



# The Data Imaginary

## FEARS & FANTASIES

### The Data Imaginary: Fears and Fantasies

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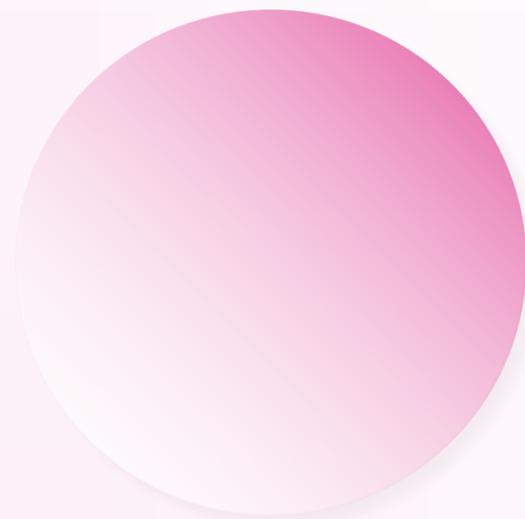
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## ABOUT THE EXHIBITION

The exhibition includes artworks and designs that engage audiences in critical, playful and agentic reflections on data and creative technologies. Through the exhibition, workshops and publication, the audience will be empowered to respond to climate change patterns and participatory approaches to urban planning, interact with empathy from remote locations, learn about Indigenous cultural knowledges and reflect on everyday habits that secure data privacy. The exhibition focuses on some of the pressing issues of our time—climate change, location data, and data legacies. In an era of data intensification, bringing these works together facilitates critical conversations about data and inclusivity and highlights data's potential applications in our everyday lives.

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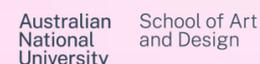
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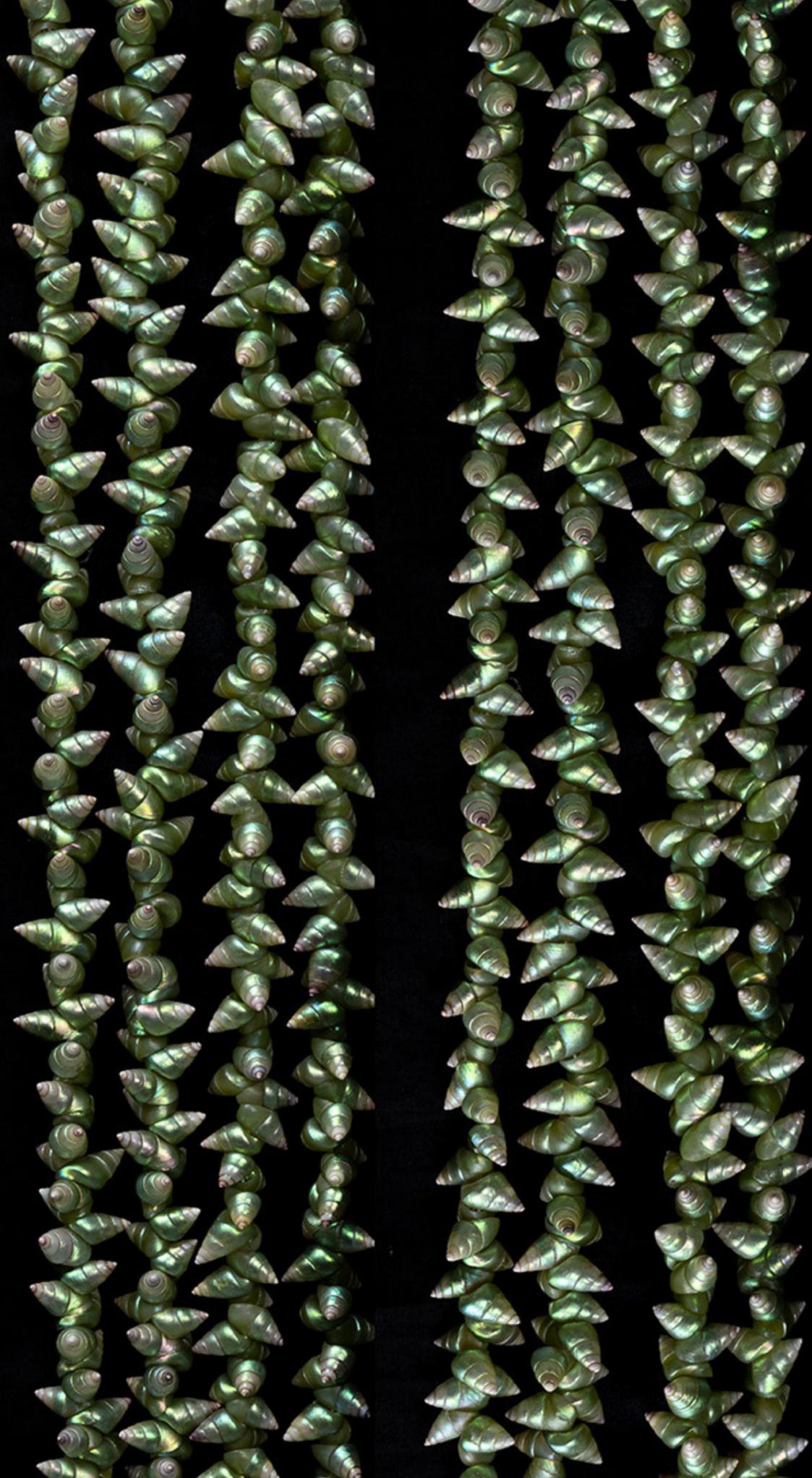
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# HOW WE IMAGINE DATA AND DATA REIMAGINES US

KATHERINE MOLINE, ANGELA GODDARD & BECK DAVIS

## INTRODUCTION

*The Data Imaginary: Fears and Fantasies* presents works of art and design that interpret and negotiate the ambiguous effects of data and aim to show how data can be created and used more inclusively. We use the term 'data imaginary' to describe the ways in which citizens embody data and how data defines emerging norms or conventions, as we look at how these are produced and how we engage with them.

Reflecting on what counts as data and how data makes us feel in relation to the urgent challenges of our time, the works in the exhibition explore climate change, location data and data legacies. This curatorial process has involved many contributors. Our collaborators Amanda Hayman and Troy Casey of Blaklash Creative have highlighted the use of data in the work of contemporary Australian Indigenous artists, whether in activist interrogations of Australian archives and histories, or within the foregrounding of Indigenous knowledge in and of itself, or as integral to the critique of conventions. The increasing collection, mining, and monetisation of information has changed how people perceive and relate to online data. Large datasets, colloquially known as Big Data, are often characterised by the three Vs: volume, variety and velocity, with some commentators also referring to veracity.<sup>1</sup> Big Data's scale and volume means it is often decontextualised and perceived as abstract, making it difficult to comprehend the ways in which it is entangled in our daily lives, as it is rarely explored in an affective sense.

The extraction and repurposing of data by artists and designers opens up data as a medium for creative exploration and offers alternatives to the received truths and norms of the social imaginary. The stories they tell in this exhibition and accompanying workshops represent a kind of radical imaginary—a collective exploration of alternative futures—and are grouped into three broad themes: climate data, location data, and data legacies. Through diverse materials, technologies and scales the works show how artists and designers are repurposing and manipulating data for greater inclusivity and relevance.

The embodiment of climate data in seashells by Palawa artist Lola Greeno, and the use of the predictive capacities of data to prompt reflection and behavioural change by design researchers Mitchell Whitelaw and Geoff Hinchcliffe, exemplify the ways that contemporary art and design researchers explore and interpret the challenges of climate change and use data to shape cultural narratives. Under the theme of location data, we present works that use the geospatial capacities of new technologies in ways that encourage a sense of agency in communities, so that people can share experiences and shape environments rather than feel powerless in the face of rapid technological shifts. In another section we examine the exploration of data legacies through representations of historical data. Ian McArthur's metaPLACE project shows how data can enable greater participation in the design of urban spaces, while Warraba Weatherall reminds us that the redaction and concealment of cultural materials in institutional archives challenges the common perception of data as a medium of neutral objectivity.

Lola Greeno  
*Green Maireener Necklace (detail) 2017*

## THE SOCIAL IMAGINARY OF DATA

The social imaginary is defined in the curatorial framework of this exhibition as the emergent conventions and assumptions associated with everyday norms and practices. Philosopher Charles Taylor succinctly defines the social imaginary as "the ways people imagine their social existence, how they fit together with others, how things go between them and their fellows, the expectations which are normally met, and the deeper normative notions and images that underlie their experiences".<sup>2</sup> This exhibition aims to show how data can be created and used more inclusively, creating space for the psychic flux of the "radical imaginary" that Cornelius Castoriades defines as "the capacity to posit that which is not, to see in something that which is not there",<sup>3</sup> an idea that is far from the neutrality and certainty often associated with data. Revisioning the norms of our social existence in the data economy with the radical imaginaries of artists and designers who question such norms is urgently needed.

As Kate Crawford, principal researcher at Microsoft Research (Social Media Collective) and director of the AI Institute at New York University, points out, the identification and classification by Artificial Intelligence (AI) of facial expressions as registers of affect is based on cognitive behavioural models of the mind as a machine. Such models make emotions universal, without context, and have resulted in companies such as the recruitment agency Affectiva creating what it calls "the world's largest emotion database, made up of more than 10 million people's expressions from 87 countries" for the assessment of job applicants.<sup>4</sup> Crawford traces AI's emotion taxonomy to dehumanising techniques such as the skull measurements that supported white supremacy and xenophobia through the false science of phrenology.<sup>5</sup> As Warraba Weatherall argues in his essay for this exhibition catalogue, the devastating effects of phrenological misinterpretations of Darwin's theory of evolution, and the danger of creating taxonomies of emotions as if they are culturally and context free is that data records become weapons for cultural erasure.

The challenges artists and designers make to the social imaginaries of data are described as “platform imaginaries” by Vanessa Bartlett in her essay on how the paradigm of e-commerce is changing our cultural and emotional perceptions and experiences. And in an essay reflecting on their explorations of climate change data, Geoff Hinchcliffe and Mitchell Whitelaw argue that it is crucial to understand the ecological, social and political histories of sites if we are to envisage future possibilities or comprehend the anticipated recalibration of seasonal weather to a disappearing winter, an extended summer, and a new period of intertemperate extremes.

## FEARS & FANTASIES

Over the past two years, with the Black Summer bushfires of 2019–20 and the COVID-19 pandemic from March 2020, we have become viscerally alive to how data tracking, data counts, graphs and visualisations can trigger emotions of fear, confusion, ambivalence, shame, relief, and frustration.<sup>6</sup> We perceive data as both frightening and fantastically omnipotent as we observe the capacity and power of Big Data to provide a totalising and all-encompassing view of human existence and emotions. Current research on how people feel about data focuses on sentiment analysis, trust issues, fears about data privacy and the social blindness of data taxonomies. Deborah Lupton’s research into the social imaginaries of personal data focuses on the threshold between the convenience and the irritation that data affords us, “the fine line between people appreciating personal datafication and dataveillance for convenience” and our simultaneous feelings of “resentment, frustration and annoyance”.<sup>7</sup> Within her analysis of a study of marginalised social groups that explains this phenomenon,<sup>8</sup> Lupton identifies data’s dominant affect as one of dehumanisation, where people feel reduced to simple abstractions by the processes of datafication.

The works included in *The Data Imaginary: Fears and Fantasies* challenge the mixed emotions produced by this dehumanising economy and counter them with new possibilities for interacting with data. The works demonstrate that although the dynamic and brutal logic of data prompts contradictory feelings, it also raises questions about what we want data to do. While data can violate human subjectivity and autonomy, at the same time its predictive capacity is often productive and protective. As data mapping during the bushfires and contact tracing during COVID-19 demonstrated, the presentation of data can be simultaneously reassuring and anxiety-provoking. The potential of data to pull hidden histories into a public archive is a stark reminder and echo of the assertion by feminist geographer Joni Seager that “what gets counted counts”.<sup>9</sup>

## CLIMATE DATA

The works in the thematic section ‘Climate data’ explore multiple modes of representing the effects of climate change and acknowledge the ways in which the enormity of reducing greenhouse gases, renewing forests, and protecting coastlines and other ecosystems can register emotionally as panic and fear. Instead of accepting the pacifying effect and apparent neutrality of data, artists and designers here explore the affective dimension of the data narrative of global warming since the 1980s. They let us feel our way through a liminal space, to imagine what might be possible while at the same time navigating the discomfort and fear of loss caused by climate change.

In our earliest discussions of the exhibition concept, Katherine Moline placed Lola Greeno’s practice of collecting data recorded in seashells over decades in the centre of the curatorial rationale, due to its response to the urgency of climate change. Tali Weinberg’s weavings, Stanislava Pinchuk’s datamaps, and Andrew Gall’s jewellery also respond climate data, providing models for developing a sensorial and embodied understanding of data. While Weinberg effectively translates data points into crafted forms that represent ocean temperatures, Pinchuk makes data on the changing temperature patterns material with precise pinholes through paper, and Gall explores the cultural, site-specific impacts of ocean temperatures on shell necklace-making practices.

Speculative tools such as *My Climate 2050*, 2019, by Hinchcliffe and Whitelaw document location-specific climate projections based on a business-as-usual emissions scenario. Created for the Australian Conservation Foundation using CSIRO’s Australian Community Climate and Earth System Simulator (ACCESS) climate and earth system model and the Queensland government’s SILO climate database, *My Climate 2050* becomes a useful database for considering possible future(s), should no action be taken to combat climate change. By enabling members of the public to pinpoint their city, suburb or hometown, the researchers make data personal and the future in 2050 tangible.

In a complementary work, Tali Weinberg’s *What Color Was the Water?* 2017, translates data from the US National Oceanic and Atmospheric Administration into abstracted landscapes and waterscapes. The resultant woven panels trace and interpret 137 years of annual temperature of the world’s oceans. While each panel is based on the same data, the coding changes, exploring how choices in representation shift how we see and what we know.

## DATA LEGACY

The thematic section of ‘Data legacy’ explores how the legacies of surveillance practices pervade contemporary culture and how the gathering of data is instrumentalised. The relentless data gathering that occurs as we browse online has been exposed, contributing to our better understanding of the internet as a data economy where companies track and monetise our online behaviour in customer profiles, as demonstrated by Joana Moll in *The Hidden Life of an Amazon User*, 2019. A casual browsing history becomes a data legacy that is sold to anonymous third parties. Tracking data gleaned from search histories and cookies creates consumer profiles that we never see and that might be breached in privacy hacks. Public records, credit card purchases, and social media posts are harvested by companies to develop targeted advertising.

Warraba Weatherall’s acute observations remind us that it is the distortion and inaccurate modelling of data to categorise for the purposes of exclusion that is so dangerous, as he explores how racist misinterpretations of Darwin’s theory of evolution impacted on First Nations peoples in Australia.

Artificial Intelligence (AI) is learning from what we do. The dystopian futurescape created with AI in Silvio Carta’s work challenges the secrecy of data science, revealing how the concealed mechanics of data extraction can support questionable ends. The Interaction Research Studio’s repurposing of data in surreal juxtapositions gives us fresh eyes with which to view the familiar streets of our neighbourhoods. Yulia Brazauskayte employs data as a medium to connect people separated by space through synchronised movement, and Luke Jaaniste’s tracking of Olympic sport requirements presents data on the performance of bodies. Patrick Pound’s encounters with data, through a playful interaction with algorithms in the online marketplace, explore what it means to collect rather than to make. He describes the collection as a medium, and his work *From Zamfir to Zafir*, 2020, is generated entirely at the suggestions of the eBay search engine, embracing the poetic errors of the algorithm.

