling oyster shells into beautiful tiles suitable to hang on the outside of buildings. One restaurant, 'English's of Brighton', who throw away over 50,000 oyster shells annually, have donated shells to the project. Local Works Studio fire some shells to 500degC (900degC) to create 'quick lime' and mix it with unfired crushed oyster shells forming an aggregate. Pressing the mixture into silicone casts there is a natural chemical reaction when water is added to the mix creating some heat. This

hydraulic reaction is similar to concrete 'curing'. After about three days (3 weeks) the tiles are hard enough to hang on a building. Ben from Local Works states that "We're working on 50kg of oyster per m2 of hung tile. Traditional clay tiles are 78kg/m2." So not only we are working with waste material, but the manufacturing process is more efficient than the current system.

*INTERREG SB&WRC EU Research Programme research is lead by Duncan Baker-Brown at the University of Brighton, together with Dr.Ryan Woodard, Nick Gant of Community 21, Dr. Ryan Southall and Ben Bosense (Bosence) of Local Works Studio.*



# Sharing of experience: 10 years with class AUP0479—Design for Sustainability

Cecilia Loschiavo dos Santos  
Tatiana Sakurai

**Location:** University of Sao Paulo, Brazil

**Materials:** Various retrieved waste materials

Unsustainability, be it environmental, social or economic, is a feature of our contemporary society. This complex challenge affects every aspect of the design field, such that moving towards sustainability requires profound changes to current practices and goals. The students' work demonstrate that design, in practice, must contend with real emerging issues, and especially in large urban centres. The website shows 10 years of experience with the elective university course AUP0479—Design for Sustainability, offered by The School of Architecture and Urbanism—FAUUSP, Brazil, which deals with the work of the local COOPAMARE waste pickers cooperative. These projects have been especially concerned with improving and transforming the everyday experience of those who must live and work with the waste of our consumer society.



*Professor Maria Cecilia Loschiavo dos Santos is a philosopher and full professor of Design at the School of Architecture and Urbanism, University of São Paulo. She achieved her MA and her PhD in Philosophy & Aesthetics. Her current research is on modern furniture design, homelessness and recyclable material collectors.*

*Professor Tatiana Sakurai is a professor and achieved her Ph.D. at the School of Architecture and Urbanism, University of São Paulo. She graduated and got her MA at Architecture and Urbanism Institute—USP. Her current research explores Experience Design and interfaces for domestic spaces.*

Images:

01. Visiting the cooperative, students have the opportunity to observe the dynamics and monitor in detail the work of the waste pickers.

02. The recycling collector and community leader Eduardo Ferreira de Paula comments on the final prototype of the students

03. Critical work that addresses the issue of material disposal at FAUUSP

04. Interactive educational game, app, about the importance of the role of the waste pickers.



# zero+one

Deb Cumming<sup>1</sup>,  
Holly McQuillan<sup>2</sup>

**Location:** <sup>1</sup>Massey University, Wellington, New Zealand. <sup>2</sup>University of Borås, Sweden

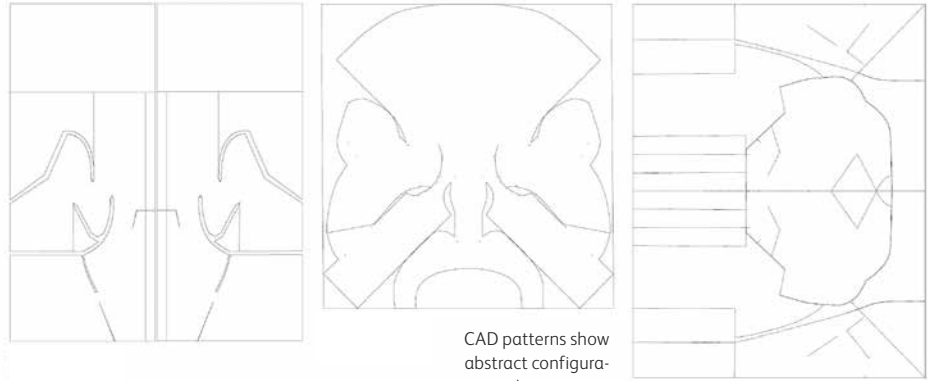
**Materials:** Recycled textiles

**Photographer:** Bonnie Beattie

**Model:** Claartje ten Berge

The fashion and textile industry are the second largest generator of waste in the world. From textile manufacture through to end-of-life, clothing has a massive impact on both natural and human resources. In conventional garment production, an average of 15% of the fabric is unused. 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.

