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A diffractive and decolonising reading methodology for education research

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Abstract

For white settler researchers aiming to contribute to the work of decolonising education, actively seeking ways to disturb and destabilise long-held onto-epistemological assumptions associated with colonial modernity is important. In this article I investigate how these disturbances might occur in a diffractive and decolonising reading methodology. I outline two prior diffractive reading experiences that drew on decolonial theory and Barad's diffraction theory: A situated inquiry of the Great Barrier Reef as a pedagogical agent; and a reading of Australian teacher education policy through military imaginaries. In this article I read these prior diffractive reading experiences through one another, attending to further methodological patterns. I identify two connected methods of defamiliarisation that are generative for destabilising colonising ways of knowing, norms and thinking in education. These are: Bringing ostensibly different phenomena together in diffractive relations with one another; and reading difference in the spirit of companionship, that is, in an orientation to learning from difference rather than to master difference. I suggest that if education continues to rely on and wield the same modern critical tools that support colonial-capitalist systems it will be unable to recognise, address and reimagine the continued violence of these systems.

Keywords: diffractive reading; decolonisation; teacher education; pedagogy; white settler scholars

Introduction

The instances of diffractive reading that I discuss here were motivated and shaped by increasing concern about the colonial mindset and habits-of-being that underlie education, and the role, responsibility and potential of educators in reinforcing or disrupting these. Even as growing proportions of the population now find it impossible not to recognise that we are living with real and accelerating ecological and societal devastations, everyday threats and undefined futures, many maintain investment in the continuity of a modern-colonial system that is the basic cause of these accelerating conditions (Stein, 2019b). I am concerned with questions of how to authentically talk, learn and act in my work with preservice teachers, about the extent of distress and danger the earth is in, about both individual and shared complicity in this trouble, and about our responsibility in responding to this. In reflecting on how difficult it often is to have these conversations within my own teacher education programme I began to see more clearly how the abstracted, universalising and reductive knowledge and epistemologies that have helped build the colonial-capitalist modernity that we are invested in have also facilitated our investment in ontologies of blindness to trauma (Gordon, 2008) and of disassociation from Country. In spite of a reemergence of movements that call out injustice, violence and destruction in the wider culture, education, curriculum

and schooling in the Australian context largely maintain their commitment to blindness to these concerns.

Entering into a Diffractive, Decolonising Reading

Education needs to recognise its role and responsibility in both creating and responding to the conditions of colonial modernity. In what follows I outline some of the perspectives I drew from in initially enacting practices of diffractive, decolonising reading to assist in these aims. In this diffractive reading practice, texts are not understood to be already existing, bounded, stable entities because entangled phenomena at the quantum level call into question the nature of two-ness (Barad, 2014). While a comparative reading or a systematic review imply a view of texts and text collections as bounded territories, containing knowledge that is stable and isolatable (MacLure, 2005), in a diffractive reading they are material-semiotic generative nodes, whose boundaries materialise in social interaction (Van der Tuin, 2016). The boundaries of texts are contingent and remain generative, on all interactions. In the research apparatus discussed here the texts that I am reading and writing are approached as an entanglement of more-than-human relationships. These entanglements include selves, including myself, other readers and authors; other texts; the political economy; the discursive phenomenon of scholarship (Adema, 2021); spacetime; and Country.

A perspective from a number of Australian First Nations knowledge systems (for example, Bawaka Country et al., 2020; Pannell, 2006; Yunkaporta, 2019) is similarly that knowledge; interpretation of signs into meaning, emerges in a relational context. Further, more-than-human entities including Country, land and objects have stories, volition, personality, purpose, and communicative powers that exercise agency in the emergence of relational knowledge. In this sense I understand both stories and texts as living relational entanglements, and humans as not the only entities involved in the communication of them.

In Australian First Nations knowledge systems it is the relation not the thing or identity that is privileged in thought (Yunkaporta, 2019), therefore, knowledge cannot be other than situated: It exists only in relations with place or Country and other phenomena, for example, humans. This supports the principle Stein (2019a) argues for, which is that all knowledges and epistemologies are provincial (Stein, 2019a). None can speak to 'reality' in a singular sense; all have emerged from particular relations and conditions and they create certain things and possibilities, and deny or ignore others. This means seeking to read all knowledges as nonhierarchical. It also means curbing colonial-modernist training to make abstracted or totalising arguments from readings and text production, for example rather than making claims about what 'Capitalism' or 'Education', is or does, instead remembering that the point is to attend to the particularities emerging from particular readings and their texts, spacetimes and conditions.