## LOCATION DATA

The third thematic section, ‘Location data’, investigates the effects and possibilities of the precise mapping data available to us through the Global Positioning System (GPS), which can now monitor locations from a mobile device with an accuracy of 30 centimetres. Big Data such as this creates “challenges around how to meaningfully interpret the data—much of it not described using consistent standards or metadata—into information and recommendations while eliminating noise and erroneous data”.<sup>10</sup> Through the ‘digital traces’ left as we search, shop and scroll, retailers track our keystrokes and aggregate our online search patterns.<sup>11</sup> Fitbits and fitness apps document our speed, steps and exercise paths, enabling both personalised and shared data experiences. During the Australian bushfires of 2018–19, the tracking of geolocated devices meant that with minimal delay, the veracity of accounts was able to be checked and we experienced timely reporting of firestorm trajectories as well as real-time notification of air-quality levels.

Building on the ways in which the immediacy of data is simultaneously temporal, historical and personal, Ian McArthur’s experimental study metaPLACE, 2019–20, fosters real-time participatory encounters with urban media, through local interfaces that enable residents to contribute to the liveability of their neighbourhoods. Specifically, metaPLACE is designed to capture emotional responses to place while simultaneously generating useful data to aid the development of better urban futures. The resultant dataset represents collaborative, accumulative insights. Conversely, Luke Jaaniste’s *All the Ways of Winning at Sport*, 2019, provides a novel infographic that aims to map all the modes of winning at sports, and also list as many sports as possible. For Jaaniste, when it comes to winning, it is not the enjoyment, drama and beauty of the journey but the arrival at the destination that counts. Technique provides a competitive advantage (and is the focus of much training) but is typically not what is measured. Jaaniste’s infographic captures a range of variables such as ability, activity, movement, and material. The outcome is a rich and playful visual that proficiently traces the performance of bodies.

The demand for the repatriation of 660 Indigenous ancestral remains in the Queensland Museum, conveyed by Aidan Rowlingson through his neckpiece *660*, 2018, and the living maps that mark the placenames of massacre sites across Australia visualised by Judy Watson in *the names of places*, 2016, challenge the social imaginary of archival data as a reliable repository and reveal the elision and distortion of the sovereign rights of First Nations people in Australia. In Benedikt Groß, Stephan Bogner and Herwig Scherabon’s *Flights to Rome*, 2018, a close scrutiny of the meshing of global mobility networks reveals how conflict disrupts and redirects flight paths, revealing information not anticipated when the raw data was produced, while Robert Andrew’s *Presence*, 2021, visualises the traces of the extractive economies of mining and archaeology of First People’s land. Jenna Lee’s *Her Heritage*, 2021, explores the erroneous homogenisation of languages in *Aboriginal Words and Place Names*, a book compiled by A. W. Reed.

## WORKSHOPS

As well as presenting data visualisation to gallery audiences, *The Data Imaginary* exhibition at Griffith University Art Museum includes a series of public workshops that provide a critical mechanism for channelling data back into the exhibition. These workshops are an interactive and reflexive means of engaging with audiences and negotiating our relationship of conceptualising and negotiating our relationship with data.

Ian McArthur’s metaPLACE workshops demonstrate how designers and city stakeholders can use participatory urban media to design smarter, more liveable urban environments. The research explores how interactive screens, façades, and handheld devices can become co-designed participatory interfaces. Developed in a collaborative workshop that connects diverse community, industry and government stakeholders concerned about urban environments, metaPLACE provides opportunities for participants to identify problems, contribute insights, and propose design concepts based on local community and stakeholder needs.

Vanessa Bartlett’s workshop ‘Public Displays of Affection: A Shared Creative Experience Exploring the Design of Social Media and Its Effect on Us’, explores how websites are designed to make us feel particular emotions so that we stay online for longer. While mental health experts struggle to agree on how this affects wellbeing, lots of us are familiar with doomscrolling, Zoom fatigue and anxiety about how the internet is designed to control, manipulate and disempower us. The workshop will draw on the works of art in the exhibition to help us access more imaginative ways to relate to technology and social media.

In Yulia Brazauskayte's workshops, pairs of participants are invited to test *Undula*, an experimental interface for movement-based social interactions which takes the form of two identical custom-made rocking chairs that are digitally connected yet separated physically. As the ongoing pandemic of COVID-19 has forced governments to impose lockdowns, many people have suddenly found themselves having to reducing their face-to-face social interactions and instead communicate with each other digitally. The *Undula* workshop is inspired by a question: Is the efficiency of information transmission all that matters in online communication? Each chair contains an accelerometer to allow sound to be created through varying rocking movements. By rocking on the chairs participants interact with and adapt to one another through a responsive soundscape created and shared by them over distance. Participant pairs are invited to explore the communicative potential of rhythmic movement-based social interaction over distance without and beyond words.

*Blak Feeds* by Blaklash Creative comprises timed oral presentations curated through a series of images on Instagram. Guest speakers are Aboriginal and Torres Strait Islander artists and creatives whose talks are uploaded via the Instagram feed to be viewed and listened to on handheld devices. This allows talks to happen anywhere, including outdoor spaces, and, like any good community gathering, the project encourages the sharing of food (another kind of "feed").<sup>12</sup>

The curatorial project *The Data Imaginary: Fears and Fantasies* has three iterations: the first at Griffith University Art Museum in 2021, followed by exhibitions in South Australia in 2022 and the Australian Capital Territory in 2023. The first iteration was originally scheduled for 2020 but was delayed by the 2019–20 bushfires, floods, and pandemic. These challenges demanded multiple pivots and the delay enabled us to modulate the curatorial selection to better reflect the many social inequalities these events exposed, and the increasing centrality of data in everyday life.

Developed by a diverse curatorium, *The Data Imaginary* brings together shared research trajectories across art and design and is inspired by the resilience of the selected artists and designers, who have picked up threads left dangling in the stop-start timetabling of exhibitions and events during multiple crises. Reforming the institutionalisation of data that makes up our social imaginary is a necessary and urgent task if we are to develop alternatives to the social and environmental challenges identified by data-based predictions. Inclusive data, which addresses institutionalised blindness to differences in racial, class or gender status, will create greater understanding of the structural inequalities that have led to the realities of climate change, the extractive data economy that makes cyber-attacks more than a science-fiction fantasy, and the risks and merits of location data based on the evidence of its legacies so far. As data on climate change, personal and location data, and their legacies continue to be experienced so differently around the globe, artists and designers in *The Data Imaginary* are generating tools for, and visions of, a newly imagined world.

**NOTES**

1. Emilie Baro et al., "Toward a Literature-Driven Definition of Big Data in Healthcare," *BioMed Research International*, vol. 2015, Article ID 639021 (2015): 4–5.
2. Charles Taylor, *A Secular Age* (Cambridge, MA: Harvard University Press, 2007), 171.
3. Cornelius Castoriadis, *World in Fragments: Writings on Politics, Society, Psychoanalysis, and the Imagination*, translated by D. A. Curtis (Redwood City, CA: Stanford University Press, 1997), 151. 4.
4. Kate Crawford, "Artificial Intelligence Is Misreading Human Emotion," *The Atlantic*, 27 April 2021, <https://www.theatlantic.com/technology/archive/2021/04/artificial-intelligence-misreading-human-emotion/618696/>.
5. Ibid.
6. Helen Kennedy et al., "Engaging with (Big) Data Visualizations: Factors that Affect Engagement and Resulting New Definitions of Effectiveness," *First Monday* 21, no. 11 (2016) <https://firstmonday.org/ojs/index.php/fm/article/view/6389/565>
7. Deborah Lupton, "Not the Real Me': Social Imaginaries of Personal Data Profiling," 2020, *Cultural Sociology*, 2021, Vol. 15(1), 9.
8. Tawana Petty et al., "Our Data Bodies: Reclaiming Our Data," Interim Report, Detroit, 15 June 2018, [https://www.odproject.org/wp-content/uploads/2016/12/ODB.InterimReport.FINAL\\_7.16.2018.pdf](https://www.odproject.org/wp-content/uploads/2016/12/ODB.InterimReport.FINAL_7.16.2018.pdf).
9. Catherine D'Ignazio and Lauren Klein, *Data Feminism* (Cambridge, MA: MIT Press, 2020), 97–123.
10. Emilie Baro et al., "Toward a Literature-Driven Definition," *BioMed Research International* (2015): 5
11. Andreas Hepp, Andreas Breiter and Thomas N. Friemel, "Digital Traces in Context—An Introduction," *International Journal of Communication* 12 (2018): 439–49.
12. Black Feeds project proposal, Blaklash Projects, January 2020.

Luke Jaaniste  
*All the Ways of Winning at Sport 2019*

# all the ways of winning in sports:

achieved by performing a measurably more proficient bodily task via...

IT'S ALL ABOUT QUANTITATIVE MEASUREMENT, WHEN IT COMES TO WINNING. ALL SPORTING CONTESTS PRODUCE (OR ATTEMPT TO PRODUCE) A QUANTIFIABLE DIFFERENCE BETWEEN ITS COMPETITORS. WINNING IS MEASURED BY ACHIEVING A NUMBER GREATER THAN OR LESS THAN OTHERS — SUCH AS MORE POINTS, LESS PENALTY POINTS, MORE DISTANCE, MORE TIME, LESS TIME AND SO ON.

SOME SPORTS ARE BASED ON SINGULAR TASKS, WHILE OTHERS INVOLVE CLUMPS OF MULTIPLE TASKS. IN PARTICULAR, TERRITORIAL SPORTS (WHICH INCLUDE MOST OF THE TEAM SPORTS AND BALL SPORTS) TEND TO WEAVE TOGETHER MANY OF THE SKILLS AND ABILITIES FOUND IN OTHER SPORTS. FOR EXAMPLE, RUGBY INVOLVES SPEED, STRENGTH, ENDURANCE AND ACCURACY. WITH THE MULTIPLICITY OF TASKS COMES SPECIALISATIONS IN PLAYERS, EACH PLAYER CHARGED WITH A PARTICULAR TASK (BATTERS AND BOWLERS, THROWERS AND CATCHERS, FRONT ROWERS AND BACK ROWERS, OFFENSIVE AND DEFENSIVE UNITS).

AS THIS INFOGRAPHIC SHOWS, NEARLY ALL SPORTS INVOLVE 'TRANSFERRING' A BODY OR TASK. MOST SPORTS MEASURE THE ABILITY TO TRANSFER THROUGH SPACE EITHER THE HUMAN BODY (SOMETIMES WITH A MACHINE OR ANIMAL) OR AN OBJECT (LIKE A BALL, A PROJECTILE OR A WEIGHT) — ACROSS DISTANCE, TOWARDS A TARGET OR ZONE, AND/OR AGAINST RESISTANCE. WHEN IT COMES TO WINNING IN SUCH SPORTS, IT IS NOT THE ENJOYMENT, DRAMA AND BEAUTY OF THE JOURNEY BUT ARRIVAL AT THE DESTINATION THAT COUNTS. TECHNIQUE PROVIDES A COMPETITIVE ADVANTAGE (AND IS THE FOCUS OF MUCH TRAINING) BUT IS NOT TYPICALLY WHAT IS MEASURED.

CONSIDER, THOUGH, THE SPECIAL CASE OF THE 'TRANSFORMING' BODY THAT HAS NO DESTINATION OUTSIDE OF ITS OWN TRANSFORMATIONS. THE MAIN EXAMPLES ARE ALL THE 'AESTHETIC' SPORTS THAT ARE FORMS OF 'DANCING' (WITH JUST THE BODY, OR WITH OBJECTS, CRAFTS OR ANIMALS). THESE ARE THE SPORTS IN WHICH JUDGES GIVE POINTS FOR STYLE, GRACE AND DEXTERITY, CONVERTING EXPERT INTERPRETATIONS (WHICH ARE AT LEAST SOMEWHAT SUBJECTIVE) INTO A QUANTITATIVE SCORE.

THERE IS ALSO THE CASE OF THE TRANSFORMING BODY THAT DOES NOTHING BUT KEEPS ON GOING, ATTEMPTING TO BE THE LAST PERSON STANDING (DANCE MARATHONS, WEIGHT BEARING), LAST PERSON HOLDING BREATH (STATIC APNEA) OR LAST PIGEON FLYING (PIGEON TIPPLER). STYLE IS NOT JUDGED. TIME IS THE ONLY ARBITER. THE COMPETITOR STOICALLY 'COPIES WITH THE INTERNAL TRANSFORMATION OF A BODY UNDER STRESS (FATIGUE).

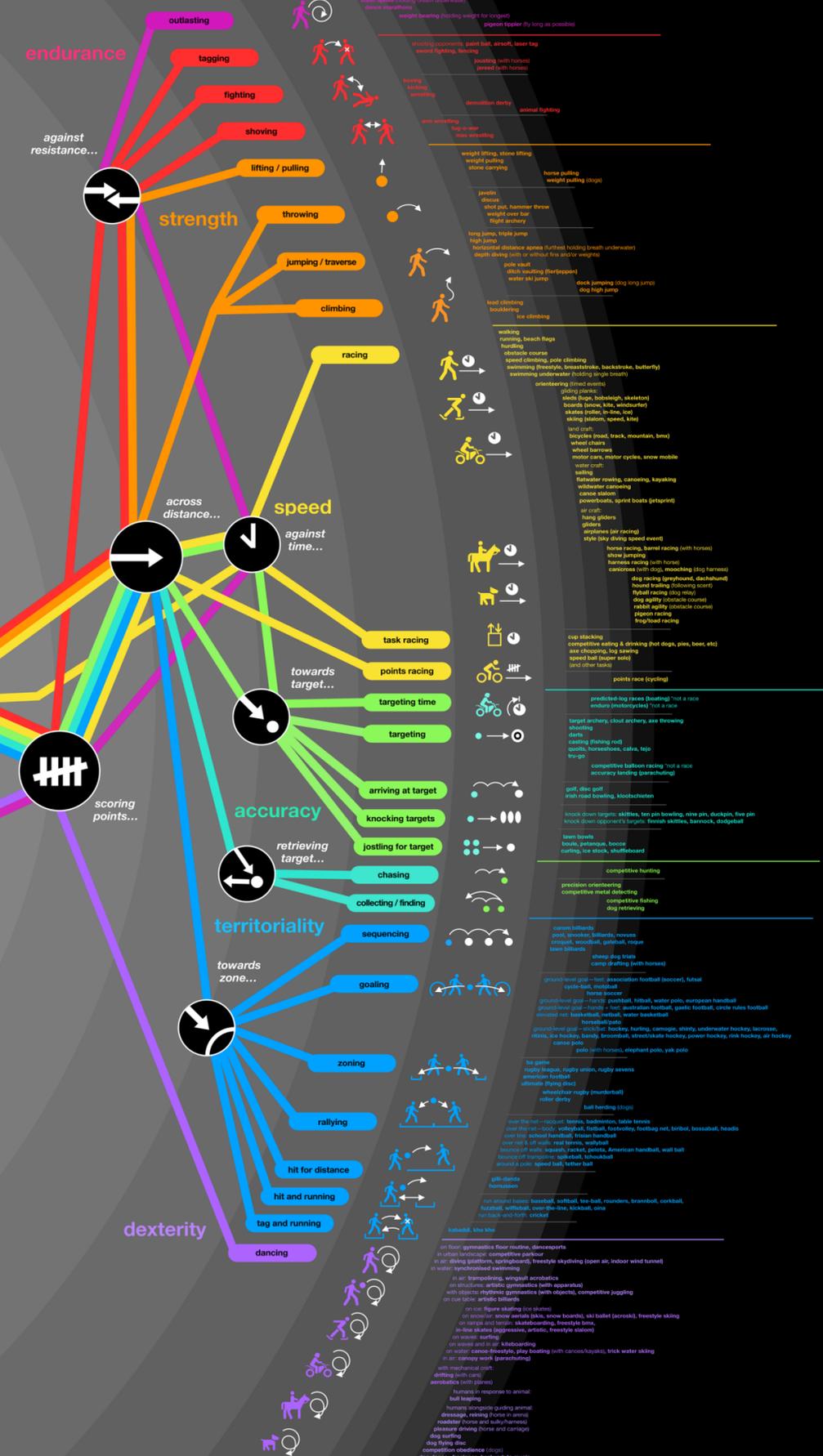
THE DEFINITION OF SPORT USED IN THIS INFOGRAPHIC FOLLOWS THE OXFORD ENCYCLOPEDIA OF WORLD SPORT (1999, SEE PREFACE): THAT A SPORT IS (1) A COMPETITION THAT INVOLVES TWO OR MORE INDIVIDUALS OR TEAMS, (2) WITH RULES THAT DETERMINE A WINNER, (3) HAVING A PRIMARY GOAL OF WINNING (IN THE STRUCTURE OF THE SPORT ITSELF REGARDLESS OF INTENTION OF PLAYER), AND (4) IN WHICH WINNING IS BASED ON AT LEAST SOME FORM OF PHYSICAL ABILITY (IF NOT ALSO STRATEGY, CHANCE AND MORE). OR, AS THIS INFOGRAPHIC PUTS IT, WINNING IN SPORTS IS "ACHIEVED BY PERFORMING A MEASURABLY MORE PROFICIENT BODILY TASK VIA..."

