REPAIR ✦ DESIGN

A UTS Design Studies Project

#repairdesign

Map Illustration By Peita Blythe

Acknowledgment

We acknowledge the Gadigal People of the Eora and the Boorooberongal People of the Dharug Nation upon whose ancestral lands our campuses now stand. We would also like to pay respect to the Elders both past and present, acknowledging them as the traditional custodians of knowledge for these lands.

REPAIR+DESIGN

‖ UTS UNIVERSITY OF TECHNOLOGY SYDNEY

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eWaste Watch Institute (in an advisory capacity)

We are connected with the **UTS Design Innovation Research Centre** and the **Centre for Design Innovation Research at Griffith University**.

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Special thanks to **Clare Cooper** and **Jessica Lea Dunn** for their work during Phase 1 of the project.

Report written by the project team and designed by **Jessica Lea Dunn**.

Photographs by project team, **Jessica Lea Dunn** and **Robin Hearfield**.

Illustrations by **Peita Blythe** and **Jessica Lea Dunn**.

For more information, visit our project website (**repair.design**)

Background

What was the last thing you repaired?

Design is deeply implicated in the urgent challenge of reducing waste in the twenty-first century. From hermetically sealed smartphones to fast fashion, from brittle plastic appliances to cheap chipboard furniture, we are living in a throwaway culture that is globally networked in a seemingly opaque system of mass-produced imports and waste exports. This, combined with planned obsolescence and technological complexity, means that repair can seem a distant and difficult possibility.

Repair.Design opens up informed, realistic and meaningful public discourse about repair practices, capacities and limitations in an Australian context. This research reframes repair as a design practice, and in doing so openly acknowledges design's culpability in environmental degradation and waste. Understanding the relationship between repair and design is necessary for the development of stronger policy, for more responsible design practice and for the open sharing of material knowledge and digital information.

This is an opportune time to act. The vulnerability of global supply chains has become more apparent than ever during the pandemic. Community awareness of waste is on the rise in Australia and international reporting about overseas repair initiatives is currently triggering increasing interest in local repair networks and practices. Crisis recovery is focused is on upskilling and reskilling for local economies.

We seek to invigorate the idea that repair is a design practice, and one of crucial significance in the context of impending climate breakdown. This document reports on the first phase of our research, carried out between July and December 2019. We join a growing network of Australian design scholars attending to repair through innovative projects. Amongst others, these include **'Handled With Care'**, a Brisbane-based project supporting pro-sustaining psychologies and 'Designing for sustainability using a transformative repair model,' a collaboration between UNSW and leading Australian design and craft organisations.

The Challenge:
Repair and Design have a troubled relationship.

Setting out on this journey, we knew we had to bring repair and design into the same conversations by engaging a strong, interdisciplinary network of repair-interested stakeholders.

'....repair has often been understood as the unfashionable antithesis to design: repair is seen as making do rather than innovating; repair happens in the face of austerity.'

Repair, Living Lexicon

Crosby, Alexandra, and Jesse Adams Stein. "Repair." *Environmental Humanities* 12.1 (2020): 180.

Like design, some repair is good, some is bad, and much is ambivalent. We knew that repair for repair's sake wasn't a good place to start, nor was preaching to the converted in a pure celebration of repair. In search of compelling ways to look at systemic problems associated with responsible production and consumption, we went deeper, to find out what we repair and why, and to find out whether we think about these as design decisions.

Our Approach

- Design ethnography: observation / engagement with local repair communities

- Participatory design workshops / futuring workshops;

- Recorded public events: opening repair conversations to new audiences and archiving repair stories;

- Site-based visual audits for repairability / object trajectories;

- Focus groups: bringing diverse stakeholders together to analyse the major barriers to repair.

