RIGHT RESEARCH

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MODELLING
SUSTAINABLE

RESEARCH
PRACTICES

IN THE
ANTHROPOCENE

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Re-pair: An Open Project for Cultures and Economies of Repair in Western Sydney

Alison Gill, Abby Mellick Lopes and Francesca Sidoti

A baseline study about repair policy, services and infrastructure was conducted in 2017 by Francesca Sidoti, supervised by Abby and Alison as design researchers, with a focus on the Local Government Area of Parramatta, New South Wales (NSW), Australia. The study set out to investigate the capacities of repair services to respond to the problems of waste and the unsustainable rates of divesting unwanted goods, and identify strategic opportunities for connecting community, education, not-for-profit and local government sectors in Western Sydney in social learning about repair.

The preliminary report[46] identified repair services and community organizations, including commercial, government, charities and not-for-profits, currently in operation in Parramatta, uncovering rich and complex interactions and cultures of repair with a clear relationship to the cultural demography of the city and the rise of digital service platforms. A number of barriers to and motivations for community engagement with repair services were found, and attention turned to the role Western Sydney University could play in leveraging local initiatives and connecting people, resources and expertise.

Abby and Alison have a long-standing interest in groups of practices central to the handleability of household objects and to constitutive, life-extending maintenance and repair, as we hope to re-orientate design's focus from developing new, more energy efficient objects to instead support sustain-*abilities* of use and care. 'Re-pair' is a critical-political design practice of re-direction and re-materialization that gives time to things.[47] It takes place at precarious moments when the life potentials of the things we carry can be imagined, weighed and put

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46   Francesca Sidoti, *Cultures of Repair* (n.p., 2018) [preliminary report].

47   Tony Fry (2009); Alison Gill and Abby Mellick Lopes, 'On wearing: A critical framework for valuing design's already made', *Design and Culture*, 3.3 (2011), 307–327, https://doi.org/10.2752/175470811x13071166525234; Abby Mellick Lopes and Alison Gill, 'Reorienting sustainable design: Practice theory and aspirational conceptions of use', *J. Design Research*, 13.3 (2015), 248–264, https://doi.org/10.1504/jdr.2015.071456.

on an alternative path to that of landfill. With this strategic disposition, we recognize that redirecting stuff back into life involves skillful diagnosis and the unearthing of practical knowledges and tools that are in social decline; this includes strategies of design that articulate the old and the new—such as retrofit, retool, refurbish, reuse and remake—which have the potential to create new, more diverse socio-economic relationships. Re-pair disrupts rapid product turnover and the unsustainable consumption of individually-owned consumables, and creates an alternative imagination from the linear take-make-use-waste trajectory, modelling the circular and share economies to which parts of the community aspire.[48] The barriers to more widespread engagement include the demands of time and skills-acquisition to take-up what are currently marginal, specialist and expensive practices, with poor recovery systems, and have limited capacity to compete with the speed and convenience of retail for new consumables.

In the last decade, several Western Sydney councils including Parramatta City Council in 2007, Liverpool City Council in 2012 and Fairfield City Council in 2017, have adopted 'zero waste' strategies. While the concept of zero waste is idealistic, it does represent an aspiration for a radical reduction in the amount of waste going to landfill. During this time, the centrepiece of the Parramatta City Council's waste avoidance strategy and non-organic waste diversion has been recycling. However, China's National Sword policy regulated from 2018 the importation of twenty-four categories of foreign solid waste—to better protect their environment and public health—triggering a local Government crisis as Councils have lost the income from on-selling recyclate for offshore processing to recover the cost of collection. In addition to this disruption of the recycling system, charitable donation and illegal dumping of unwanted and unfit items are forms of divestment on the rise. The Western Sydney Regional Organisation of Councils estimated that illegal dumping costs the region slightly over $11 million in 2016.[49]

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48 Patrick Schroeder, Kartika Anggraeni and Uwe Weber, 'The relevance of circular economy practices to the sustainable development goals', *Journal of Industrial Ecology*, 23.1 (2019), 77–95, https://doi.org/10.1111/jiec.12732.

