Mapping Indigenous Futures: Decolonising Techno-Colonising Designs

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ABSTRACT

This paper provides a critical interrogation of the consequences of modernity and coloniality, particularly in an Aboriginal Australian context, with focus on the accelerating speed of socio-communicative technological change. I argue from a perspective of being Australian with both Aboriginal and European heritage, with a designing politics for human 'sustainment' (Fry, 2009). Five provocations are provided that illustrate ways in which the seductive and repressive nature of modernity/coloniality enables socio-communicative technologies to increasingly eliminate groups' capacities to imagine decolonising being-human. I summarise ways in which I apply learnings surrounding decolonising design modes of listening and comprehending that can contribute to help groups think, talk and map their situatedness among this phenomenon and mobilise decolonising options for their own worlds.

Keywords: decolonising design, ontological design, respectful design, Indigenous design futures, Indigenous knowledge, sustainment, techno-colonialism.

Introduction

Since their colonised experiences began there is no doubt that many people worldwide have been politically activated towards decolonising their territories and epistemologies. These people now make what Walter Mignolo (2011) claims is the majority of the world's population who do not subscribe to the imperial project and rhetoric of coloniality. For Mignolo (2011), coloniality was and still is constitutive of modernity, to which he terms 'modernity/coloniality'. These globally variant individuals and groups (who share a commonality of being hugely impacted by modernity/coloniality) are also diversely delinking their bodies from being at the service of culturally destructive 'modernising' and colonising technologies. They are instead relinking their interactions with technology to being at the service of their lives as culturally productive autonomous humans. A familiar example from the last few decades is the decolonising cartographic practices that contest homogenising colonial maps representing territories. Colonial maps have, at least since the Enlightenment, used universalising technical, rationalist imperial epistemologies to demarcate worlds. Today technologies well supersede twentieth century colonial cartographic affordances. Colonising cognition, some say, is now a technical capability too. Humans' enslavement to technology is a well-versed trope both in academic research and popular culture but these narratives are only recently being addressed from decolonial thinking and ontological design perspectives. This paper seeks to review and contribute to this new research gap. It outlines how techno-colonising events, in which the speed, control and authority over knowledge through technology is set to be a profound dominant colonialism of the coming decades. Furthermore, it discuss how this is challenging notions of being human, particularly for Indigenous groups.

The techno-enslavement trope is often met with rebuttal from actors who reason that technology, or the machine, has no agency and so cannot enslave 'us'. However, as Human-Computer Interaction (HCI) researchers Pickering *et al.* (2017, p. 6) conclude, the "extent to which they [machines] are perceived as having agency by human actors" is significant enough to render a definition of machine agency. Our perception of autonomy, agency and ultimately a perception of oppression from the agency in the machine is significant enough to define this as a techno-colonising event. Furthermore, HCI researchers, following previous work in areas of Socio-Technical Systems, Actor-Network Theory, and Social Machines, which in itself follows earlier philosophical enquiry from Heidegger (1977) and early Computer Science enquiry from Winograd and Flores (1987) have all previously conceded what Pickering *et al.* (2017, p. 1) argue; that, "machines are not just passive participants in such networks, merely mediating communications between humans; they are increasingly adopting an active role, enabled by technological advances that allow greater [machine] autonomy and the performance of increasingly complex tasks [... that...] can both enhance and constrain human agency as well as exhibit agency themselves".

I extend this debate from an ontological design perspective, stated clearest by Anne Marie-Willis to mean, "we design our world, while our world acts back on and designs us" (Willis, 2007, p. 70; see also, Winograd, 1987; Fry, 2012; Lopes, 2017; Stewart, 2015, on 'Ontological Design'). The agency that results from humans' relations with digital socio-communicative technologies is ontologically designing either an extension of time for humans as a species, what design philosopher Tony Fry names 'futuring', or destroying human futures, what he names 'defuturing'. The latter is particularly concerning for Indigenous groups who bear this as a double-move of colonialism. The objective of this paper is to apply learnings from these groups and contribute to a critical discourse that can inform groups aptitude to thinking, talking and mapping their situatedness among this phenomenon and ultimately mobilise decolonising options for their worlds.

As an Australian born design researcher and practitioner with both European (English, German, Italian…) and Aboriginal Australian (Gamilaroi) heritage, I write from my own intersectionality that this throws up, but particularly this has led to my interest in aligning with decolonial thinking. Sociologist Rolando Vazquez writes how from his decolonial perspective, "modernity appears as a world historical reality with universal pretentions, one that in its negation of earth and other worlds affirms itself as anthropocentric and Eurocentric in kind" (2017, p. 78). Decolonial feminist theorist Madina Tlostanova agrees and describes Modernity/coloniality as "an overall design" (2017, p. 52). Tlostanova continues, modernity/coloniality "remains reluctant to discuss its [design] principles, prefer-ring to present them as natural, given by god, or rational and therefore sacred. This clearly avoids addressing the gist of the problem, while concentrating on various applied and incidental details such as technological gadgets" (2017, p. 52). For Vazquez "What is at stake in the question of decolonizing design, and more broadly modernity, is our relation to earth, and the dignifying of relational worlds" (2017, p. 79). I too embody these critical perspectives and approach this paper accordingly.