During Phase 1, we organised a series of public conversations about the relationship between design and repair. These conversations took many forms: a mending circle, expert panels, a futuring session and walkshops. Through these conversations, we contributed to a global network of advocates working on 'design for repair' and 'design as repair'. For a full list of links to the global repair network, please visit **https://repair.design/global-repair-networks/**

'Repair as design happens at different scales in different places. The design of some products—such as bicycles—are progressively repair focused. Other industries, such as consumer electronics, are decidedly anti-repair, but they nonetheless inspire countercultures, hackers, and small industries of out-of-warranty repair.'

Repair, Living Lexicon

Crosby, Alexandra, and Jesse Adams Stein. **"Repair."** *Environmental Humanities* 12.1 (2020): 181.

Events

## Workshop by Tristan Schultz, 'Design's Role in Transitioning to Future Cultures of Repair'

4 September 2019

Tristan Schultz ran a participatory workshop on design's role in transitioning to futures of cultures of repair. Tristan is one half of the creative firm **Relative Creative**, which he runs with Bec Barnett. Relative Creative design communication, strategies and experiences that help people think, talk and mobilise sustainable futures. For this workshop we were joined by Associate Professor Jacqueline Gothe, Associate Professor Ilaria Vanni Accarigi, Professor Cameron Tonkinwise, and Dr Tim Boykett (Time's Up, Austria).

The workshop took an experimental approach to thinking about repair futures in the amidst the maelstrom of broken modern worlds with a particular emphasis on Indigenous Knowledge and localised movements that are already bound with an ethics of care and repair (cultures of repair).

We discussed and mapped enmeshed border communities practicing bricolage with the warped remains of modernity/coloniality and how Indigenous lives, communities, territories and ontologies are an equitable weft in the weave of pluriversal futures too. We considered leverage points of these various repair cultures with potential to nudge pluriversal worlds towards futures of sustainment

We speculated potential for adaptive repair practices to move with people relocating over the coming decades, because of, for example, sea-level inundation, poisoned water sources from fossil fuel extraction, land degradation of arable or harvestable lands from rising heat and destructive agricultural practices, while recognising that at the same time there are already pockets of repair within host communities. In all these cases we considered how communities may be bound together through opportunities for repair to become a decolonising political act of mitigating the violence of coloniality. Tristan facilitated a mapping process with us using loose templates and 'knowledge cards' to explore these questions.

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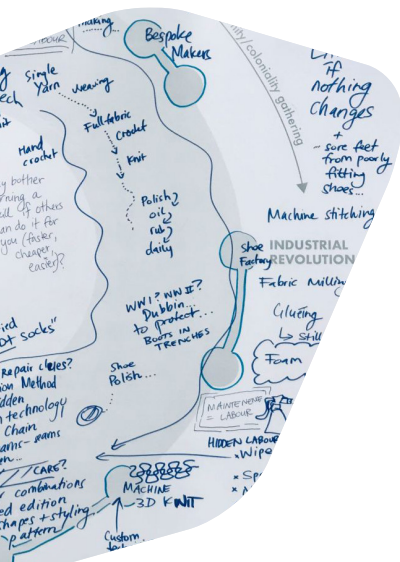
Public Panel Discussion: Repair and Object Expressions

26th September 2019

Participants: Alison Page, Andrew Simpson (Vert Design), Catriona Fisk, Simon Von Wolkenstein, Jacqueline Gothe

Chair: Dr Tom Lee

This panel discussion conceptualised the relationship between design and repair through objects in everyday life. The five panel members included: an industrial design professional who runs his own studio specialising in environmentally sustainable design; a emerging design historian with a PhD on the material record of pre-twentieth century maternity wear in museum collections; a design researcher and educator whose practice focuses on experimental storytelling and post-digital hybrid animation practice; an indigenous Australian designer who works across product, spatial and urban planning; a visual communications academic whose work has focused on the application of communication and design principles in the natural resource management sector. All panel members, therefore, were vocationally engaged in explorations of the relationship between things, images or spaces and questions of meaning.

Each panel member had ten minutes to present on three objects, with a question time at the conclusion of the individual presentations. The description for the event, which doubled as a brief to the panelists, is included below.