49 Western Sydney Regional Organisation of Councils 2016, 'Project: Litter and illegal dumping baseline' (May 4, 2020), https://wsroc.com.au/projects/project-regional-waste/project-litter-and-illegal-dumping-baseline.

'Dumping' of clothing, textiles and household waste is a major concern for charitable organizations with Charitable Recycling Australia reporting that Australian charity and social enterprise retailers are forced to send over 80,000 tons of unusable donations to landfill every year, costing these retailers $18million in waste management costs and impacting staff morale and health.[50] These circumstances have created an opportunity to develop design's capacity to 'common'[51] and reframe repair as a much bigger part of a response to the crisis and the waste management picture. Not all the things divested from households can be repaired but more assessment time is needed for the many still working and reusable things sitting between the categories of 'new' and 'waste', that have the potential to be kept going with maintenance and attention. Not only can repair sustain and even improve the functional life of portable and fixed goods and services; it also offers opportunities to attune to what we call the 'cultural timing' of repair within everyday practices of ridding, to develop local labour and skills development, and fulfill social and creative needs. It could contribute to community engagement and wellbeing in a way that recycling never did. As Nazlı Gökçe Terzioglu, Clare Brass and Dan Lockton have found, repair is not just a matter of fixing things but 'a generative process that is motivated by complex emotional drivers and behavioural aspects. It gives a sense of accomplishment, teaches how things are made and informs their material qualities'.[52] This suggests that the role of repair extends beyond addressing waste management and environmental issues—it can serve as a platform for designing community engagement activities, creation of new skills and employment opportunities.

Our research study focused on a white/grey literature review of repair resources, policies and programs, plus the identification of repair businesses and services in Parramatta. Parramatta is a suburb twenty-four kilometres west of Sydney and home to approximately 245,000 people, and a focus of intense investment by public and private sectors, including

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50   Charitable Recycling Australia, 'Advocacy', https://www.charitablerecycling.org. au/advocacy/.
51   Gibson-Graham, Cameron and Healy (2013).
52   Nazlı Gökçe Terzioglu, Clare Brass and Dan Lockton, 'Understanding user motivations and drawbacks related to product repair', *Sustainable Innovation 2015: 'State of the Art' Sustainable Innovation and Design* (University for the Creative Arts, Epsom, Surrey, November 9–10, 2015), p. 236.

the building, manufacturing and creative industries. Parramatta is undoubtedly important to the NSW and Australian economy, with Australian Bureau of Statistics estimating the city of Parramatta produces a gross regional product of $28.88 billion annually, representing 4.84% of the state's Gross State Product.[53] Parramatta is also increasingly diverse, with 50% of the resident population born overseas and 52% of the population speaking a language other than English at home.[54] The economic vitality of Parramatta, combined with the growing population and the shift from majority low density housing to medium and high density housing,[55] ensures that policy and practice must manage rates of consumption with a focus on waste avoidance and disposal, with the opportunity to consider materials sorting, reuse and repair.

Of the commercial repair services based in Parramatta (n = 122), 104 were formal (a business, often with a shopfront or established mobile organization) and the remaining 18 were identified as informal (people working informally, on the side or after hours). These informal commercial enterprises were industry specific and exclusively associated with clothing (7) or Electrical and Electronic Products EEPs (10), with the exception of one informal automotive business. While this survey can tell us the range of product areas and number of services in the Parramatta area, more research is necessary to get a clearer picture of the communities of repair practices, and the take-up and roles of repair in social life. Since the first phase that scoped existing services, we have been exploring ways to activate this research as a searchable database of these services and geo-mapping the repair activity. The mapping has revealed very interesting geographic and cultural clusters—like the significant network of informal Sari repair—and invited further questions about what conditions gave rise to the informal economies of repair that are underway—mobile or pop-up services, and the co-location of shared resources and services.

