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## Diffraction diffractive readings of texts as methodology: Some propositions

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### ABSTRACT

Re-turning to our experiences of putting a diffractive methodology to work ourselves, as well as engaging with the writings of Donna Haraway and Karen Barad, we produce some propositions regarding a diffractive methodology for researchers to consider. Postqualitative research disrupts the idea that educationalists can be given tools or techniques to investigate the world objectively, independently and at an ontological distance from the researcher. Therefore, avoiding prescription and a rush to application, we take up Stephanie Springgay's proposal (drawing mainly on Whitehead) to diffract a non-hierarchical list of propositions through the text that disrupt the theory/practice binary and activate a self-organising potential for adopting a diffractive methodology in research. We use a diffractive methodology (spatial and temporal), theory and practice as a way of activating experimentation with the affirmative method of diffractively reading texts, oeuvres and philosophies through one another. Propositions generated as part of a published example of a re-view of three books on posthuman non-representational research are also diffracted through the text. These two entangled 'sets' of propositions creatively engage with the in/determinate direction of what a diffractive methodology might look like in practice, while at the same time being cognisant of the complex discussions about the appropriateness of referring to 'methods' or 'methodologies' as human-centred activities.

### KEYWORDS

Diffractive methodology; Barad; Haraway; responsible readings of texts; propositions; posthumanism; feminist postqualitative research

### Propositions activating self-organising potential

Rupturing conventional styles of doing research (e.g. literature review writing, collecting and analysing data) that are representational,<sup>1</sup> we use a diffractive methodology developed by Barad (2007, 2010, 2014, 2015, 2017a). In our own research (Bozalek, 2016, 2017; Bozalek & McMillan, 2017, Bozalek & Zembylas, 2017; Bozalek, Zembylas & Shefer, forthcoming; Murriss, 2016, 2017a,b,c; Murriss & Haynes, 2018; Newfield & Bozalek, 2018), we have used a method of diffractively reading texts through one another. In this paper, we re-turn<sup>2</sup> to some of these experiences of putting this method to work ourselves, as well as engaging with the writings of Haraway (1992, 1997, 2000) and Barad (2007, 2010, 2014, 2015, 2017a) in order to produce some propositions for other researchers to consider, which are diffracted through the article. Moreover, propositions generated by a review of three books on posthuman non-representational research is also diffracted through the text in a different font. In other words, we diffract through diffractive methodology, theory and practice expressed through a different kind of scholarly writing style.

What drives this piece of writing is our desire to engage with the in/determinate direction of what a diffractive methodology might look like in practice, while at the same time being cognisant of the complex discussions about the appropriateness of referring to ‘methods’ or ‘methodologies’ as human-centred activities (de Freitas, 2018; Jones & Hoskins, 2016; Manning, 2015; Mauthner, 2016; Springgay & Truman, 2018; St. Pierre, 2017; St. Pierre, Jackson, & Mazzei, 2016). St. Pierre (2016, p. 34) warns that we should resist ‘the idea of methodology itself’, because the ‘rush to application (to methodology), especially in applied fields like education, can sideline ontology’ (St. Pierre, 2016, p. 26). Indeed, a diffractive methodology involves a diffractive engagement with the feminist philosophies of Haraway and Barad and their ontoepistemologies imply that theory and practice cannot be separated. A diffractive methodology contests the notion that a researcher can be taught tools or techniques about a world which is independent of and at an ontological distance from the researcher. As St. Pierre et al. (2016, p. 105) have noted, it is neither possible to separate theory and practice, nor to teach research methods in terms of ‘how to do’ them, rather, research creation requires ‘a re-imagining of what method might *do*’ [emphasis in original]. So, without a prescribed framework (which is also not desirable) how to adopt a diffractive methodology? Although a ‘body’ of literature is e/merging about diffraction as a methodology, little guidance is given to researchers.<sup>3</sup> How do we know how to diffractively read texts (in the broad sense) through one another, if there are no guidelines? Of course, this question might itself already presuppose criteria that can be applied from the outside.