ANYTHING THAT FALLS OUTSIDE ALL FOUR ASPECTS OF THIS DEFINITION (INCLUDING ANY OTHER FORM OF GAME, PLAY, EXERCISE, PHYSICAL TASK OR MENTAL TASK) HAS NOT BEEN CONSIDERED.

THIS INFOGRAPHIC SEEKS TO BE COMPREHENSIVE BUT NOT EXHAUSTIVE. IT AIMS TO COMPREHENSIVELY MAP ALL THE MODES OF WINNING IN SPORTS, AND ALSO LIST AS MANY SPORTS AS POSSIBLE. HOWEVER THERE ARE MANY SUB-VARIATIONS OF SPORTS NOT LISTED, AND IT IS ALSO POSSIBLE SOME REGIONAL AND NICHE SPORTS ARE MISSING. IF YOU KNOW OF A SPORT NOT LISTED HERE, WOULD YOU BE ABOVE ON THE MAP?

THE MAPPING OF MODES OF WINNING, AND THE CLUSTERING OF SPORTS ACCORDING TO THESE CATEGORIES, IS ORIGINAL RESEARCH CONDUCTED SPECIFICALLY FOR THIS INFOGRAPHIC. MANY ONLINE SOURCES WERE CONSULTED, INCLUDING THE MANY LISTINGS AND DESCRIPTIONS OF SPORTS IN BOTH WIKIPEDIA AND 'TOPEND SPORTS' ONLINE ENCYCLOPEDIA OF SPORTS.

NOTE THAT SOMETIMES WHAT IS CALLED A RACE IS NOT A RACE, AS IS THE CASE FOR "BALLOON RACES", "ENDURO RACES" AND "PREDICTED LOG RACES" IN WHICH WINNING IS BASED ON ACCURACY, NOT SPEED. HOT AIR BALLOON RACES INVOLVE DROPPING MARKERS AS CLOSE TO GROUND-BASED TARGETS AS POSSIBLE. AND BOTH ENDURO AND PREDICTED LOG RACES MEASURE HOW CLOSE A DRIVER OF A MOTORCYCLE (OR BOAT) COMES TO FINISHING IN RELATION TO A NOMINATED TIME, WITHOUT SEEING THE TIME WHILST ON ROUTE.



# MIMETIC ARCHIVES: RECONTEXTUALISING THE SEMIOTICS OF THE ARCHIVE

WARRABA WEATHERALL

Within Australia, surveillance was originally implemented and refined within the colony as a means to control Indigenous lands and populations.<sup>1</sup> Coercive processes that documented, categorised, indexed, and tabulated entire populations became the standard way to acquire knowledge of Aboriginal peoples and were instrumental in the development of many national and international scientific collections. Not only have these collecting processes negated the agency of the very people they seek to represent, but the sheer magnitude of the collection repositories has naturalised harmful narratives about Indigenous peoples. Such surveillance was and continues to be a key strategy of colonisation.

Surveillance practices within Australia were at their peak over the century between 1850 to 1950, a period where a surveillance network led by the “human sciences” had a foundational role in the development of Indigenous archival collections.<sup>2</sup> Over this period, Indigenous peoples were widely considered subhuman. A perceived European superiority was constructed to legitimise the usurpation of Aboriginal land, bodies, and cultural materials—this was possible only with the aid of surveillance. Processes which monitored and documented entire populations without respect for their human rights and dignity became part of a global human taxonomy that fabricated racial phenotypes of cultural groups. As a means to identify difference, the fallacious concept of “race” supported the formation of Indigenous typologies and became a key principle of colonialism. Primarily led by the natural sciences and colonial administrations, museums became the conduit to disseminate scientific knowledge throughout society. Although many scientific disciplines associated with racial typologies—such as phrenology, physiognomy, craniometry, and anthropometry—are now acknowledged as a form of “pseudo-science”,<sup>3</sup> their historical legacies are commonly reaffirmed through today’s social and political structures, and contemporary variations continue. Within academia, for

example, Indigenous knowledges are thought of as subordinate and lacking scientific rigour, which only continues to affirm the supremacy of Western epistemology. With this idea at its core, education naturalises a distorted body of knowledge for Indigenous and non-Indigenous peoples alike.

The contemporary arts, however, are one of a few areas in which practitioners are able to address imbalances within a global cultural discourse. Many Indigenous artists now recontextualise and challenge the surveillance-focused semiotics of the archive, both within Australia as well as in other settler colonies such as Turtle Island and Aotearoa. Within Australia, Aboriginal art has become a celebrated catalyst for sparking social change and political action within these institutions. Some notable works that focus

specifically on critiquing and correcting archived narratives of misrepresentation are Vernon Ah Kee’s *neither pride nor courage*, 2006; Daniel Boyd’s *Decommissioned Skull Boxes*, 2017; S. J. Norman’s *Bone Library*, 2014; and Julie Gough’s *some words for change*, 2008. Indigenous artists who are working to decolonise contemporary discourse often draw inspiration from the archive, as it is a site where both Indigenous and non-Indigenous peoples can examine historical records to understand contemporary challenges. Understanding the lineage of archival records and the knowledges they transmit rightfully identifies the archive and, by extension, the museum, as a system of surveillance rather than a repository of treasured artefacts.



Warraba Weatherall  
*Document 2019*

Following the invasion of Australia by British forces in 1788, many years of frontier violence were supported by British government agencies to “manage” Aboriginal populations, before they transitioned from a strategy of extermination to one of protection and assimilation. The transition period between 1850 and 1950 marks a significant era of Aboriginal and Torres Strait Islander “policy”, where socio-political beliefs were directly informed by the expansion of science within the Australian colonies. As the National Museum of Australia states, the Royal Society of New South Wales—the first scientific society within Australia, “had a critical role in the establishment of the first European colony on the Australian continent’s east coast”.<sup>4</sup> The Royal Society surveyed and studied Aboriginal peoples, not only to create knowledge about an “alien” population, but to position Europeans as the new “native”. The Oxford Dictionary defines surveillance as “the monitoring of people and systems in order to regulate their behaviour”, and the derivative verb “survey” as “to measure an area” of land to enable a scale map or plan to be produced.<sup>5</sup> Both of these terms can be understood as the close observation of someone or something for the purpose of collecting data.<sup>6</sup>

Surveillance processes commonly practised included fingerprinting, photographic documentation, biometric analysis, census taking, land surveying, mapmaking, interrogation, imprisonment, as well as various other forms of data collection reinforced by a process of repetition. The most damaging element of this process was not the documentation of metric data but the dehumanising assumptions that underpinned it and which determined any conclusions drawn. Such a closed dynamic could be successful only through mimicry, described by Homi Bhabha as “the sign of a double articulation; a complex strategy of reform, regulation and discipline, which appropriates the Other as it visualises power”.<sup>7</sup> Mimicry in this sense builds credibility to fictitious claims by incorporating familiar aesthetics of cultural groups, where an object demonstrates “a difference that is almost the same but not quite”.<sup>8</sup> These exclusionary processes of othering in Australia share many characteristics with Israel’s treatment of Palestinians, which Elia Zureik describes as

“inherently fragile, [as] it must be constantly fed by the illusory inferiority of the other—and is thus constantly at risk of being discredited”.<sup>9</sup>

Assisted through Australia’s foundational role in the production of anthropological theory—where scientific imperialism formed the basis of documenting Indigenous cultures<sup>10</sup>—surveillance practices helped to construct a body of knowledge through coercive and non-reciprocal means. A wide range of approaches was taken in building collections, based variously on locality (collection from one’s immediate location), circuit (collection during regular travel in a specific region), expedition (undertaking expeditions for the purpose of collection), trade (purchasing from dealers, auction houses or other collectors) and network (the creation of an organised network to collect on their behalf).<sup>11</sup> One prominent collector was Charles de Vis, the curator of the Queensland Museum between 1882 and 1905. De Vis would issue “periodic requests to police and other government agents in rural and remote regions of the colony for help in acquiring Aboriginal artifacts, skulls and skeletons”.<sup>12</sup> His networks were aware of how to source remains and cultural materials, with precedents such as the theft at gunpoint of a young mummified girl outside Herberton, or the theft of a King’s corpse from a burial platform in North Queensland. The only objection de Vis had was that he wished to bargain with the seller for their purchase.<sup>13</sup> In possessing both the physical specimen and related data or documentation, collectors could make scientific claims that were considered as truth and were used to exert influence and reproduce power relations within administrative and bureaucratic processes. Surveillance in this context is not only understood in the immediacy of looking, but also revealed in the way such documentation is presented, viewed and interpreted in historical, contemporary and future contexts. Surveillance practices in this light are “powerful means of creating and reinforcing long-term social differences”,<sup>14</sup> where Aboriginal peoples are disempowered and, as Zureik describes, “trapped in a space in which they must always be disappearing”.<sup>15</sup>

The collation of historical materials for educational purposes by libraries, as well as by museums, further facilitated the expansion of an international surveillance network, allowing documents to travel a long way and yet remain in the same place.<sup>16</sup> Although Australia was part of the larger international scientific network which conducted the trade in, and experimentation on, colonised peoples—especially through anatomical documentation—early museum collections within Australia were modest in scope and were accessible only to colonial, scientific, and social elites.<sup>17</sup> But the concept of the museum as a place that framed “discontinued” histories did not change as museums transitioned into state-based institutions, where the collection and study of cultural documents continued to memorialise, and be seen as providing insight into, the assumed “primitivity” of Indigenous people.

Mirroring the political dynamics within the colony, frontier massacres receded as part of a slow transition to a strategy of Aboriginal protectionism, where archival documents (including human remains) were stolen and consolidated as the cause and effect of colonial violence. The solicitation of cultural documents is highlighted in the expeditions of anthropologist R. Lindsay Black, and his specific interest in the Kamilaroi dendroglyphs used throughout mortuary ceremonies. Black surveyed and studied the designs within the restricted burial grounds of Collymogle Station, near Collarenebri in New South Wales. On confirming the interest of a number of private and public collections in 1949, Black proceeded to uproot fifty-two of the carved trees and distribute them to the highest bidders. Two were transported to Lindsay Winterbotham at the University of Queensland’s Anthropology Museum, where they remain today.

The display of Aboriginal peoples and our cultural documents within the museum was intentionally static, dichotomising time as either past or present.<sup>18</sup> Considered the point of ground zero, Aboriginal documents were studied and displayed by Australian museums if they marked the beginning of evolutionary sequences. The next stage of the evolutionary sequence was to create a relationality between Indigenous and European documents; displaying Aboriginal skulls alongside European weaponry, for example, which performed the violence of warfare and signified the triumphant victory of the European “civilising” mission.<sup>19</sup> These semiotic arrangements drawn from the archive illuminate the role of display as “an administrative and regulatory technology whose principal mechanism was, paradoxically, one of freezing history by denying the agency of . . . the colonised.”<sup>20</sup>

Photography was another mechanism which promoted the “bare facts” of evolution, learnt through typologies of the Aboriginal body. The widely held belief in the “truth claim” of photography assumes that photography accurately depicts reality. Although photographs do not necessarily lie,<sup>21</sup> they can significantly distort reality through scale, lighting, composition and the selection of what is captured in the frame. A photographic document in the book *Kamilaroi and White: A Study of Racial Mixture in New South Wales* (1924) presents four Kamilaroi men posing in positions identified as the Bertillon System.<sup>22</sup> Emerging from anthropometric and phrenological studies, the documents present the men in portrait and profile positions so the contours of the cranium can be analysed to identify typological differences.<sup>23</sup> Seen merely as specimens, these men are not known by their names but by fractions according to Aboriginal blood quantum. The relationships between each cranial position and the quantified fractions were provided as evolutionary markers that justified a sequence of colonial “progress”.

Today, socially acceptable terms such as “urban” and “traditional” are used broadly to signify Indigeneity by location or, within an artistic context, to identify a specific Indigenous aesthetic. Such terms are identifiably intertwined with historical typologies which can be understood as a direct result of assimilation. Examples like these demonstrate how Indigenous peoples are aestheticised through an Anglocentric framework which directly influences social knowledge and disciplines political histories—a power dynamic which has rendered Aboriginal peoples as knowable and possessable.<sup>24</sup> The colonial stronghold on cultural data has become so extreme that today both Indigenous and non-Indigenous peoples perpetuate and affirm its dominance, whether by coercion or in ignorance.

Surveillance mechanisms continue to invasively collect data of citizens in order to govern the population, demonstrating a lack of ethics that reinforces the methods of its historical precedents. While surveillance processes ease accessibility and technological advances make aspects of contemporary life easier, the processes of GPS tracking, biometric facial recognition and

the like construct a new surveillance apparatus. Biometric facial recognition, for example, proposed within the Australian Identity-matching Services Bill 2019 to monitor citizens, is a process which derives from pseudo-scientific studies and has the potential to further subjugate. Like the earlier anthropologists, scientists, and collectors, the majority of modern computer programmers who develop biometric software are Anglo men who intentionally and non-intentionally program their own cultural biases into the system. When archival data is digitised and is readily available from the convenience of your computer, there are not many mechanisms which can mediate its ethical use. In fact, there are very limited regulatory processes which monitor how information is collected, accessed or shared, either in an archival or a technological setting, which enables the cycle of misrepresentation to endure. As a central point in the collection of data, human remains and cultural materials, the museum archive persists as a site of violence and reminds us that these are not merely historical issues which we choose to distance from, but are very pressing contemporary ones.