One of the most magnetic repair initiatives in recent years has been the emergence of repair cafés, with one established in Parramatta at

53   id.community, 'City of Parramatta: Economic profile', http://economy.id.com.au/
      parramatta.
54   id.community, 'City of Parramatta: Community profile', https://profile.id.com.au/
      parramatta/highlights-2016.
55   Ibid.

the Bower Reuse and Repair Centre. Started in Amsterdam in 2009 by Martine Postma, there are now estimated to be approximately 1,400 repair cafés worldwide.[56] The concept is relatively simple: a repair café is a space where people can bring their broken items and repair them with the assistance or guidance of a volunteer. Tools and materials are available as is the expertise of an assortment of repairers. The cafés aim is to provide skill development, a social space, and support political activism and advocacy around repair as an effective intervention against consumerism and waste.[57]

In Australia, there are sixteen repair cafés listed on the official Repair Café Foundation site.[58] In Sydney, this includes the Bower Reuse and Repair Centre, which has shopfronts in Marrickville and Parramatta, with a repair café on the last Saturday of each month at Parramatta, Banga workshop at Green Square and Zetland, and the Repair Café Sydney North, based in Chatswood. Expanding on the café concept, the Bower has an extensive program of events and workshops to encourage repair, and private online consultations with experts and group webinars were introduced in March 2020 as a digital community outreach program called RepairWorks Online during the COVID-19 shut-down. The Bower is careful to distinguish between paid repair services where items are left to be repaired, and skill development which is central to the Bower's community engagement and education program. Services include workshops on carpentry, upholstery, and furniture painting, repair services at an affordable price, access to workshop space, a collection and rehoming service for unwanted appliances and furniture. The Bower 'From House to Home' project, a partnership with other community groups, provides furniture for people in need—primarily asylum seekers and people who have experienced domestic violence— as they seek to set up a home.

Guido Verbist, manager of the Bower, outlined the key challenges for the charity around the community visibility of repair in the Parramatta Central Business District (CBD). In conversation, he mentioned that the 'Hunter Street location is in the business district, not the shopping

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56   International Repair Cafe Foundation (2019), https://repaircafe.org.
57   *Sharing Cities: Activating the Urban Commons* (2018), https://www.sharingcities. net/.
58   International Repair Cafe Foundation, 'Want to start your own Repair Café? You can!' (2019), https://repaircafe.org/en/start/.

district. We find that we have fewer [walk-in] customers than in Marrickville, but those that come [to Hunter St] intend to come'. He speculates that it could simply be a matter of time to establish a stronger profile, as the initiatives have received strong support and promotion by Parramatta Council, however, he acknowledges the urgent need for an education framework about the multiple benefits of repair—i.e., repaired items can be better than the original—and a framework that separates repair from the idea of recycling as sorting and moving waste. Confirming our own and other research, Verbist sees the key barrier to embracing repair as the perception that 'buying new is best', and his strategy is to normalize secondhand and repaired goods by promoting the concept that 'buying secondhand is not second best'. Synthesizing our own and wider research, the following barriers to repair have been identified:

1. Finding a quality repair takes time and may be inconvenient, when the majority are time poor.[59]

2. The need to skill-up and find the tools and materials to DIY.[60]

3. Going against the grain of buying new, to love the pre-loved or worn object.[61]

Some of the motivations found for repair are:

1. Emotional attachment to an item.[62]

2. A familiarity with the product and/or an unwillingness to buy and then familiarise oneself with new products or technology.[63] We have recognized this accrued familiarity

59 Emma Dewberry et al., 'A Landscape of repair', *Sustainable Innovation 2016: 'Circular Economy' Innovation and Design* (University for the Creative Arts, Epsom, Surrey, November 7–8, 2016), pp. 76–85; Terzioglu, et al. (2015).

60 E. Kalantidou, 'Handled with care: Repair and share as waste management strategies and community sustaining practice', *PLATE Conference* (Nottingham Trent University, June 17–19, 2015), http://www.plateconference.org/pdf/plate_2015_proceedings.pdf; Daniela Rosner and Morgan Ames, 'Designing for repair?: Infrastructures and materialities of breakdown', *17th ACM Conference on Computer-Supported Cooperative Work & Social Computing* (Baltimore, MA, February 15–19, 2014).