Avoiding prescription and a rush to application, we take up Stephanie Springgay’s proposal to develop some propositions. Springgay (2015, p. 78) suggests that a ‘proposition versus an instruction triggers conditions of emergence activating self-organising potential’. Quoting Alfred North Whitehead, Truman and Springgay (2016, p. 259) argue that a proposition is a ‘new kind of entity’ – a ‘hybrid between potentialities and actualities’. Propositions are both actual *and* speculative and although they can be true or false, according to Whitehead, the key idea is that even if they were false (in the sense of not conforming to the world order), they offer potentialities in terms of affecting those who experience them (Truman & Springgay, 2016, p. 259). Propositions do not offer information or prescribed rules and pre-planned directions to follow, but ‘gesture to how they could potentialize’ (Truman & Springgay, 2016, p. 259). Re-turning to our own experiences of writing about diffraction and Barad’s writings on diffraction, we consider a set of possible propositions, which are diffracted through the text. They have been numbered for practical purposes (for ease of referencing them), but they do not express any kind of hierarchy.<sup>4</sup> Diffracted through these and the article are also propositions generated through a diffractive reading of three books through one another as part of a book review in a different font (Murriss, 2017c). The diffractive apparatus does not work in a linear or causal way, but through what Whitehead calls ‘feeling’ and experiencing their actualisation (Truman & Springgay, 2016, p. 260). Unlike methods that researchers apply to the data they have collected (a ‘doing to’), adopting the idea of propositions acknowledges that posthuman research is an experiential event (Springgay, 2015, p. 79) inbetween in/determinate human and nonhuman bodies (including the sheer materiality of this 2D article with written words). This distributed, transindividual notion of agency shifts what we mean by causality in knowledge production. Being affected by these propositions is more than emotion or feelings, but a kind of mutual performativity that queers cognition/emotion and inner/outer binaries (Barad, 2007).

The challenge in adopting diffraction as a methodology is not to *theorise* the diffraction pattern (a logic of representation), but to put it into *practice*, thereby disrupting the theory/practice binary. The idea is to read theory *with* practice diffractively guided by, for example, key questions that move the experiment forward. As a researcher one is part of the world, hence a diffractive reading is unlike a literature review as the latter assumes that you are at a distance of the literature, having a bird’s eye point of view – creating an overview by comparing, contrasting, juxtaposing or looking for similarities and themes. A diffractive reading, on the other hand,

does not foreground any texts as foundational, but through reading texts through one another, comes to new insights.

Hence, in the following section we offer two entangled 'sets' of propositions diffracted through theoretical explanations of diffraction. As referred to above, one 'set' was generated by the diffractive re-view of three books (in a different font) on posthumanism and the other (numbered) are generated afresh by re-turning to our own experiences of writing about diffraction and Barad's writings on diffraction. These might activate some self-organising potential for a diffractive methodology and have been listed in any which order and starting from the middle.

## Diffraction

To *live* without bodily boundaries by: paying attention to *affect* in knowledge production (moods, passions, emotions, intensities) and being open to be affected by the more-than-human;

Diffraction was first developed by Donna Haraway as a metaphor (1988), and then built on by Barad (2003, 2007, 2014, 2017a, 2017b) through her interpretation of quantum physics – in itself a diffractive reading of physics and feminist queer theory. In an interview, Barad explains how the methodology created her philosophy of agential realism:

At least for me it is the incredible satisfaction of taking insights from feminist theory, on the one hand, and insights from physics, on the other, and reading them through one another in building agential realism (Barad in interview with Dolphijn & Van der Tuin, 2012, p. 61–62).

As a strategy for research, diffraction moves beyond the western metaphysical Subject/Object dichotomy (and therefore it is not a metaphor) (Bozalek, Zembylas & Shefer, [forthcoming](#)).

To *live* without bodily boundaries by: accepting that much is not knowable cognitively and can never be articulated;

Barad (in the same interview with Dolphijn & van der Tuin, 2012, p. 52, as mentioned above) explains the difference between diffraction as a classical physics phenomenon and the way she uses it quantum-mechanically:

Diffraction, understood using quantum physics, is not just a matter of interference, but of *entanglement*, an ethico-onto-epistemological matter. This difference is very important. It underlines the fact that *knowing is a direct material engagement, a cutting together-apart*, where [agential] cuts do violence but also open up and rework the agential conditions of possibility. There is not this knowing from a distance. Instead of there being a separation of subject and object, there is an entanglement of subject and object, which is called the '*phenomenon*'. Objectivity, instead of being about offering an undistorted mirror image of the world, is about accountability to marks on bodies, and responsibility to the entanglement of which we are a part.