Warraba Weatherall  
Single File 2018

#### NOTES

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2. Tom Griffiths, “Victorian Skullduggery,” in *Hunters and Collectors: The Antiquarian Imagination in Australia* (Melbourne: Cambridge University Press, 1996), 39.
3. Martin Curd and J. A. Cover, *Philosophy of Science: The Central Issues* (New York: W. W. Norton, 1998), 1–82. Pseudo-science is described as statements, beliefs, or practices that are claimed to be both scientific and factual, but which are incompatible with the scientific method. Some of these pseudo-scientific fields are phrenology, physiognomy, craniometry and anthropometry.
4. “Science in the Colony,” National Museum of Australia, accessed 15 June 2021., para. 1, <https://www.nma.gov.au/exhibitions/exploration-and-endeavour/science-colony>
5. Noel Castree, Rob Kitchin and Alisdair Rogers, eds., *Dictionary of Human Geography* (Oxford University Press, 2013) <https://www.oxfordreference.com/view/10.1093/acref/9780199599868.001.0001/acref-9780199599868-e-1825> and Christopher Gorse, David Johnston and Martin Pritchard, eds., *Dictionary of Construction, Surveying and Civil Engineering* (Oxford University Press, 2013). <https://www.oxfordreference.com/view/10.1093/acref/9780198832485.001.0001/acref-9780198832485-e-7109?rsk=ewrj8&result=1>. The entry in the *Dictionary of Human Geography* further states: “As Western states moved from a feudal to modern society they adopted a new mode of governance that sought to create a uniformity of social services across . . . implemented through the application of wide-scale public administration, such as population censuses, health records, class attendance and exams, crime records, the civil registration of births, deaths, and marriages, that scientifically and rationally captured, catalogued, and classified people, and facilitated the imposition of uniform and universal regulations. Such information provided a detailed knowledge of a population, enabling new professional elites . . . to govern more effectively and efficiently by identifying, disciplining, and punishing those who transgressed societal norms and rules.”
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8. *Ibid.*, 131.
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11. *Ibid.*, 83, 84.
12. Paul Turnbull, *Science, Museums and Collecting the Indigenous Dead in Colonial Australia* (London: Palgrave Macmillan, 2017), 262.
13. *Ibid.*, 262–63.
14. David Lyon, *Surveillance as Social Sorting: Privacy, Risk and Automated Discrimination* (New York: Routledge, 2005), 1.
15. Zureik et al., *Surveillance and Control in Israel/Palestine*, 68.
16. See Tony Bennett, *Pasts Beyond Memory: Evolution, Museums, Colonialism* (New York: Routledge, 2004), 71.
17. *Ibid.*, 32–33.
18. See Bruno Latour, *We Have Never Been Modern* (Cambridge, MA: Harvard University Press, 1993), 6.
19. See Bennett, *Pasts Beyond Memory*, 19–21.
20. *Ibid.*, 25.
21. See Tom Gunning, “What’s the Point of an Index? Or, Faking Photographs,” *Plenary Session II, Digital Aesthetics* (2004): 39–42. Gunning uses the term “truth claim” in describing the near-unanimous belief that photographs accurately depict reality, relying both on the indexicality and visual accuracy of the photograph.
22. Bennett, *Pasts Beyond Memory*, 176.
23. Plate XXI, Thomas G Taylor and F. Jardine, “Kamilaroi and White: A Study of Racial Mixture in New South Wales,” *Journal and Proceedings of the Royal Society of New South Wales* 58 (1924): 268–94.
24. See Allan Sekula, “The Traffic in Photographs” [1981] in *Only Skin Deep: Changing Visions of the American Self* (New York, NY: International Centre of Photography, 2003): 79–80.

# PLATFORM IMAGINARIES: DATA, ART & ONLINE SHOPPING AFTER COVID-19

VANESSA BARTLETT

Are you experiencing Zoom fatigue? Or have you just spent the past hour doomscrolling on Twitter? While the pandemic continues to subvert our daily routines, it has also forced most of us to spend more time online, generating a new behavioural and emotional vocabulary related to data, surveillance, and internet use. Now more than ever online platforms provide the digital architectures that shape our social and commercial behaviours, from maintaining connections with family and friends, to shopping for essentials and entertainment. Many of us have conceded a vast amount of sensitive data such as facial and voice biometrics, chat scripts, consumption habits, and entertainment preferences, with the accelerated process of pandemic adaptation affording little space for critical interrogation of consent and ethics.

Capturing some of the widespread unease triggered by the rapid acceleration of life on platforms, the Netflix production *The Social Dilemma* was released in the thick of the COVID-19 crisis in September 2020, prompting considerable moral and social panic.<sup>1</sup> The film followed ex-Google employee Tristan Harris in a well-meaning quest to alert the public to the addictive and polarising potential of social media. The film reflected the fact that public perceptions of the internet are no longer dominated by techno-positivism and utopianism; instead, as Geert Lovink points out in his essay *The Anatomy of Zoom Fatigue*, “managerial positivism has made way for the arrival of instant doom”.<sup>2</sup> Suspicion and fear inflect our relationship to data and platforms, yet our physical isolation and vulnerability in a neoliberal economic system mean we remain dependent.

In examining human–technology entanglement in the thick of a global pandemic where platforms have become even more prominent as an organising architecture of our lives, this essay is not concerned with the kinds of solutionism promoted by Tristan Harris

(*The Social Dilemma* recommends logging off or using a different search engine). Instead, it proposes a ‘platform imaginary’ that embraces the affects and intimacies that circulate around technology’s design and use as we all spend more of our lives online.

Imaginariness describe compelling, shared, widespread meanings and practices formed through the influence of interpersonal interactions, objects, and shared practices. According to anthropologist Claudia Strauss, imaginaries are deeply embedded in material and social experiences and are a result of the “understandings, emotions and desires that individuals develop as they experience these conditions”.<sup>3</sup> As we grapple with our accelerated dependence on platforms, we must acknowledge the fears and fantasies that circulate in human–technology entanglements and their power to provoke a collective reimagining of data. To begin this task, this essay will examine two artworks from the Data Imaginaries exhibition that engage with online platforms.

## PLATFORMS

According to *Platform Capitalism* author Nick Srnicek, platforms are a foundational architecture of the digital economy. Corporations such as Google (run by parent company Alphabet), Airbnb, Amazon and Facebook facilitate the extraction and control of “immense amounts of data” while appearing to offer free services such as augmenting social relations or providing product recommendations.<sup>4</sup> Such platforms are the most recent iteration of a capitalist system trained on the need to constantly seek out new avenues for profit, commodity creation, and exploitation. In the wake of the decline of manufacturing, corporations such as Google and Amazon have come to dominate high- to middle-income economies through their capacity to extract and monetise user data.

Among the design mechanisms that have afforded this success are interfaces that appear to be neutral while they covertly facilitate the extraction of data and extend the time users spend on devices. Platforms harness persuasive design—aesthetic and design elements integrated into interfaces that are intended to create specific behavioural outcomes, particularly heightened consumer activity. These include the infinite scroll (information feeds that produce endlessly refreshed content) and dark patterns (interfaces designed to confuse users into making purchases). The design also includes algorithmic mechanisms that thrust recommendations for potentially desirable purchases into our field of vision based on our recent browsing behaviour. Shoshana Zuboff has called this dynamic the “text” and the “shadow text” of surveillance capitalism. The “text”, as it appears on platforms such as Amazon, includes recommendations for things that we may like to buy. But this veneer is dependent on the shadow, a substrate of the design that exists to capture information about us, and which influences what is visible on the surface.<sup>5</sup>

## IMAGINARIES

Anthropologist Theodora Sutton has demonstrated the cultural significance of online platforms and persuasive design in framing how individuals and communities shift their digital habits. In her study of Camp Grounded, a Californian digital detox retreat that bans all use of technology, Sutton shows how concern about the design of online platforms motivates “digital detoxers” to attend the retreat and radically shift their online practices. She quotes individuals at the camp expressing anxiety about the “dopamine spike” they receive when using Facebook, and frames their decision to attend the camp as a response to the idea of “addiction by design”.<sup>6</sup> Sociologist David Lyon



Joana Moll  
*The Hidden Life of an Amazon User 2019*

focuses on a different aspect of online behaviour, using the concept of “surveillance imaginaries” to describe how people understand their relationship to data. Imaginaries have often been invoked to explore the non-noetic aspects of network culture, particularly in fields such as science and technology studies and software studies.<sup>7</sup> In her book *If . . . Then: Algorithmic Power and Politics*, Taina Bucher focuses on how life is lived “in and through” media and the unique forms of power that occur when algorithms shape information feeds and social encounters on platforms such as Facebook.<sup>8</sup>

An algorithm is a rule or code that is used to determine what kinds of content people are likely to see on platforms, based on their browsing history. Algorithms are used to pre-empt consumer choices on commercial platforms such as Amazon, Facebook and eBay. Bucher argues that the effect of an algorithm is determined in part by the user’s ability to make sense of it: “people learn what they need to know in order to engage meaningfully with and find their way around an algorithmically mediated world”. This “knowing” is formed less through understanding the code than through “the moods, affects and sensations” that algorithms generate as they shape everyday activities such as shopping and socialising.<sup>9</sup>

For Bucher, these affect-based relations are the origin of what she calls an “algorithmic imaginary” where algorithms are understood not only through the mental models that people construct of them, but also the “productive and affective power that these imaginings have”.<sup>10</sup>

An example used by Bucher to support her arguments includes a would-be consumer who happens to see their recent verbal conversations reflected in the advertising shown in their feed and is unnerved by what the algorithm seemingly “knows” about their desires.

Imaginariness have also been evoked to describe technology-driven art. In the introduction to their edited volume *Postdigital Aesthetics*, David M. Berry and Michael Dieter have argued that as computation reaches more deeply into social and economic lives—attempting in the process to create behavioural modification at scale—it becomes increasingly challenging to account for its effects exclusively through the lens of technology-related disciplines. Instead, the authors propose “constellations” of knowledge that might better address the complex emotional entanglements produced in networks. They describe a major shift where creative practitioners are no longer fascinated with the properties or use values of technologies such as interactivity, but grapple instead with “computational imaginaries”<sup>11</sup> as they emerge from encounters with technology’s design.

## ART

Art theory is readily engaged with artists’ responses to tensions between data, vision and perception as they unfold around platforms. Recent work exploring net art and software art has critiqued the aesthetic neutrality of the interface and has sought to draw attention to

the “shadow text” that covertly shapes user interactions.<sup>12</sup> In *The Metainterface: The Art of Platforms, Cities, and Clouds*, Christian Ulrik Andersen and Søren Bro Pold characterise contemporary interface design as having an aesthetic of “seamlessness” that is designed to allow it to “evade perception” and conceal political and economic agendas.<sup>13</sup> They coin the term “metainterface” to refer to parts of the interface that work to manipulate user behaviour while evading detection. They point toward creative practitioners working in digital media as some of the most effective critics of this inscrutability.

An example used in *The Metainterface* is the work of Joana Moll, an artist and researcher whose work critically explores how techno-capitalism influences the organisation of machines, humans, and ecosystems. Her work investigates themes of surveillance, social profiling, and interfaces, often with an emphasis on how hidden infrastructures of the internet mask definitively capitalist financial and labour relations that occur online.



Patrick Pound  
From Zamfir to Zafir 2020

For *The Hidden Life of an Amazon User*, 2019, Moll purchased the book *Jeff Bezos: The Life, Lessons & Rules for Success* from Amazon, and in the process tracked and captured the code or “shadow text” that personalised her viewing experience. This code (normally invisible to the user) is equal to 8,724 pages of text when printed on A4 paper, and was responsible for operations such as styling content, supporting interactivity, and recording user preferences and behaviours during the purchase. Moll’s work visualises not just the hidden code itself, but also the number of megabytes, watt-hours and calories required to move through the behavioural architectures the code produces. Visiting the work on the web, the viewer first accesses an image of Amazon’s clean, seamless user interface headlined “Shop with 100% Confidence on Amazon”. The image contains

familiar interface design features organising information into categories including “Today’s Deals” and “Shop your favourite brands”. Overlaid in red, metrics indicating the energy consumed gradually inflate as the viewer moves the cursor, alluding to the hidden value of the user’s digital labour and the environmental footprint produced by e-commerce websites. Scrolling downward reveals endless lines of code that are illegible to most users. The inscrutability of this information demonstrates what is at stake within interface design as a mechanism for translating specialised information into “user-friendly” platforms. It unveils the transition from code to “user experience” as an act of considerable power, where mechanisms of surveillance and behavioural tracking can be introduced without appropriate transparency.

First presented in 2019, *The Hidden Life of an Amazon User* predates the current COVID-19 crisis. Encountering it again in the context of *The Data Imaginary* exhibition invites renewed consideration of the shared, widespread meanings and practices that circulate around online platforms in the light of the “new normal” prompted by the pandemic. While COVID-19 produced major economic and social upheaval, it also served to reinforce many of the inequalities that define the dominant technocapitalist regime, with online corporations excelling while high street retailers closed. According to a *Guardian* article published in October 2020 the pandemic tripled Amazon’s profits, producing a 37 percent increase in earnings in the third quarter of 2020.<sup>14</sup> This is indicative of the general turn toward day-to-day e-commerce that defines pandemic

life: forced to stay home, people who can afford it simply shop online. The popularity of Amazon as provider of choice affirms the power of platforms as identified by Srnicek and Zuboff: with highly developed tools of algorithmic prediction and recommendation offering ease of use, sites like Amazon become “the path of least resistance” for an already overwhelmed population eager for distraction and commercial satisfaction.

For artist Patrick Pound online shopping is a habit and practice which has generated the raw materials for his work long prior to the pandemic-induced acceleration in e-commerce. Pound is known for his collections of objects and photographs acquired mostly from the shopping platform eBay. He works with his purchases to produce installations that link objects according to themes or patterns such as “readers”, “the air”, “lamps”, or “listening to music”. Unexpected associations emerge when the objects are placed together, offering a playful twist on the concept of categorisation.

Pound’s work in the *Data Imaginaries* exhibition, *From Zamfir to Zafir*, 2020, is an installation comprised of sixteen small objects purchased from eBay using the search term “Zamfir”. Described as an algorithmic experiment, the work includes a musical instrument, a novel, a vinyl record, and a cake tin, among other things. The objects are presented simply on a two-metre-long shelf, leaving the viewer to speculate on how each item relates to the original search term. Pound’s careful positioning of the items also marks the relationships between them as determined in part by the artist’s aesthetic choices. But the nature of both acts of selection ultimately remains opaque, as the viewer is left to create their own connections between items in the collection.

*From Zamfir to Zafir*, 2020 is a reminder that people do not experience algorithms by understanding the maths that creates them—in part because platforms offer little transparency about how their data-capture mechanisms operate. Rather we come to know algorithms through the emotions and oblique connections that they produce as they shape how we shop

and socialise. Considered in relation to Tiana Bucher’s theory of an “algorithmic imaginary”,<sup>15</sup> *From Zamfir to Zafir* shows that the effect of algorithms is determined in part by the user’s ability to make sense of them. Without being able to interpret or readily access the “shadow text” on online platforms, users come to “know” them through their own ability to create connections between what is visible and what is obscured from view. This process of sense-making is reflected by Pound’s evocative objects and the acts of imagination and association that they demand from the viewer.

As the COVID-19 crisis continues, physical isolation and the dominance of a neoliberal economic system mean that platforms will continue to exert their influence on our daily habits and practices. While figures such as *The Social Dilemma* (2020) star Tristan Harris propose a solutionist agenda like switching search engines, artists invite us to embrace the emotions and imaginaries that circulate around technology’s design and use. To understand entanglements between humans and data, we must attend to the complex felt experiences of Zoom fatigue, doomscrolling and other aspects of platform imaginaries. Artists can help us with this task.

## VANESSA BARTLETT

Vanessa Bartlett researches ways that artists and curators help us reimagine questions of wellbeing, agency and ethics in a digital age, and is currently a McKenzie Postdoctoral Research Fellow in the School of Culture and Communication at University of Melbourne. Her exhibitions at major international arts spaces, such as FACT (Foundation for Art and Creative Technology), UNSW Galleries and Furtherfield, London, have featured in *The Guardian*, *Creative Review* and *BBC Radio 4*.