One of Barad's (2010, p. 243) descriptions of diffractive reading is that it involves 'reading texts intra-actively through one another, enacting new patterns of engagement, attending to how exclusions matter'. The physical phenomenon of diffraction 'has to do with the way waves combine when they overlap and the apparent bending and spreading out of waves when they encounter an obstruction' (Barad, 2007, p. 28). Diffraction illuminates the manner in which phenomena, including knowledge, emerge in the world, through the materialisation of entangled relations, which create resonances, patterns and disturbances. How these manifesting patterns, resonances and disturbances matter is crucial in a diffractive reading. That is, the mattering of the world and of knowledge and interpretations in and of the world are inextricably entangled with ethics.

This relational and ethical nature of the material-discursive world, implicates the reading of the political, costs, benefits, possibilities and power (Barad, 2007; Yunkaporta, 2019) in a diffractive reading. Diffractive reading and decolonising reading converge in that they purposefully enable the ethico-political dimensions of knowledge that are part of and that emerge in relationships to be

open for consideration. This sits in contrast to the generalising and reductive epistemologies of modernity. In creating abstract, self-contained knowledge, epistemologies of modernity obscure the situated, particular and relational, so that we cannot see or examine our own relations with that knowledge, the costs of that knowledge to systems, people and ecologies, or the knowledge possibilities of different kinds of relations. In a diffractive reading object and meaning are expressions of one phenomenon emerging through entanglements. Fundamental to my readings are the questions: What are the particular relations here in this research, for example, with Country, and what emerges from this that makes a difference, and for whom? How do these research-relations and their knowledge constitutions strengthen, disturb, weaken, silence, ignore, enable or restrict more-than-human others', life, vitality, power, agency, possibility, freedom?

A diffractive methodology is then '... a critical practice for making a difference in the world. It is a commitment to understanding which differences matter, how they matter, and for whom. It is a critical practice of engagement, not a distance-learning practice of reflecting from afar' (Barad, 2007, p. 90, my emphasis). Haraway also foregrounds this ethics of commitment to critical participation:

Textual rereading is never enough, even if one defines the text as the world. Reading, no matter how active, is not a powerful enough trope; we do not swerve decisively enough. The trick is to make metaphor and materiality implode in the culturally specific apparatuses of bodily production. What constitutes an apparatus of bodily production cannot be known in advance of engaging in the always messy projects of description, narration, intervention, in-habiting, conversing, exchanging, and building. The point is to get at how worlds are made and unmade, in order to participate in the processes, in order to foster some forms of life and not others. (Haraway, 1994, p. 62)

This ethics of commitment to critical participation has a number of further kinds of implications for white settler researchers such as myself, who engage in this work. One of these implications is reckoning with ghosts. Avery Gordon writes about the repression of trauma as a form of haunting (Gordon, 2008, 2011) and about the need to recognise and respond to hauntings because they have important messages about the world and they do not go away. Hauntings show us 'the unavailability of dealing with State Power or Slavery or Racism or Capitalism or Science or Patriarchy' (Gordon, 2008, p. 201); that it does no good to ignore or deny these or argue that they are over, because they will continue to haunt, to be there waiting. However, engaging with these ghosts is not easy because they demand that we reckon with how we are in their stories. White settler researchers may be threatened by what our complicity and co-responsibility in others' trauma means for our concept of ourselves. This work demands that we can confront the parts of our systems that we are complicit in that enable sanctioned ignorance or continuity of trauma. As Arendt (1954/1993) and Haraway (2016) have both pointed out, to fail to join the dots and to make connections between our actions and others in past, present and future, is to strengthen and become part of the denial of responsibility and the banality of evil that enable cultures of violence to establish and persist.