Diffraction as a methodology troubles humans' epistemic arrogance of locating knowledge, intelligence and meaning-making *in the subject* and only in the *human* subject.

To *live* without bodily boundaries by: having courage to queer the privileging of the human mind in knowledge construction;

Diffraction is not only a research methodology, but also a pedagogical tool (see, e.g. Murriss, 2016) in place of the more qualitative and humanist reflective methodologies. Diffraction is seen by Barad (2007) as an alternative to reflection, a metaphor which depicts sameness or mirroring.

To *live* without bodily boundaries by: desiring to circumvent and resist becoming entrapped in humanist discourses and wanting to be in control;

Reflection is an inner mental activity, where a researcher supposedly takes a step back, distancing him/herself from the data or whatever is being contemplated.

To *live* without bodily boundaries by: resisting the desire to fix meanings and to pin down sense;

1. Deconstructing the foundations of certain concepts and ideas; seeing how contingency operates to secure the 'foundations' of the concepts we cannot live without. And using that contingency to open up other possible meanings/matterings.
2. Not holding one text, theory, oeuvre, perspective as foundational.

In reflection the researcher is seen as separate from the world, whereas in diffraction, there is no researcher who is an independent subject but rather an intra-action between human and non-human phenomena.<sup>5</sup> This is why Barad (2017b, G111) refers to a 'relational agential ontology'. She explains it in the following way: 'Entanglements are not the mere intertwinings of, or linkages between, separate events or entities or simply forms of interdependence that point to the interconnectedness of all being as one'.

3. Appreciating that the researcher is always already part of the apparatus that measures and has a specific geopolitical location.

To *live* without bodily boundaries by: transcending the human and focusing on the 'in-between' inanimate objects, place, technologies, etc.

Thus a diffractive methodology, rather than contemplating the meaning of texts or data, is concerned with what phenomena *do* and how they are connected and co-constituted (Bozalek & McMillan, 2017).

To *live* without bodily boundaries by: putting ones *self* at risk and being curious about thinking and doing 'otherwise';

As Barad (2014, p. 168) explains 'the quantum understanding of diffraction troubles the very notion of *dicho-tomy* – cutting into two – as a singular act of absolute differentiation, fracturing this from that, now from then'.

4. Deconstructing power-producing binaries (e.g. mind/body, cognition/emotion, researcher/researched, man/woman, white/black, adult/child, normal/abnormal, micro/macro) by being aware of who, or what, is included and excluded through the diffraction apparatus.

Diffraction means 'to break apart in different directions' (Barad, 2014, p. 168). Diffraction patterns hold for water waves, as well as sound waves, or light waves (Barad, 2007, p. 74). It is where they interfere or overlap that the waves change in themselves in intra-action and create an interference pattern or 'superposition' (Barad, 2007, p. 76).

5. Working with barriers and making new patterns of thought ('superpositions').

Diffraction patterns are evidence of superpositions – the new patterns created are the *effect* of difference and mark where learning has occurred. Importantly, they disrupt identity producing binaries.

To *live* without bodily boundaries by: embracing awkward moments that threaten human boundary-making between human/nonhuman, nature/culture, mind/body, child/adult;

Diffraction attends to the relational nature of difference; it does not figure difference as either a matter of essence or as inconsequential (Haraway, 1992, p. 300).

6. Thinking with and through differences rather than pushing away from and solidifying difference as less than.

As we have seen, for Barad, diffraction is not a metaphor as it is for Haraway, but *it denotes phenomena of matter itself* (Seghal, 2014, p. 188; our emphasis). Waves are not bounded objects, but disturbances. So, the methodology tries to break from the familiar habits of reflecting on the world from the outside to a way of understanding the world from within and as part of it (Barad, 2007, p. 88).

To *live* without bodily boundaries by: asking speculative hypothetical (e.g. 'what if') questions that include the human and more-than-human;

The diffraction apparatuses, Barad (2007, p. 33) suggests, can be used to study entanglements.