Further information
https://repair.design/2019/09/30/object-expressions-panel-insights-and-reflection/

Design and Law Workshop: Futuring Repair

1 October 2019

Facilitated by: Clare Cooper

Workshop participants came from professional legal practice, professional design practice, and academia.

This design futuring workshop drew upon primary forces of change in the fields of design, repair, administrative law, legal theory, and law tech to flesh out four potential trajectories for future rights to repair in Australia.

Invited participants fleshed out a graphic futuring timeline (or timescape) that identified major historical shifts in law, design and repair over the last 100 years. Informed by lived professional experience, legal precedents, and design research the group then raised questions around commonality between design and law in approaching learning form the past and assessing the predicaments of the present. We made some creative attempts to articulate desired future states from this conversation drawing from current repair.

Design futuring is a proactive way to avert the focus of hyper-individualism through promoting collective creative responses to uncertainty. In this workshop we agreed that transdisciplinary exploration of our roles and responsibilities in future states around law and repair should focus critical attention away from the singular or finished design/product/law/policy and towards an active appreciation of human and non-human contextual elements that expand and contract in subtle and complex ways in practice.

'Designing for repair means planning for change over time: designing to allow objects, codes and systems to be opened, disassembled, or altered.'

Public Panel Discussion: Can we talk about a 'Right to Repair' in Australia?

(Recorded by ABC Radio National and now available as a Big Ideas podcast)

2 October 2019

Participants: John Gertsakis (eWaste Watch); Assoc Prof Leanne Wiseman (Griffith University); Annette Mayne (The Reconnect Project); Dr Guy Keulemans (UNSW).

Chair: Dr Jesse Adams Stein, event developed in collaboration with Guido Verbist, The Bower Reuse & Repair Centre.

Jesse Adams Stein hosted the panel discussion 'Can we talk about a 'Right to Repair' in Australia?'

The 'right to repair' has been a topical issue in international media and to some extent locally. But why does repair matter? Is it just because we like to tinker with our things?

E-Waste is the fastest growing waste stream in the world. Australians are the fourth highest generators of e-waste per capita globally, generating an average of 23.6 kg per inhabitant, per annum. In **2016 the world generated over 44.7 million metric tonnes of e-waste**, only 20% of which made it into appropriate e-waste channels. E-waste is a particularly virulent problem, both because of the significant environmental costs of electronics manufacture, and because of the toxic materials that can quickly end up in the waste stream after the object is swiftly discarded. We also now know that repair is a climate issue. A **recent report from the European Environmental Bureau** calculated that extending the lifetime of all smartphones in the EU by 3 years would save around 4.3 metric tonnes of potential carbon emissions.

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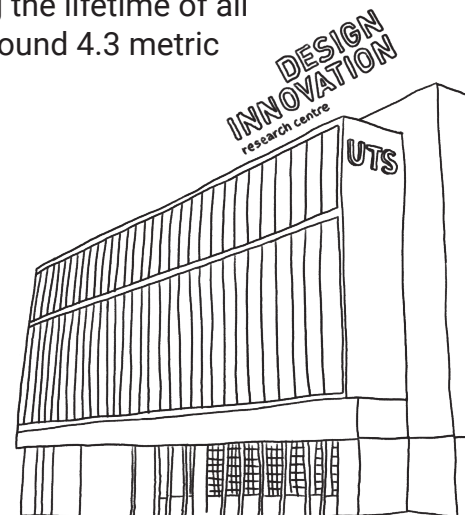
What is the Right to Repair?

While the Right to Repair can now be understood as a general liberal concept – the idea that people should be able to fix the objects they own – it is also a specific political and legislative movement that emerged from the United States. That movement is specifically concerned with the reparability of particular technologies, most particularly smartphones, laptops, tablets, cars and agricultural equipment.