This apparel pattern design work attempts to address waste generation primarily at the first stages of apparel production and facilitates post-consumer regeneration design. Zero + one is a collaborative apparel research project that brings together the design benefits of alternative pattern cutting methods of zero waste and one-piece patterns. Zero waste pattern cutting is driven by sustainable motivations to create no textile waste. One-piece patterns can derive minimalism in aesthetics and production from reduced cutting and construction. Zero + one explores experimental pattern cutting as a sustainable practise to reduce textile waste and optimize volumetric fashion shapes with increased comfort and movement to satisfy the emotive and physical needs of consumers. These CAD patterns show abstract configurations and geometries involved in zero waste and one piece cutting for the prototype designs- drape coat, reversible coat, gauze coat.



CAD patterns show abstract configurations and geometries that are zero or minimal in fabric waste

*Holly McQuillan is a designer, writer and facilitator who works primarily in the field of sustainable design practice, researching the possibilities of form making for the body through a lens of zero waste, ethical design practice. Co-author of Zero Waste Fashion Design (2016), with 15 years experience teaching at undergraduate, masters and to industry and public, she is currently a PhD student at the Swedish School of Textile.*

*Deb Cumming is a fashion researcher and academic at Massey University, New Zealand. Her research is aligned with an increasing field of sustainable fashion design practice with technical design applications that address broader social and cultural issues. The central focus of her research is alternative apparel design pattern methods. Practice-based research investigates the development of one-piece pattern design through adaptive drape and digital technologies. Research areas extend to commercial application with design consultancy, product development and community workshops. Current academic practices move across both undergraduate and postgraduate within the fashion and design field.*





## Towel Tubes

*Sandy Walker*

**Location:** Flinders University, Australia

**Materials:** Paper Towel Waste

**Background:** The average person uses 2400—3,000 paper towels at work every year!

Paper towels are a global product and global problem, with rising production and consumption. Being second in tissue consumption only to toilet paper (36% vs. 45%), the proliferation of the mostly non-recyclable paper towels (they all go to landfill), has a globally adverse effect on the environment.

**Problem/Opportunity:** 80% of an Adelaide CBD office building's solid waste is made up of used paper hand towels. This waste has then to be paid for, in order for it to be sent to landfill. A problem but also an opportunity!



**Solution:** An innovative, economically viable, paper hand towel waste diversion system. From trees, to trees.

“Towel Tubes”, is a “Trees for Life” grower kit, which is made predominantly from repurposed paper hand towel waste. The system removes many of the problems that exist with the current grower kit and diverts paper towel waste from landfill, creating a second lifecycle for this waste material.

*Sandy Walker has a passion for sustainable design and innovation, the creation of real value through the successful implementation of creativity. A good idea is only a good idea, without the support of rigorous user empathy, creative design, product & service development, investment and commercialization strategies. During the course of my career, I have worked in product development, business development and senior management capacities the UK, Australia, USA, South Korea and China. Sustainable product innovation, involves the complete cyclic business process of introducing a new or improved product to market, through to its eventual Cradle to Cradle rebirth.*

# Five Elements seat

## Sally Wickes

**Location:** University of South Australia, Australia

**Materials:** Reinforcing bar (reclaimed), concrete and brick rubble, decommissioned fire hose, shredded rubber tyres, steel fixings

Salvaged industrial materials have been sourced to create the Five Elements seat. This is with a view to maximising their potential with minimal energy input.

Steel and concrete contain high amounts of embodied energy through their raw material sourcing and manufacture. Reprocessing also requires significant energy expenditure for smelting and crushing for aggregates and road base. Decommissioned fire hoses made of composite materials, and tyre rubber are not recyclable and likely join landfill without the opportunities re-purposing provides.

The Five Elements seat is an exploration into drawing lightly on new resources and avoiding their associated impacts by re-imagining design applications for existing durable materials.