61 Gill and Mellick Lopes (2011).

62 Terzioglu, Brass and Lockton (2015).

63 Dewberry (2016).

and learning by referring to the intrinsic value of the 'experienced product' in contrast to the new.[64]

3.   As a means of empowerment, both in consuming and using items in an environmentally sustainable way and in developing the skills to truly 'own' an item.[65]

In order to re-prioritize 'experienced products' over new ones and fully 'own the already owned', consumer legislation, design and manufacturing must change. Verbist describes the impact that the push by consumers and small-business for 'right to repair' legislative reform in the European Union could have on manufacturing, and the aspirations for Australian legislation and a design-led circular economy: 'in the meantime manufacturers needed to move from "linear" to "circular" economies [...] Resources-to-waste products are the current model, but a circular economy is where you can time and time again use the parts [...] you can dismantle them and reuse them for new products. Some companies have started looking to that direction, but there's a lot more room for improvement'.[66] A groundswell of community and government pressure has the potential to push back and hold design and manufacturing to account, for producing too many screw-free, glued objects under warranties that lock out the user to tinkering and skills acquisition. There are many challenges ahead for design, and when there is a mandate to design items that can be more readily disassembled, fixed and updated, the part played by repair could grow.

Recent developments indicate that growing repair is not a pipe dream. The NSW Environmental Protection Authority have identified the roles of repair, refurbishment and remanufacturing in drafting a State circular economy policy in the discussion paper 'Too good to waste',[67] and there will be impetus for local government to discuss

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64   Gill and Lopes (2011).
65   Rosner and Ames (2014).
66   Cited in: Jemima Burt, '"Right to repair" regulation necessary, say small businesses and environmentalists', *ABC News* (March 2, 2019), https://www.abc.net.au/news/2019-03-03/does-australia-need-a-right-to-repair/10864852.
67   'Too good to waste— a discussion paper on a circular economy approach for NSW', *Sydney: NSW Environment Protection Authority* (October, 2018), https://www.epa.nsw.gov.au/-/media/epa/corporate-site/resources/recycling/18p1061-too-good-to-waste-circular-economy-discussion-paper.pdf?la=en&hash=4217537474E04FA7DD4A2D3191FFBD1A78433FD2.

these strategies in developing waste reduction and avoidance policy at Council level. A recent report prepared by Western Sydney University[68] recommends that our research on Parramatta's repair clusters indicates potential for Councils to leverage existing 'cultures of repair'; to model and embed circular economy principles in community engagement activities that not only recover waste materials but foster culturally diverse social, creative and economic opportunities.

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68 Paul James et al., *Closing the Loop on Waste: Community Engagement, Cultural Diversity, and Shared Responsibilities in Waste Management in Canterbury-Bankstown* (Penrith, Australia: Western Sydney University, 2019), https://researchdirect.westernsydney. edu.au/islandora/object/uws:53180/datastream/PDF/view.

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RIGHT RESEARCH

Right Research

Modelling Sustainable Research Practices
in the Anthropocene

*Edited by Chelsea Miya, Oliver Rossier
and Geoffrey Rockwell*

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This book is dedicated to Doris and Peter Kule for their support for the advancement of social sciences, humanities and arts research. Their gift established the Kule Institute for Advanced Study at the University of Alberta that brought us together.

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And we also dedicate this to future scholars, for everything you will do to help weave together our civil society to face the shared challenges of climate change.

Contents

Contributor Biographies

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Terry Anderson, PhD, is a Professor Emeritus and former Canada Research Chair in the Centre for Distance Education and the Technology Enhanced Knowledge Research Centre at Athabasca University. Terry has published widely in the area of distance education and educational technology and has co-authored or edited ten books and numerous papers. Much of Terry's research work revolves around studying interaction amongst and between students, teachers and content. He claims to have organized (in 1992) the first virtual conference ever held using a variety of networks that preceded the Internet.

Doug Barlage has been a Professor in nanoelectronics for the past sixteen years. Prior to this, he was an engineer with Intel where he played a critical role in producing the first production high-k gate dielectric transistor and the first trigate transistor. For his role in demonstrating the functional transistors with gate dimensions below 30nm, he was in the MIT TR-35 class of 2002.