To sum up, to read diffractively is to open the question of reading and writing and objects and meaning; to read relations between texts and texts and texts and worlds as fundamentally *open* (Van der Tuin, 2016) and to map and trace some of the generative re-makings of textual relations: past, present and future. This diffractive, decolonising reading practice is centrally concerned with purposeful participation in a critical practice of considering differences that matter in the production of texts and knowledge, how, and for whom. It approaches texts as entanglements of more-than-human relationships: apparatuses co-creating patterns and interferences. It draws on the First Nations and posthuman perspective that we read 'with our senses attuned to stories told in otherwise muted registers' (Hustak & Myers, 2012, p. 77) including the stories of multispecies, land and objects which have volition, personality, purpose, and communicative powers (Henare,

2001; Yunkaporta, 2019). And on the perspective that we read specific and particular, rather than generalised, entanglements — in a time and a place; in Country (Yunkaporta, 2019). This critical practice involves reading the participation of the self in the entanglement, and reading how power and possibilities are limited or vitalised, in the apparatus.

Two Diffractive Readings

In 2020 I enacted a diffractive reading of pedagogy and the Great Barrier Reef (Bellingham, 2021). This came about through a long-held curiosity about the mutable and adaptive qualities of corals and coral reefs, an intensifying sense that the Great Barrier Reef in particular embodies potent and formidable pedagogical agency of import both in Australia and internationally, a stay and embodied experiences at the Reef during a time of heightened emotional intensity in my life, and a hunch that exploring the Reef might show me something about my own immutable, deterministic, non-adaptive, colonial pedagogical thinking. In First Nations knowledge, the Great Barrier Reef is the backbone of the Rainbow Serpent, and like other significant parts of Country is an important loci for relations between people, stories and meaning (Pannell, 2006).

The reading I undertook included Reef texts from traditional Indigenous knowledge (Nunn & Reid, 2016; Pannell, 2006; Yunkaporta, 2019), Darwin's documentations of the Great Barrier Reef and reef formation (Darwin, 1842), Imperial Era British novels set on coral islands (Ballantyne, 1857/1986; Golding, 1958), environmental science (for example, Great Barrier Reef Marine Park Authority, 2014, 2019; Harrison, 2011), alternative perspectives of science enactments (Wertheim & Wertheim, n.d), socio-cultural environmental history (McCalman, 2013), and Indigenous and non-Indigenous perspectives on the contemporary status and future of the Reef (Barcan, 2020; Farrier, 2020; Whyte, 2020) and my own embodied experience of being on the Great Barrier Reef and in its waters. The methodology drew on Haraway's (2016) notion of thinking with companion species, and on the agency of relations with Country that is integral to Australian Indigenous knowledge systems.

The reading generated a tracing of some diverse, emergent forms and imaginaries of the Reef, and their knowledges, their potential to teach, and the particular ways they enact this: That is, Reef pedagogy. A number of patterns manifesting in the reading emphasised how coral reefs demonstrate unusually obvious mutable and indeterminate qualities which often defy modernity's ontology of fixed, bounded entities and categories. Reefs are entities indeterminately alive and dead, life and nonlife, biology and geology (McCalman, 2013), many with reproductive and sexual characteristics that fluidly respond to context (Harrison, 2011). Many corals have intriguing structures that demonstrate a geometrically significant hyperbolic model (Wertheim, 2009), that are materially significant for adaptive survival, and that defy the categorisations of Western science (McCalman, 2013). Reefs demonstrate in unusually evident ways how these diverse forms of mattering occur through unique and nuanced relationships: between particular qualities of depth, light, temperature, tide, soil, sand, rock, animal and plant life, and cultural, economic and political systems (McCalman, 2013). They are therefore excellent pedagogues modelling being and knowledge construction as 'boundary making practice(s)' (Barad, 2007, p. 146), open to new relations and new forms.

The agentic patterns that the Great Barrier Reef has quietly manifested over time also command attention by their role in various stories and concept-emergence, shaping and shifting understandings of creation, time, ecosystems, symbiosis, and climate change. Traces of local Indigenous relational memories of the Reef stretch back to a time before it was inundated by water, more than 7000 years ago (Nunn & Reid, 2016). The Reef is indelibly marked and haunted by the loss of Reef homelands during colonisation, which meant not only the degradation and loss of social groups and resources, but also the rupture of forms of being, memories, meanings, and knowledges that can only be properly remembered, experienced, and lived in connection with

