

How cognitive frames about nature may affect felt sense of nature connectedness

Nadine Andrews
The Pentland Centre for Sustainability in Business
Lancaster University UK
n.andrews@lancaster.ac.uk

ABSTRACT

Nature connectedness tends to be understood as a relatively stable trait, studied using survey-based methods. But this approach is not well suited to investigating the nuances and unconscious processes of subjective experience. This paper addresses these limitations by using an alternative approach. I analyse the lived experience of nature connectedness using a post-positivist transdisciplinary methodology. Research participants report restorative benefits from connecting with nature but tensions and inconsistencies in their felt sense of connectedness can also be discerned. Using frame and metaphor analysis, I explore how particular ways of conceptualising nature, which can be inferred by use of language, may be contributing to these tensions and inconsistencies. The analysis and interpretation I offer is informed by concepts and theories from ecopsychology, environmental philosophy, cognitive linguistics and ecolinguistics. In this paper, language is understood to be a psychosocial phenomenon. In the research participants' accounts I find language that promotes the non-human natural world as an object, that abstracts and homogenises living beings and their habitats, that encourages seeing nature as external and separate, and that primes us to be fast and busy. How these conceptualisations could affect sense of connectedness is discussed. The insights generated in this paper contribute to our understanding of nature connectedness as a subjective experience, and the ways in which particular conceptualisations may affect the quality of this experience. The paper also shows the methodological potential of frames and metaphor analysis, and the contribution that ecolinguistics can make to ecopsychology research.

Keywords: nature connection, cognitive frames, metaphor, discourse, environmental identity, psychosocial

1 INTRODUCTION

Nature connectedness refers to the subjective feeling of being in connection with, part of, or associated to, the nonhuman natural world. Capaldi et al (2014) find that the construct tends to be studied in terms of a trait that is relatively stable across time and situations. It is often assumed that personal encounters with the natural world promote or lead to increased trait levels over time (e.g. Nisbet & Zelenski 2011; Schultz et al, 2004; WWF Scotland, 2011), and there is some empirical evidence that supports this (Schultz & Tabanico, 2007). However, in my personal and professional experience as a mindfulness and nature connection teacher and practitioner, I find the subjective felt sense of connectedness can vary widely in quality moment-to-moment. There is some literature that refers to nature connectedness as a state that can fluctuate (e.g. see Nisbet & Zelenski 2011) but this aspect of nature connection has hardly been studied. Given the link that has been found between nature connectedness and wellbeing (see Frumkin 2012 for review), and with pro-environmental values, attitudes and behaviours (e.g. Nisbet et al, 2009), developing greater understanding of factors that can affect the quality of nature connectedness, whether state or trait, is an important area of research.

A variety of instruments have been developed to research nature connection (Tam 2013). Survey methods dominate (e.g. Mayer & Frantz, 2004; Nisbet et al, 2009) but these are not well suited to capturing the nuance of lived experience, particularly aspects involving unconscious processes. Other approaches have also been used such as implicit association (Schultz et al, 2004) and visual representations of the relationship of self in nature (Schultz, 2001). This paper aims to show the value of an alternative approach for getting below the surface of self-report descriptions: a micro-discourse analysis of lived experience. I draw on a transdisciplinary study with six research participants. I show that although there is evidence of nature connection and its benefits in the participants' accounts, indications of tensions and inconsistencies can also be discerned. I explore and reflect on particular ways of conceptualising nature that could be contributing to these tensions, informed by concepts and theories from ecopsychology, environmental philosophy, cognitive linguistics and ecolinguistics.

An ecolinguistic analysis of the frames and metaphors used by an individual to talk about nature and their relationship with it is rarely studied in the context of nature connectedness, and it is an approach that is under-used in ecopsychology research. The Nature Language project for example has a different focus, which is to generate patterns of human-nature interaction (Kahn et al, 2010). The insights that emerge through this methodology contribute to our understanding of nature connectedness as a subjective experience, and the ways in which particular conceptualisations may affect the quality of this experience. However, the interpretations offered in this paper are exploratory, and further experimental research is required to test the relationship between the quality of felt nature connectedness and particular ways of conceptualising experience.

2 METHODOLOGY

2.1 About the study

The study upon which this paper draws was conducted with six sustainability managers with formal roles to influence environmental decision-making in their organisations. Their work ranged from producing environment strategies and policies, delivering energy efficiency programmes to conserving habitats. The participants worked in organisations in the UK and Canada, in the public and third sectors in local government, social housing, credit union and health care. The participants were selected for their pro-environmental values and identities that were motivating them to do their

jobs. This was discerned during the initial recruitment stage by assessing their responses to open questions about their motivations to work in environmental sustainability and to take part in the study, and by their responses to a survey comprising the Connection with Nature Scale (Mayer & Frantz, 2004), plus one item from the Environmental Identity Scale (Clayton, 2003) and two items from the New Environmental Paradigm revised scale (Dunlap et al, 2000). This sample can be regarded as homogenous and purposive in three main ways. Firstly, the participants share an orientation to pro-environmental values and work in formal roles to influence environmental practices. Secondly, public and third sector organisations share the characteristic of not providing services for the purpose of creating profit. And thirdly, the UK and Canada can both be characterised as industrial growth societies with dominant economic frames about nature (Goatly, 2007; Dunlap, 2008; Dryzek, 1997; Lakoff, 2010). In Interpretative Phenomenological Analysis (IPA), which was the methodological framework for study, a sample size of six is regarded as sufficient due to the close detail analysis of each case (Smith, Flowers & Larkin 2009).