*In the contemporary context, an increasing number of technologies and objects are run by computers using proprietary software. This includes a vast range of technologies, including most obviously IT devices, but also coffee machines, high-end toasters, tractors, fitness trackers, and motorised blinds (and so on). This software tends to be covered by copyright protections **(TPMs – Technological Protection Measures), which protects the original object manufacturer (OEM)** from having their device – and its internal functions – copied by another manufacturer. Having software embedded into our everyday appliances makes them harder to repair – it is no longer as simple as using a screw driver, taking off a back panel and having a look around.*

The existence of TPMs also means that if an owner of an appliance, vehicle or smart device attempts to open or modify the object, for the purposes of repair or maintenance, they will be in breach of copyright and thus void their warranty (or worse). With this in mind, manufacturers now regularly glue-seal devices shut, designing the product in such a way that prevents independent repair attempts. In this way, a great deal of hardware and software design has become actively anti-repair.

*Essentially, most manufacturers would rather you replaced your broken device than repaired it; it means more turnover for them. If repair is to happen, some manufacturers – such as Apple and the agricultural equipment company John Deere – want to maintain a monopoly over that repair, and they have gone to great lengths to discourage independent professional repair and DIY repair. In the case of Apple, iPhone owners have at times been **literally 'punished' for using independent repair services**. **When an independent repair is detected, software programs punitively kick in**, voiding various aspects of the phone's usability.*

Further information
https://repair.design/2019/09/25/does-australia-need-the-right-to-repair/
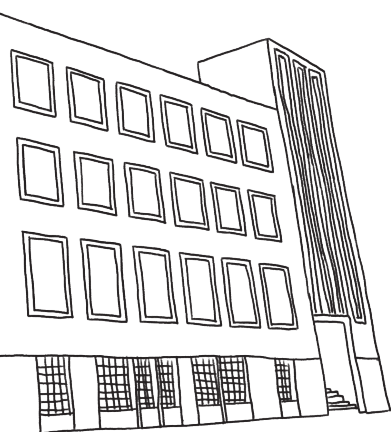
Make do and Mend: Playful Design for Repair – Public Design Workshop

(held in association with Sydney Craft Week 2019)

19 October 2019

This event brought together designers, object conservators and the general public for a hands-on workshop exploring playful design for repair, as part of **Sydney Craft Week** in 2019. The workshop explored creative and practice-led approaches to repair, how these can cultivate material awareness and build material sensitivity, and how fostering playful attitudes and approaches to repair might then be able to grow a type of counter-practice to the 'throw away' culture of materials we are enmeshed in.

Workshop participants brought an object or material they believed to be in need of some sort of 'repair'. The selection of objects including damaged clothing, broken ceramics, disheveled books, and a variety of heirlooms and keepsakes. The participants worked with designers **Alia Parker**, **Emma Peters**, **Marty Jay** and **Kate Scardifield**, alongside **Megan Hall, Object and Textile Conservator, MAAS,** to undertake acts of 'repair', approaching this playfully and in its broadest sense to include acts of fixing, repurposing, reimagining, or as intervention that completely transforms. Over the course of the workshop the objects were photographed in various states of their repair process. The images have contributed to a visual 'reparations' archive that has emerged from the project. They bring to light the aesthetic politics at play that often underpin repair practices, how we come to understand objects and materials as agents of time, and whether we choose to highlight repair, or attempt to conceal it.

# Mapping Repair in the UTS Precinct, 'walkshop' in collaboration with Peita Blythe

20 October 2019

This mapping 'walkshop' aimed to make repair visible as a design practice in our own UTS neighbourhood by placing the repairer/repair services back in on the map of our 'innovation precinct'.

We looked for spaces where repair happens, businesses that advertise repair, or connect to repair services, business that have a sales model that includes repair, businesses that sell tools of repair.