Country (McCalman, 2013). While Indigenous culture has long accepted that the marks of knowledge, change and damage are enfolded in the Reef and marked through deep time, this archival capacity of reefs is also now noted in Western geology, as their layers enable a high level of carbon dating (Waters, Zalasiewicz, Williams, Ellis, & Snelling, 2014). In another expression, the complexity and diversity of the Reef's life forms and the obvious reciprocity they enact have significantly furthered the study of symbiosis in Western science (McCalman, 2013). In a further expression, the Reef is a monumental future fossil in the making (Farrier, 2020) signifying the limits of colonial-modern understandings of the ethically and materially entangled nature of existence (Yunkaporta, 2019) and the damage done by these limits. From a standpoint attentive to more-than-human agency, coral bleaching does not signify a passive consequence following external causes but is an intelligent and creative choice, an agentic act of haunting in Gordon's (2008) sense of the term: a demand for attention to the costs of modernity and a call for something to be done (Bellingham, 2021).

These patterns assisted me to more closely confront the limitations of the generalising, reductive, rational, extractive epistemologies of modernity, and their educational logic of individualised, self-centred, instrumental progress. Attending to the situated, particular and relational emergence of pedagogy in the Reef enabled me to think differently about how it is that the knowledge systems and traditional pedagogies of modernity obscure the costs of this knowledge system (Gordon, 2008). The perspective that knowledge emerges in a relational context, and it is the relation that is meaningful (Yunkaporta, 2019), shifted my attention to the marks of knowledge on Country, including those of past, present and future trauma. I considered how pedagogies of modernity insist on hypervisibility, via obsession with surveillance and auditing. This assists to effect an education system that is blind or indifferent to current and historical repression and trauma. The assumption that there are no shadows or hauntings, that everything can be seen and measured, means the disappearance from consciousness of unresolved trauma, exploitation, damage and repression (Gordon, 2008) such as that produced by colonisation of peoples and education systems.

In the second example of diffractive reading (under review) in which Australian teacher education policy and practice and military imaginaries were read through one another, I was interested in estranging myself from, or decolonising, some of the militaristic ways of thinking that I was becoming increasingly sensitised to and concerned about in education discourse, and by extension in my own history of learning and my pedagogy as a teacher educator. Following authors such as Butler (2010) and Deleuze & Guattari (1987), I pursued thinking about the ways war and society are enmeshed in co-constituting relations producing organised kinds of violence, and about militarism as an imaginary emerging from the broader assemblage of neoliberalism, colonialism, capitalism and scientism in modernity. Australian teacher education reforms are often positioned as necessary responses to a crisis of slippage in international achievement rankings (for example, see Tudge, 2021). In response to this crisis, teacher education is conceived as a battleground (Peters, Cowie, & Menter, 2017). We have the literacy wars (Riddle, 2014), the culture wars (Taylor, 2014b); the 'school funding wars' (Tudge, 2021, para 19), the curriculum wars (Taylor, 2014a). I developed the reading as a thought experiment to generate and consider diffractive patterns emerging across teacher education and military imaginaries around response to crisis, and everyday work.

The reading involved recent Australian teacher education reform policy (Australian Institute for Teaching and School Leadership (AITSL), 2017a; Craven et al., 2014; Tudge, 2021), including for mandated Teaching Performance Assessments (Australian Institute for Teaching and School Leadership (AITSL), 2017b, 2017c; Charteris, 2019); recent academic discussions entangling education and militaristic thinking (for example, Giroux, 2011; Riddle, 2014; Saltman & Gabbard, 2010; Taber, 2014; Taylor, 2014b) academic discussions of military imaginaries (Nordin & Öberg, 2015; Öberg, 2019; Zehfuss, 2018); and the SF novel *The Invincible* (Lem, 2020/1964). The novel provides a thought experiment about the limitations and problematics of militaristic

thinking and ontology. To this end I also drew on SF methodology, for its power to defamiliarise our commonplace experience and to help us to imagine identities, time, space and place concretely in alternative ways (Gomel, 2014). SF enables testing of epistemological and ontological perspectives for the ways they limit, the possibilities they enable, and the ethical implications of these. In particular SF offers the alien and questions of alien experience and intelligence, to trouble our certainties of being, relations and boundary notions of the other (Gomel, 2014). In *The Invincible* (2020/1964) a hubristic, militaristic culture is explored via an interplanetary mission that is ostensibly to gain knowledge but cannot disentangle itself from violence. *The Invincible* raises questions about what 'knowing others', means and implies, about the hubris of this and perhaps even the impossibility of this.