The study aimed to gain insight into psychosocial factors affecting congruent enactment of pro-environmental values by the participants in their work to influence organisational practices. Multiple interacting intrapsychic and contextual factors were identified, for example incongruence between the participant's values and goals and those of their organisation, and coping strategies of identity work and regulation of emotion about ecological crisis. These factors, and their interactions, are reported elsewhere (Andrews, 2017a; Andrews, Fahy & Walker, 2016). This paper focuses on the factor of nature connection, which emerged in my analysis as an important coping strategy to restore depleted vitality. Vitality affected the participants' effectiveness in doing their work - a finding that is supported by self-determination theory (e.g. Ryan & Deci, 2008). Nature connection as a practice is also important because of its potential to strengthen the participants' pro-environmental values and their sense of self as part of nature (e.g. see Weinstein et al, 2009; WWF Scotland, 2011). Both of these aspects of the self are associated with pro-environmental behaviour. In this paper, pro-environmental values and goals refer to values and goals associated with appreciation, care and protection of the natural world. Universalism and biospheric values explicitly include care for nature, but self-transcendence values more generally, and altruistic values and intrinsic goals have also been found to be associated with pro-environmental behaviour (e.g. Brown & Kasser, 2005; de Groot & Steg 2010). Sense of self as part of (nonhuman) nature has been referred to as environmental identity (Clayton 2003). I use the term 'ecological identity' in this paper as an expansion of the definition of environmental identity to include inner connection with 'wild' parts of the self.

Semi-structured interviews were the primary method for enquiring into the participants' lived experience. Topics included: personal relationship with nature, views on the environmental situation, views on their organisation's impact on nature, experience of influencing organisational decision-making, experience of attending to body sensations, emotions and thoughts whilst participating in or running a significant meeting. These 2-hour interviews were mostly conducted in person (video Skype was used with the Canada-based participant). The interviews were audio recorded and transcribed verbatim. Illustrative extracts are included in this paper. Final debriefs were held with each participant as a credibility check, and I also kept a reflexive diary throughout as a way to ensure rigour (Marshall & Reason 2007). Ethical approval for the study was obtained prior to recruitment, and all participants completed consent forms. In this paper, pseudonyms are used to protect their anonymity.

2.2 Analysis and interpretation

I integrated IPA with frames and metaphor analysis from an ecolinguistics perspective. IPA is concerned with the detailed examination of lived experience through intersubjective inquiry and analysis. It involves a critical-hermeneutic level of interpretation, allowing for the development of alternative narratives informed by existing theory (Eatough & Smith, 2010). IPA also recognises that the analyst draws on their own intuitive, experiential and professional knowledge (Smith, Flowers &

Larkin, 2009). Although IPA takes an idiographic focus, the approach can reveal something meaningful and significant about the subject matter (Larkin, Watts & Clifton, 2006). Similarly, an assumption with frame and metaphor analysis is that metaphor use is not arbitrary and that something may be inferred about how the speaker conceptualises their world by their use of particular terms (Deignan 2005). How we conceptualise nature matters because, as Lakoff & Johnson (1980) explain, our conceptual systems influence our thoughts and structure how we perceive and think, what we do, and how we relate to others. These systems are largely metaphorical in nature, and we are always searching for appropriate metaphors that make sense of our lives.

Frame and metaphor analysis is a form of micro-discourse analysis, where the text is coded line-by-line, and often word-by-word. Using abductive reasoning, it is concerned with analysing cognitive frames and conceptual metaphors for the effect they might have on how people think about and act on the issue being discussed. Cognitive frames are bundles of strongly linked concepts and associated emotions and values, learnt through experience and stored in memory (Lakoff, 2010; Holmes et al, 2011; Andrews, 2017a). These cognitive structures serve as 'frames of reference' for interpreting new information and experiences. Frames are activated in the mind through use of particular trigger words, in largely unconscious processes (Lakoff 2010), and it is these trigger words that the analyst looks for in a text. Activation of a frame strengthens its physical neural basis, making it easier to activate (Lakoff 2012; Lakoff 2010). Studies such as those by Thibodeau & Boroditsky (2011) show how people can be unwittingly primed to think and respond in particular ways through exposure to certain kinds of language and metaphors. Indeed, we are all being influenced to think and act in particular ways by the dominant discourse of our social contexts (Lakoff 2010), and it is this that makes language psychosocial. From a cognitive linguistics perspective, metaphors are not merely a linguistic phenomenon but also a cognitive operation that activate a frame. The essence of metaphor is understanding and experiencing one kind of thing in terms of another (Lakoff & Johnson, 1980). More formally, it involves mapping a 'source domain' of human experience that is familiar and easily or intuitively understood, onto the 'target domain' which is less well understood or more vague, uncertain or complex (Crompton, 2010). A conceptual metaphor is typically written as: TARGET DOMAIN IS SOURCE DOMAIN. Knowledge about the source domain is used in reasoning about the target domain, in ways in which we are often unaware (Thibodeau & Boroditsky, 2011; Lakoff & Johnson, 1980).

Metaphors are incomplete representations of reality: they privilege one way of seeing and obscure others. The question is, what is being promoted and what is being hidden, and what are the implications? Ecolinguistics critiques discourses for the way in which they encourage environmentally beneficial or destructive behaviour (Stibbe 2015). In analysing a text from an ecolinguistic perspective, the analyst judges the discourse against a normative framework that is informed implicitly or explicitly by their personal environmental philosophy (Stibbe 2013). I wish to make my philosophy explicit: in common with many other scholars (e.g. White 1967; Merchant 1983; Plumwood 1993; Kidner 2001), I regard human-nature dualism as a root cause of ecological crisis, specifically ideas that humans are separate from and superior to nature, and that the external natural world exists for us to exploit for our own ends. I also consider mind-body and reason-emotion dualisms to be related subsets of this dualism (see also e.g. Hasbach 2012; Totton 2011; Rust 2008).

People may not be consciously aware of all the processes involved in their behaviour and experience (Willig & Stainton-Rogers 2010), and thus are unable to articulate them directly (Swim et al 2011). This integrated methodology of IPA and micro-discourse analysis helps to go below the surface of self-report descriptions.