Jessie Beier is an Edmonton-based teacher, artist, writer and conjurer of strange pedagogies for uncertain futures. Working at the intersection between speculative philosophy, artistic production and radical pedagogy, Jessie's research-creation practice explores the potential for visual and sonic ecologies to mobilize a break from orthodox referents and habits of repetition, towards more eco-logical modes of thought. Beier is currently completing her PhD at the University of Alberta, where she also teaches as an undergraduate instructor in the Department of Secondary Education and the Department of Women's and Gender Studies.

Eric Benson is an Associate Professor of Graphic Design at the University of Illinois. He has worked as a professional designer for such companies as Razorfish and Texas Instruments. His research as a professor explores how design can be sustainable and consequently how to teach it. Eric has a BFA in Industrial/Graphic design from the University of Michigan and an MFA in Design from the University of Texas.

Karin Bolender (aka K-Haw Hart) is an artist-researcher who seeks 'untold' stories within muddy meshes of timeplaces. Under the auspices of the Rural Alchemy Workshop (R.A.W.), she explores dirty words and knotty wisdoms of earthly bodies-in-places through durational performance, writing, video, sound, and experimental books arts. Karin earned an MFA in Interdisciplinary Arts from Goddard College and a PhD in Environmental Humanities from the University of New South Wales in Sydney, Australia. She has lived and moved with a family herd of mammals and others on the semi-rural fringes of several university towns in the U.S. Southeast and West and presently makes a home in a small timber and rodeo town near a state university in the Willamette Valley/Champinefu Kalapuya territory in Oregon. 3Ecologies/punctum

books published *The Unnaming of Aliass*, which reckons with two decades of barnyard becomings, in 2020.

Nick Byrd is a philosopher-scientist studying how differences in reasoning style relate to differences in judgments, decisions, and well-being. For example, Nick examines how reflection double checks our intuitions, how our evaluations of arguments and evidence can be biased, how our tendency to unreflectively accept our initial intuition predicts many of our philosophical beliefs, how our sense of identity influences our reasoning, how to debias our reasoning, and how our happiness can be influenced by our beliefs *about* happiness. Nick's graduate coursework in cognitive science and philosophy was completed at University of Colorado and Florida State University. Institutions like the US Intelligence Community, the John Templeton Foundation, and universities have funded Nick's research. You can find out more about Nick's research on byrdnick.com, social media, *Psychology Today*, the American Philosophical Association blog, podcasts, radio segments, and other venues.

Hart Cohen is Professor in Media Arts in the School of Humanities and Communication Arts at Western Sydney University, Australia. Dr Cohen is a member of the Institute for Culture and Society and supervises a number of MA (research), DCA and PhD students. He has published widely in the field of visual anthropology, communications and film studies. Hart has directed three Australian Research Council Projects related to the Strehlow Collection held at the Strehlow Research Centre in Alice Springs. He is the co-author of the award-winning book, *Screen Media Arts: An Introduction to Concepts and Practices* for Oxford University Press (2009), as well as the founding editor of *The Global Media Journal* (Australian Edition). His most recent book is *The Strehlow Archive: Explorations in Old and New Media* (Routledge).

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Petra Dolata is an Associate Professor in the Department of History at the University of Calgary, Canada. From 2014-2019 she was Canada Research Chair (Tier II) in the History of Energy. She holds an MA degree in American Studies from Ruhr-Universität Bochum, where she also received her PhD in International Relations with a study on U.S.-German (energy) relations in the late 1950s and early 1960s which was published in 2006 with VS Verlag (*Die deutsche Kohlenkrise im nationalen und transatlantischen Kontext*). She is the co-convenor of the Energy In Society research group at the Calgary Institute for the Humanities. Petra's current research focuses on European and North American energy history after 1945 as well as the history and politics of the Canadian and circumpolar Arctic. She has published on Canada's natural resources, foreign and Arctic policies, and the concept of energy security.

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Priscilla Ferronato is a Lead User Experience Researcher and PhD candidate in Informatics at University of Illinois Urbana Champaign with over five years of experience in qualitative user experience research. Currently, she works with a fintech leading the research on the future of automation in finances and its impact on human behavior. Her PhD dissertation investigates the influence of individual differences on the formation of trust in autonomous systems.