We documented existing repair businesses in four areas of the precinct. llustrator Peita Blythe worked with us to document what we found, and create a map.
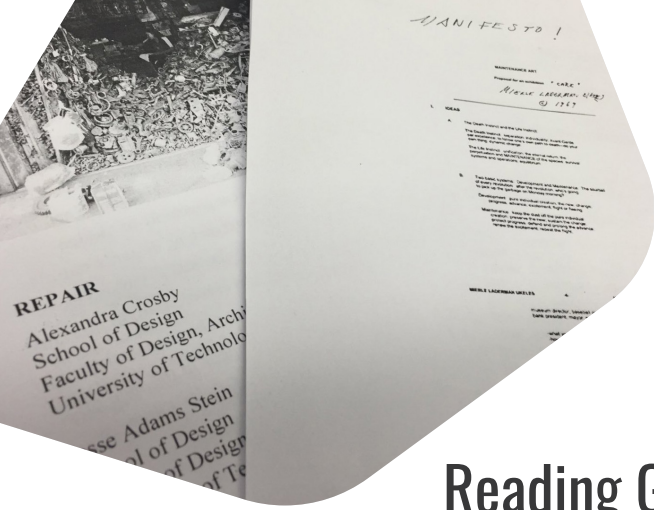
Reading Group on Repair literature: COMPOSTING Feminisms and the Environmental Humanities

27 November 2019

Repair movements build upon decades of feminist political work making visible unrecognized labor. For example,iIn 1969, maintenance artist Mierle Laderman Ukeles wrote Maintenance Art Manifesto 1969! Proposal for an Exhibition "CARE," in which she included acts of repair such as "mend the fence" and "seal it again—it leaks," along with "change the baby's diaper" in a long list of indispensable yet unrecognized chores that are dismissed as "women's work."