Moreover, I approach decolonising with a design politics of human 'sustainment' (a term Tony Fry coined to mark a departure from pragmatic sustainability discourse) (Fry, 2009). Sustainment most fundamentally aims to improve quality of life while reducing ecological damage, through actions that make time (another way he articulates 'futuring'). Conversely that which takes time away for humans on this planet; which accelerates our species extinction further identifies 'defuturing'. In line with a decolonial movement sweeping through design studies, Fry has also turned to incorporate decolonial plurality into his thinking in his editorial contribution of the book *Design in the Borderlands* (Kalantidou and Fry, 2014) and a special issue of *Design Philosophy Papers*, "Design for/by 'The Global South'" (Fry, 2017b). Fry brings a sharp assessment to critical design studies and has moved to action many young scholars to become their own versions of critical public intellectuals, including myself (I was a Masters Design student of Tony Fry's through 2012-2014). Though for a number of years now I have forged a different path independent from his. Where he has often been antagonistic towards other contemporary critical design movements circulating that similarly advocate worthy socially engaged design and futures, I have been using different ways to arrive at a decolonising politics that I have nurtured over the past four years in my own two ways:

Firstly, since 2015 I have been working with a group of eight young design research scholars from around the world, of whom together we make up the *Decolonising Design Platform* (Schultz *et al.*, 2016). Our efforts to create our group were born from frustrations with the current critical design studies discourse not adequately addressing the centrality of coloniality to design. In all our differences, our commonality is an emphasis on understanding what Colombian anthropologist Arturo Escobar (who has recently turned his attention to design) describes as 'pluriversality' (Escobar, 2015). Most recently, the release of the special issue of *Decolonising Design* in *Design & Culture Journal* (Schultz *et al.*, 2018a, 2018b) was a way for our group to formalise our discussions and curate significant and emerging authors. As with here, the attempt in that issue was not to dismiss postcolonial thinking or frame it in conflict with decolonial thinking, the two derive and are invested in different temporalities, questions and goals. Namely postcolonial thought derives from a euro-centred academic venture, when decolonial thought derives from the border thinking of the Global South. Importantly though, that decolonial thought has become my reference point has not dismissed my interest and citation politics towards the socially engaged design discourse that may also afford transitioning to sustainable plural futures (notably theorised by White, 2017; Willis and Elbana, 2017; Tonkinwise, 2015a, 2015b).

Secondly, my practice is demarcated from Fry's work over the past four years since I have been shaped by working closely with Aboriginal groups in Australia in community and academic contexts. These experiences have been a relinking with genealogies of thought by listening in respectful and relational ways where qualities appear for conditions of sustainment. One of these contexts has been working closely with Aboriginal Australian (Wiradjuri) designer and Indigenous Knowledge scholar, Norm Sheehan. Together we have combined Indigenous Knowledge and mapping techniques to support people to understand their situatedness amongst modernity and coloniality. Sheehan has also recently turned his concern to technology. In the aforementioned recent special issue of *Decolonising Design*, Sheehan describes a techno-colonialism controlling and occupying all knowledge and space (2018). In countering this phenomenon Sheehan has written about and practiced with community Elders what he calls 'Respectful Design' (Moran *et al.*, 2018) for decades now. For them, the Indigenous Knowledge conception of Respectful Design "is not based on what design is, what design does, or what design means; it is founded on how design positions itself in relation to natural systems and the social world" (Sheehan, 2011a, p. 70). This philosophy is grown in the context of a continuous human occupation of the Australian geography for '65,000 years' (Clarkson *et al.*, 2017). Respectful Design thought this way relates not only to an Australian context, but to everyone in any geography because it "is founded on the understanding that design is ancestral and alive in Country" (Moran *et al.*, 2018, p. 76),

therefore can be practised by respecting, listening and responding to and with the body-politic and geo-politic of one's own location. Therefore, Respectful Design fits well with Mignolo's conception here:

> decolonial geopolitics of knowledge confronts—head-on—imperial theo- and ego-politically based assumptions about the universal knowledge-making [...which...] legitimized the assumptions and claims that knowledge was beyond bodies and places, and that Christian theology and secular philosophy and science were the limits of knowledge-making, beyond and besides which all knowledge was lacking: folklore, myth, traditional knowledge (2011, p. 143).

Delinking from this, for Mignolo, and for my own design politics, is to practice an "epistemic disobedience" (Mignolo, 2011, p. 143). Many Aboriginal arts based political activists in Australia, such as Ryan Presley's (2018) visual art that expresses the connections between colonialism, religion and power are practices of epistemic disobedience in their own ways. Visual relational pattern thinking, or "visual dialogue" as a respectful design method (Sheehan, 2011a, p. 70) is the loose approach I adopt. Visual dialogue respects that knowledge patterns emerge from visual relational processes because we are in a natural system within a visual relational world. In the second part of this paper I will summarise parts of this work.

If Fry's work and influence developed my aptitude to Design Futures, then Sheehan developed my aptitude to Indigenous Knowledge. Together with Sheehan I have been describing this nexus as *Indigenous Design Futures* for some time. This has been my research contribution to decolonising design, from my body-politic and geo-politic; from where I stand. Finally, I engage my research in the same way Nandy (1987) avoids an anti-science/technology position when speaking of the consequences of modernity, and also in the same way Mignolo (2000) promotes a border thinking with critical plural uses of the ruins of modernity. Border thinking is now present and a valid rhetoric to understand the body-politic of so many around the world. As put by Madina Tlostanova "Border thinking and border perception originating on these fringes of modernity are marked by double consciousness, multiple optics and many-valued logic, and can potentially lead to a more radical rethinking of design, to its decolonization as an overall perceptive mechanism hiding its locality behind false universalism" (2017, p. 54). I have lived these borders, partially rejecting the very deceivingly stable notion of an Anglo-Euro Modern Western One-World System that predominates Australia; the Modernity/Coloniality that has arrived on boats (albeit inescapably enmeshed in the intersectional privilege that being a 'fair skinned Aboriginal person' throws up), and partially amplifying and embracing Indigenous Knowledge systems that are starkly dissimilar to the Anglo-Euro Modern Western One-World System.