To *live* without bodily boundaries by: following multispecies relations and tracing entanglements (not following the human);

7. Following *relations*, not individuals or units, and tracing human and nonhuman entanglements (inanimate objects, place, technologies, etc.), we are always part of. (We are often not aware of the fact that we are *part* of and *with* the world.)

Entanglements are specific material-discursive configurations that change with each intra-action. Diffraction pays attention to how, for example, technoscientific practices are implicated in what it means to teach or to do research.

To *live* without bodily boundaries by: embracing the role of educational technology in disrupting binaries between teacher/learner, animate/inanimate, fantasy/reality, mind/body, nature/culture;

The complexity researchers deal with when using the methodology is not so much that entanglements change from moment to moment or from one place to another, but that 'space, time and matter do not exist prior to the intra-actions that constitute' them (Barad, 2007, p. 33). So, what are the implications for knowledge production?

To *live* without bodily boundaries by: opening up to the unknown and not knowing (epistemic humility);

Barad (2007, p. 91; emphasis in the original) states very clearly that the point is not that knowledge practices have material consequences, but '*practices of knowing are specific material engagements that participate in (re)configuring the world*'.

To *live* without bodily boundaries by: appreciating the entangled nature of the human and more-than-human (including cameras) in knowledge-production and the productive force of this entanglement (*distributed agency*);

8. Trying to make visible the interference patterns that exist (and do not exist) already as part of the world. They exist when bringing them into relation with one another. Undoing classical notions of identity and being as 'a quantum superposition is a relation among different possibilities' (Barad, 2010, p. 251).

'Which practices we enact matter – in both senses of the word' (Barad, 2007, pp. 91–93). Making knowledge implies giving the world specific form, for which the researcher is also responsible and accountable by paying attention to accurate and fine details

9. Paying close, respectful, responsive and response-able (enabling response) attention to the details of a text (in the broad sense), that is, trying to do justice to it (Barad in an interview with Juelskjaer & Schwennesen, 2012, p. 13).
10. Being acutely aware that small differences matter enormously when using a diffractive methodology.

Barad explains that the diffractive methodology is an 'ethico-onto-epistemological engagement attending to differences and matters of care in all their detail, in order to creatively repattern world-making practices' (Barad in an interview with Juelskjaer & Schwennesen, 2012, p. 16).

11. Understanding the inseparability of epistemology, ontology and ethics; research is always political; 'a deep appreciation of the entanglements of facts and values ... Values and facts are cooked together as part of one brew' (Barad in interview with Juelskjaer & Schwennesen, 2012, pp. 15, 16).
12. Not things but the phenomena are the objective referent therefore the apparatus that produces data and things also produces values and meanings.

Moreover, the production of values and meaning through the diffraction apparatus is always 'with an eye to our indebtedness to the past and the future' (Barad in an interview with Juelskjaer & Schwennesen, 2012, p. 16).

To *live* without bodily boundaries by: caring differently and acknowledging our human vulnerabilities and limitations;

13. Being creative, but not in the sense of crafting the new through a radical break with the past.

This second dimension of diffraction – a different temporality – is also salient for research practices and deserves to be explored further.

### Temporal diffraction and educational research

As researchers we *re*-turn to Karen Barad's visit to Cape Town in June 2017 when she worked with us<sup>6</sup> and re-read two papers out aloud during a residential seminar: one called *Diffracting Diffraction: Cutting Together-Apart* (Barad, 2014) and one which was still to be and has now been

published (Barad, 2017, 2018). *Re-turning* as a method is a kind of ‘Slow scholarship’ (Bozalek, 2017), re-turning and re-turning again and again to the ‘same’ text, creating ‘thicker’ understandings about diffraction, for example. As Barad points out: ‘... the mere mark of a hyphen [in re-turning], is an important reminder that reflection (‘returning’, not ‘re-turning’) and diffraction are not opposites’, but overlapping optical intra-actions in practice (Barad, 2014, p. 185 ftn2). Re-turning, as Barad explains (Barad, 2014, p. 168), is ‘a mode of intra-acting with diffraction – diffracting diffraction’ and ‘is particularly apt since the temporality of re-turning is integral to the phenomenon of diffraction’ – cutting together-apart as one move.