2.3 Limitations of the study

The methodology I used is concerned with nuanced interpretation of self-reported subjective experience that is situated in a specific context at a particular moment in time. All participants spoke English as a first language. The methodology enables inferences to be drawn but causal relationships cannot be proven, and we should be cautious about overgeneralising based on limited linguistic evidence (Deignan 2005). It was a conscious analytic choice to use particular theories and concepts that form part of my environmental philosophy to guide data analysis and interpretation. Other theories would necessarily lead to other findings and interpretations. This paper presents a post-positivist approach and should be read accordingly.

3 EXPERIENCING NATURE CONNECTION

The research participants described their experiences of engaging with the natural world with accounts involving close observation, multisensory interaction and appreciation of nature's intrinsic value. Being in natural places was a strategy that all participants used to nourish and revitalise themselves. The restorative benefits include sense of mental spaciousness and emotional stability. For example:

Rosemary: It's just, to hear birds singing, to see a bird is just I find it really joyful. To see the sun, to see I sat by a lake on Sunday I was feeling really grotty on Sunday and I went up and sat by a lake and I just watched the sun, the wind- basically the wind was quite calm and the wind made the ripples on the water move down the lake and it brought with it the glistening sun and it was amazing to see it sort of track and that interaction of water and light and pressure

Ash: I enjoy spending time in it I suppose a sense of um feeling more relaxed, enjoying it's a sense of reconnecting I think with em uh... there's a feeling of kind of rightness about being you know when you're walking on a hill or along a valley, by a river

Heather: when I feel most at peace, calmest and happiest is sort of being outside with some sort of natural environment... I feel completely and utterly at one, you can almost feel like the earth beats I know that sounds a bit sort of em a bit odd but I when you can hear everything and you can sort of smell outdoor smells and you can sort of touch the grass I just feel completely at one with sort of the rest of the planet really, which is quite nice. Um it re-energises me, um gives me sense of peace, it just feels fantastic so that's why I try and get outside when I can

These outcomes are consistent with the body of research on nature connection and wellbeing (e.g. see Frumkin 2012 for review). Such restorative benefits were important to the participants because they were mostly working in contexts where there was incongruence between their pro-environmental values and goals and those of the organisation. This incongruence resulted in some thwarting of competency, autonomy and relatedness needs, with consequences for vitality (Andrews, 2017a).

One participant explained how connecting with nature reminds her why she is doing her job as a sustainability manager, as the difficult organisational context she is working in makes her forget:

Rosemary: so its em yeah just going outside just being outside reminding me that's why I come and do this stuff because that's quite hard sometimes to you know well battling within a public organisation that's going through massive budget cuts and lots of pressure to do this quickly and we've got to do that, to just remember ok that's why I'm doing it out there um

The participants' role within their organisations to influence and improve environmental practices is motivated by personal pro-environmental values and goals: they want to make a positive pro-environmental difference (Andrews, 2017a). As one participant says:

Robin: I guess I don't do the job just purely for money I have the interest in terms of the subject matter and also I like to think that I'm making a positive difference towards my own beliefs in terms of environmental issues

The extract from Rosemary above indicates that her nature connection experience is not just restorative but may also serve to strengthen her pro-environmental values and goals, which is consistent with other studies (e.g. Weinstein et al, 2009; WWF Scotland, 2011). This is particularly important in contexts such as Rosemary's where there is incongruence in values and goals:

Rosemary: I'm working in the environment in an organisation that is doing exactly the opposite of what I believe to be right a lot of the time.

Social contexts influence the strength and salience of values in individuals (Uzzel & Rätzl, 2009; Kasser et al, 2004). Because of how values and goals are structured in the mind, if self-enhancing values or extrinsic goals are being primed, there will be a corresponding suppression of self-transcendence values or intrinsic goals (Schwartz, 1992; Grouzet et al, 2005), and this has implications for pro-environmental behaviour as previously discussed.

3.1 Inconsistencies in quality of connectedness

Connecting with nature is a practice that the participants experience and recognise as beneficial. But close analysis of their accounts also reveals tensions and inconsistencies. This finding is also reflected in their responses to the recruitment survey described earlier. For example, several participants scored themselves 4 or 5 for both 'I often feel disconnected from nature' and 'I often feel a kinship with plants and animals' or 'I feel embedded in within the broader natural world'. There are times when the participants feel closer to or more part of nature and instances when they feel more distant or detached:

Ash: I think it's I think it's easier to forget about it (nature) here (in the office in town)... there's almost a sort of once there's an out of sight out of mind isn't there and the risk I think with some of this is if its just not around you at all you'd think you miss it but you don't wander around going where are the bees... I think being in any city immediately makes you feel apart from it

Hazel: We don't in an urban setting we don't have a lot of reinforcements that we are part of nature and the ones that are there you need to seek out you need to be intentional about it

Ash: if you're not preoccupied, in a more open-minded slightly more philosophical place I think you're in a better place to respond, embrace it (nature) a bit more fully I think. If you're busily preoccupied with domestic stuff or work in your mind, I think your mind inevitably turns in on itself I think.

Heather: yeah its weird it's just not the same inside, I just feel like a sense of, being inside sort of sort of it's like a deadening sort of feeling, I feel less energised, less awake, less alert um its it's quite marked really

Jay: if I was really stressed I wouldn't notice that little Blue Tit that keeps sitting on there pecking

As these extracts indicate, sense of connectedness is likely to be weaker in urban environments, when indoors, and/or when preoccupied with thoughts. A stronger sense of connectedness occurs when the participants are present with mind and body in a natural habitat. Given the continuing destruction of natural habitats, and the ever-increasing number of distractions in modern life, this is problematic. Indeed, there is a paradox in depending on natural places that are being destroyed to cope with the stress of working to prevent environmental harm.

My analysis found that quality of nature connection was also affected by use of rational thought, directed attention, and introjected motivation. However, it is not within the scope of this paper to discuss these aspects of experience (see Andrews, 2017b).