This diffractive reading sharpened some of my concerns about similar patterns of hubris in our education system. The normalisation in education of hyperpragmatic, extractive, technical methodologies as best practice responses to crisis and competition mastery is all the more disturbing when its resonances with militaristic thinking are considered. The reading indicated the large and significant difference between the intention to know (which is to say, to master) difference, and the intention to learn from difference (Ahenakew, 2016), and made evident the dominance of the former in both the military and in education policy. We miss potentially deeply transformative encounters when we channel our energies into mastery of understanding, rather than into engaging in relationships. We also do damage to more-than-human others.

In my initial reading of the Great Barrier Reef I was oriented toward examining the provinciality of the pedagogy of modernity and toward being taught by the more-than-human phenomenon of the Reef to relearn and re-experience pedagogy in other ways. The second reading, of teacher education through military imaginaries, was oriented toward noticing and generatively engaging with the possibilities and problematics of an already existing engagement of these phenomena. Together the readings raise the problematic question: If the master's tools will never dismantle the master's house (Lorde, 1983), how might I, an educator and researcher who is trained and working within the onto-epistemology and institutions of colonial modernity, usefully approach a decolonising project? In reading these two diffractive reading experiences through one another, I seek further methodological patterns that might respond to this question to some extent.

Defamiliarising Patterns of Violence

A significant methodological pattern evident across the two readings is a heavy dependence on defamiliarisation to estrange myself from my learned, colonial-modern understandings and experience, opening space for new experience and understanding. Defamiliarisation is a literary technique common to the SF genre, and entails shifting our perspective by creating a world in which the familiar is made strange and the strange familiar (Klapcsik, 2012; Mendlesohn, 2008). For example, Lem's *The Invincible* (2020/1964) creates a world in which the normative practices of data extraction and hyperpragmatism can be seen anew, and their entanglement with colonialism, othering and violence surfaces for our consideration.

In the diffractive reading practices I have discussed here, defamiliarisation from my assumed, socio-culturally privileged knowledge occurred notably via reading ostensibly different material-discursive phenomena in relations with one another, for example, pedagogy and the Great Barrier Reef, and teacher education and military imaginaries. The contemporary logics of pedagogy and of teacher education familiar to me were made disturbing and unfamiliar as I saw them anew in light of the patterns they shared and created with the conceptual and ontological premises of these phenomena in relations.

One of the aspects of these contemporary logics that called attention to itself was the normalisation of violence embedded in a highly utilitarian ontology emphasising information processing

for competitive improvement. Reading Australian teacher education in relations with military imaginaries made visible an entrenched phenomenon of strategic outcome processing amounting to an existential rhythm which is common to both and which in the military is known as target processing. Target processing (Nordin & Öberg, 2015) refers to a methodology of warfare in which targets are systematically prioritised and evaluated, and appropriate lethal and nonlethal actions are matched to the targets for specific desired outcomes and effects. These complex, multiple processes often involve violence, but are not necessarily antagonistic; they are just core business. Target processing creates 'an iterative logical methodology for development, planning, execution, and assessment of effectiveness' (Nordin & Öberg, 2015, p. 401).

A powerful resonance emerged between military target processing and politically endorsed Australian teacher education programme content and assessment norms, expectations and discourse. This enabled the potential to see anew the standardised processes that are characteristic of contemporary education. Teacher educators are expected to inculcate their preservice teachers with the understanding that teaching centrally entails a cycle of learner assessment and data collection, strategy application, and reassessment, with rigid limitations and specificity around forms of assessment, assessment data, and teaching strategies (for example, see Craven et al., 2014). Teacher education programmes are expected to enact this strategic processing in their own delivery also, as is particularly evident in teacher education assessment policy (see Australian Institute for Teaching and School Leadership (AITSL), 2017b, 2017c). Nordin & Öberg's (2015, p. 399) argument that target processing has become a primary ontological and existential feature of modern warfare, to the extent that 'war has disappeared into the processing of warfare', is resonant with my experience of teacher education. Pedagogy effectively disappears and is replaced by the deployment of decontextualised and reductive practice strategies orientated toward quantifiable increases in a narrow range of skills and content that are endorsed in colonial education and are thus more easily developed by the already privileged. The onto-epistemological basis for this is 'an impersonal, unquestionable, un-controllable' (Gordon, 2008, p. 167) logic replacing situated, relational human decision-making and creative response.