Many thanks to Hugh Hocking, Adelaide Resource Recovery and the S.A. Metropolitan Fire Service for their kind assistance and waste materials.



*Art, design and their intersection is the arena in which Sally Wickes creates her work.*

*Sally's background in sculpture and broader visual arts has been enriched through the recent completion of her Graduate Diploma in Design (Industrial Design). Combining these skills and experience form a rich toolkit to draw upon creatively and technologically.*

*Environmental sustainability issues have been core themes in Sally's artwork. Her intention to inspire greater awareness and responsibility for the ecosystem of which we are intrinsically a part, now also extends to her design work and material choices.*

# Glenelg Beach Clean

## Sea Shepherd

**Location:** Glenelg Beach, Australia

**Materials:** Marine plastics found at Glenelg Beach, South Australia

Surveys at coastal sites across Australia found that approximately three-quarters of the marine debris along our coast is plastic, with debris concentrated near urban centres. Most originated from Australian sources. Marine debris is the most common man-made object sighted at sea, with 18,000 pieces of plastic litter reported to be floating on every square kilometre of the world's oceans outnumbering sea life at a ratio of 6 to 1.

Sea Shepherd Marine Debris Campaign (MDC) beach cleans are held frequently and provide a great way for people to have an immediate, positive impact on their coastal environment, whilst discovering new ways to reduce their personal impact on the environment, and learn more about marine debris.

The MDC team audits the debris, sorting, weigh and recording totals. This data is collated for national analysis, helping communities, industry and government recognise local debris issues and create change on a large scale. Two years of direct action by MDC crews, in 279 beach cleans across Australia, recovered 1,233,595 pieces of debris, of which 422,848 were hard plastic, plastic film and food packaging, 276,499 cigarette butts, and 42,238 straws, coffee cups and cutlery.



The August 2018 beach clean in Semaphore unearthed 276 kilos of debris, from clothing to mattress springs. The Henley Beach South beach clean revealed 1400 pieces of broken polystyrene. The Glenelg Beach clean uncovered 56kg of mostly plastic and foil wrappers such as straws, single-use plates, cutlery, lids/tops, and pump sprays. The Glenelg materials were displayed at the UMW exhibition to demonstrate the magnitude of the problem at a local scale. The different types of debris found in each area helps provide an indication of waste problems in that area.

*Sea Shepherd Australia is a non-profit conservation organisation whose mission is to end the destruction of habitat and slaughter of wildlife in the world's oceans in order to conserve and protect ecosystems and species.*

*On 4 February 2016, Sea Shepherd announced a dedicated campaign to combat the growing tide of marine debris in the world's oceans and waterways. The Marine Debris Campaign involves volunteers from Sea Shepherd chapters around Australia promoting and facilitating coastal and river clean-up activities in support of the protection and conservation of their local marine environment. Additional initiatives will be developed, including education.*

# Redress Design Award

*Redress Asia, and Redress  
Design Award finalists*

**Location:** International

**Materials:** textiles, trimmings.

Redress is a Hong Kong based NGO working to reduce waste in the fashion industry. Among their initiatives is the Redress Design Award, the world's largest sustainable fashion design competition. Launched in 2011 and now open to students and emerging fashion designers around the world, the competition works to educate designers about sustainable design theories and techniques in order to drive growth towards a circular fashion system. By putting sustainable design talent in the global spotlight, the competition creates a unique platform for passionate and talented fashion game-changers to transform the global fashion industry and rewards the best with career-changing prizes to maximise long-term impact.

This exhibit presents a small collection of designs from previous finalists of the Redress Design Award, created through the application of the sustainable design techniques of zero-waste, up-cycling and reconstruction to textile waste.