4 CONCEPTUALISING NATURE

In the participants' accounts I identified several ways of conceptualising that could be contributing to tensions and inconsistencies in felt sense of nature connectedness. These conceptualisations are inferred by their use of particular words, which are written in italics. The cognitive processes involved occur largely below the level of conscious awareness (Lakoff & Johnson, 1980). The interpretations offered here are informed by linguistics literature, and by my environmental philosophy as outlined earlier.

4.1 Sensory representations

The participants used words that invite close relationships with the natural world but also words that invite abstract and more distant relationships.

Close sensory relationships are invited by terms that are vivid in their evocation of particular living beings, habitats and natural phenomena (Stibbe 2014). Examples of such trigger words are descriptions of habitats e.g. *woods, valley, wildflower meadow, mossland, mountain* and *coast*, particular plants and animals such as *bees* and *lavender* as well as *wildlife, living beings* and *creatures* more generally, phenomena such as *wind* and *sun*. The quotes from Rosemary and Heather about their nature connection experiences illustrate this sensory relationship. From a cognitive linguistics perspective, these terms belong to 'basic-level categories' of cognition: they evoke sensory representations and are at the level that a person can interact physically (Lakoff 1987). These categories are processed faster in the mind and are recognised more easily (Lakoff 2012).

'Super-ordinate categories' on the other hand are more abstract, meaning sensory evocations are less immediate. Super-ordinate terms that participants used include *species, biodiversity, planet ecological systems, ecosystem, environment, natural resources, natural asset, natural capital, greenbelt, green space* and *green infrastructure*. These seem much less vivid with just a faint trace of the living world to which they refer. *Nature, greenbelt, green space, environment* are examples of mass nouns (Larson 2011; Stibbe 2006). Mass nouns are abstract and generalise, rendering the particularity of individual living beings absent. As Stibbe (2014 p595) says, "when trees, plants and animals are represented in mass nouns, they are erased, becoming mere tonnages of stuff". Use of abstract terms may encourage homogenisation of nature, which Plumwood (1993) argues is a characteristic of human-nature dualism. Some mass nouns however have more evocative power than others: *greenbelt* and *green space* for example invite visual colour images of plants, grass and trees.

Close sensory relationships with the particularity of the nonhuman natural world are more likely than vague abstract relationships to strengthen sense of connectedness, and to turn states of felt connectedness into enduring traits. As Brown & Toadvine (2003) argue, "Approaches to nature that strip it of all experienced qualities leave us with an unrecognisable abstraction, and certainly not with any version of nature that could have inspired our initial appreciation" (p.xi). Macfarlane (2015) finds

that highly precise, situated, evocative language (such as the Gaelic phrase ‘rionnach maoin’ meaning the shadows that clouds cast on moorland on a windy day) is dying out in Britain and Ireland. He warns that in impoverishing our language with abstract terms we are changing the way we interact with the land because we may not appreciate the detail and the particularity that comes with close observation.

4.2 Nature is the external nonhuman world

When talking about their relationship with nature, participants referred to the external other-than-human world of plants and animals, woodland, hills, lakes and other habitats, and phenomena such as sun and wind. Whilst stating a belief that humans are part of nature, and with two participants reporting a felt sense of oneness, there was only one explicit reference to nature as part of self: Rosemary once uses the term *my animal body*.

This absence of a NATURE IS SELF conceptualisation could be to do with the way I framed my questions, and of course in everyday discourse ‘nature’ is commonly understood as the external nonhuman world around us. This definition emerged in the 1660s (Etymonline, 2015). This was in the middle of the Scientific Revolution and just after Descartes death, a period when human-nature and mind-body dualism took hold as a dominant ideology (Midgley, 2003; Merchant, 1983; Kahn & Hasbach, 2012). However, from an ecopsychology perspective, connecting with nature also means connecting with ‘wild’ parts of the self (Hasbach 2012; Totton 2011; Rust 2008), referred to in this paper as ecological identity. As Macy (1993) argues, “Presupposing that the world and self are essentially separate, we imagine we can heal one before healing the other” (p8).

Conceptualising nature as external could account for the dependence on visual cues (*out of sight out of mind*) and on being physically present in a natural place for high sense of connectedness.

4.3 Nature is a place/object

From a cognitive linguistics perspective, terms used by participants such as *being in nature*, *green space* position nature as a physical place and as an object. With the term *being in nature*, there is a conceptualisation of nature as a particular type of object - a container - that a person can be within or without. According to Johnson (1987), the experience of physical containment is one of the most pervasive features of human experience. But as Johnson also explains, objects have boundaries that separate them from other objects. The conceptualisation of nature as an object therefore sets up the possibility for separation, which is precisely what the participants seek to overcome by *being in nature*. There is also a conceptual implication with *being in nature* that the default condition is ‘outside’ the container of nature. Participants also associated nature with *outdoors* or *outside*: nature is defined in relation to human culture, specifically buildings. The terms *natural environment* and *greenbelt* convey separation but in a different way: here nature is an object that surrounds, rather than a container in which a person can be immersed (Lakoff, 2010). NATURE IS PLACE is not an inaccurate metaphor, all living beings need physical places to live, and it is through an intimate caring relationship with a particular place and its inhabitants that a sense of connection and ecological responsibility may be strengthened (WWF Scotland 2011; McIntosh 2002; Abram 1997; Plumwood 1993). But the metaphor obscures other ways of conceptualising nature such as NATURE IS EVERYWHERE, NATURE IS PERSON/SELF or WILDERNESS IS STATE OF MIND. These conceptualisations do not rely on being in a natural place for connectedness to be felt, and may also foster integration of parts of the self and a ‘rewilding’ of the psyche.

Johnson (1987) posits that the Container schema is often used as a source domain for safety and security from what is inside or outside the container. One possible entailment of the in-out orientation that comes from the experience of containment *in nature* is that either nature is a threat that needs to be contained, or alternatively that humans are the threat form which nature needs protecting. There are also inherent power issues in NATURE IS PLACE – who determines who has

access to what, and on what terms? Whether natural places are accessible or inaccessible has consequences for development of ecological identity through encounters with the nonhuman natural world.