Drawing on Ferreira da Silva (2016), the ontology upon which the imperative of target processing is premised can be understood to be itself steeped in violence. Ferreira da Silva (2016, p. 59) conceptualises the 'violence of modern thought', arguing that the separability, determinacy and sequentiality that Barad (2007) has also critiqued as limited ontological constructions, cocreate conditions for forms of violence that emerge in modernity. Separability and determinacy are the ontological assumptions that allow modernity to conceive of different species and of the social as pertaining to humans, distinct from nature and a whole in itself, but also made up of further properly separable and determinable components, for example gender, race, sexuality, nationality, and ethnicity, and other kinds of categories on which we base our 'knowledge' of one another. Modern thought, relying on separability and determinacy, makes difference 'a manifestation of an unresolvable *estrangement*' (Ferreira da Silva, 2016, p. 65 emphasis in original). Conceiving forms of difference as fixed categories estranged from one another, naturalises tribalism, and estrangement from the more-than-human that we perceive as Others, as we conceive of ourselves as fundamentally belonging to and sharing experience with one set of groups and not others.

Sequentiality, the notion that events occur in a linear unidirectional series, rests on the construction of time as a linear, one directional arrow. Sequentiality also rests on separability and determinacy. Without the identification of entities separate from one another, it would not be possible to see and determine sequences. Sequentiality, determinacy and separability underly Newtonian causal relations; for example, the notion that the effect of an action of one entity on another can be determined, and that this occurs in a temporally linear, unidirectional sequence. Alongside separability and determinacy, sequentiality underlies Darwinian evolution as it is commonly understood. The wisdom that Natural Selection operates as a forceful struggle for existence and competition for resources between innately differentiated groups, resulting over time in further differentiation and in hierarchies of competitive success, underlies colonialism and capitalism

and has gone relatively unquestioned as a principle of nature in modernity. In humans a 'racial grammar' (Ferreira da Silva, 2016, p. 57) is produced, naturalising and justifying inter-human and inter-species hierarchies of power, and conflict, violence and oppression between human groups and between humans and other phenomena.

The ontological imperative to execute process that is characteristic of education rests on these principles of separability, determinacy and sequentiality. Separability and determinacy lead us to understand students and the categories they are assigned to as possessing innate and fixed essences and differences. They enable the logic of standardised methods of data collection through which we can 'know' separate groups and individuals. Sequentiality enables our measurement of their educational achievement over time, premised on the general principle that teaching strategy interventions are the prominent causes for changes in measured performance.

What is at stake if our education imaginary continues to rest on these ontological premises? If separability, determinacy and sequentiality are the ontological building blocks of our educational ideas, practices and norms, what do we need to understand about how these in other ways reinforce and promote a competitive, hyperpragmatic, technicist, hubristic orientation to the world, in which violence is normalised, especially towards Others? Nordin & Öberg (2015) state that the imperative to process above all else creates certain other disappearances aside from that of warfare itself, including the disappearance of subjectivities and encounters. In the imperative to execute process, the subjective and the relational 'are not supplanted by a higher will or a higher purpose'. Rather, they become 'devoid of symbolic meaning' (Nordin & Öberg, 2015, p. 399). Their vanishing from policy, discourse and the imaginary ultimately vanishes them from experience. The disappearance of selves means the disappearance of the possibility of encounters (Nordin & Öberg, 2015). Because operational warfare does not essentially consist of exchanges between opposing subjects, but of planning for targeting, applied methods of targeting, and evaluation of targeting outcomes, encounters, bodies, experiences, narratives, relations, recede, and the repetitive and mandatory 'predetermined battle-rhythm' (Nordin & Öberg, 2015, p. 405) primarily constitutes reality.