To *live* without bodily boundaries by: becoming sensitive to the always political and ethical nature of research;

As seen in our discussion on diffraction and how it differs from the standard practice of doing a review of the literature, diffraction is opposed to cutting into two as in ‘dicho-tomy’, and this includes the dicho-tomy of researcher/researched.

To *live* without bodily boundaries by: committing oneself to human/more-than-human equality, including queering the binaries between researcher, researched and research participants; appreciating that the researcher is always already part of the apparatus that measures;

As part of a diffraction pattern – cutting together-apart – we as researchers do not exist ‘outside of the diffraction pattern, observing it, telling its story’ (Barad, 2014, p. 181). On the contrary, in a relational ontology, we are ‘neither inside nor outside’, and without fixed bodily boundaries, our ‘story in its ongoing (re)patterning is (re)(con)figuring’ us; we are ‘of the diffraction pattern’ (Barad, 2014, p. 181). It is in this sense that as subjects we are transindividual: ‘always already multiply dispersed and diffracted throughout spacetime (mattering) ... in its ongoing being-becoming’ (Barad 2014, pp. 181–182). Put differently, we as researchers writing this paper are neither determinate, nor indeterminate, but in/determinate, that is, (like atoms at micro-level) ‘being’ determinate or indeterminate depends on the apparatus that measures: our Man-made categories (and this includes notions of scale). What we can learn from Quantum Field Theory (QFT) is that intra-actions and diffractions are in/determinate in both space and time, for both human and nonhuman.

14. Understanding that quantum entanglements are not only about diffractions at micro level as the binary between micro and macro is humanmade. ‘Macro’ and ‘micro’ worlds ‘... are concepts that already presume a given spatial scale’ (Barad, 2010, p. 240). Quantum superpositions tell us that being/becoming is an in/determinate matter.

Barad (2014, p. 169) reminds us that in QFT each moment ‘in’ time is ‘an infinite multiplicity ... broken apart in different directions’.

15. Making connections of how entangled relationalities that do not appear to be proximate in space and time constitute a force (Barad, 2007, p. 74).

Deleuze and Guattari (1987/2014, p. 296) also refer to the individual as an infinite multiplicity. Barad’s *agential realism* implies that the past is open for future reworkings, and yet, the traces of iterative materialisations are sedimented into the world (Barad, 2017a, 2017b). In other words, QFT has inspired spatial *and* temporal diffraction as a research methodology.

16. Appreciating that entanglements are relations of responsibility that tie us to one another.



17. Queering the stability of spacetime coordinates: Entanglements are always here, there, now, then.

In one of her presentations during the seminar when she visited Cape Town in 2017, Karen Barad used the concept of 'travel hopping' as a way of describing quantum leaps or temporal diffraction. Introduced by Kyoko Hayashi in her novella *From Trinity to Trinity* (2010), Barad uses travel hopping as a powerful concept to unpack the infinite density and complexity of a particular spatial 'point' in space and time ('spacetimemattering'). Travel hopping opens up exciting possibilities for re-turning to the past of, for example, researching a teaching space, or as in this article reading experiences with diffraction as a methodology through one another. This is im/possible, because travel hopping is dis/embodyed material-discursive labour involving a re-working of the past, not by creating a linear chronology that assumes linear time, but an un/doing of universal time – the idea that moments exist one at a time, the same everywhere, replacing one for the other (like beads on a string). It also disrupts what it means to be a human (or a collective of humans) 'with' memories moving as a fleshy unit 'in' space and 'through' time (the modernist notion of the self with, for example, rights).

18. Collaboration inbetween people is necessary for the responsible practice of education; to think and work together is an integral part of research and educational. Productively engage and think *with* other humans and more-than-human (e.g. matter).

Living without boundaries implies that it is impossible to write 'a' history of a body *objectively* in the traditional sense as this would involve power-producing dualisms between self and world.

To live without bodily boundaries by: encouraging imaginative, speculative philosophical enquiry that ruptures, unsettles, animates, reverberates, enlivens and reimagines;

QFT offers empirical evidence that past, present and future are always threaded through one another. It is not the case that 'the' past is changed (as, e.g. films about time travel suggest the past might be changed). But as the quantum eraser experiment suggests (Barad 2007, pp. 310–317), a body's ontology remains open for future reworking. Hence the importance of travel hopping for educational research practices. The past is never 'here' or 'there' in the sense of objectively fixed and static. However, it does not follow that the past is not *real*. Re-turning to experiences is an *entering* of a past that was never there for the 'taking' and intensifies the affect that experiencing the experience has on human and nonhuman bodies.