But object thinking is not necessarily innate: there is some evidence that people in Western countries such as USA tend to use object thinking whereas in Eastern countries like China they tend to use process thinking (Nisbett, 2003). Many indigenous peoples such as the Cree, Bushmen and !Kung use a subject-subject rather than a subject-object frame for conceptualising their relationship with the natural world, a relational frame understood to arise from their direct experiencing of the land (Larson, 2011). Historically in African and Native American languages, there is no equivalent term for nature as an entity distinct from humans (Larson 2011; Kesby 2003).

4.4 Nature is an economic resource

Linguistics literature explains that object metaphors enable the target to be manipulated and owned, and this allows for commodification and exploitation (see Larson, 2011; Goatly, 2007). Indeed, the notion of private property relies on the in-out orientation of the Container schema (Goatly, 2007).

In referring to the natural world, some participants used phrases such as *natural asset*, *natural capital*, *ecosystem services*, *green infrastructure*. The conceptual metaphor in use with these terms is NATURE IS ECONOMIC RESOURCE, which foregrounds the instrumental value of the natural world as a resource to be exploited for human ends, privileging financial interests and reinforcing materialistic goals (Crompton & Kasser, 2009; Blackmore & Holmes, 2013). This metaphor obscures a view of the living world as having intrinsic value (Lakoff, 2010; Stibbe, 2015; Larson, 2011). As one participant explains:

Ash: (under capitalism) resources are there to be consumed and turned into a higher value product and sold and we make monies and some do better out of that than others

Conceptualising nature as an 'asset' is unlikely to invite an emotional connection, and other terms used such as *developing land* conceal the fact that living beings are being killed (Stibbe 2014; Trampe, 2001).

At one point in the interview, Rosemary used the term: *responsible use of our natural assets as an economic driver*. 'Our' is a possessive adjective, and from an ecolinguistics perspective it turns nonhuman nature (plants and animals) into human possessions rather than beings in their own right (Stibbe 2007). Elsewhere Rosemary also refers to *stewarding our natural assets*. Stewardship and ownership are conflicting ideas of human-nature relationship (Curry 2011).

The natural world of nonhuman beings and their habitats is often framed in economic and instrumental terms (Lakoff, 2010; Larson, 2011; Goatly, 2007; Stibbe, 2015). Indeed, it has been asserted that the economic frame is the dominant monoculture of our time against which everything else is judged (Michaels, 2011). It is therefore likely to be a frame to which the participants are regularly exposed and possibly primed by. For one participant, the salience of economic frames about nature in her organisation was clear. Rosemary audio recorded a strategy meeting about the devolution of natural 'assets' from regional authority to local councils and other organisations, and the following extract spoken by a colleague represents the dominant approach taken in the meeting:

Colleague: the ones (natural assets) that aren't valid we don't care whether they shut it, build on it, do whatever they bloody want because we want it off our books

The economic frame recurred frequently in participants' accounts of influencing environmental decision-making in their organisation. For example with use of terms such as *making the business*

case, investment in the natural environment, fuel poverty, cost reasons, financial argument, save money, budget, payback, and as illustrated in these extracts:

Ash: *It's all got to be a very bish bash bosh kind of uh technical, professional, financial answer for why we're doing things... so where there's either a direct financial incentive or a clear and present financial penalty*

Ash: *but its been a long time since I heard anyone even moot the prospect of recovering space for for nature, because where's the business case*

With the public sector in the UK under extreme pressure to cut spending, such an overt focus is understandable but use of economic metaphors in describing their experience was also more subtle: *sell a project, buy into (an idea), spend/buy time, at the expense of, offset, invest (energy), we can capitalise on, he's our asset.*

4.5 Human/nature is a machine

Mechanistic metaphors were sometimes used by the participants to describe aspects of human experience or nonhuman nature e.g. *full steam ahead, re-engineer, wind down, drive, brain switches off, gone off the rails, nuts and bolts kind of guy, leverage, pump out, park, fuel, drop off the radar, plugs into, process (emotions/thoughts), what makes us tick, operating on, trigger*. An entailment of this metaphor is that humans and nonhuman nature can be understood and controlled like a machine. With such a frame, the mystery and complexity of natural phenomena including the human mind is downplayed and the idea of human superiority and ability to control nature through technoscience is promoted (Goatly, 2007; Larson, 2011; Harré, Brockmeier & Mühlhäusler, 1999). The belief that humans can technofix their way out of climate crisis arises out of this conceptualisation (Stibbe, 2015). The machine frame also denies the natural world of its aliveness - of it comprising of living beings with their own intents and purposes (Stibbe, 2015). The relevance of the metaphor to nature connectedness comes from the way the metaphor promotes the idea that humans can control nature, which is core to human-nature dualism (Plumwood 1993).

4.6 Time is money, Attention is a resource, and Size is importance

To connect we need to attend (Shapiro & Schwartz, 1999; Brown & Ryan, 2003; WWF Scotland, 2011; Abram, 1997), and in my experience attending to the natural world requires both time and patience. It is a relationship of intimacy and close observation. All the participants used the phrase *spending time in nature*. As well as the Container schema discussed earlier, this phrase contains the conceptual metaphor TIME IS MONEY: time is conceptualised as a resource of monetary value (Lakoff & Johnson 1980). In everyday discourse attention is also often conceptualised as a resource: we use phrases such as 'give attention' and 'take attention'. These suggest that attention is an object in a transaction. The possibility for the giving or taking of attention to be a transaction of value is particularly raised by the phrase *pay attention*, which was used by one participant.

If a person is in a natural place with a TIME IS MONEY and ATTENTION IS RESOURCE conceptualisation salient, would this make any difference to their felt sense of connectedness? My suggestion, yet to be tested, is that it could induce a subject-object rather than subject-subject relation. Swim, Clayton & Howard (2011) state that, "Western culture is built to a great extent on treating time as a resource that is maximised at the expense of natural resources" (p260). Lakoff & Johnson (1980) also argue that the Westernization (i.e. industrialisation and consumer capitalism) of cultures throughout the world "is partly a matter of introducing the TIME IS MONEY metaphor into those cultures" (p145).