## NOTES

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# VISIONING WHAT IS, WAS, AND MIGHT BE

GEOFF HINCHCLIFFE & MITCHELL WHITELAW

## INTRODUCTION

In this essay we reflect on the role of the imaginary in the production of two environmentally focused data visualisations, and consider its role through three different lenses. We begin with **Potential**, in which we recognise data as a creative material loaded with promise, but one that demands investigation and experimentation to reveal its value. We outline our makerly approach to working with data, a process that is iterative, emergent, and which sees problem and solution spaces developed in tandem. Imagination, in this process, is essential to the experimental probing and testing that reveals the creative potential of our data material. In **Evocation** we describe the reflective data-imagining of *Drifter*; a work that aims to evoke fresh speculative imagining about our parlous river systems through a meditative mashup of different yet interconnected datasets of the Murray–Darling river system. Through its careful orchestration of data fragments, *Drifter* foregrounds how prosaic datasets can be stitched into an evocative, poetic ensemble. **Anticipation** turns from the retrospective to the generative and considers the challenge of imagination involved in visualising our climate-impacted future. It describes how scale impedes our ability to anticipate, and through the *My Climate 2050* visualisation details our strategy of using intricate data models to relocate imagining from the abstract to the local and personal. In concluding, we reflect on the centrality of imagination in the development of these works, and on the use of data visualisation as a scaffolding for imaginative exploration of urgent and wicked environmental issues.

## POTENTIAL

In creating these works we work with data in a direct, hands-on way. We treat data as a creative material that demands experimentation, rather than part of a predictable production process. In one sense this pulls us away from design, whose etymology focuses on planning and intention. To put it simply, it's difficult to design in this sense with data, because data as a material is abstract, intangible, and flexible. The space of possibility that data brings—what might be done or made with it—is often unclear. This is because firstly it's often initially unclear what data contains (its scope and extent, its features, structures and internal consistencies). Secondly, it's almost always unclear how data might best be represented, visualised, shown or manifested. This uncertainty partly follows from the first point, but it is also multiplied by the range of possible outcomes, particularly if we set aside the conventions of everyday data visualisation, and consider a wider range of media and forms. Makerly experimentation with data offers a way through these uncertainties. It is an iterative process. Tom Armitage usefully described it as a form of material exploration that precedes design:

Until the data's been exposed to designers in a way that they can explore it, and manipulate it, and come to an understanding of what design is made possible by the data, there essentially is no product.<sup>1</sup>

“What design is made possible?” Is at its core a question of imagination: of sensing, recognising and investigating potentials for data and its manifestation based on what Armitage characterises as “toiling in the data mines”. While this process can be laborious, time-consuming and lonely, we also find it rich and rewarding: a gradual process of navigating and understanding an abstract terrain in search of creative opportunities. We also find that this process informs the shape of the design process. The “design possibilities” Armitage refers to could be framed as potential design solutions—

concrete outcomes (like visualisations) that address an independent problem. But we find that data exploration is equally generative of design problems; in other words, toiling in the data mines shapes our understandings of both what data can do, and how these potentials might be realised. The imaginative process of exploration creates cycles of moving design targets: for example in *Drifter: Map*, the decision to stage data fragments temporally created the potential for sound to play a role; the dozen or so distinct species in that dataset was a small enough set to link with audio recordings. Here a design “solution” (temporality) spawns a new “problem” (sonifying frog data) that resolves in the final work. Similarly in *My Climate 2050*, the resolution of the visualisation into a radial “dial” graph of a single year literally sets the stage for key moves, such as the linear sequence of dial states that paints out a future climate projection, the visualisation of shifting seasons, and the arrival of “New Summer”. As Armitage recognises, one of the key affordances of a dataset is its potential to connect with other datasets; and here the moving targets multiply again; each data layer both opens up and closes off potentials.

The tangled, iterative character of our designing with data makes a mess of any linear conception of design process. Instead, as Kees Dorst and Nigel Cross argue:

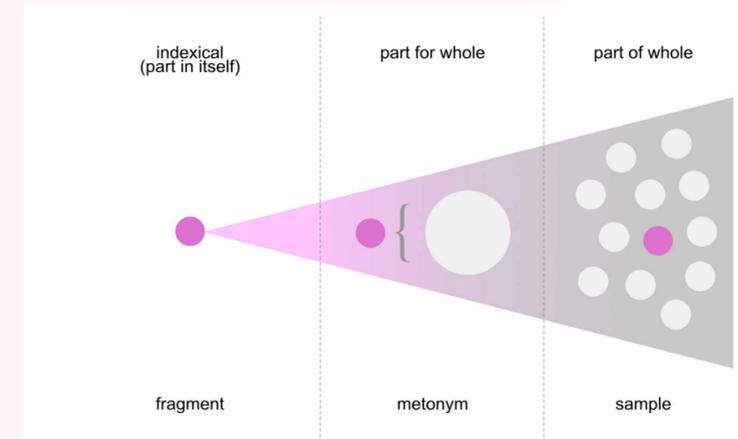
Creative design seems more to be a matter of developing and refining together both the formulation of a problem and ideas for a solution, with constant iteration of analysis, synthesis and evaluation processes between . . . problem space and solution space.<sup>2</sup>

This “coevolution” of potentials and problems echoes our experience, where the imagination plays a central role in probing and testing the branching tunnels of the data mines.

## EVOCATION

*Drifter* is best described as a data “mashup”: a playful but deliberate collision of disparate sources, intended to throw off sparks of juxtaposition and random recombination. These combinations demand the user make sense of them; but they are often (intentionally) heterogeneous and disparate. The imaginative leap required for the audience here is to bridge those domains, contemplating what sense might be made. This data imaginary is evocative: among a chorus of frog calls, fragments of news articles refer to life in the farming towns along the river; from large irrigation projects to the accidents and incidents of floods and drownings. Imaginative sense-making here is not a task or an imperative, but a form of idle contemplation. The deliberately slow pace, the use of sound, and the shifting layers of content all seek to encourage reflective observation rather than active information-seeking or narrative closure.

*Drifter* deploys its fragments or data-points in three characteristic ways. While each engages the imagination differently, the common thread here is that the fragmentary datapoint is evocative, but incomplete in itself; making meaning is a process of imaginative interpretation and interpolation. At times datapoints operate as representative samples of larger sets or corpora; for example, each frog observation is a sample from the whole set of such observations. A repeated process of sampling generates an impression of the overall qualities of these sets; but in *Drifter* these samples play out gradually, rather than all at once, so any overall sense is a developing, imaginative extrapolation of fragments past. Data-fragments may also be metonymic: parts that stand for bigger, more complex wholes. For example a scientist's image of a freshwater fish is a placeholder for riverine life-forms, as well as the techno-scientific projects that both threaten and protect them. Again, these links call on our imagination for completion. Finally datapoints also refer to fragments in themselves—tiny moments, instances and events. While they seem self-sufficient and self-explanatory, these also demand



*Drifter* deploys data-points in three distinctive ways, with all requiring imaginative interpretation and interpolation.

imagination. On 14 November 1966, the *Canberra Times* reported: “our bulldozers changed the course of the Cotter River in dense bush country south-west of Canberra on Saturday morning, in the first major step of the Corin Dam wall construction”. Imagination rehydrates this terse statement into something more vivid.

*Drifter's* engagement with imagination is enabled in part by the forms of data that it mobilises. The images, text, articles and observations that collide here are all loaded with contexts and connections. They share a place or, specifically, a catchment. They evoke and invoke wider systems and processes: this is by design. Part of engaging this data imaginary is the selection and weaving-together of such context-rich fragments. In the gaps and disjunctions as they come together—the implications and unstated links—imagination steps in.

Here the data-imagination is, like the data, retrospective. As Joanna Drucker points out, data is never simply “given” (in the present); she suggests we call it “capta” to emphasise the fact that it has been captured, or taken, through specific past processes.<sup>3</sup> By repeatedly fragmenting, composing and colliding data fragments, *Drifter* hopes to immerse us in these traces of different pasts—whether frog observations or images from the damming of the Murrumbidgee—and spark contemplation.

But as Ross Gibson outlines in discussing his own creative transformations of digital archives, this imaginative work is also, critically, about futures:

Our parlous states need imagination. We need to propose “what if” scenarios that help us account for what has happened in our habitat so that we can then better envisage what might happen. We need to apprehend the past. Otherwise, we won't be able to align ourselves to historical momentum. Without doing this we won't be able to divine the continuous tendencies that are making us as they persist out of the past into the present.<sup>4</sup>

Imagination here is not whimsical or fantastical, but immediate, urgent, and strategic. The past is not distant, but close-by and continuous, leading us up to our present and then continuing on into the future. *Drifter* was motivated by very present tensions and questions about Australian settler culture and its impact on the land, in particular our interventions in river systems and their increasingly “parlous states”. The ongoing environmental, social, and political crises knotted up in the Murray–Darling Basin Plan and its implementation, all hinge on envisaging, and thus managing, “what might happen”.

## ANTICIPATION

Where the data behind *Drifter* is retrospective; representing past events, artefacts and phenomena, the data underpinning *My Climate 2050* is generative and aims to describe Australian climate conditions of the near future. Producing data visualisations is always a challenge of imagination; finding graphic forms that are not only accurate but evocative, engaging, and, ideally, revelatory. In this case we had the added challenge of imagining form for data that itself was the product of imagining. By applying climate models to fifty years of observed weather data (1960–2010), the scientists of the Long Paddock project generate daily weather figures fifty years into the future. The data is used by Queensland's graziers and farmers to inform their efforts to adapt their practices to the changing climate conditions. The Long Paddock data is not a fanciful imagining but one that is extrapolated from historic weather datasets and generated by state-of-the-art mathematical modelling. Where climate change is so often reduced to a single ominous figure (for instance, +4 degrees), the Long Paddock data is incredibly detailed, providing daily temperature data for thousands of sites across Australia. The benefit of working with this rich dataset is that the projections of *My Climate 2050* are specific rather than generic, and allow us to ask: *how will my town be altered and impacted by the changing climate?*

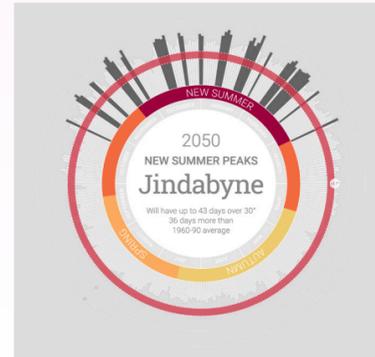
Produced for the Australian Conservation Foundation in the lead-up to the 2019 federal election, *My Climate 2050* sought to engage the Australian public in a conversation about climate change. Climate change is clearly a challenge of imagination, requiring us to project futures and take immediate action to steer our destiny. But too often it is framed as something distant: a future time, a global scale, removed from the here-and-now. *My Climate 2050* sought to close that distance, to bring climate change from the global to the local, from the abstract to the tangible, and, in doing so, to activate a personalised, localised imagining of what climate change might entail. The radial graph was instrumental to that imagining, and allowed us to show multiple scales in a single view; from daily, to monthly, seasonal, and annual.



The *My Climate 2050* radial graph visualises an entire year of maximum temperature data, at daily, monthly, seasonal and annual scales.

Read as a whole, the colour, shape and size of the radial graph offers a unique signature for each of the 4,700 locations and provides an immediate snapshot of the temperature conditions of that place. Critically though, the spokes representing each of the daily temperatures show precisely how that whole is being generated, and from that detail we can better appreciate what a 2, 3 or 4 degree Celsius increase in average annual temperature might look like. Rather than a uniform shift, the changing height and colours of the individual spokes show how daily temperature will continue to vary, but also how temperature increases will concentrate on particular days, months and seasons.

The radial graph is an incredibly succinct visualisation but potentially too efficient for the kind of conversation we were aiming to initiate. Ultimately, our aim was to use the data visualisation as a kind of scaffolding for imagining rather than presenting a single summative statement. Global climate change can seem like an insurmountable concept and, as Per Espen Stoknes suggests, we need to *re-story* it in order to re-engage a public that has been overwhelmed by its magnitude.<sup>5</sup> As already detailed, our re-telling involved localising the problem and more literally, choosing to present the visualisations within a storybook format using text, images, and a stepped narrative sequence. The stepped approach enables users to move forwards and



The stepped approach of *My Climate 2050* allows us to highlight key moments such as increased number of days over 30 degrees Celsius

backwards in the sequence to observe and then replay important transitions, and it allows us to unpack the visualisation and use captions to call out key aspects of the future being imagined.

Of the different propositions and provocations *My Climate 2050* offers, the most potent was the notion of recalibrated seasons: a disappearing winter, an extended summer, and a new period of temperature extremes. While the notion of disappearing seasons is easily refuted (our conventional Western seasons are designated by calendar dates not temperature ranges), the proposition of changing seasonality was a particularly evocative imagining, and one that people seemed to already have a sense of.

While we describe the work as a storybook and a narrative, we also think of it as an instrument for world building. Rather than attempting to describe whole worlds, Bruce Sterling describes how designers in the field of design fiction can create artefacts as entry points into future or fictional worlds.<sup>6</sup> In a similar way, we use *My Climate 2050* to project a future for a familiar location from which our audience can extrapolate and build the world in which that future lives. Again, our aim is to create a support structure for the imagination, to help demonstrate what exactly an X degree temperature-increase might mean for you and your town.



The imagining of a year without winter and a new form of summer proved to be arresting and controversial.

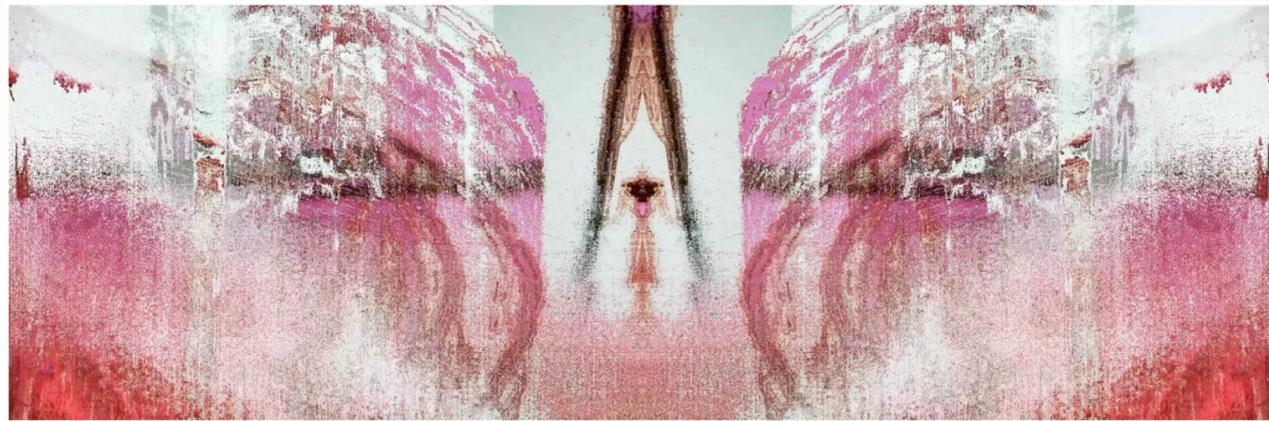
## REFLECTION

Both *Drifter* and *My Climate 2050* involve a challenge of imagination on two fronts: the quest to imagine and render data into meaningful visual form, and the challenge of drawing an audience into a critical act of imagining. As designers and makers, we treat data visualisation as a creative process in which imagination is crucial to the generation of meaning. Making is not simply a matter of realising the imagined form but of revealing the potential of the data through analysis and experimentation. In our iterative process, the qualities of the data inform our envisioning, and visual prototyping guides our data analysis. Similarly, we cannot prescribe our audience's imagining, and in creating data visualisations we seek to evoke imagination and create a fertile space in which imagining may take place. Engaging with wicked ecological and environmental problems can seem beyond the scope of imagining, and in both *Drifter* and *My Climate 2050* we use visualisation to shift the scope, to create accessible entry points for engagement with our necessarily difficult subject matter. In these works, visualisation serves as a form of scaffolding for our audience's investigations, a structure that may guide but also support their imaginings. Perhaps most importantly, in these works we strive to create visualisations that not only show what is, but also create space to anticipate and imagine what could be.