Technological colonisation of imagination

When I speak of technology I am referring to a way in which our relations with technology is indivisible with

our coming into being. Martin Heidegger (1977) and Fry (2017a) both identify a loss of our comprehension of this fusing. Ahmed Ansari has also recently illuminated "there is now a complex discourse on technology that talks about how technologies shape and mold our perception and experience" (Ansari, 2016, p. 6, in referring to Don Ihde and Peter Paul Verbeek). As does Ansari (2016, p. 6), this paper takes these acts of making and designing ourselves and our worlds as "constitutive and willful", and it is "the design disciplines, as the formal sphere of activity concerned with the construction of the artificial [that are therefore] always futural and ontologically oriented". Technologies (such as social media applications, virtual reality and augmented reality) are ontologically designing our conditions of being, but *this* system is not *the* natural evolution, it is an intellectual acquisition and therefore open loop. The first Industrial revolution ontologically designed our dependence on steam technology, the second; oil, and in this third industrial *digital* revolution, we are ontologically designing our dependence on the technological affordance of an internet of things. As with the first and second, continuing a habitus of cultivating the maximum yield at the minimum expense. Mignolo (2011), historian Yuval Noah Harari (2015), Fry (2017a) (via Bernard Stiegler) and Escobar (2018) all discuss the role technological revolutions have played in the industrialisation and eradication of plural memory and imagination. For critical philosopher Bernard Stiegler, this has moved first through administrative spheres and then onto cultural spheres, homogenising ontologies of 'what' and 'who' 'we' are along the way (Fry, 2017a). If this is to be the case, an argument can be made that this latest revolution may well be eliminating people's ability to advance decolonial political imaginations. Furthermore, this is occurring inseparable from another profound event; Climate Change and its associated symptoms (Hansen *et al.*, 2016; Wallace-Wells, 2017), in which redress is urgently needed through decolonial socio-ecological options. To qualify this argument further we can also turn to Paul Virilo's (2012, 2008) radical cultural theory on the devastation of communities by proliferating technologies of control. Ultimately for Fry this amounts to a "technological colonisation of imagination" (Fry, 2017a, p. 100).

Using the lineage of thinking thus outlined, we can summarise this technological colonisation of imagination as a '*defuturing ontological elimination design event*'. An event that is defuturing Indigenous futures and therefore defuturing (eliminating) options for sustainable futures for all humans and lifeworlds upon which humans depend. For Escobar, this is an event that erodes people's ability to think critically and autonomously outside the bounds of a technodetermined algorithmic one world system (Escobar, 2018). It is an event that reduces one's ability to imagine otherwise in an increasingly complex, climate unsettled world. Imagining otherwise was once left to the gods, but as is commonly known, since the Enlightenment, imagining has been transferred from gods to humans; humanism. For Harari, in this third digital industrial revolution, imagining—having authority and control over knowledge production—is now being transferred to data; dataism (Harari, 2015). As Vazquez elaborates, Hannah Arendt already captured how this event has been

building since Sputnik; "the emancipation of the modern age from Earth as the Mother… the loss of earth is mirrored in the forgetfulness of our bodies as always already earth" (2017, p. 79). We are now ontologically shifting not just from earthlessness, but *bodylessness* too. Through the shifting proximity of a faith-in-data that now enters our internal bodies, illustrated, for example, in the wearable device called AlterEgo in final stages of market development that "can hear your internal voice" (Gibbs, 2018), are we genetically changing what 'we' physiologically are? Are 'we', in a continuation of the dualist Cartesian mind-body tradition, technologically emancipating our physiological bodies from being the vessel of where the knowledge we actively call upon is held? Are 'we' instead increasingly placing faith in receiving and transmitting knowledge through algorithmic data input/output channels of augmented devices? I will now map five seductive and repressive manners in which the technological colonising event is revealed. The first, in evolutionary terms.

Place: Ontologically Designing Being?

The provocations in the projected futures questions above are at odds with Indigenous ontological conceptions worldwide. Australian Aboriginal Koombumerri Elder and renowned academic Mary Graham (2017) posits that there is no Aboriginal equivalent to Kant's Cartesian notion of 'I think therefore I am' but, if there were, it would be − I am located therefore I am (similar to Mignolo's counter to Kant is "I think where I am and do", 2011, p. 80). For Graham (2007), 'Place', being, belonging and connectedness all arise out of a bodies locality in land: multiple places—every place has a law. So, multiple laws (but the unifying law is land). So, multiple truths (emerging from each place). Cultural anthropologist Tim Ingold (2011) describes these worlds in Australia as *meshworks*. Aboriginal people know this as *Songlines* through which human movement across the vast geography of the Australian continent has inculcated cultural, economic, genetic and artistic conduit meshwork threads that have, over 65,000+ years, ontologically designed structures of creation and re-creation between people/bodies in/as/with place (Pascoe, 2014). This intelligible Aboriginal philosophy precedes the core condition Fry argues for; of a limitation of freedom within sustainment. Perhaps understood in Graham's Indigenous Philosophy as a limitation of freedom within truth in place.

Graham theorises, "the land is the source of the law, land has us embedded in it, land has thrown us up - with the water we drink we take the characteristics of land up itself, genetically. This is scientific, not just spiritual. We are genetically bound up in country" (2017, p. 1). Graham is articulating something that only in the last decade has western psychology and neuroscience caught up to; that human evolution has been shaped by gene—culture interactions, or 'gene-culture coevolution' (Goldman, 2014; Laland *et al.*, 2010; Sasaki, 2013; Creanza *et al.*, 2017). Being genetically bound up in country establishes symbolic meaning through custodianship kinship laws with land and other lifeworlds that mean those lifeworlds are respected for holding place in the ordered meaning of human autopoesis (autonomy) and are revered for continuing to imbue land with symbolic meaning; a *belief* that upholds sustainment. But it is not only a belief. Over time genetic coevolution biologically enmeshes humans and place in autopoesis; an onto-genetic-evolutionary *agreement* of sustainment. In this system, non-human ecologies *are* having a say in their futures. Gene-culture coevolution renders their existence ensured.

If this approach to being human is considered futuring, then the technological colonisation of imagination is a defuturing ontological elimination design event of being biologically human. It de-fuses—defutures—gene-culture coevolution with the biosphere and re-fuses—futures—gene-culture coevolution with the technosphere. This event changes 'what' 'we' are, eliminating an evolutionary agreement to uphold with geographic place, its respective ecologies and their futures. Following Virilio, Escobar amounts this to a "massive delocalization fostered by digital technologies and ICTs" (Escobar, 2017, p. 40) occurring where a techno-economic intervention is a domination of a locality. In an Aboriginal relational ontology judgement comes from place (Graham, 2017). In a technological determinist ontology judgement comes in the test of a systems ability to produce more universalising truth unbound by place; place-less, nature-less, culture-less, biosphere-less data.

I will map four more seductive and repressive manners in which the technological colonising event reveals itself in Australia's contemporary settings today.