A third conceptual metaphor that could have a role to play is SIZE IS IMPORTANCE. This is a very powerful metaphor in modern industrial growth societies. The metaphor conveys the value that more is better than less, big is better than small, and also that fast is better than slow. With a global

economic system based on continual growth and forward progress, it makes economic sense in a world where TIME IS MONEY for growth in size to be also linked to acceleration in speed. Yet intimacy of relationship with nature (inner and outer) requires qualities of smallness, slowness and closeness. Such tension can be discerned in the following interview extract:

Rosemary: *If you have horses then you can- there's a perception you go all over the place and stuff on them but you don't you actually have quite a small boundary and quite grounded by them because you have to stay looking after them all the time. So you you know its only a small radius of place that you get to really although you do spend quite a lot of quiet time in it.*

Me: *How often do you get out?*

Rosemary: *Em well on a small level every day because I've got a dog but she's now quite old so we don't go as far as we might do or often that I want to she decides she doesn't want to go (laughs) oh ok then that's as far as we're going! Um and I go running and I go cycling sometimes and I like I like that particularly the running, the relationship between my body and the earth, and the um the expansion of your own territory and what limitations and stuff there are to that, and actually the the yeah the experience of literally transporting yourself over it gives you a very different relationship but I like you know I like just to sit (laughs) there as well and I um I suppose so a couple weeks ago I did a walk in Wales in the Gower that just walked us all the way through every day and I'd love to do a lot more of that um but its um*

I find something apologetic in the use of *only a small radius* in the first quote, and in the second quote I find a playing down of significance with *small level*. The laughter after disclosing she likes *just to sit* I also found apologetic, and I interpret it as relating to the size of the activity: *just sitting* is not doing very much. Note also the TIME IS MONEY metaphor in the first quote.

From a mindfulness perspective, the desire to do more than *just sit* may be a defence against confronting parts of the self that are wounded, that have been rejected or denied and are difficult to accept (Kabat-Zinn, 1990; Santorelli, 2000; Nhat Hanh, 2012). Yet connecting with these parts of the self and engaging with the accompanying emotions is part of the journey towards wholeness, and an essential part of the project to live in more harmonious relationship with nature by strengthening ecological identity (Rust, 2008; Totton, 2011).

5 CONCLUSION

Being in natural places and connecting with nature was a coping strategy used by all participants in the study, bringing restorative benefits. As indicated by one participant, it may also help to strengthen pro-environmental values and goals in their work as sustainability managers, especially in organisational contexts that undermine these motivations. However, my analysis found tensions and inconsistencies in their felt sense of connectedness. Informed by the literature, I identified various conceptual metaphors and cognitive frames that may be contributing to these tensions.

Language influences how we perceive and think, what we do, and how we relate to the world, in often unconscious processes (Lakoff & Johnson, 1980). This paper explores how language that promotes the non-human natural world as an object, that abstracts and homogenises living beings and their habitats, that encourages seeing nature as external and separate, and that primes us to be fast and busy could all be factors working against strengthening ecological identity and contributing to inconsistencies in felt sense of connectedness with nature. Such language could be undermining the development of states of felt connectedness into stable traits. Yet these are frames that are

dominant in Western industrialised societies and countering these social primes takes mindful awareness and conscious intent.

In his study of speed, Taylor advises that, “Waiting bestows the gift of time, which is nothing less than life itself. When life slows down, it becomes possible to reflect thoughtfully on what usually rushes by too fast for us to notice... The faster we go the more we forget, and the more we forget, the less we know who we are or where we are going” (p345). Cultivating an ecological identity that centres on an embodied relationship with a place and its inhabitants requires time and attention and patience. But because of decades of inertia, the urgency for adaptive responses to ecological crisis is creating need for speed. This is an awkward tension.

As Lakoff (2010) observes, the possibilities for changing frames through language are limited. For frames of human-nature interconnection to take hold, they need to be institutionalised and the metaphors need to be powerfully resonant. However, the first step on any path of change is awareness, and with this paper I highlight the role that particular language may play in influencing nature connectedness experience. I also show the methodological potential of frames and metaphor analysis and the contribution that ecolinguistics can make to ecopsychology research. The analysis presented here has been an exploratory exercise, and further research is required to test the influence that these frames and metaphors have on subjective experience.

Acknowledgements

This work is funded by the Digital Economy programme (RCUK Grant EP/G037582/1), which supports the HighWire Centre for Doctoral Training, Lancaster University.

Author disclosure statement

No competing financial interests exist.

REFERENCES

- Abram, D. (1997). *The spell of the Sensuous*. New York: Vintage Books.
- Andrews, N., Walker, S., & Fahy, K. (2016). Between Intention and Action: Psychosocial Factors Influencing Action on Climate Change in Organisations. In W. Leal Filho (Ed.), *Innovation in Climate Change Adaptation* (pp. 275–287). Cham: Springer International Publishing.
- Andrews, N. (2017a). Psychosocial factors influencing the experience of sustainability professionals. *Sustainability Accounting, Management and Policy* (in press) DOI 10.1080/23269995.2017.1300403
- Andrews, N. (2017b). *Psychosocial factors affecting enactment of pro-environmental values by individuals in their work to influence organizational practices*. (Doctoral thesis). Lancaster University, Lancaster UK.
- Blackmore, E. & Holmes, T. (2013). *Common Cause for Nature: values and frames in conservation*. UK: Public Interest Research Centre.
- Brown, C.S. & Toadvine, T. (Eds.). (2003). *Eco-phenomenology: back to the Earth itself*. Albany: State of New York Press.
- Brown, K. W., & Kasser, T. (2005). Are psychological and ecological well-being compatible? The role of values, mindfulness, and lifestyle. *Social Indicators Research*, 74(2), 349–368.
- Brown, K. W., & Ryan, R. M. (2003). The benefits of being present: Mindfulness and its role in psychological well-being. *Journal of Personality and Social Psychology*, 84(4), 822–848.
- Capaldi A., C. A., Dopko L., R. L., & Zelenski, J. M. (2014). The relationship between nature connectedness and happiness: A meta-analysis. *Frontiers in Psychology*, 5(AUG), 1–15.