COMPOSTING Feminisms and Environmental Humanities is a reading group of cross-institutional, cross-disciplinary scholars exploring the traces and legacies of inclusive feminisms within the broad Environmental Humanities, and forging new linkages between the two fields. In this meeting, we read Mierle Laderman Ukeles, **'Manifesto for Maintenance Art'**, 1969 and Shannon Mattern's, **'Maintenance and Care'**, 2018.
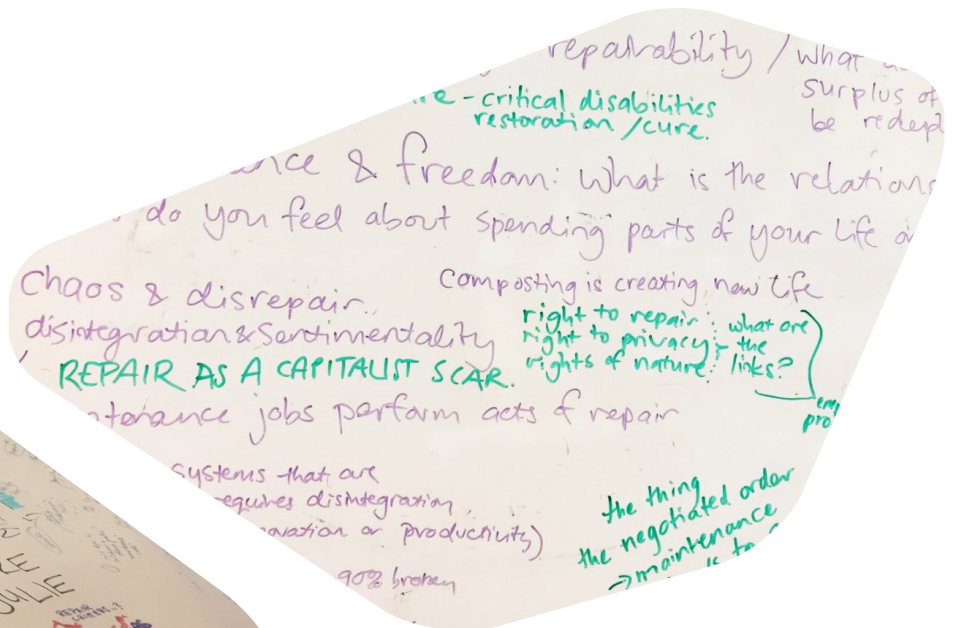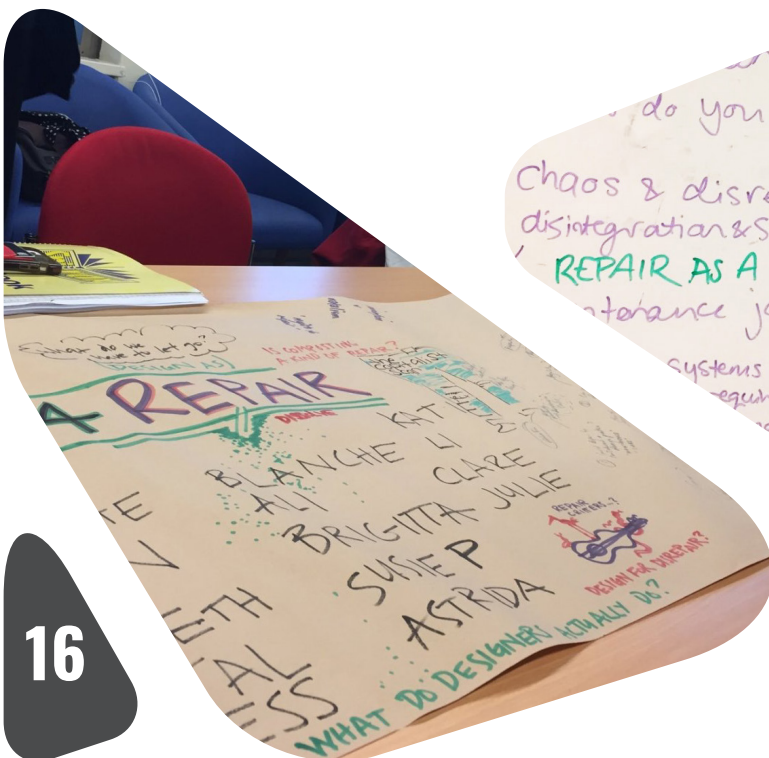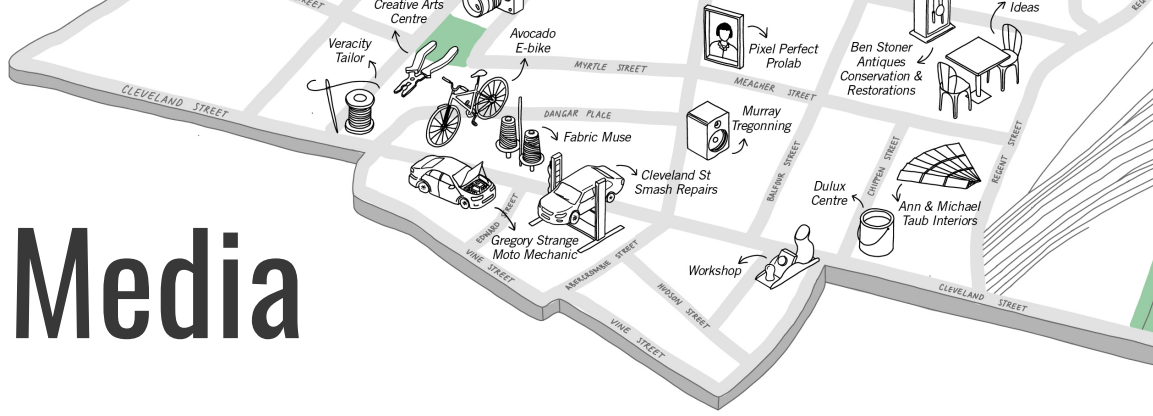
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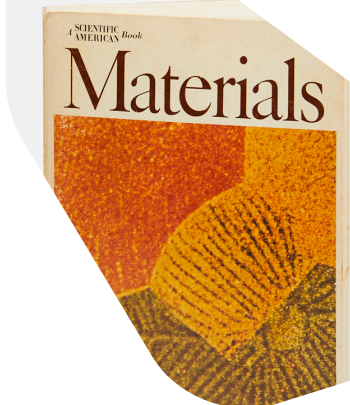
- An abridged version of our 'Right to Repair' discussion panel was released as a **podcast on ABC - Radio National's Big Ideas program**, aired on 13 February 2020.