Using temporal diffraction means tracing the marks left on human and nonhuman bodies and moving beyond the anthropocentric focus on the discursive only and acknowledging the in/determinate agency of the relationality inbetween the material and the discursive. Barad's agential realism makes us think radically differently about concepts that assume binary thinking, such as causality, agency, power and identity – concepts still at the heart of representational research methodologies.

To live without bodily boundaries by: resisting asking research participants for lived experiences and describing them discursively, e.g. through coding;

What the above exercise in diffracting diffraction does, is to call the very nature of personal identity into question and *not only for human bodies*, but also for nonhuman bodies.

To live without bodily boundaries by: including the more-than-human as research participants;

## Honouring our inheritances and entanglements

19. Insisting that entanglements include the aliveness of the past and the future in the present (multiple temporalities) – we cannot and should not break with the past<sup>7</sup> ('dis/continuity').
20. Honouring our inheritances and indebtedness to the past (e.g. feminist engagements with materialism) as well as the future.

Diffraction reading as a new academic style honours our inheritances (Barad, 2010, 2017a, 2017b), because diffraction patterns *are always already there*, that is, for example, the ideas of the authors of a text or the creators of an image *are* always already entangled – like waves in the sea without fixed boundaries – and the task of the researcher is to make this evident.

To *live* without bodily boundaries by: focusing on corporeal entanglements, embodied action and fleeting encounters;

21. Working reiteratively, re-working the spacetime-mattering of thought patterns and not turning away from or leaving behind.

Hence, the diffractive apparatus is *not* about making analogies, or pulling together ideas in assemblages (as this would assume individual existence as ontologically *prior*), but tracing some entanglements ('agential cuts') by focussing on the specificities of texts, fields, oeuvres etc. in a broad sense and what might not be visible, there and then, here and now.

22. Adopting a situated ontology, e.g. by re-turning to 'the' past, creating thick understandings – *literally*, because knowledge is sedimented into the world the researcher is part of. So, e.g. avoiding literature reviews that adopt a bird's eye point of view, that is, creating an overview by comparing, contrasting and looking for similarities and themes.

Now diffraction as a methodology already assumes a relational ontological and a posthuman subjectivity. A relational view of reading a text assumes that the relationship is prior to the text and the reader – neither pre-exists the other. Both are articulated with and through the other, and both are affected by and affect each other as constitutive forces, leading to unpredictable and creative provocations and becomings – this of course is also true for writing.<sup>8</sup> This is why Barad (2007, p. x) maintained in the preface of her book *Meeting the Universe Halfway* that

writing is not a unidirectional practice of creation that flows from author to page, but rather the practice of writing is an iterative and mutually constitutive working out, and reworking of 'book' and 'author'.

Importantly for us, both implicit and explicit in Barad's work is the assumption that it is impossible to separate epistemology, ontology and ethics. Hence, as an ethico-onto-epistemology, what holds for theories and bodies of work, also holds for the academic reading and writing of texts. We therefore propose a response-able methodology, and we see diffraction as one of its manifestations, informed by such a relational ontology.

## Why diffraction as methodology?

As we have argued above, diffractive readings of texts disrupt the human obsession with representationalism and offer 'an escape from the established academic habit of striving to uncover meanings and values that apparently await our discovery, interpretation, judgement

and ultimate representation' (Vannini, 2015, pp. 1–2). Why is this so important and why now in particular?

There is an important ethico-political point about building different kinds of relationships in the controversially termed<sup>9</sup> 'anthropocene' – a geological period of permanent change to the planet's biosphere caused by industries in developed countries. Unlike ecologists who assume that natural systems are universal and 'outside, or separate, from human communities', diffraction as a methodology offers a transdisciplinary approach that disrupts the nature/culture binary and attends to land, the temporality of place (Rotas, 2015, pp. 91, 97).