## NOTES

1. Tom Armitage, "Toiling in the Data-Mines: What Data Exploration Feels Like," *BERG Blog*, 23 October 2009, <http://berglondon.com/blog/2009/10/23/toiling-in-the-data-mines-what-data-exploration-feels-like/>.
2. Kees Dorstand and Nigel Cross, "Creativity in the Design Process: Co-evolution of Problem-Solution," *Design Studies* 22, no. 5 (2001): 425–37.
3. Johanna Drucker and Bethany Nowviskie, "Speculative Computing: Aesthetic Provocations in Humanities Computing," in Susan Schreibman, Ray Siemens, and John Unsworth (eds.), *A Companion to Digital Humanities* (Oxford: Blackwell, 2004), 431–47.
4. Ross Gibson, "Places Past Disappearance," *Transformations: Journal of Media and Culture* 13 (2006), [http://www.transformationsjournal.org/wp-content/uploads/2017/01/Gibson\\_Transformations13.pdf](http://www.transformationsjournal.org/wp-content/uploads/2017/01/Gibson_Transformations13.pdf).
5. Per Espen Stoknes, "What We Think about When We Try Not to Think about Global Warming: Toward a New Psychology of Climate Action," (Hartford, VT: Chelsea Green Publishing, 2015).
6. Torie Bosch, "Sci-Fi Writer Bruce Sterling Explains the Intriguing New Concept of Design Fiction," *Slate Magazine*, 2 March 2012, <https://slate.com/technology/2012/03/bruce-sterling-on-design-fictions.html>. See also Paul Coulton, Joseph Lindley, Miriam Sturdee and Mike Stead, "Design Fiction as World Building," *figshare*, journal contribution, 2019, <https://doi.org/10.6084/m9.figshare.4746964.v1>.

## EXHIBITED WORKS



### ROBERT ANDREW

#### Presence 2021

Post-production by Sai Karlen.  
Video, colour, silent, 27 mins, looped  
Courtesy of the artist & Milani Gallery, Brisbane

Presence overlays and abstracts elements from Andrew's installations to communicate his evolving relationship to Country. While the mechanical elements he uses are precise and programmed, Andrew's work builds new landscapes from the interactions between earth pigments, water, ochres, rocks, and technology.

There is a continual state of motion—uncovering and layering—that reflects a circularity in relationships between past and present.

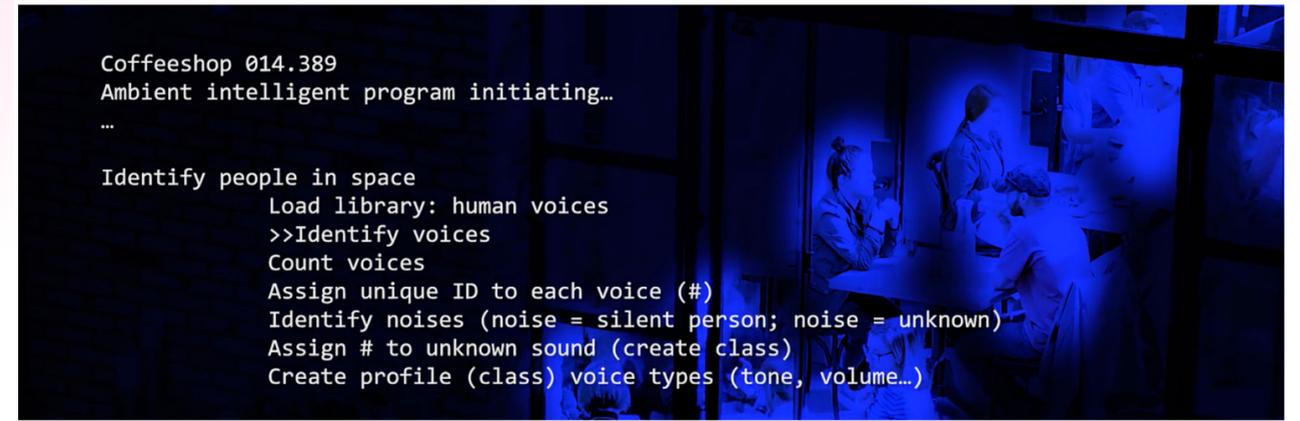
### YULIA BRAZAUSKAYTE

#### Undula 2019-21

Two sensorised rocking chairs, wood, digital components  
Courtesy of the artist

Undula aims to test the hypothesis that connectedness can arise from a jointly attentive, dynamic body-movement coordination. By asking, "how do we allow people in separated settings to feel connected via communication technology?" Brazauskayte's *Undula* becomes a new platform for inter-affective movement-based communication.

This experimental interactive design work explores the ways in which interaction design can enable full-body expressivity in social interactions conducted over a long distance. The outcome is a novel form of digital interaction through a minimal embodied interface. By encouraging dynamic co-regulated communication, Brazauskayte challenges traditional norms and behaviours for conversing and connecting with others.



```
Coffeeshop 014.389
Ambient intelligent program initiating..
...
```

```
Identify people in space
Load library: human voices
>>Identify voices
Count voices
Assign unique ID to each voice (#)
Identify noises (noise = silent person; noise = unknown)
Assign # to unknown sound (create class)
Create profile (class) voice types (tone, volume...)
```

### SILVIO CARTA

#### The Machine's Eye—How Machines See Our World 2019

Video, colour, sound, 16:9, 2:54 minutes  
Concept and texts: Silvio Carta; Editing, animation and effects: Freddie Gerrard-Abbott;  
Background image: The Creative Exchange on Unsplash  
<https://unsplash.com/photos/dIngW7SNehM>  
Courtesy of the artist

In *The Machine's Eye—How Machines See Our World*, Carta explores how a hypothetical Artificial Intelligence (AI) system can scan public spaces for interconnected devices and generate profiles of people with data retrieved from smart phones, microphones, CCTV, and sensors embedded in the internet of things. Based on the physical nature of the environment, and the demographic profiles of its occupants—according to gender, accents, and conversations—AI mines information from social media databases to calculate each individual's *social worth*, which Carta defines as their contribution to society in financial and social terms.

Carta focuses on the granularity of data and proposes that big data's access to geolocated and legacy data now provides accurate information concerning the behaviours, and current and anticipated locations of individuals. Despite Carta's dystopian vision of human value, he finds promise in the application of algorithms for the improvement of the urban environment, as long as the fully connected internet of things is demystified.



### ANDREW GALL

#### Reality to facsimile to reality 2021

Maireener, penguin, and stripy shells, silver and resin  
Courtesy of the artist

#### Hope after dissolution 2019

Video, colour, sound, 5.54 mins  
Courtesy of the artist

It has long been the tradition of Pakana culture for women to impart lore and cultural knowledge to the young when out gathering shells to be prepared for stringing, as part of the traditional cultural practice of kanalaritja (shell-stringing) that has continued for thousands of years. After enduring the attempted physical and cultural genocide by colonising Europeans, Pakana continue to face the issues of cultural loss and subjugation.

As our world succumbs to the realities of climate change, resource scarcity and the cultural homogenisation of globalisation, the shells used for this practice will diminish in number. For *The Data Imaginary*, Gall displays two outcomes of his research into additive manufacturing to fabricate forms of the fast-disappearing maireener shells from new materials: resin and silver, which will enable the continuation of kanalaritja.



**BENEDIKT GROß,  
STEPHAN BOGNER &  
HERWIG SCHERABON**

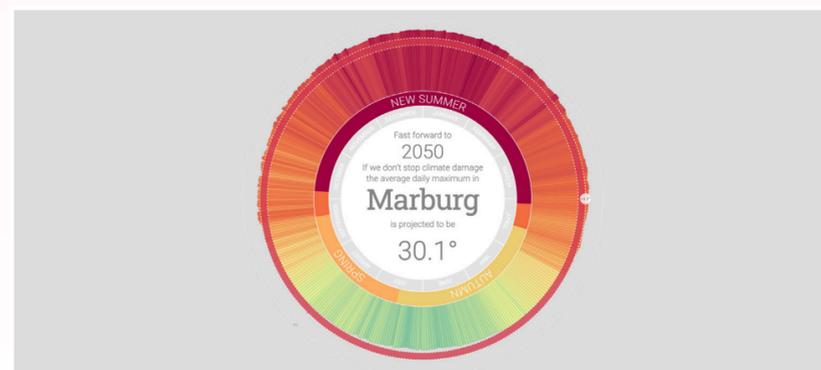
**Flights to Rome 2018**  
Digital video projection  
Courtesy of the artists

*Flights to Rome* is a data visualisation art project that shows flight and road infrastructure that supports global mobility in a single map and showcases the stories that location data can tell through extensive mapping of roads and flight paths. In response to the proverb that “all roads lead to Rome”, Groß initially mapped *Roads to Roma*, 2015, and then mined one week’s record of real-world global flight air traffic in 2017 with Bogner and Scherabon. The 712,425 routes to Rome documented in this visualisation reflect geographical differences and geopolitical tensions. For example, airports in isolated locations, such as Anchorage in Alaska, all connect to a major airport, in the case of Anchorage to airports in New York. In contrast, the map of air traffic surrounding North Korea shows minimal air traffic due to unannounced missile tests.

**GEOFF HINCHCLIFFE &  
MITCHELL WHITELAW**

**My Climate 2050 2018**  
Online interactive: <http://mtchl.net/acf-my-climate/>  
Commissioned by the Australian Conservation Foundation  
Courtesy of the artists

Commissioned by the Australian Conservation Foundation, Hinchcliffe and Whitelaw developed *My Climate 2050*, an illustrative location-specific climate projection tool. *My Climate 2050* is based on a “business-as-usual” emissions scenario, illustrating potential data futures and provides projections for over four thousand Australian locations. As a speculative tool for considering what might be, *My Climate 2050* works by enabling audience members to pinpoint their city, hometown or suburb and see how current inaction on climate impacts on their town. Through this tool data becomes personal and the future tangible.



**LOLA GREENO**

**Green maireener Necklace 2017**  
Green Maireener shells, cotton thread  
Private Collection

**Cape Barren Goose Pattern Necklace 2019**  
Grey gull, black crow, oat, and cockle shells, cotton thread, 184cm length  
Courtesy of the artist

**Kanalaritja Necklace 2018**  
Black crow shells, cotton thread, 192cm length  
Courtesy of the artist

**Purelayde Rice Mixed Necklace 2019**  
Orange rice, blue maireener, black crow, and white kelp shells, cotton thread, 188cm length  
Courtesy of the artist

**Marthinna Necklace 2019**  
Blue maireener and gull shells, cotton thread, 194cm length  
Courtesy of the artist

Greeno’s practice includes installation, natural fibre basketry and sculpture, but she is best known for her shell necklaces, an art form that draws on knowledge passed to Greeno from her Elders, who have collected more than twenty-one shell varieties in a cultural practice extending back thousands of years. This customary knowledge has been passed down from mother to daughter, and Greeno is one of a small number of women shell-stringers responsible for ensuring this practice continues today. The maireener shells, for example, are collected live from the waters off the Furneaux Islands between spring and autumn, when the waters are warmer. Once collected, cleaned, and rinsed with an acid solution to retain their lustre, they are sorted and pierced for stringing. Creating a long ceremonial necklace is a painstaking process that can take several days. Greeno’s works represent her unbroken commitment to this art form and have drawn attention to the environmental changes that threaten the fragile natural ecosystem of the Furneaux Islands. In the process of collecting Greeno has observed a diminishing number of shells.

The green maireener is the rarest of the *Phasianotrochus* genus of sea snails and is found in only two or three places around the island group. While scientists at the Institute of Marine and Antarctic Studies (IMAS) are researching whether the reduction of the maireener species (*Phasianotrochus irisodontes*) is connected to the shrinking of kelp forests on the east coast of Tasmania, Greeno’s son Dean Greeno is leading the preservation of cultural knowledge about Tasmanian aquatic ecology from Elders, before it is too late.



Green maireener  
Necklace 2017



Cape Barren Goose  
Pattern Necklace 2019



Kanalaritja  
Necklace 2018



Marthinna  
Necklace 2019



Purelayde Rice  
Mixed Necklace 2019



## INTERACTION RESEARCH STUDIO

### Datacatcher 2015

Plastic, digital and electronic components, 5.5 x 8 x 17cm  
This research was supported by the European Research Council's advanced investigator award no. 226528, 'Third Wave HCI', Courtesy of Interaction Research Studio

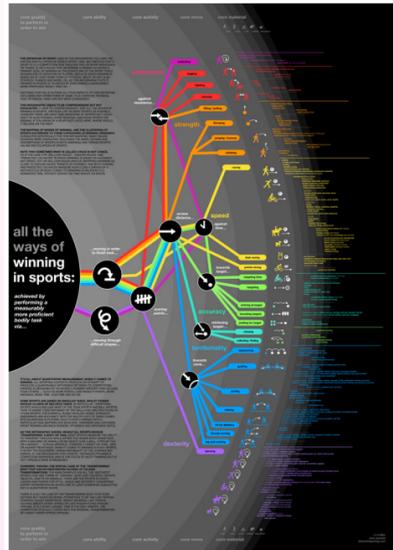
### Datacatcher Walking Tours 2015

Single channel video, colour, sound, 37 mins  
This research was supported by the European Research Council's advanced investigator award no. 226528, 'Third Wave HCI', Courtesy of Interaction Research Studio



*Datacatchers* are location-aware, handheld devices that display information about the socioeconomic topology of their location. They were produced in a batch of 130 for a large-scale field trial in Greater London during 2014–15. Each device reconstructs geolocated data—concerning property values, crime, typical incomes, local pubs and population health—into short descriptive sentences about the local area. In concert with this, users are invited to communicate their impressions of the area by responding to multiple-choice questions about their surroundings (e.g. Q: "What are the dogs like here?" A: 1. handbags, 2. working, 3. attack, etc.). Their answers are then added to the stream of messages sent out to other co-located devices.

The Interaction Research Studio frames the device as an implicit critique of the limitations of the data that *Datacatcher* is designed to skim across, and points out that the aggregated datasets compiled by companies and governments provide only limited insights about individuals. Calling out data's populationisation (the process where population statistics are extracted from data on individuals) as a "totalising logic" the designers claim that data's reliance on decontextualising, categorising and comparing characteristics means unquestioningly accepting the norms that sustain inequality. In place of aggregated data, the studio argues for the importance of personal interpretation in interaction design and for greater recognition of the specific context in which all data is located.