- Clayton, S. (2003). Environmental identity. In: S. Clayton & S. Opatow (Eds.), *Identity and the natural environment: the psychological significance of nature*. (pp. 60-86). Cambridge, MA: MIT Press.
- Crompton, T. (2010). *Common Cause: The case for working with our cultural values*. Godalming, UK: WWF-UK.
- Crompton, T., & Kasser, T. (2009). *Meeting environmental challenges: the role of human identity*. Godalming, UK: WWF-UK.
- Curry, P. (2011). *Ecological Ethics*, Cambridge: Polity Press.
- De Groot, J. I. M., & Steg, L. (2010). Relationships between value orientations, self-determined motivational types and pro-environmental behavioural intentions. *Journal of Environmental Psychology*, 30(4), 368–378.
- Deignan, A. (2005). *Metaphor and Corpus Linguistics*. Amsterdam: John Benjamins.
- Dryzek, J.S. (1997). *The Politics of the Earth: environmental discourses*. New York: Oxford University Press.
- Dunlap, R. E. (2008). The New Environmental Paradigm Scale: From Marginality to Worldwide Use. *The Journal of Environmental Education*, 40(1), 3–18.
- Dunlap, R. E., Van Liere, K. D., Mertig, A. G., & Jones, R. E. (2000). New Trends in Measuring Environmental Attitudes: Measuring Endorsement of the New Ecological Paradigm: A Revised NEP Scale. *Journal of Social Issues*, 56(3), 425–442.
- Eatough, V., & Smith, J. (2010). Interpretative phenomenological analysis. In: C. Willig & W. Stainton-Rogers (Eds.), *The SAGE handbook of qualitative research in psychology*. (pp.179-195). London: Sage Publications.
- Etymonline (2015). *Online Etymology Dictionary*. Retrieved from <http://www.etymonline.com>
- Frumkin, H. (2012). Building the science base: ecopsychology meets clinical epidemiology. In: P.H. Kahn & P.H. Hasbach (Eds.), *Ecopsychology: Science, totems, and the technological species*. (pp.141-172). Cambridge MA: MIT Press.
- Goatly, A. (2007). *Washing the brain: metaphor and hidden ideology*. Amsterdam/Philadelphia: John Benjamins Publishing Company.
- Grouzet, F. M. E., Kasser, T., Ahuvia, A., Dols, J. M. F., Kim, Y., Lau, S., ... Sheldon, K. M. (2005). The Structure of Goal Contents Across 15 Cultures. *Journal of Personality and Social Psychology*, 89(5), 800–816.
- Harré, R., J. Brockmeier and P. Mühlhäusler. (1999). *Greenspeak*. Thousand Oaks/London/New Delhi: Sage Publications.
- Hasbach, P.H. (2012). Ecotherapy. In: P.H. Kahn & P.H. Hasbach (Eds.), *Ecopsychology: Science, totems, and the technological species*. (pp.115-140). Cambridge MA: MIT Press.
- Holmes, T., E. Blakemore., Hawkins, R. & Wakeford, D. (2011). *Common Cause Handbook*. UK: PIRC.
- Johnson, M., 1987. *The body in the mind*. Chicago: University of Chicago Press.
- Kabat-Zinn, J. (1990). *Full Catastrophe Living*. New York: Delta.
- Kahn, P.H. & Hasbach, P.H. (Eds.). (2012). *Ecopsychology: Science, totems, and the technological species*. Cambridge, MA: MIT Press.
- Kahn, P. H., Ruckert, J. H., Severson, R. L., Reichert, A. L., & Fowler, E. (2010). A Nature Language: An Agenda to Catalog, Save, and Recover Patterns of Human–Nature Interaction. *Ecopsychology*, 2(2), 59–66.