23. Encouraging knowledge production to cross disciplinary boundaries, e.g. by diffracting quantum physics with poetry or fiction or queer theory.
24. Accepting that there is no unity within fields or disciplines, e.g. education.

Education and research is required for 'an affirmative ethico-political economy' that addresses the 'problematic of a dying species such as ours who is on the trajectory to extinction' through a shift that includes 'trans-subjective and transhuman forces' (Jagodzinski, 2015, p. 128). Diffractive readings 'change the footing on which texts meet each other' (Kaiser, 2014, p. 276) and inevitably involves 'the affirmation of a diffracted/ing world' (Kaiser, 2014, p. 277).

25. Respecting rather than undermining spacetime matter entanglements.
26. Exploring and producing entanglements *at the same time* (through the diffraction apparatus).

However, despite this urgent call there is little support in adopting diffractive methodologies as a form of non-representational, posthuman research at higher educational institutions. The relational ontology assumed and expressed in diffraction also queers the power producing binaries of Western metaphysics (Murris, 2016; Murris & Haynes, 2018).

The point of this article is not to describe or prescribe a framework, but to intra-act with texts about diffraction and with texts that adopt the methodology of reading texts through one another. Our *re-view* of literature (as in viewing again/ re-turning to the literature, not a 'literature review') on the diffractive methodology is a mode of intra-actings with texts that is *objective* in the sense that our diffractions are *sedimented* into the world in its iterative becoming (Barad, 2007, 2014, 2017a, 2017b). We make them work in a particular way, without positioning ourselves *outside* of it: our own subjectivity is constituted in and through the methodology, thereby dissolving the objective/subjective binary. As researchers we are *of* the diffraction pattern (Barad, 2014). Thereby also queering the *researcher/researched*, theory/practice and mind/body binary.

## Making the methodology work

In this article, we have produced some 'propositions' for researchers and practitioners to consider. The idea is not to prescribe or instruct, but to offer an imaginary and to inspire a different 'how' of research. We focussed on reading writings and experiences with diffraction through one another, thereby queering theory/practice binary. Such readings are affirmative, not critical, and involve 'close respectful, responsive and response-able (enabling response) attention to the details of a text', thereby trying to '*do justice to a text*' (Barad in an interview with Juelskjaer & Schwennesen, 2012, p. 13, emphasis in the original).

In diffractive readings, researchers are not looking for similarities or differences, for example, by making comparisons or try and identify themes.

27. Reading texts through and around one another, rather than against each other. Taking someone's work to new and unpredictable places. Creating provocations, new imaginaries and imaginings and new practices.

Guided by questions that e/merge as researchers create data, a diffraction pattern is created. The new diffraction patterns include and do not reduce one to the other. Such diffractive readings are not guided by a 'lack', but are affirmative, creative, connecting, non-representational and ethical.

28. Deconstructing rather than destroying or making a caricature of someone's work, doing epistemological damage by taking a position of exteriority and superiority (Barad in an interview with Juelskjaer & Schwennesen, 2012, p. 13).

By paying attention to the differences that matter without creating oppositions, new patterns of thought, interference patterns and 'superpositions' (p. 169) are created – a 'cutting together-apart' (p. 168) as one move (Barad, 2014).

29. Reading parts of a text, e.g. chapters in a book, as a diffraction apparatus through which questions of difference in the making e/merge and how these come to matter (ethical).
30. Taking what you find inventive and trying to work carefully with the details of patterns of thinking in their very materiality that might take you somewhere interesting and that you would never have predicted.

The 'superposition' created by the diffraction is not 'critical', but adds force to 'both', without assuming that either is a unity, nor the diffraction pattern that has been created and works to inspire posthuman research practices that make a difference in the kind of knowledge produced and the subjectivities expressed as part of this knowledge creation. Importantly, the propositions are self-activating and not prescriptions.