Alison Gill is Senior Lecturer in Design at Western Sydney University. Alison's research interests in design philosophy, cultural theory and socio-material studies are evident in publications about social practices of repair, alternative conceptions of use and visual narratives; sports product advertising; deconstruction fashion; audience/user practices and sustainable design education. Her current research projects investigate cultures of everyday resourcefulness like sharing, reuse, customization, and repair to encourage transitions to more sustainable economies.

Amanda Starling Gould, PhD (she/her) is currently the Senior Program Coordinator for Educational Programs & Digital Humanities at the Duke University John Hope Franklin Humanities Institute. She directs the Duke Story+ Interdisciplinary Humanities Research program, consults on digital humanities projects and innovative pedagogical interventions for Duke's Humanities Labs and Digital Humanities Initiative, and collaborates with partners across Duke (and beyond) to design creative—and sometimes remote—research and storytelling experiences. She teaches graduate and undergraduate classes on environmental humanities, critical digital practice, redesigning futures, and 'learning to fail'.

Maryella Hatfield is a Lecturer in Screen Media (SoHCA) at Western Sydney University. She is also a filmmaker, and the director of *The Future*

Makers, which tells the story of key Australians leading the way on the world stage in renewable energy (broadcast on Discovery Channel, 2008-2010). A graduate from the AFTRS in directing, her work has been shown with a range of international festivals and broadcasters. *Eden*, a short environmental documentary, was highly commended in the Dendy Awards. *Range of Experience* was nominated for an AFI Award, and was screened in numerous festivals including Sydney and Melbourne Film Festivals, LA Women in Film Festival, Portugal's Fantasporto Festival, Flickerfest et al. She worked as an independent director/producer over many years, and brings this experience to her work in higher education. The Living Lab project at South Vineyard Creek was highly commended in the Australasian Green Gowns Awards in 2020.

Mél Hogan is the Director of the Environmental Media Lab (www. environmentalmedialab.com) and an Associate Professor in Communication, Media and Film at the University of Calgary. Her work on data storage and cloud imaginaries has been published in journals like *Ephemera*, *First Monday*, *Television and New Media*, *Big Data and Society*, *Culture Machine* and the *Canadian Journal of Communication*, among others. Website: www.melhogan.com; Twitter @mel_hogan /@ EnvMediaLab

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Michael Leung is an artist/designer, researcher and visiting lecturer. He was born in London and moved to Hong Kong in 2009 to complete an MA in Design. His projects range from collective urban agriculture projects such as The HK FARMers' Almanac 2014-2015 to Pangkerchief, a collection of objects produced by Pang Jai fabric market in Sham Shui Po. Michael is a Visiting Lecturer at Hong Kong Baptist University where he teaches Social Practice (MA). His research focuses on Insurrectionary Agricultural Milieux, rhizomatic forms of agriculture that exist in local response to global conditions of biopolitics and neoliberalism.

Abby Mellick Lopes is an Associate Professor in Design Studies at University of Technology, Sydney. Abby's collaborative research focuses on the relationship between design and social arrangements to support the transition to more sustainable cultures and economies, with recent projects tackling the social impacts of heat and development trends on the urban commons; civic trust in drinking water; and food and waste economies and cultures of repair, with a particular focus on the communities of Western Sydney. Abby has published in *Design Studies*, *Design and Culture*, *Cultural Studies Review*, *ACME*: an international e-journal for critical geographies and elsewhere, and written several book chapters on design, sustainability and transdisciplinarity. Her work has been presented in the UK, the USA, Canada, Cyprus, Spain, Malaysia and China.

Natalie S. Loveless is Associate Professor, Contemporary Art and Theory, at the University of Alberta, where she directs the Research-Creation and Social Justice CoLABoratory and co-leads the Faculty of Arts' Signature Area in Research-Creation. Loveless is author of *How to Make Art at the End of the World: A Manifesto for Research-Creation* (Duke UP 2019), editor of *Knowings and Knots: Methodologies and Ecologies in*