Place: Virtual Healing or Stealing?

Since colonisation, Aboriginal groups in Australia have continued to co-opt and liberate the tools and practices of the oppressor. So too, from India's *Jugaad* (Birtchnell, 2013) repair culture to Brazil's *Gambiarra* repair culture (Fonseca, 2015) there are endless examples of innovative repair cultures constituted by billions of people across the globe innovating, hacking, re-making and re-framing; contesting productivist models and liberating tools and technologies for their own decolonising or counter neoliberalist means (Schultz, 2017). In Australia, currently some purport that the technological tool of social media (such as Facebook) can be liberated from the oppressor for the means of increased intergenerational family connections amidst colonial dispossession and disconnection from land. Advocates argue that it becomes a safe space to share identity among your filter bubble, away from conflict, and also a tool of galvanising resistance (Carlson, 2017). In other words, the argument goes that it liberates the trauma from the loss of colonisation of geographies because it provides groups with a new connection to virtual geographies and ecologies that can be held as a sacred 'place'.

In Australia, this techno-mediation of worlds amplified by Indigenous groups for means of healing, also becomes distinguished as a reconciliation tool—where two worlds can meet in the common language of the virtual world. A win-win situation where the colonised co-opts the techno-mediation on offer as a portal to their world, while the coloniser is provided with a commensurable view. This betweenness, this bridging, sounds seductive, however it can be repressive too. The colonised are seduced into being co-opted into this bridging tool since what is ready-

to-hand for the largest shout is increasingly only through socio-communicative digital technologies and increasingly augmented into our everyday lives. This is precisely what techno-futurist interaction designers desire; situations where humans are immersed and augmented with technology that are imperceptible and unrepairable so we have no sense of the breakdown between our distinct relationship to things, which would go to remind us of their unreadiness; the presence of that thing. The relationship between the unready-to-hand and the ready-to-hand forces a reflection on and reminds us of being human (Heidegger, 1977). Designed imperceptible augmentation with socio-communicative technologies enables a control, authority and homogenisation of 'how-to' remember humanness. A double-movement for Indigenous groups, who have been designated non-human through coloniality, and are now robbed of fostering different socio-communications with or without their own technologies under their own terms, repressing other modes of expressing, communicating and being-in-their-worlds. This comes amidst a Climate Change event, yet another double-movement, where this darker side of modernity/coloniality is manifestly robbing Indigenous groups of geographic territory; their place, often inflicted on groups in places who contributed the least to Climate Change. Places in which as Graham helps us understand above, being-human emanates.

Logocentrism: Visual Patterns or Saturations?

Advocates looking to mitigate increased conflict, increasingly permeable borders and continued degradation of situated cultural knowledge, such as the Nansen Initiative (2017) are rapidly arguing for modern design solutions including geoengineering and biological interference. This serves bolstering legitimacy for yet another way in which we can appreciate the technological colonisation of imagination underway. They're momentum is astoundingly effective because the fusion between techno-mediated climate futures and technological colonisation of imagination has existed at least since the Enlightenment hero Francis Bacon initiated a "separation between human beings and nature that would be further developed by the philosophy accompanying industrial capitalism" (Mignolo, 2011, p. 166). Following Jacques Derrida, the technical dimension to knowing nature separate to 'us' is critiqued in ontological terms by Stiegler (2009) when he describes its irreducible link with thought as memory dominated by the Enlightenment's logocentric hierarchy given to the written word. This logocentrism undermines visual relational pattern thinking and visual dialogue that exists in Indigenous Australia and around the world, ultimately undercutting the breadth of humans 'knowing nature'. Ironically compounding this, as Fry (2017a) argues (and on this point, I agree), there simultaneously exists an over saturation and recycling of image through the screen. So then, what gathers is a tension between the remanence of logocentrism on the one hand and the technologically afforded saturation of image on the other. Fry has for decades critiqued "the material consequences of the image ecologies that sustain and drive the productivism of the televisual [that]

have hardly begun to be recognised" (Fry, 1999, p. 272). Yet he has not enunciated that this critique inadvertently fits with yet another twisted double-move of colonialism. Critiquing image ecologies, if we take 'visual dialogue' as I outline here also as an image ecology, further de-validates the kind of Indigenous visual relational pattern thinking that long preceded big data viz., the televisual, immersive and augmented screens. Consequently, the image is becoming less trustworthy, indiscriminate of whether the image derives from Indigenous relational patterns, or not. One can infer then that at the same time the modern *word* and *visual* forms of cultural production have been so technologically colonised that both in their respective ways now undercut Indigenous visual relational pattern thinking—a thinking potentially useful as decolonising socio-ecological options for redress urgently needed for sustainable futures.

Being Human: Yearning for more?

Far from a slow transformation, Paul Virilio sees the ontological elimination design event of our humanness as an acceleration, a "parody of Progress of knowledge...humanity's escape from its incompleteness, from its dissatisfaction with being oneself" (Virilio, 2012 *in* Escobar, 2018, p. 32). The televisual has been perfecting our attunement to this for decades (Fry, 1993) arriving via news and current affairs nightly broadcasting an "alchemic fantasy of a world that no longer depends on nature" (Escobar, 2018, p. 187). Now in our yearning for completeness the technological colonisation of imagination rapidly arrives disguised as hyperreal entertainment, but actually it is a virtual panopticon; a data-capital accumulating machine of surveillance capitalism. As Skeggs and Yuill's (2016) describe, cultural production and relation building through social media platforms like Facebook are actually shaping forms of capital into our daily lives by tracking our rhythms and flows to sell as commodified forms back to us and hand over those flows to the state, in turn shaping our habits and how we perform subjectivity. We techno-culturally evolve with Facebook as it designs back on us a knowing ourselves as techno-mediated beings. This is our generations neoliberalisation of language designed by technosciences; 'exteriorising knowledge', produced in order to be sold, consumed in order to be developed in a new production (Lyotard, 1984 [1979]). In this move our yearning for being some other 'progressive' completeness is quenched by "leaving the body proper behind and investing in industries of the visionic, of telepresence, and of virtual reality" (Stiegler, 2009, p. 98) that simulate a complete proximity to place. Ultimately, there is an ontological designing event occurring; of being in a constant techno-mediated simulation of being *at-one-with/complete-with* 'nature' and 'culture'—with territory, with movement, with autonomy and ultimately a completely simulated notion of sustainment. Consequently, a daunting question can be asked: In a scale of only near future decades, might the striking banality of evil inherent in this trajectory manifest as a blind lack of trepidation for a civilizational superfluous mentality concerning what is happening to the *un*techno-mediated *left-out* and *have-not* individuals and cultures, and the actual biosphere upon which physiological humans and other lifeworlds depend?