[www.redressdesignaward.com](http://www.redressdesignaward.com)

*2017 finalist Joëlle van de Pavert is a graduate of the ArteZ, University of the Arts in the Netherlands.*

*2017 Second Prize, Special Prize and People's Choice winner, Lia Kassif is a graduate of Shenkar College of Engineering, Design and Art, Israel.*



*Sarah Devina Susanto is a finalist of Redress Design Award 2017. She holds an Advanced Diploma in Fashion Design from the Raffles Institute of Higher Education, Jakarta, Indonesia.*

*Winner of the 2017 cycle, Kate Morris holds an MA in Fashion Knitwear Design from Nottingham Trent University, UK. For her prize she designed a capsule knitwear collection for Hong Kong luxury brand, The R Collective in 2018. She has her own vegan brand, CROP, recognised as 'Best Wool-Free Brand' in the 2017 PETA Fashion Awards.*

*Finalist of the 2015/16 cycle, Wen Pan is a graduate of Central Saint Martins, UK, and has previously interned for McQ by Alexander McQueen and Christopher Kane. She launched her womenswear brand in 2017.*



# Waste 'suits'

*Francois Knoetz*

**Location:** Cape Town, South Africa

**Materials:** Discarded CDs, computer parts, mobile phones, etc.

In my Mongo\* sculptural suits, the synthetic is welded to the human—bringing focus to the objectification of persons, through the personification of objects. The shell-like sculptural suits act as a type of protective layer, creating distance between my body and the spaces I perform in.

I am particularly interested in drawing links between the world of objects and people and highlighting how myths and grand-narratives relating to certain identities have, and continue to manifest materially on an interpersonal, local and global scale. By inserting myself into the circuitry or fable of the object-becoming-object-again, my work seeks to reconcile the fate of things. From this disordering, I hope to create instances of potentiality for new patterns and relations to occur.

In the co-mingling of found objects and found video footage, my practice is an attempt at retrieving life from the growing dumps of consumer culture by rendering permeable the rigidly constructed margins that separate and classify spaces, objects and persons.



\*Mongo n. slang. object thrown away and then recovered

*Francois Knoetze is a Cape Town based performance artist, sculptor and filmmaker known for his sculptural suits, roaming public performances and experimental video art. He completed an MFA at Michaelis School of Fine Art (UCT) in 2015. He has been an artist in residence laureate at the Nafasi Art Space (Dar es Salaam) in 2016; the OMI International Art Center (New York) in 2017, and at Ker Thiossane (Dakar) in 2018. In 2015 Francois was featured as one of Mail & Guardian Newspaper's 'Top 200 Young South Africans'. He is particularly interested in drawing links between the world of*



*objects and people and highlighting how myths and grand-narratives relating to certain identities have, and continue to manifest materially on an interpersonal, local and global scale.*

*The Mongo Suits on display were made in collaboration with Paul Gazzola and Matt Schilcock as part of The Art of Mongo workshops with Francois Knoetze in Feb 2018. An OSCA project supported by Arts South Australia, The City of Port Adelaide Enfield and The City of Adelaide.*

# Open Fashion: Exquisite Corps part deux

Jennifer Whitty

Larissa Banks

Harita Karpu

Natasha Wall

Sam Hodgins

Liam Madden

Faith Kane

Jason Mitchell

**Location:** Massey University, New Zealand

**Materials:** Deconstructed cotton jersey textile samples from pre-consumer clothing waste, an interactive exquisite corpse game, stop motion animations and information system



This is the co-creation and ideation phase of a multi-stage human centred design approach to:

- challenge the negative impacts of fashion waste,
- improve consumer decision-making
- enable engagement with the true cost of clothing.

This decision-making system utilises pre-consumer clothing waste in combination with low fi and emergent technologies. 'Dark' and 'critical' design informed the work through satirical motifs that drew on the history of clothing and textile production, to engage consumers humorously with ideas around fashion and sustainability. We want to use this exhibition as an opportunity to capture your ideas, to get feedback on our ideas, so please take part and upload your designs!