In education the disappearance of selves and encounters enables the possibility that professionalism and ethical practice come to mean the identification of educational targets, the deployment of endorsed strategies, and the measurement of their effects. Practice, in other words, becomes 'the ever more effective application of force' (Zehfuss, 2018, p. 186). This can be observed in preservice teacher practice, where it often makes more sense to create learning interventions with the aim of demonstrating your own professional impact, than it does to develop situated and subjective teaching and learning relationships, experiments, aspirations, and experiences. In these conditions the teacher professional cannot reflect on complex ethical obligations and the fact that these are always incomplete, including their responsibility to understand and respond to issues of justice, power, and historical and current oppression, exploitation and damage; these also disappear.

The defamiliarisation of educational norms via tracing the relations between teacher education and military imaginaries enables a greater sense of how deeply violence is embedded in these educational norms. It enables consideration in deeper and different ways of the question: What is at stake if we continue to think and educate from an ontology of colonial modernity? The imperative to process and the standardised and standardising methodologies deployed in the service of this enable the disappearance of selves and encounters, history and power. These disappearances co-constitute the ongoing colonisation of Others and the sanctioning of ignorance of damage and trauma in global and local forms.

In a similar critique to Lorde's (1983) aphorism that the master's tools will never dismantle the master's house, Ferreira da Silva (2016) argues that modern critical tools cannot support an undermining of constructions such as those discussed above because these tools themselves rehearse the imaging of the World as an 'ordered whole composed of separate parts relating through the mediation of constant units of measurement and/or a limiting violent force' (Ferreira da Silva, 2016, p. 58). I have argued here for the creative and defamiliarising process of placing ostensibly

different phenomena in relations and of attention to the patterns of disturbance generated, and how they matter, as a step away from the normative use of modern critical tools. A second step away from the extractive and inherently violent critical tools of colonial modernity is learning from difference rather than to master difference, which co-constitutes an alternative understanding of difference itself, and which I discuss next.

Defamiliarising Difference by Learning from Difference

A second pattern manifest in reading the Reef pedagogy and the teacher education and military imaginaries texts through one another suggests the generativity of reading in a spirit of companionship oriented to learning from difference rather than to master difference. Ahenakew (2016) argues that a major distinction between readings oriented toward continued colonisation of knowledge and those that seek to decolonise is the difference between reading to master difference — to graft or integrate alternative ideas into existing powerful paradigms; and reading to be taught by difference. For example, the logic of comparative reading and systematic reviews is colonial in that it makes reading an exercise in ‘mastering the territory and extracting its nuggets of knowledge’ (MacLure, 2005, p. 399) for use in existing dominant frameworks. Reading to be taught by difference aims to make what is obscured or nonexistent in our assumed knowledge noticeably absent in order that it might be missed; to see possibilities beyond our habits-of-being. For example, rather than taking ideas from ‘other’, ‘marginalised’ places and grafting them into existing privileged knowledge frameworks, we instead listen for what is present and absent across texts and phenomena, in particular so as to make what is lost, banished, obscured or nonexistent in our assumed knowledge, noticeably absent.

The readings outlined here were relational cocreations of knowledge with the material-discursive phenomena of interest, their stories and texts, the authors of these texts, and the reviewers of the new texts. This at times necessitated hearing things that were challenging to hear, acknowledge and contemplate about my views and assumptions, for example, critical questions from Indigenous scholars and reviewers of the texts produced, with implications for my knowledge and identity, my investment in academia and my reasons for writing these pieces. Because sharing knowledge means co-creating knowledge and entering into and strengthening relationships, rather than transactions (Yunkaporta, 2019), this necessitates providing dynamic intermediary spaces to enable multiple voices, including those of ghosts, to make themselves intelligible, and for difficult conversations, resistance, contestation and plurality to emerge. It also means enhancing our capacity to listen, to ‘refocus upon our mutually productive relations with others in this world’ (Taylor, 2017, p. 1450). In Australia, the creation of spaces in which misunderstandings, racism, privilege, and violence to others and the planet can be called out, and stories of distress, trauma and anger from the more-than-human can be given attention, are a necessary component of processing grief and guilt and moving toward more mature conversations about co-responsibility and kinship.

This process of learning from difference enabled a different reading of difference itself. While modern thought, relying on separability and determinacy, makes difference ‘a manifestation of an unresolvable *estrangement*’ (Ferreira da Silva, 2016, p. 65, emphasis in original), in an entangled world such as that suggested by Barad (2007) and in the previous enactments of diffractive reading I have discussed in this article, the emergence of difference is ‘the expression of an elementary *entanglement*’ (Ferreira da Silva, 2016, p. 65, emphasis in original). Difference is a singular expression of all possible relations and existents, thereby establishing an essence of relationship rather than estrangement in ontology.