Stiegler does not hold reservations in his concern, "of problems of a gravity and difficulty that are on an altogether different scale from the already-challenging risks with which humanity has ever before been confronted". It is no longer just a question of "having to abandon the modifier "sapiens" after "Homo" he says; "now the title "Homo" itself is in question" (Stiegler, 2009, p. 99). This only matters as a concern if one believes, whether Indigenous in its plurality or not, that staying biophysical human should be the dominant future. Conversely, for those at the 'posthuman future' end of the spectrum advocated by proponents of the likes of The Singularity—a great transformation that Ray Kurzweil predicts to happen by 2045 (Galeon and Reedy, 2017)—this question is a concern in the reverse: How can 'man' eliminate a women's ability to give life and accelerate 'transcending biology' and transitioning cognitive capacities to "wo/man...wholly created by men through the machine" (Escobar, 2018, p. 27). 'The Father of All' modern solutions. This is not new. Following analysis of Foucault's earlier work, design researchers Luiza Prado de O. Martins (2016) and Ece Canli (2014) investigate design's role in the formation of biopolitical systems, or sexopolitical medications (the term for regulatory regimes used to manage expressions of gender and sexuality) that to Foucault are disciplinary technologies of the body; or "regulatory technologies of life" (Martins, 2016, p. 1).

Simulating more than Human: Whose more?

In this loss of being homo sapien, just as it does for the Australian Anglosphere searching in Australian Indigenous culture for the location of the noble savage (Lattas, 1997), we may quench our yearning for being some other completeness by virtually accessing genealogies of cultures that simulate 'being-in-the-world' of any Culture for the day. The ontological performative direction of The *Welcome to Country* iPhone app (2015) may be embroiled in this trap. It states it "delivers a simple Welcome to Country video introduction to Australian Indigenous culture, including basic cultural protocols that are tribal boundary geo-specific" (Weerianna, 2015, p. 1). Users can avoid the geo and body-politic of the experience of presence and experience the virtual presence of Country instead. So too, the biophysical world upon which those 'biological humans' once depended may well be quenched through a techno-mediated access to a multisensory embodied experience of 'being-in-nature' for the day. Another interactive platform, *Virtual Songlines* (2017), aims to immerse users in a landscape and cultural environment that existed before European invasion. Based on historical information, the Indigenous designers say it allows users to learn about the spiritual connection between First Nations people and the land by interacting with locally specific virtual environments. From a decolonial perspective, on one level there is an argument that could be laid that this is using the tools of the oppressors for reparative means. On another, in line with the provocations laid out here, there is a certain kind of violence in the way this socio-communicative technology denotes reductive notions of perceiving social relations and hybrid futures. Violent not only for its imperceptible

banality of evil alluded to above, but also because these technologies have only very recently graduated from being Speculative Critical Design (SCD) propositions. Problematic because SCD, as already outlined by Martins and Oliveira "is made by, for and through the eyes of the Western—and typically northern-European and/or US-American—, intellectual middle classes" (2015, p. 63). These technologies structuring of knowledge and functioning criteria is ultimately originating from modernisation theory developed to "legitimize the neo-colonial foreign policy ambitions of US liberal and conservative regimes" (White, 2017, p. 4). Programmers and sponsor owned data banks are housed in the *hubris*; the developed 'service and knowledge economies' of the Global North dispatching the knowledge (Lyotard, 1984 [1979]). Ali Mustafa finds that we are now witnessing these embodied technologies embroiled as sites of racialization too. He asks the question, "to what extent can faces – as faces – be conceptualised in race-less terms?" (2016, p. 5).

The argument I am invoking here is that it is futile to simply continue to use these technologies for reparative purposes. These technologies bring forth with them a shaping and moulding of our ontologies of being-human based on the imperial epistemologies that brought them into existence so they're potentially ontologically designing the reverse. Being so new, so speculative, so imperceptibly seductive, they must be viewed critically.

Any designed/ing artefact embroiled in the above five provocations—if considered as defuturing ontological elimination design events of the technological colonisation of imagination—are of course not necessarily the designers explicit intentions. As Tlostanova has surmised, "design has always been ontological" (2017, p. 52). Ontological design does not need a designer to explicitly build into a project ontological design, it is innately always present. The Australian group *IndigiLab*, for example, have a vision that "Aboriginal and Torres Strait Islander Australians are leading in science, technology and digital innovation" (2017), noting that "Information Communications and Technologies are somehow transforming society, improving our mutual understanding, eliminating power differentials, realizing a truly free and democratic world society, and other benefits" (IndigiLab, 2007). Like so many other well-meaning tech orgs, innovators and start-ups with all good explicit intentions, they may be implicitly miscomprehending the progress of knowledge to which they're subscribing and inadvertently ontologically designing the contrary of their intentions.