- Kasser, T., Ryan, R.M., Couchman, C.E. & Sheldon, K.M. (2004). Materialistic values: their causes and consequences. In T. Kasser & A.D. Kanner, (Eds.) *Psychology and Consumer Culture: The struggle for a good life in a materialistic world*. (pp. 11-28). Washington DC: American Psychological Association.
- Kesby, J. 2003. The perception of nature and the environment in Sub-Saharan Africa. In: H. Selin, H. (Ed.) *Nature across cultures: views of nature and the environmental in non-western cultures*. (pp.211-228). Dordrecht, The Netherlands: Kluwer Academic Publishers.
- Kidner D.W. (2001). *Nature and psyche: radical environmentalism and the politics of subjectivity*. Albany: State University of New York Press.
- Lakoff, G. (1987). *Women, fire, and dangerous things: what categories reveal about the mind*. Chicago: University of Chicago Press.
- Lakoff, G. (2010). Why it Matters How We Frame the Environment. *Environmental Communication*, 4(1), 70–81.
- Lakoff, G. (2012). Explaining Embodied Cognition Results. *Topics in Cognitive Science*, 4(4), 773–785.
- Lakoff, G. & Johnson, M. (1980). *Metaphors We Live By*. Chicago: University of Chicago Press.
- Larkin, M., Watts, S., & Clifton, E. (2006). Giving voice and making sense in interpretative phenomenological analysis. *Qualitative Research in Psychology*, 3(2), 102–120.
- Larson B. (2011). *Metaphors for Environmental Sustainability: redefining our relationship with nature*. Newhaven: Yale University Press.
- Macfarlane, R. (2015). *Landmarks*. Hamish Hamilton/Penguin Random House UK.
- Macy, J. (1993). *World as Lover, World as Self*. Berkeley: Parallax Press.
- Marshall J. & Reason, P. (2007). Quality in research as ‘taking an attitude of inquiry’. *Management Research News*, 30(5), 368-380.
- Mayer, F. S., & Frantz, C. M. (2004). The connectedness to nature scale: A measure of individuals’ feeling in community with nature. *Journal of Environmental Psychology*, 24(4), 503–515.
- McIntosh, A. (2002). *Soil and Soul: The People versus Corporate Power*. Aurum.
- Merchant, C. (1983). *The Death of Nature*. San Francisco: Harper & Row.
- Michaels, F.S. (2011). *Monoculture: How One Story is Changing Everything*. Canada: Red Clover Press.
- Midgley, M. (2003). *Myths We Live By*. London and New York: Routledge.
- Nhat Hanh, T. (2012). *Fear: essential wisdom for getting through the storm*. London: Rider.
- Nisbet, E. K., & Zelenski, J. M. (2011). Underestimating nearby nature: Affective forecasting errors obscure the happy path to sustainability. *Psychological Science*, 22(9), 1101–6.
- Nisbet, E. K., Zelenski, J. M., & Murphy, S. A. (2009). The Nature Relatedness Scale: Linking Individuals’ Connection With Nature to Environmental Concern and Behavior. *Environment and Behavior*, 41(5), 715–740.
- Nisbett, R.E. (2003). *The Geography of Thought*. New York: The Free Press.
- Plumwood, V. (1993). *Feminism and the mastery of nature*. London: Routledge.
- Rust, M. (2008). Climate on the couch. *Psychotherapy and Politics International*, 6(3), 157–170.
- Ryan, R. M., & Deci, E. L. (2008). From Ego Depletion to Vitality: Theory and Findings Concerning the Facilitation of Energy Available to the Self. *Social and Personality Psychology Compass*, 2(2), 702–717.
- Santorelli, S. (2000). *Heal Thy Self: lessons on mindfulness in medicine*. New York: Bell Tower.

- Schultz, P. W. (2001). Assessing the structure of environmental concern: Concern for the self, other people, and the biosphere. *Journal of Environmental Psychology, 21*, 327–339.
- Schultz, P. W., Shriver, C., Tabanico, J. J., & Khazian, A. M. (2004). Implicit connections with nature. *Journal of Environmental Psychology, 24*(1), 31–42.
- Schultz, P. W., & Tabanico, J. J. (2007). Self, Identity, and the natural environment: exploring implicit connection with nature. *Journal of Applied Social Psychology, 37*, 1219–1247.
- Schwartz, S. H. (1992). Universals in the Content and Structure of Values: Theoretical Advances and Empirical Tests in 20 Countries. *Advances in Experimental Social Psychology* (Vol. 25, pp. 1–65).
- Shapiro, S.L. & Schwartz G.E.R. (1999). Intentional systemic mindfulness: an integrative model for self- regulation and health. *Advances in Mind-Body Medicine, 15*, 128-134.
- Smith, J., Flowers, P. & Larkin, M. (2009). *Interpretative Phenomenological Analysis: theory, method and research*. London: Sage.
- Stibbe, A. (2006). Deep Ecology and Language: The Curtailed Journey of the Atlantic Salmon. *Society & Animals, 14*(2006), 61–77.
- Stibbe, A. (2007). Haiku and beyond: language, ecology, and reconnection with the natural world. *Anthrozoös, 20*(2), 101-112.
- Stibbe, A. (2013). An ecolinguistic approach to critical discourse studies. *Critical Discourse Studies*, DOI: 10.1080/17405904.2013.845789
- Stibbe, A. (2014). Ecolinguistics and Erasure: restoring the natural world to consciousness. In: C. Hart & P. Cap (Eds.), *Contemporary Critical Discourse Studies*. (pp.583–602). London: Bloomsbury Academic.
- Stibbe, A. (2015). *Ecolinguistics: language, ecology and the stories we live by*. London: Routledge.
- Swim, J. K., Clayton, S., & Howard, G. S. (2011). Human behavioral contributions to climate change: psychological and contextual drivers. *The American Psychologist, 66*(4), 251–264.
- Swim, J. K., Stern, P. C., Doherty, T. J., Clayton, S., Reser, J. P., Weber, E. U., ... Howard, G. S. (2011). Psychology's contributions to understanding and addressing global climate change. *The American Psychologist, 66*(4), 241–250.
- Tam, K.-P. (2013). Concepts and measures related to connection to nature: Similarities and differences. *Journal of Environmental Psychology, 34*, 64–78.
- Taylor, M.C. (2014). *Speed Limits: where time went and why we have so little left*. New Haven: Yale University Press.
- Thibodeau, P. H., & Boroditsky, L. (2011). Metaphors We Think With: The Role of Metaphor in Reasoning. *PLoS ONE, 6*(2), e16782.
- Totton, N. (2011). *Wild Therapy: undomesticating inner and outer worlds*. Ross-on-Wye: PCCS Books.
- Trampe, W. (2001). Language and ecological crisis. In: A. Fill & P. Mühlhäuser (Eds.), *The ecolinguistics reader: language, ecology and environment*. London: Continuum.
- Uzzell, D., & Rätzschel, N. (2009). Transforming environmental psychology. *Journal of Environmental Psychology, 29*(3), 340–350.
- Weinstein, N., Przybylski, A. K., & Ryan, R. M. (2009). Can nature make us more caring? Effects of immersion in nature on intrinsic aspirations and generosity. *Personality and Social Psychology Bulletin, 35*(10), 1315–1329.
- White, L. (1967). The historical roots of our ecological crisis. *Science, 155* (3767), 1203–1207.

Willig, C., & Stainton-Rogers, W. (2010). Introduction. In: C. Willig, & W. Stainton-Rogers (Eds.) *The SAGE handbook of qualitative research in psychology*. (pp.1-13). London: SAGE Publications Ltd.

WWF Scotland, 2011. *Natural Change: Catalysing leadership for sustainability*. Dunkeld: WWF-UK.