This constitution of difference is notable in and on the Great Barrier Reef, where because ‘all reef entities are actively engaged in its making as a symbiotic, dynamic ecosystem’ (Bellingham, 2021, p. 5), reef-making exemplifies the notion that ‘differentiating is a material act that is not

about radical separation, but on the contrary about making connections and commitments' (Barad, 2010, p. 266). The Reef provides a marked example of the emergence of difference as an adaptive, agentic and creative expression of our shared entanglement and co-responsibility.

Attention to this Reef-like enactment of difference as adaptive, agentic and creative expression of our shared entanglement and co-responsibility, makes clearer the implications of normative conceptualisations of difference in education. For example:

The diverse functionality and beauty of corals, which is dependent on aberrancy, models the way that freedom is enhanced by an absence of defining and excluding classifications and boundaries (Fox & Alldred, 2017; Grosz, 2010), enabling invention and co-evolution. The aberrancy of the learning of coral considered against the separability and determinacy that are rife in modern education systems, in the form of identity labels, fixed categories and standardised norms of learning, behaviour and being, makes evident the ways that education pathologises or ignores the exceptional, deviant or divergent, the way it negates the role of and relationships with context and place in emergent and interesting new learning, and categorises responses that do not engage with predefined, contextless tasks as misguided and mistaken. (Bellingham, 2021, p. 5)

The example of coral aberrancy enables closer consideration of the way that conceptualisation of difference as irresolvable estrangement has been used to enact oppression. Similar concerns and problematics over conceptualisations of difference are also indicated in the debate occurring in some spheres (for example, from Braidotti, 2010 and Coulthard, 2014) over the ethics of 'recognition' of colonised or marginalised groups. They argue that the politics of recognition relies on the construction of 'other' groups as stable, bounded identities; an inaccurate, reductive and oppressive notion ultimately restricting the potential for freedom of agency for those groups. Ultimately 'recognition' further entrenches dominant power because it is premised on the notion that identity is essentially about the image that the dominant other reflects of us.

What this reading makes noticeable by their absence in modern education are the pedagogical possibilities of a construction of difference that does not seek to categorise, know and control, but instead to cocreate multiple, emergent forms of learning that emerge from and thus have the capacity to be more profoundly and creatively responsive to relations, Country and place, history and power dynamics.

Conclusion

In the diffractive reading practices I have discussed here, I note two distinctive and connected patterns that enable a couple of steps away from the powerful habits of thinking and being of colonial modernity. The first is defamiliarisation of these habits and thinking made possible through reading ostensibly different material-discursive phenomena in relations with one another, and reading the differences that matter manifesting in these relations. Pedagogy and teacher education were made disturbing and unfamiliar as I saw them anew in light of the patterns they shared and created with the conceptual and ontological premises of their phenomena in relations. The second was pattern of reading to learn from difference rather than to master difference, which manifested a defamiliarisation of the concept of difference itself.

A major aspect of the generativity of these defamiliarisation methods was to enable to me to consider differently and more deeply: What is at stake if we continue to think, educate and research with the habits of modernity? The modern epistemic compulsion to produce a singular catalogue of the world and determine the causality of everything in order to predict and control the world (Ferreira da Silva, 2016) denies the complexity of ourselves and the world, leads to a search for simple solutions, and plays a role in naturalising othering, oppression, and violence.

Other kinds of tools and thinking are necessary. This is a challenge for mainstream education because its systems, processes and institutions emerged through and remain structurally dependent on colonialism (Stein, 2019b). Education in modernity is built on the ideals of ongoing growth; self-realisation through accumulation of wealth, property and resources; protection of these from others; security, privilege, independence and choice as a reward for effort and economic value production; social hierarchy; rationality; a singular set of common values; denial of its own limits and of the validity and potential of other knowledge; and knowledge as a means to catalogue, order and control the world (Stein, 2019b). Education oriented toward these forms of knowledge and relations cannot at the same time orient itself to recognising and responding to the things that are really at stake and that demand our attention and response in the world, because these things result from the trauma and violence that education itself perpetuates.

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