Decolonising the self

An urgent patience

If we are to consider redirecting these five provocations it starts with decolonising the self. From my learnings with Aboriginal mentors, I can interpret this as involving confronting instrumental rationalism that inhibits thinking relationally in time. It involves defying chronophobia, the fear of time that Fry has also spoken of as the defuturing character of capitalism (Martins and Oliveira, 2016). Chronophobia, manifested as myopia inhibits our abilities to see past the stasis of now and toward defuturing gatherings arriving both in

our lifetimes and beyond. For my decolonising design group comrades, Martins and Oliveira being chronophobic is also to see "timelessness as metaphor for control, and as a way to prevent change" (2016, p. 32). A futile design sensibility in a world in flux. On the other hand, thinking relationally in time involves resisting accelerating ideas of radically different futures; known as accelerationism. Design researcher Cameron Tonkinwise critiques accelerationism tendencies happening in SCD trying to fast-forward near future possibilities when he says their strategy seems to be a "critical hyperbolization of current techno-libertarian tendencies" with designers incessantly attempting to "use their capacity for "creative leaps" to rush scientific research to a diverse range of marketizable technologies" (2015c, p. 184). Put another way, I avoid clinging to the familiar lifeboat while lost at sea, hoping a catastrophe will unfold quickly and I can pick up the pieces on the other side. I also resist prefiguring another utopian new. To me, this sensibility to designing futures is an *urgent patience* in which I take on board the imperative of acting (designing or eliminating designs) *swiftly* toward the establishment of plural ontological designs of sustainment in *slow* worldly time (Schultz *et al.*, 2018b).

A relinquished gaze

There is a social wound continually re-opened by the passive and often explicit violence ontologically embedded in Anglo-Australia expressed in the denial of past violent colonial actions and contestation of history (Rose, 1996). This is compounded by the pick and choose mentality of the Anglosphere culturally appropriating what is of use-value to quench their yearning for a romanticised history. This fragility is even further exacerbated by the fragility of psychological trauma from unsettlement due to a social awareness growing around the kinds of future provocations outlined above, to which some blame resultant violence on a "Silicon Valley Naiveté" (Anthro-Punk, 2018). Today, as a five-century cycle of dominant western civilisation is coming to an end (Mignolo, 2011) and with the imperative for ontological transitions to give 'us' a future, it is neither acceptable to *see* but turn a blind eye to defuturing propositions, nor incommensurable to *see* potentially futuring propositions, such as how Australia's invaders in the 18th century couldn't through their Eurocentric lens. Therefore, any designing with an urgent patience relationally in time and with respect, concurrently destabilises a Eurocentric gazing at Indigenous societies and renders plurality open.

A reinscripted view of futures

From where I stand, being urgently patient and relinquishing the gaze puts me in a position to design ways in which I and others can comprehend what remains. Openings remain in an Indigenous Australian context where a decolonising design praxis might redirect a psychological resilience to unsettlement while the work of recouping the fragments of memory scattered from coloniality occurs, so that uncoupling from technological dependence opens and amplification of defence of autonomous territories and cultures might take place.

For example, Australian Aboriginal (Kulin) man, Bruce Pascoe (2014) cites numerous examples in which Indige-

nous Knowledge had in the past created mutually enhancing sustainable economies and sociotechnical systems in his book 'Dark Emu', which also debunks the myth of pre-invasion Aboriginal Australians as mere hunter-gatherers. He writes, "explorer's journals suggest that colonial settlers ignored the Aboriginal methods and contemporary Australians still suffer the result" (Pascoe, 2014, p. 26). Jared Diamond (2012), Bill Gammage (2011) and Hamm *et al.* (2016) illuminate similar cases respectively, albeit through their non-indigenous lens. What many Indigenous Australians already knew as valid, rigorous, academically sound, and useful knowledge is now being reinscripted (Sheehan, 2003). Such examples abound, including that Indigenous Australians were able to move themselves around the continent and seas using traditional wayfinding techniques (Schultz, 2016) including through the use of celestial knowledge (Lin, 2014); that complex fire control managed the vastness of Australian land (Pascoe, 2014; Gammage, 2011); that domiciliaries, kinship and co-operative governance structures were configured to strengthen social bonds with lifeworld's and the land (Memmott, 2007). We also are now seeing that responsible economic practice and technological social obligations were sustained across multiple cultures and geographic boundaries (Pascoe, 2014, p. 129-136). The list goes on, to Aboriginal engineering and architecture, aquaculture, labour practices, watercraft and fishing techniques. An example of a significant lost opportunity to value Indigenous agricultural practices is in the way invaders introduced environmentally destructive livestock into Australia instead of learning to farm kangaroo, emu and other native meats as Aboriginal people had done, on an agricultural scale, for millennia before. Instead (with the exception of small scale farming from many Aboriginal groups and a broader local and boutique trade) the Australian animal agriculture narrative is one that is overwhelmingly economically invested, through transnational partnerships, on sheep and methane spewing water intensive, land clearing cattle (Hamad, 2014). Such ignorance as this from colonisers mean that Laws of custodianship of land and kinship that coexists with the abovementioned native animal agricultural practice, and to Graham (2007) are needed for a stable society, are also not learned by settler colonies. Moreover, economic governance of food based on any kind of 'commons' (Ostrom, 1990) outlook related to this example is also ignored and concealed and so has not been able to scale in reach as an option beyond Australias capitalist economy. This example is just one among many that illustrate coloniality eliminating ontological designs. However, one among many that countless Indigenous people will be firm to assert, is not totally destroyed (Graham, 2007).

Aboriginal social, technical, political and cultural configurations such as these are potential decolonising design activations waiting to be reinscribed as pasts in the present towards the future. To invoke a question to this end (while incongruously adopting the hero term of 'design thinking' today) *how might we…*designers work with Aboriginal people to reinscribe this knowledge towards the creation of 'urmadic metrofitted cities' (Fry, 2017a) that deal with accelerating climate unsettlement in various geographies and resultant mass movement? This might sound prag-

matic—It is, but it is also laden with political agency. As Foucault (2007) reminds us, central authority splinters as one moves, becomes nimble and disassociates from the shackles of a centralised colonial matrix of power. Conflictually however, a settler-colonial grand narrative would intersect with such a proposition. It is satisfactory to suggest that these two events; accelerating climate unsettlement in various geographies and resultant mass movement, and; the fear of moving beyond a Modern Western system of stasis settler colony building, would induce new forms of violence. Design Researcher Ali Musleh has explained the way we can see in the Israel/Palestine conflict how a settler economy style violence that takes a neoliberal approach to the development of new and emerging military and weapons technologies can take advantage of volatility and instability. He writes that this kind ontological design affordance that shapes the Palestine experience is "a settler-colonial binary of colonizer and colonized...re-instituted in a binary of settlers as weapons designers and the Indigenous as design problems whose solutions are applicable the world over" (2018, p. 35).