## LUKE JAANISTE

### All the Ways of Winning at Sport 2019

Digital print on wall paper, 155 x 220cm  
Courtesy of the artist

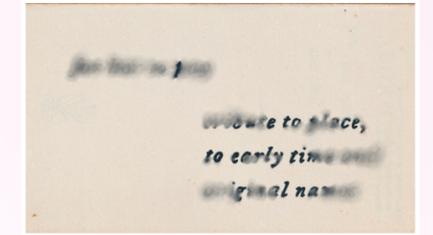
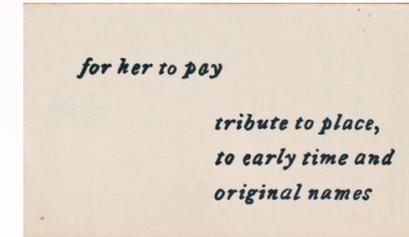
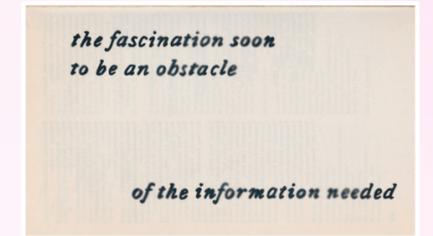
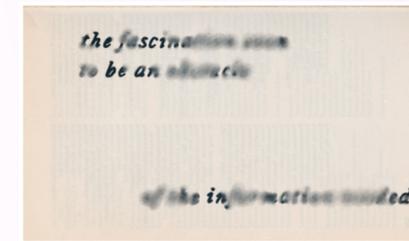
With *All the Ways of Winning at Sport* Jaaniste provides a novel infographic that aims to map all the modes of winning at sports, and also list as many sports as possible. Jaaniste states that most sports measure the ability to transfer through space either the human body (sometimes with a machine or animal) or an object (like a ball, a projectile or a weight)—across distance, towards a target or zone, and/or against resistance. For Jaaniste, when it comes to winning in such sports, it is not the enjoyment, drama and beauty of the journey but arrival at the destination that counts. Technique provides a competitive advantage (and is the focus of much training) but is typically not what is measured. Jaaniste's infographic captures a range of variables such as ability, activity, movement, and material. The outcome is a rich and playful visual that proficiently traces the performance of bodies.

## JENNA LEE

### Her Heritage 2021

4-channel video, 2 mins, looped  
Created in collaboration with Sai Karlen  
Courtesy of the artist and MARS Gallery, Melbourne

In this video work, Lee has explored the introductory texts of the books *Aboriginal Words of Australia and Aboriginal Place Names and their Meanings*, published in 1965 and 1967 respectively, and reissued as *Aboriginal Words and Place Names* in 1977 by A. W. Reed. This dictionary compilation presents deeply flawed data in the listing of words with no reference to people or place. Instead, this book homogenises the 250 unique languages spoken by First Nations people, presenting them as inspiration for the naming of "houses, children, and boats". Lee highlights how the mass collection and homogenisation of languages by early settlers and missionaries now acts as both obstacle and aid, as First Nations people seek to relearn their traditional languages.



## IAN McARTHUR

### metaPLACE 2019–20

Online interactive and live data feed  
Programmer/ Creative technologist: Adam Hinshaw;  
Collaborator: Fang Xu, Dimensions Art Centre, Sichuan Fine Arts Institute, Chongqing Urban Planning Department; Participants in metaPLACE Co-design workshop at Dimensions Art Centre, Chongqing, December 2019  
This work was made possible through the support of The Australian Research Council (ARC)  
Courtesy of the artist

Building on the ways in which the immediacy of data is simultaneously temporal, historical and personal, McArthur created metaPLACE—an urban media interface—that fosters real-time participatory encounters. This is achieved through place-based digital encounters that enable local residents to iteratively contribute to liveability outcomes. Specifically, metaPLACE seeks to capture emotional responses to place, while simultaneously generating useful data to aid the development of better urban futures. The resultant dataset represents participatory, accumulative insights that help government and urban planners better understand and design more liveable urban environments.



## JOANA MOLL

### *The Hidden Life of an Amazon User* 2019

Online interactive, colour, no sound, book, A4 paper  
This work was realised within the framework of the European Media Art Platforms EMARE program at IMPAKT with the support of the Creative Europe Culture Programme of the European Union. Courtesy of the artist

*The Hidden Life of an Amazon User* makes material the amount of code (8724 pages) involved in making a single purchase on Amazon. Moll purchased *The Life, Lessons & Rules for Success* (2018) by Jeff Bezos on Amazon, the e-commerce platform that he founded. Bezos's book of tips is one of a series of eight self-help manuals published between 2017 and 2018 by authors including Bill Gates, Warren Buffett, Oprah Winfrey and Elon Musk.

As Jara Rocha notes in one of the texts that accompanies the installation, Moll's "attentive interface politics" documents the hidden extraction of information and energy that goes into fulfilling a single purchase prompted by a simple click. Triggering questions about consumer tracking in the shadow economy and how extensively our data is monetised by platforms such as Amazon, Facebook, Instagram and eBay, among others, this work makes tangible how the consumer increasingly and often unwittingly feeds the work (data generation) of microprocessors. As a form of unpaid labour the "shadow work" of consumers, noted by Ivan Illich in 1981, has grown exponentially with digitisation.



## STANISLAVA PINCHUK

### *Data Study (Annual Mean Temperature Anomaly: Australia)* 2021

5 parts: pin-holes on Arches 640gsm paper  
58 x 540cm overall  
Private collection of Hollie Taylor and Glenn Mackay, Brisbane

In *Data Study (Annual Mean Temperature Anomaly: Australia)* Pinchuk has created a series of data-maps documenting the new landscape topographies with precision pinholes that captures the contour of the ground. This delicate five-panel work is a study of one of Pinchuk's yet-to-be-announced projects: a public art commission taking the form of a climate data mural and a nightly animation connected to the Bureau of Meteorology (BoM), which changes daily according to changes in BoM data.

Pinchuk has translated, pinhole by pinhole, thousands of data points describing the changing patterns of Australian temperature. Hers is a meticulous, physically demanding and time-consuming creative process that closely resembles her home tattooing practice. The work has been described by Yavuz Gallery as "a poetic transcription of scientific figures into an ocean of undulating waves".

## PATRICK POUND

### *From Zamfir to Zafir* 2020

19 objects, mixed media, dimensions variable  
Courtesy of the artist & Darren Knight Gallery, Sydney, & Station Gallery, Melbourne

In *From Zamfir to Zafir* Pound extends his poetic experiments with the collection as a medium and making collections of other people's things. He describes these works as "fundamentally analogue, physical, and sentimental", noting "the limits of each collection constraint" and that the collections "always retain the patina of the search that helped bring them together".

*From Zamfir to Zafir* was generated at the suggestions of the eBay search engine. Starting with a search for Zamfir and his pan flute, Pound purchased each thing that eBay suggested, ignoring only repeat objects. The resulting collection continues his interest in "the poetry of the misstep", as eBay's suggestions of objects ranged from cassette recordings of Zamfir and his pan flute and pan flutes of various types, to the Bible on cassette, an empty cassette carry-case, and a fluted pan. Pound describes eBay's occasional return to ideas or things previously suggested to him, "as if the search stopped to look over her shoulder".



A key moment occurred when eBay's recommendations tipped over from Zamfir to items listed under the malapropism Zaphir. The list, generated by computational logic, chance, and the shuffle of things, settled on a reverse camera for a Zaphir car. This camera evoked memories for Pound about photography, which, from the *carte de visite* to Snapchat, has, as Pound says, "always been about five things: observing, noticing, recording, sharing, and connecting". As a collection, this grouping of eBay things challenges the audience to reflect on the poetic possibilities of playing with algorithms.

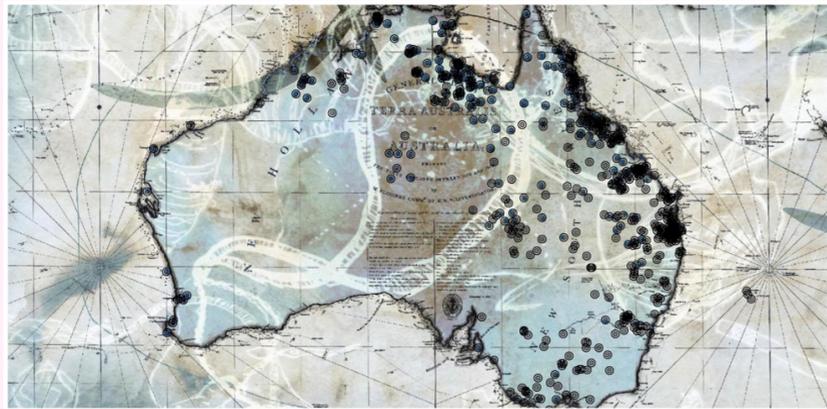
## AIDAN ROWLINGSON

### *660* 2018

Polymer clay beads on wire  
600cm length  
Courtesy of the artist

In *660* Rowlingson creates a tangible and direct response to the repatriation program of the Queensland Museum. In 2018 the Museum held 660 Indigenous ancestral remains, which are represented in this work by 660 individually sculpted beads depicting human skulls. Rowlingson's work is a visceral response to the violations of humanity that remain in our public keeping-places, creating a potent and timely reminder of the use and misuse of data in these contexts. He reminds us that repatriation is a responsibility that museums, institutions, and Aboriginal and Torres Strait Islander people must wear.





## JUDY WATSON

### *the names of places 2016*

Single-channel HD video, colour, sound, 22 mins  
 GIS analyst: Angus Hooper; Research/historian: Jonathan Richards; Technical and creative consultant, project management: Greg Hooper; Editor: Jarrard Lee; Assistants: Freja Carmichael, Indy Medeiros.  
 Courtesy of the artist, Milani Gallery, Brisbane, and Tolarno Gallery, Melbourne

For several decades, aspects of Watson's work have focused on massacres of Aboriginal people, and *the names of places 2016* is an ongoing investigation into this subject. This video shows placenames of massacre sites across maps of Australia and images of Watson's works of art, in a complex intersection of place and data. The fragility of ways of knowing is recognised in Watson's inclusion of the oral histories and "hearsay" that record the massacres during Australia's colonisation.

## TALI WEINBERG

### *What Color Was the Water? (1 & 2) 2017*

137 years of annual average temperature for the world's oceans; handwoven organic cotton dyed with plant and insect-derived dyes and mineral mordants  
 82 x 140cm

In her 2017 series, *What Color Was the Water?* Weinberg uses woven panels to trace and interpret 137 years of annual average temperature of the world's oceans with climate data from the National Oceanic and Atmospheric Administration. While each panel is based on the same data, the coding changes, exploring how choices in representation shifts how we see and what we know. The changes in colour from panel to panel point to the differing ways in which we observe and experience changes to the water that connects us all.



## WARRABA WEATHERALL

### *Single File 2018*

Metal, aluminium, plastic, paper  
 155 x 55 x 165cm

### *Document 2019*

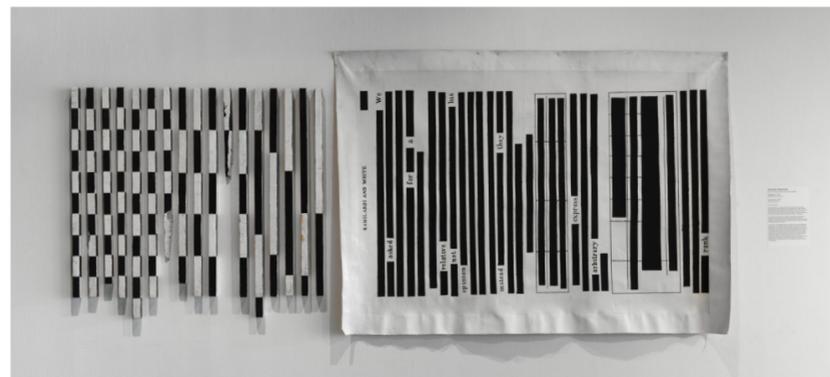
Wood, canvas, acrylic  
 150 x 250cm  
 Courtesy of the artist

In the work *Single File*, 2018, Weatherall reframes the collection of cultural data by positioning the filing cabinet as a central artefact within Museum collections and archives. The physical exaggeration of the filing cabinet evokes the corporeality of Indigenous archival data. The drawer labelled "Unknown, Height 165cm, Weight 74kg, Aboriginal" refers to the artist and his vital statistics. Inserting himself into the work, Weatherall highlights that he, together with his fellow Aboriginal peoples, remains subject to colonial rhetoric that perpetuates institutional racism. *Document*, 2019, utilises scientific tools and documents to present a sequence which critiques the quantification of the human body, presenting the patterning created by a document with available and redacted knowledge in black and white.

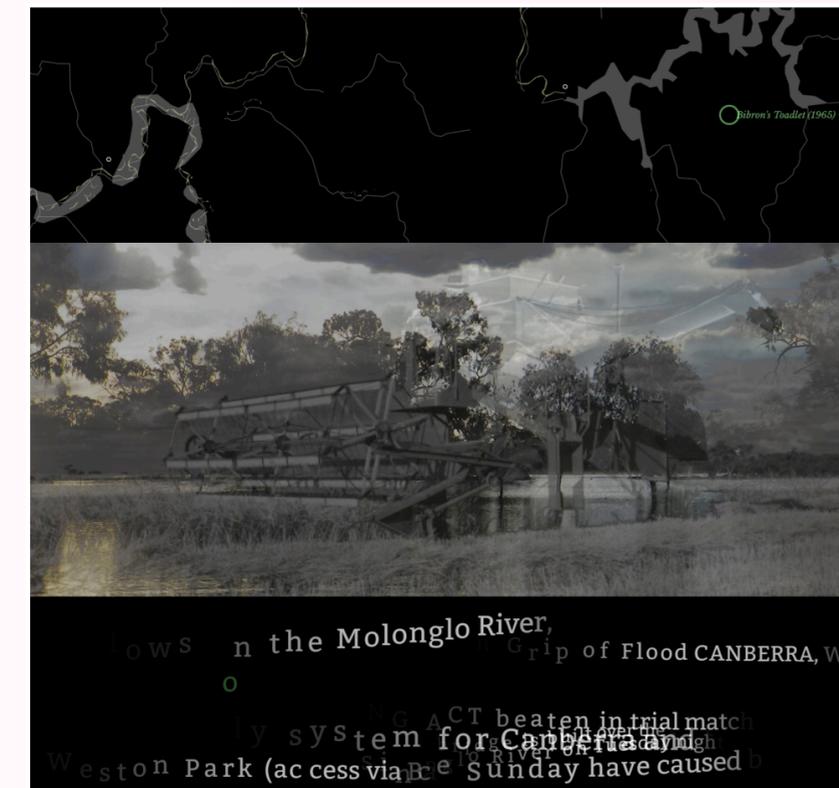
*Single File* and *Document* continue Weatherall's investigations into colonial surveillance and the role of archives in documenting and storing information. Institutions retain data as well as large collections of Indigenous stories, artefacts, and ancestral human remains, along with Western interpretations of the materials that attempt to render Indigenous cultures as "knowable" and "possessable".



*Single File 2018*



*Document 2019*



## MITCHELL WHITELAW

### *Drifter 2016*

Online interactive, colour, sound  
 url: <http://mchl.net/drifter/>  
 Courtesy of the artist

With *Drifter* Whitelaw represents a multi-layered portrait made out of data of the Murrumbidgee River system. His fusing of historic images, newspaper articles, scientific observations, and digital maps creates tens of thousands of data points that come together in three ever-changing views, titled *Map*, *Sifter*, and *Compositor*.

*Map* traces fragments of the river's (white) history, from everyday events to large-scale interventions. Alongside human stories, thousands of scientific observations reveal some of the nonhuman life of the river. *Sifter* transforms text into texture, drifting through text snippets from newspaper articles discussing the Murrumbidgee and its tributaries, piecing together the names of some of the living things that go unmentioned in these accounts. *Compositor* combines historic images from library and archive collections with contemporary images from fieldwork monitoring the health of the river's wetland ecology.