## Notes

1. Representational refers to the belief that we have direct access to our thoughts and feelings, but that we do not have access to the outside or material world. It is also predicated on the idea of ourselves as independent individuals who are knowing subjects ontologically prior to our relationality with other humans and the more-than-human (Bozalek & Zembylas, 2017).
2. Following Barad (2014) by re-turn we do not mean to return to our texts and experiences in using a diffractive methodology, but to return turning them over and over again and reading them through Barad's and Haraway's texts on diffraction, paying attention to the fine details and seeing what new insights emerge from this reiterative process. Re-turning is a process of spatial and temporal diffraction in the turning over and over again across time and space. What might be regarded by some readers as repetition in the text, is in fact a deliberate diffractive methodology of re-turning, expressing practice/theory differently, in this way sedimenting the ideas for the reader and ourselves, as a worlding practice.
3. Here are some examples of diffractive readings of texts we re-turned to in the process of writing this article.  
*From Karen Barad's oeuvre.* For example, reading queer theory through Niels Bohr's quantum physics. Writing chapters in a book, as a diffraction apparatus (e.g. *Meeting the Universe Halfway*, 2007) through which questions of difference in the making e/merge and how these come to matter (ethical). Also, diffracting quantum theory through the works of feminist and postcolonial authors, e.g., Trinh-Minh-Ha and Gloria Anzaldúa (Barad, 2014) and Kyoko Hayashi (Barad, 2017a). She also diffracts the works of philosophers such as Derrida, Foucault and Butler and events such as clocktime, calculus, Schrödinger's cat (Barad, 2010, p. 243). Barad also diffracts diffraction (2014) re-turning (not going back to the past but turning over and over again) to her previous papers and intra-actions with Gloria Anzaldúa.  
*From posthumanist literature where two or more philosophers are diffracted through Barad and Haraway.* For example, with Whitehead (Seghal, 2014), through Bergson (Van der Tuin, 2014), de Beauvoir through Irigaray

(Geerts and Van der Tuin, 2016), Tronto through Haraway and Despret (Bozalek, 2016; Bozalek & Zembylas, 2017) and artist philosopher Ettinger (Thiele, 2014).

*Reviewing academic papers.* Reviewing papers from an affirmative position rather than doing epistemological damage by taking up an external position (Bozalek, 2017; Bozalek et al., forthcoming).

*From reviewing books.* Rupturing conventional styles of book review writing that foreground (rational) critique, for example, a diffractive reading of three books on posthuman, non-representational research in order to create a set of propositions for postqualitative, nonrepresentational research (Murriss, 2017c).

*From diffracting concepts and ideas.* For example, deconstructing the foundations of certain concepts and ideas, e.g. 'secret' (Murriss & Haynes, 2018); seeing how contingency operates to secure the 'foundations' of the concepts we cannot live without. And using that contingency to open up other possible meanings/matterings (see: readerlywriters and writerlyreaders in: Bozalek, 2017).

These are transversal enquiries and encourage knowledge production to move cross disciplinary boundaries (see e.g. Barad, 2007). For examples of transversal enquiries into concepts, see the concept 'pet' (Murriss, 2017a) and Haraway (2000) gives an example of diffraction in her own teaching where she shows how a safety pin may have many meanings and contexts by diffracting the meaning of the safety pin in terms of its history in state regulatory apparatuses.

*From figurations of the teacher and teaching.* Murriss (2017b) offers a diffractive reading of three figurations of the educator and reads two rhizomatic pedagogies through one another: Reggio Emilia and Philosophy with Children (Murriss, 2017a). Both queer the power producing binaries involved in student and teacher-centred pedagogies.

4. Authors such as Erin Manning, who write about propositions, do in some cases, number the propositions – see for example Manning (2016).
5. See page x for an explanation of phenomenon, which implies an entanglement of subject and object, without discarding the human subject as part of knowledge production. In posthumanism, subjectivity is always already understood from the perspective of a relational agential ontology.
6. Karen Barad led a workshop for the research project *Decolonising Early Childhood Discourses: Critical Posthumanism in Higher Education* in June 2017 near Cape Town. See: [www.decolonizingchildhood.org](http://www.decolonizingchildhood.org).
7. The diffractive methodology doesn't break with the past (dis/continuity), unlike transhumanism and Object Orientated Ontology which is apolitical and is orientated towards the future.
8. See Bozalek for more details on the entanglements of reading and writing
9. For example, Donna Haraway (2016, pp. 49–57) offers eight reasons why she prefers to distance herself from the word 'Anthropocene' and explains why she prefers 'Chthulucene' – a tentacular thinking that disrupts the human exceptionalism of the Anthropocene discourse.

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