Decolonising as Praxis

Listening

Rolando Vazquez asks, "can we think of a design that is capable of healing, of enabling relationality, of recovering the possibilities of listening to the communal, to the ancestral, of caring and nurturing earth, of enabling the formation and dignification of other worlds of meaning?" (2017, p. 89). In my practice, while concurrently being reflexive to decolonising myself, I have applied learnings from interactions with Indigenous groups to design decolonising listening strategies I and others might adopt. I have explored designed/ing processes and events where individuals become aware of their own ontological designed/ing narratives of what was, what remains and the ontological transition narratives of what could be otherwise. I have looked to design ways in which communities feel safe to speak, are listened to, can comprehend and are given the tools to articulate and amplify their own uncoupling of technological dependence. I have searched for ways to assist people self-identify their own relational ontologies and worlds.

An Aboriginal Australian Indigenous Knowledge process called a 'yarning circle' has certainly shown to be effective for this. In these circles—in which each person is given the time, space and respect to speak and share their expressions and is respectfully listened to—one not only listens to their human peers, but listens to what is alive in Country as the knowledge is shared back by their environments, whether that be the vast tundra, forests, valleys or seas, or corporate boardrooms. Yarns engage group cohesion in addressing fundamental issues because every voice has a place. As participants express themselves questions that address significant deeper issues within their context emerge. Strategies such as 'connective art' (Sheehan, 2011b) can be added to yarning sessions to further assist in eliciting rich conversations. Mapping too, is effective in various formats. Yoko Akama (Akama and Ivanka, 2010), for example, incorporates 'playful triggers' as mediating

objects into yarns with Aboriginal groups. These mediations can be understood as designing effective modes of gathering and visually communicating with and back to communities those yarns; of facilitating comprehension.

Comprehending

In my practice, I think of this as facilitating *Indigenous Design Futures*. Proceeding and alongside yarning circles, I have loosely and contextually assembled variations of what I have previously outlined as Cognitive Redirective Mapping (CRM) (Schultz and Barnett, 2015; Schultz, 2015) to do this. Cognitive Redirective Mapping as a decolonising practice respectfully provides a visual and relational means for individuals to map 'things' brought-forth from pasts, presents and gathering in futures, and secondly, to consider with individuals redirective options around these futures (see Figure 1). It is a visual relational pattern thinking process to "comprehend and engage the relational complexity of unsustainability and the creation of sustainment" (Fry, 2009, p. 55). The main objective of this kind of mapping is in line with Juan Carlos Garzon's call to action: "The objective of design in the Anthropocene (in this new epoch of Un-settlement) should be to facilitate a transition towards the establishment of a harmonious relation between all worldly subjects (human and nonhuman) through the redefinition of human ontology" (2017, p. 75). Cognitive Redirective Mapping has been useful for various groups I have worked with, not just Indigenous communities because it is in line with respecting the way environments, wherever and whichever worlds, throw-up relational patterns of information all the time that people can be receptive to in their own ways. These patterns can show us why, what and how to think about repairing wounds and futuring those worlds. When CRM is coupled with yarning circles, each participant explicates emerging contexts on paper, guided by a loose order and technique and relational patterns emerge that are valued as knowledge production. As a respectful design process, it provides a way to *see* futural patterns as narratives that speak back to participants. The maps also then become mediating objects of comprehension (see Figure 2).

However, just as there can be good intentions with interacting with emerging technologies, simple hand rendered cognitive redirective mapping can easily fall into traps that serve contrary to its purpose too. I have elaborated elsewhere (Schultz, 2015; Schultz *et al.*, 2018b) that when mapping through a modern Western lens, we designers with our designerly tools, methods and techniques risk *un-mapping* decolonial options by conversely mapping in rationalist Cartesian and instrumental typologies of convenient commensurability to modern world system minds. Nick Srnicek recently declared we lack 'cognitive mapping' skills to make our worlds intelligible through a situational understanding of our own position in it (2011). Decolonising design crucially requires designers unlearn defuturing colonial and imperial mapping traps in order to learn mapping relational futuring worlds. Poignantly put by Boaventura de Sousa Santos (2014); 'we' are facing modern problems for which there are no modern solutions. This includes modern ways of mapping too.

Figure 1. Title: Cognitive Redirective Mapping. Designer: Tristan Schultz. Date: 2015-2017. Depicts various maps of 'things' brought-forth from pasts, presents and gathering in futures, and redirective decolonising options around these futures. Map texts are deliberately blurred to protect sensitive community knowledge.

Figure 2. Title: Yarning Circles, Connective Art and Cognitive Redirective Mapping. Photo Credit: GNIBI College of College of Indigenous Australian Peoples, Southern Cross University, Australia. Date: 2015. Depicts a yarning circle, connective art and relational mapping session. Map texts are deliberately blurred to protect sensitive community knowledge.

If listening and comprehension as described above is phase one, this puts a designer/facilitator in a position to discuss redirective action with participating groups. That is, how to navigate oneself through obstacles towards decolonising their futures. Often, using design fiction techniques located and agreed in participatory contexts assists in re-valuing and expressing redirective paths. This might be called 'cultural expression with agency', brought into existence as a decolonising practice rather than a spectacle as seen by the West. Design Fictions are also beneficial for conceptually testing ideas as if they are already in existence, without wasting the time, money and resources they might consume in reality. They can also test the fusion between *people* and *things* without the consequence of bringing that hard to separate fusion into actual material existence. Furthermore, as Kate Heartfield (2016) writes, they can recode colonial tropes in interplanetary science fiction writing, such as "down to the very words of "colonisation" of other planets, or the "final frontier" [...] rooted in colonial notions of how humans interact with peoples and with territory". Heartfield, following Daniel Justice, goes on to comment they can offer options for survival developed in Indigenous storytelling "that may very well help humans navigate the coming decades of climate change, violence and tyranny" (2016, p. 4). Most importantly, collective and creative story-telling is an age-old common and beneficial practice in Aboriginal community settings because the process respects and includes everyone contributing and allows for dialogue to flow in safe and respectful ways.