# ARTIST BIOGRAPHIES

## ROBERT ANDREW

**Born 1965.** Yawuru people, Western Australia; lives and works in Brisbane.

Robert Andrew is a descendant of the Yawuru people from the Broome area of the Kimberley, Western Australia. Andrew's installations visualise an unearthing of personal and familial histories—envisaging links with his Country as well as Aboriginal understandings of place, belonging, and connection. The work mines historical, cultural and personal events that have been buried and distanced by the dominant paradigms of western culture.

Raw materials and mineral resources—such as earth pigments, ochres, rocks and soil—allude to the cultural issues and politics associated with colonial economies such as archaeology and mining. Andrew's installations employ electro-mechanical devices to unearth knowledge and build new co-incident landscapes that speak to historical events and contemporary experiences. Andrew's work employs electro-mechanically driven plotting systems to control the movements of strings, rocks, ochre, water, soil, and branches. Mechanical armatures often gesticulate Yawuru Language—building Andrew's connection to his familial history.

## STEPHAN BOGNER

**Born 1993.** Lives and works in Ulm, Germany.

Stephan Bogner is an independent software creator, designer and occasional artist based in southern Germany. Formerly he worked at the MIT mobility startup Superpedestrian, the consulting/design agency Intuity and online manufacturing platform startup Laserhub.

## YULIA BRAZAUSKAYTE

**Born 1993.** Lives and works in Sydney.

Yulia Brazauskayte is a doctoral candidate within the Creative Robotics Lab at the University of New South Wales, Art & Design. She has a background in product design and is exploring movement-based interactions with technology in her research practice. Brazauskayte reinforces characteristics of our embodied existence that allow people to communicate over distance in a dynamic, co-regulated and ambiguous way, without the use of words or explicit written language.

## SILVIO CARTA

**Born 1979.** Lives and works in London.

Silvio Carta is an architect, fellow of the Royal Society of Arts and Head of Art and Design at the University of Hertfordshire, where he is also Director of the Professional Doctorates in Fine Arts (DFA) and Design (DDES). His research focuses on computational design and public space. Carta is head of the editorial board of Seoul-based *C3magazine*, editor of *Architecture\_MPS* (UCL Press), and the author of *Big Data, Code and the Discrete City* (Routledge 2019) and *Machine Learning and the City Reader* (Wiley 2022).

## ANDREW GALL

**Born 1960.** Pakana people; lives and works in Brisbane.

Andrew Gall was born in Queenstown, lutruwita Tasmania. He is Pakana, the son of Connie Mansell, and his language name is kurina (eagle/hawk). Gall holds a Bachelor of Contemporary Australian Indigenous Art and is currently a doctoral candidate at the Queensland College of Art, Griffith University. Trained as a jeweller, his practice has expanded within the context of innovations in 3D scanning, drawing and printing technology, and his work explores the interaction between the preservation of his cultural heritage and the role of technology in aiding the preservation of cultural knowledge and tradition. Gall's goal is to create processes that will assist elements of his Pakana culture to continue and prosper, as well to convey stories from his personal and spiritual past and from his land.

## LOLA GREENO

**Born 1946.** Palawa people; lives and works in Launceston, lutruwita Tasmania.

Lola Greeno is a senior Palawa woman born on Cape Barren Island. After moving with her family to Flinders Island, in 1972 she relocated to Launceston. Her works have been exhibited widely and she is represented in state, national and private collections throughout Australia and overseas.

## BENEDIKT GROB

**Born 1980.** Lives and works in Ravensburg, Germany.

Benedikt Groß is a speculative and computational designer and Professor of Strategic and Interaction Design at the HfG Schwäbisch Gmünd. His work examines relationships between people, their data, technology and environments, and he is particularly interested in speculating about these relationships in the near future. Groß holds a master's in design interactions from the Royal College of Art London, a diploma in information & media from the HfG Schwäbisch Gmünd, and is alumnus of the MIT Senseable City Lab and the Frank-Ratchye STUDIO for Creative Inquiry at Carnegie Mellon University.

## GEOFF HINCHCLIFFE

**Born 1969.** Lives and works in Canberra.

Geoff Hinchcliffe is a designer, developer and researcher with an interest in design, data, computation and interface aesthetics. Hinchcliffe and Whitelaw have an extensive history collaborating on data visualisation projects, with a particular emphasis on providing tangible representations of data. Together they created *Climate Coasters*, 2018, for the ANU Climate Change Institute, and the *Corley Explorer*, 2018, a unique record of Queensland suburbs of the 1960s and 1970s, comprising over 61,000 photographs. *Corley Explorer* was commissioned by the State Library of Queensland, and was crafted by Hinchcliffe and Whitelaw in collaboration with digital design studio Icelab. Together they developed a rich, explorable interface that invites the community to describe and enrich the collection.

## INTERACTION RESEARCH STUDIO

**Established 2006, London.**

The Interaction Research Studio (IRS) at Goldsmiths, University of London, explores the design of computational systems for everyday life. Their practice-based research integrates design-led research methods with work on embedded and ubiquitous technologies to produce prototype products embodying new concepts for interaction. They do not pursue design as problem-solving, but instead design products to create situations that encourage playfulness, exploration and insight. Their highly finished prototypes have been deployed for long-term field trials and exhibited internationally at venues such as the V&A Museum, Tate Britain, and New York's MOMA. The studio is led by Bill Gaver & Andy Boucher. Current members of the team are Dean Brown, Naho Matsuda, Jen Molinera, Liliana Ovalle, Andy Sheen, and Mike Vanis. The *Datacatcher* was created with IRS alumni Nadine Jarvis, David Cameron, Mark Hauenstein, and Sarah Pennington.

## LUKE JAANISTE

**Born 1977.** Lives and works in Mullumbimby, NSW

Luke Jaaniste is a creator, composer, sonic artist, and community facilitator currently based in Mullumbimby. Jaaniste studied composition and musicology at the Queensland Conservatorium, and completed a Doctor of Philosophy in ambient experience at Queensland University of Technology (QUT). Previously, he was a research fellow at QUT and taught interactive media at Queensland College of Art and he has held residencies at the Judith Wright Centre in Brisbane.

Jaaniste was also co-director of sound project Super Critical Mass (SCM), working with groups of participants voicing or performing similar actions on identical sound-making instruments, dispersed across public spaces. This work has appeared in a range of major cultural venues and events across Australia and the United Kingdom, and in New York. Jaaniste is also known for creating and curating the MESMERISM summer festival in Brisbane, which focused on immersive, full-body listening with vibrational sound fields, through various approaches to spatial music performance and installation.

## JENNA LEE

**Born 1992.** Larrakia, Wardaman, and Karajarri people; lives and works in Melbourne.

Multidisciplinary artist and designer Jenna Lee lives and works in Melbourne. She is Larrakia, Wardaman, and Karajarri, and identifies as a queer, mixed race, Asian, Aboriginal woman. In 2020 Lee was the recipient of the Wandjuk Marika 3D Memorial Award at the Telstra National Aboriginal and Torres Strait Islander Art Award (NATSIAA), and a finalist in the Ravenswood Australian Women's Art Prize, the National Works on Paper Prize, the Libris Artists' Book Prize and the 15 Artist Prize. In 2019 Lee was the recipient of the Australia Council's Young and Emerging Dreaming Award, as well as one of ten finalists in the prestigious John Fries Award for emerging and early career Australian and New Zealander artists. In 2018 Jenna was a finalist in the 35th NATSIAA, a finalist in the 2018 Blacktown Art Prize, as well as winning Category 4 of the Libris Awards for her the loose-leaf artist book *A Plant in the Wrong Place*. She holds a Bachelor of Visual Communication Design from Griffith University, Queensland College of Art, and a Graduate Certificate in Museum Studies from the University of Queensland.

Through her art, Lee explores language, labels, and objects, examining how they intersect to create or challenge the concept of identity, and the relationship between language and object. Her practice spans curation, creative design, art making, and production.

## IAN McARTHUR

**Born 1960.** Lives and works in Sydney and the Blue Mountains, New South Wales.

Ian McArthur is a hybrid practitioner and is known for his work across domains of experimental interdisciplinary practice, transcultural collaboration, sound art, experimental radio, metadesign, and education change. McArthur is currently working on an Australian Research Council Discovery Early Career Researcher Award (DECRA) through the University of New South Wales. Through his work McArthur tests theoretical assumptions that participatory urban media can act as a co-designed interface between the urban environment, its community, government stakeholders and industry.

Recent investigations centre on the development of participatory design methods using large urban screens as diagnostic tools for urban planning with Australian and China based practitioners. Using media installations, McArthur and his collaborators build engagement and dialogue between citizens and city stakeholders about the places in which they live, work, and play

## JOANA MOLL

**Born 1982.** Lives and works in Barcelona and Berlin.

Joana Moll is a Barcelona-based artist and researcher. Her work critically explores the way that post-capitalist narratives affect the alphabetisation of machines, humans, and ecosystems. Moll's research focuses on internet materiality, surveillance, social profiling, and interfaces. She has presented her work and critical analyses of the ecological and social implications of the network of material and immaterial agents that configure the internet in a number of museums, universities, festivals, and publications around the world. Moll is currently a visiting lecturer at University of Potsdam.

## STANISLAVA PINCHUK

**Born 1988.** Lives and works in Sarajevo, Bosnia and Herzegovina.

Stanislava Pinchuk is a Ukrainian-Australian born in Kharkiv, Ukrainian SSR. Pinchuk explores contested territories through data-mapping the changing topographies of climate change, war and conflict zones. Her work surveys how landscape holds memory and testifies to ecological and political histories. Fusing an interest in philosophy, textiles, street art and topography, Pinchuk uses drawing, installation, tattooing, film, and sculpture to map the effect of global warming on the land and areas of conflict around the world. Her examination of the ways in which the ground retains the memory of violence, shows how the land beneath our feet is charged with memories of ecological and political events.

## PATRICK POUND

**Born 1962.** Lives and works in Melbourne.

Patrick Pound is an artist and Associate Professor of Art and Performance in the Faculty of Arts and Education, Deakin University. He explores how public collections can be reformulated as an artistic medium through which to interrogate how items are found for collections and made to hold particular ideas. Pound also queries the systems of collection used in traditional research on photography and the archive and the history of documentary photography.

## AIDAN ROWLINGSON

**Born 1996. Butchulla and Kabi Kabi people; lives and works in Brisbane.**

Aidan Rowlingson is a multidisciplinary artist and producer based on Jaggera and Turrabal country. He is a proud, queer Butchulla man of K'gari (Fraser Island) and the Wide Bay area. After graduating from the University of Canberra with a Bachelor of Acting and Performance, Rowlingson has worked in classical and contemporary theatre and has also performed poetry as a part of a number of local events. His theatrical writings include *Capricorn*, developed by QPAC and Moogalin Arts, and *Tentacles*, developed for the Brisbane Sci-Fi Theatre Festival. Rowlingson currently works at La Boite Theatre and is the First Nations Producer and Community Liaison with Jungle Love Festival. His work *660* was featured at the Queensland Museum as part of Digi Youth Art's visual arts showcase "660: Calling home" developed out of their *Unsettle* project.

## HERWIG SCHERABON

**Born 1990. Lives and works in Vienna, Austria.**

Currently based in Vienna, Herwig Scherabon is an award-winning graphic designer. He works across the fields of information design, editorial and motion graphics. Scherabon studied graphic design in Vienna and Tallinn and holds a master's degree from the Glasgow School of Art.

## JUDY WATSON

**Born 1959. Waanyi people; lives and works in Brisbane.**

Judy Watson lives and works in Brisbane. Watson graduated from the University of Southern Queensland in 1979, the University of Tasmania in 1982 and Monash University in 1986. Using printmaking, drawing, painting, and installation, Watson often explores themes relating to her Aboriginal heritage. Watson's matrilineal family is from Waanyi country in North West Queensland and her work is inspired by traditional Waanyi culture. Watson often uses archival documents and photographs in her art, and the extensive documentation of Aboriginal people in Australia as a resource, and describes discovering how her ancestors were treated as a "heavy burden".

## WARRABA WEATHERALL

**Born 1987. Kamilaroi people; lives and works in Brisbane.**

Warraba Weatherall is an installation artist from the Kamilaroi nation of South West Queensland and a doctoral candidate at Queensland College of Art, Griffith University. Weatherall's practice critiques the legacies of colonisation, in which social, economic and political realities perpetually validate Eurocentric ideologies. Drawing on his personal experience and cultural knowledge, he uses image, material, and metaphor to contribute to a cross-cultural dialogue by offering alternate ways of seeing and understanding. As a key principle or methodology of colonisation, surveillance was implemented and refined within the Australian colony as a means to control Indigenous lands and populations. The material that documented, categorised, indexed, and tabulated Aboriginal populations during the British colonisation of Australia continues to be held in the archives of national and international institutions.

## TALI WEINBERG

**Born 1982. Lives and works in Champaign, Illinois.**

Tali Weinberg is an American artist based in Champaign, Illinois. Weinberg graduated from New York University in 2004 and 2011, and from California College of the Arts in 2013. Using sculpture, drawing, and textiles, Weinberg translates climate data into abstracted landscapes and waterscapes. She looks to the history of weaving as a subversive language for women and marginalised groups and describes her practice as a feminist, material archive of climate knowledge, care, and attention. Weinberg's works are held in public and private collections and exhibited internationally. Recent exhibitions include the University of Colorado Art Museum, 21C Museum Hotel, Oklahoma City; Berkeley Art Museum and Pacific Film Archive, CA; 108 Contemporary, Tulsa, OK; and the Center for Craft, Asheville, NC. Her work has been written about in the *New York Times*, *Surface Design Journal*, the *Tulsa Voice* and literary journal *Ecotone*.

## MITCHELL WHITELAW

**Born 1972. Lives and works in Canberra.**

Mitchell Whitelaw is an academic, writer and maker with interests in digital design and culture, data practices, more-than-human worlds and digital collections. His work has appeared in journals including *Leonardo*, *Digital Creativity*, *Digital Humanities Quarterly*, and *Senses and Society*. Whitelaw's work with institutions include the State Library of New South Wales, the State Library of Queensland, the National Archives and the National Gallery of Australia, where he develops generous interfaces to their digital collections. His current research investigates environmental and biodiversity visualisation, and digital design for a more-than-human world. Mitchell is currently an Associate Professor in the School of Art and Design at the Australian National University.

# THE CURATORIUM

## KATHERINE MOLINE

Katherine Moline is an artist, designer and Associate Professor at UNSW Arts, Design and Architecture. Her research focuses on the dynamics between technological and social forces in art and design. Dr Moline's analyses of experimental design and creative ethnography have been published by Routledge and Bloomsbury.

## ANGELA GODDARD

Angela Goddard is a writer, curator and Director of Griffith University Art Museum, and Adjunct Senior Research Fellow at the Queensland College of Art. She is also Chair of University Art Museums Australia and a Board Member of Sheila: A Foundation for Women in Visual Art.

## AMANDA HAYMAN & TROY CASEY, BLAKLASH CREATIVE

Blaklash Creative is a 100% Aboriginal owned creative agency specialising in Aboriginal and Torres Strait Islander art and design. Working in partnership with artists, designers and creatives, Blaklash produces community-driven outcomes that express First Nations perspectives through artistic process, practice and presentation.

## BECK DAVIS

Beck Davis is Head of School at the Australian National University, School of Art and Design. Her research focuses on design studies, examining design teams and how they collaborate and respond to complex problems. She is also a Board Member of the Design Institute of Australia, and Art Monthly Australasia.