#ExquisiteCorpse #openfashion

[https://www.instagram.com/space\\_\\_between/](https://www.instagram.com/space__between/)

*Space Between is a fluid collective of practitioners, students, and researchers operating from Massey University's School of Design, with the shared vision of a circular economy. It is positioned as: an antidote or disruption to the current fashion and textiles system; a social innovation that addresses a 'multitude of truths', economic, political, social, ecological, ethical, and cultural (Fuad Luke 2009. p.xxi); and a platform for an alternative role for the fashion and textiles designer, outside the limits of 'take, make and waste'. Founder: Jennifer Whitty. Design Associates for Open Fashion: Larissa Banks, Faith Kane, Harita Kapur, Natasha Wall, Liam Madden, Samantha Hodgins and Jason Mitchell.*

# Canolacore

Simon Modra  
Ashley Hayes

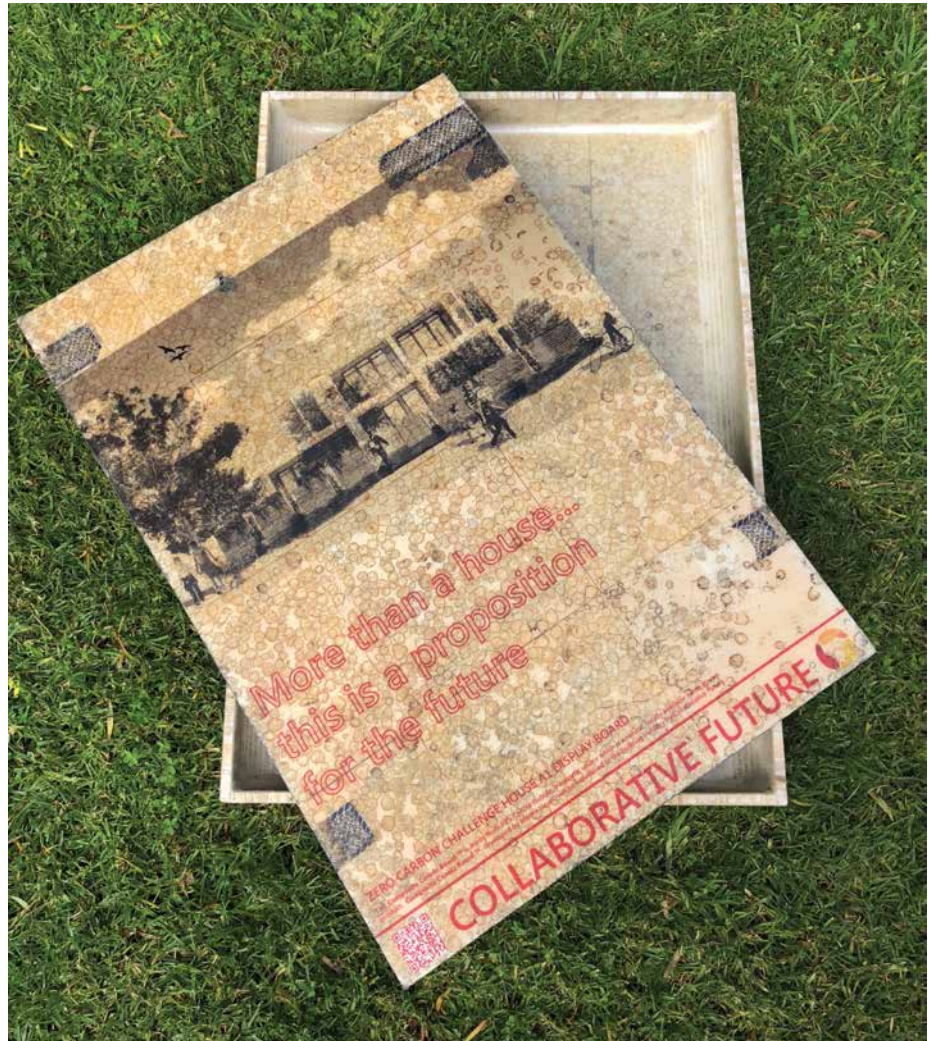
Location: Adelaide, Australia  
Materials: Canolacore

A minor crop in the late 1980s, canola is now Australia's third largest broadacre crop (behind wheat and barley) and the major broadleaf rotation crop in the grain-producing regions of Australia. Canola is grown for the oil extracted from its seed, which is used in margarine, cooking and salad oils, and edible oil blends. The annual production of canola averages 3.5 million tonnes (ABS Data year end June 2017). There are however issues dealing with the waste canola stubble after the seed has been harvested for edible oil production. Canola stubble is a waste product and is commonly disposed of by burning off, which produces massive carbon emissions.