- Our team published an article in *The Conversation*, **'Design and Repair Must Work Together to Undo our Legacy of Waste'** (Almost 8000 reads, republished on 11 sites). This also led to multiple radio interviews.

- Jesse Adams Stein was **interviewed on ABC Radio Sydney's Nightlife program**, hosted by Suzanne Hill. Together with Leanne Wiseman and Guido Verbist, they discussed the 'right to repair'. Listeners called in to vent their frustrations about challenges repairing cars, phones and appliances.

- Thomas Lee wrote a piece about **sandwich presses, melted cheese, repair and consumer choices** – in the *Sydney Morning Herald*'s Good Food section.

- In **'Design to Reduce Waste'**, Jesse Adams Stein was interviewed on Radio Adelaide's Breakfast show, about the anti-repair legacy of companies such as Apple, and some design strategies for more repairable electronic products.

- Thomas Lee was **interviewed by Deb Tribe on ABC Adelaide's Drive** about the relationship between design and repair. The segment also prompted listeners to phone in and discuss their repair stories and frustrations.

- Thomas Lee was interviewed by Alice Birrell for *Vogue Australia* about repair and design, in the April 2020 issue.

- Thomas Lee was interviewed by Caitlin McHugh for the **Think: Digital Futures—Rethinking Repair program** on 2ser.

- Thomas Lee published **'A Degree in Repair?'** on Medium.

- Jesse Adams Stein published **'Does Australia need a Right to Repair?'** through eWaste Watch Institute.

- Alexandra Crosby and Jesse Adams Stein published **'Repair'** in *Environmental Humanties*.

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Overview of Findings

◆ Local repair organisations, such as repair cafes, struggle to break through to mainstream appeal.

◆ The aesthetics of repair are political and personal. While repair is sometimes unfashionable it also can make an object more valuable.

◆ Many vernacular and professional repair skills are declining in Australia along with local manufacturing capacity.

◆ Despite throwaway culture, repair continues in often fragile and hidden urban ecologies of practices, but these need support.

◆ Innovation always requires repair.

◆ The cost of repair in comparison to purchase discourages the repair of some objects and not others.

◆ Whether or not an object can be repaired is often obscured by its design. Mobile phones are a key object through which people experience and understand repair and waste problems in this sense.

◆ Design can play a role in systemic approaches to sustainable consumption and production in which repair is an element.

◆ Repair, like design, requires collective, collaborative and cooperative cultures.

◆ There are legislative and regulatory changes that could encourage more repair activity in Australia, for example corporations being required to repair their products.

◆ There are thousands of stories of repair in our communities that people want to share.

Photo of phone repair by PR MEDIA on Unsplash

Future Directions

We are currently seeking partners to collaborate on improving broader social awareness of repair issues in Australia.

Aside from environmental gains, there is a great deal of potential for positive change we can make together: repair is a job-creator, it uses skills that some have previously dismissed as 'redundant'; undertaking DIY repair improves social wellbeing; and repair can cultivate community economies.

Achieving these goals is only possible through collaboration and cooperation between disciplines, professions, stakeholders and the community. If you are an organisation (government or NGO), group of individuals, or company, and you're interested in repair, feel free to make contact. We are open to discussion and collaboration. Together, we could increase widespread public re-engagement with repair issues, social awareness of sustainable consumption choices, and advocacy contributing to legislative reform that would support independent repair. Such work could help repair to become a much more significant part of our lives and of Australian waste management policies.

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