Designing the event of comprehension, with strategies such as yarning, mapping and design fictions summarised here, develops a psychological resilience because through the illumination of open-loop affordances in these kinds of narrative based hermeneutic cycles it becomes clear that ontological designing is not a closed (and often destructive) loop. Communities can see why, how and where to begin, transforming their worlds. Importantly, they are processes with the hand (sometimes with post-event digital production for legibility), with human cognition and with visual relational pattern thinking and knowledge production. This fits well Indigenous Knowledge forms of knowledge production outlined earlier (see Figure 3). It also is an enabler of Gregory Bateson's thoughts on ecologies of mind; that ideas (minds) *do* intersect through a "multitude of interacting factors" (Bateson, 1972, p. 505). And, it reinscribes that image ecologies have been present long before the *crisis of the saturation of image ecologies* (Lopes, 2009; Fry, 1999) deriving from modernity/coloniality. This goes to contribute to the validation that human minds can transcend singular human minds, contrary to the posthumanist argument that algorithmic techno-mediations are the only future that can achieve as such. Finally, and beyond the scope of this paper, counter to cultural appropriation, if and when communities would like to share more widely post their own benefits, there is a colossal task in *transferring, reclassifying and amplifying* these narratives of relational ontologies as *respectfully* appropriative modes of being-in-the-world (Schultz, 2017).
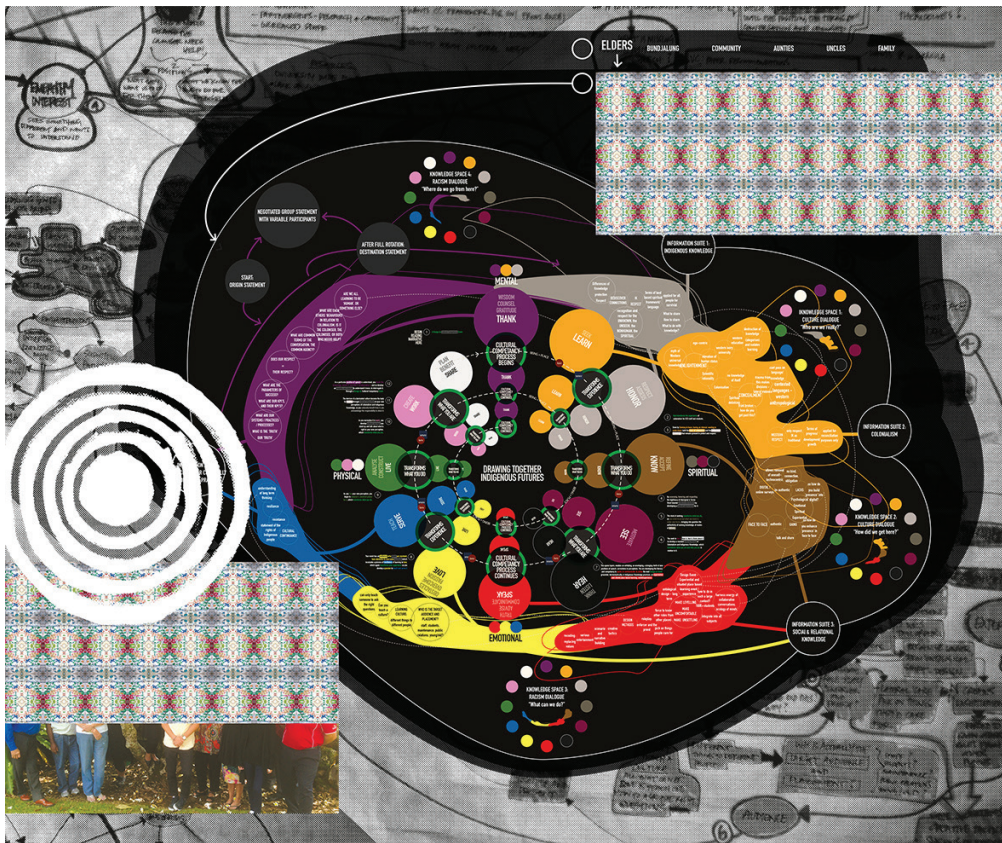
Figure 3. Title: GNBI Indigenous Design Futures Mapping. Designer: Tristan Schultz. Date: 2016. Depicts an assemblage of a visual relational dialogue, designed with and for mediation of, yarning sessions. Map texts are deliberately blurred to protect sensitive community knowledge.

Conclusion

This paper has been a contribution to decolonising design and Indigenous Futures. I have argued that there is a profound defuturing ontological elimination design event underway; the technological colonisation of imagination, enabled by a technodeterminism eroding people's ability to manifest decolonial political imaginations and contribute to a global decolonising event, also underway. These two events are occurring inseparably from a third event; Climate Change, in which redress is urgently needed from decolonial socio-ecological options. It has been argued that because of the seductive and repressive nature of modernity/coloniality groups can fall into antagonistic situations of ongoing oppression that steer them to more developmentalism and technodeterminism. Groups can fall into being co-opted into dependence on socio-communicative digital technologies that industrialise, homogenise and commodify memory, territory, autonomy and human sustainment, a catastrophic situation for 'us' all. Ways in which the technological colonisation of imagination occurs has been provided in five ways: Firstly, it is argued that our relations with technology eroding being-in-place ontologically designs eroding being human. Secondly, it is shown how Indigenous groups ability to see the defuturing affordances in relating to techno-mediated virtual 'place' is concealed. Thirdly, the degradation of visual relational pattern thinking because of the technological saturation of the screen is discussed. Fourthly, I interrogate how this event exacerbates a yearning to be human and therefore propels posthuman futures, and Finally, I put forward how all this gathers as a homogenised simulation of that posthuman future. It has been contended that Australian Indigenous ontologies can provide options for plural designed futures of sustainment beyond these vices, if a decolonising design praxis can be established. A practice that requires strategies of listening, comprehending and amplifying autonomous imagination of plural futures that facilitate; respectfully recouping the fragments of memory scattered from coloniality; designing effective modes of gathering and communicating back to community those fragments of memory, and; enabling decolonising options of redirective designed/ing action.

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