Bio-composite Canolacore is the end product of a process that uses waste material from the Canola plant crop to produce a core material for composite panel construction. The waste material is the dry canola stubble that is left after the canola crop has been harvested.

Modra Hayes (Simon Modra and Ashley Hayes) developed a system for harvesting and pressing canola stem into useable bio-composite core material with performance characteristics very similar to Balsa core, sequestering the carbon.

Simon Modra has been a design practitioner since 1993 and is currently a Councillor on the board, Design Institute of Australia (SA/NT chapter). Simon's formal qualifications include a Masters of Architecture, Masters of Design



(Design Construct), Bachelor of Architectural Studies and Diploma of Business. He is a former director of both Modra Hayes and Composite Products Australia and China. Modra Hayes was the recipient of \$1.25m SAIIF Grant (South Australian Industry and Innovation Fund) for the lightweight demountable composite house "The Modpod TM", and winner of the Clever

Green Grant for the product on display "Canolacore TM". Simon currently operates [www.simonmodra.design](http://www.simonmodra.design), specialising in built environments, commercial interior fit-out and specialty joinery items, and is currently engaged by The University of South Australia as a design researcher Human Spaces for the Future Submarine project.





# The Ghosts of Consumption

*David Bone*

**Location:** Bath, UK

**Materials:** Print

A visual enquiry into consumer culture and a reflection of the geological footprint we are to leave behind. With estimates of more than 12 million tonnes of plastic being dumped into the world's oceans every year, and with more microplastics in our seas than stars in the Milky Way, plastic waste is the ecological destruction of our time.

Early 20th century perceptions of human affairs being wholly 'separate' and 'other' from nature is something that is endorsed throughout an era of conservation and preservation. Yet in this modern age of consumerism, the growing economic need for goods and the waste we produce has a profound effect on a changing environmental landscape.

The Ghosts of Consumption examines the contemporary archaeology of household commodities, through to its hostile convergence with the natural landscape. The work looks to question the profound impact of contemporary culture on our ecology, challenging the viewer to question their own personal impact.

These questions of how we, as a commercial generation play a monumental role in the permanent intrusion of plastic waste is juxtaposed against an unseen intervention and optimistic resilience.

*Dave Bone is a commercial photographer specialising in graphic design and advertising and a Bachelor of Arts (Photography) graduate at Bath Spa University. Local groups and organisations have been the sole focus of his most recent concepts. Exploration of important socially relevant themes, such as male mental health, globalisation and plastic pollution, offer an opportunity to examine taboo subject matter.*

*His work merges traditional photographic practice with modern graphical elements to produce concepts that have commercial viability.*

*Dave's time is split between photographing commercially for a range of different organisations, such as the Springfield Project and Marine Conservation Society and book publication.*

# Future Fossils

*Andrew Whittaker*

**Location:** University of South Australia,  
Adelaide

**Materials:** Mixed media including  
polypropylene and nylon

It is estimated that somewhere between 3.5 and 4.2 billion toothbrushes are manufactured each year—exactly how many, nobody knows. Stacked end-to-end, current production quantities of toothbrushes would circle the planet every 21 days.

Injection moulded from a composite of plastics (usually polypropylene, nylon and tiny metal staples), these highly resolved objects are difficult to recover and almost impossible to recycle. In the right conditions, buried in landfill or the bottom of the ocean, these 'throw away' objects are likely to be around for thousands of years—just how many thousand, nobody knows. Sadly, toothbrushes are just a small part of the problem when we consider single use packaging, drink bottles, coffee cups, drink straws and plastic bags.

3 framed objects using the ubiquitous toothbrush as the theme are designed to draw our attention to the complex problem of time, quantity and recycling, and asks the viewer to consider how we can tackle this problem? Perhaps we need to legislate for objects like this to be made from renewable and biodegradable materials.

*Andrew Whittaker is a practicing Industrial Designer and Lecturer of Industrial Design at UniSA. With 3 decades of consulting experience, Andrew has been involved with the design of hundreds of everyday products. Many of these objects were made from 'precious' plastic.*







# UNMAKING WASTE 2018

TRANSFORMING DESIGN, PRODUCTION &  
CONSUMPTION FOR A CIRCULAR ECONOMY

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