Ecology, ecocriticism and learning: how do places *become* 'pedagogical'?

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> We live... lives based on selected fictions. Our view of reality is conditioned by our position in space and time – not by our personalities as we like to think. Thus every interpretation of reality is based on a unique position. Two paces east or west and the whole picture is changed.
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> — Lawrence Durrell (1963) *Balthazar*

I can date my explicit interest in the interrelationships among *places* and *pedagogies* very precisely to 4 April 2007, when I received the following email message from Margaret Somerville[1] – a rhizomatic shoot popping up in my inbox:

> Hi Noel,
>   I met you a long time ago through a seminar… at UNE [University of New England]. I am now at Monash [University] Gippsland and I am organising a symposium with David Gruenewald as a leader about place pedagogies research on 14 August [2007] and we would love you to come along to speak. We are planning a lecture by David and then a series of three panels in which 4 speakers address issues of space and place from their particular theoretical perspective…
>   Can you please let me know if you are interested…
> Thanks, Margaret

Up to this time, I doubt that I would have nominated 'issues of space and place' as being among the chief objects of my inquiries in education, although a moment's reflection was enough for me to realise that this interpretation was very reasonable.[2] Moreover, I was sufficiently familiar with Gruenewald's work in environmental education (e.g. Gruenewald, 2004) – a field with which I identify strongly – to accept Somerville's invitation with little hesitation. However, the draft flyer for the *Landscapes and Learning* symposium that accompanied the invitation provided a further impetus for my engagement with place pedagogies research. The flyer included a prominent (and emphatic) epigraph, '*place is profoundly pedagogical*' (attributed to Gruenewald, 2003), that immediately prompted me to question – and to anticipate dissenting from – its implicit assumptions. To simply *assert* an

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[1]   Professor of Education, Monash University, Victoria, Australia.
[2]   By way of illustration, I used the Lawrence Durrell epigraph with which I began this essay in my first journal article on the generativity of poststructuralism for environmental education (Gough, 1991). However, my emphasis then was on the positionings provided by 'selected fictions' rather than spatial positionings.

essential relationship between place and pedagogy is too totalising for my taste.[3] Thinking about the inadequacy of this essentialist (and static) assertion generated the working title for my contribution to the symposium, which I have retained as the subtitle for this essay. I cannot imagine 'place' (as a generic abstraction) or 'a place' (as a specific location) *being* 'profoundly pedagogical'; but I can imagine 'places' (as specific locations) *becoming* 'pedagogical' through cultural practices that enable or encourage us to attend closely to their multifarious qualities, including not only those that we might consider to be 'profound' (such as the deep, pervasive or intense qualities that we sometimes call the 'spirit' of a place), but also their more superficial, ephemeral or obvious characteristics.

As an environmental educator, my particular interest is in the relations of 'natural' places to pedagogies. In the remainder of this essay, I explore some of the ways in which places 'becoming-pedagogical' might be related to the ways that nature is envisioned, named, traversed and transformed. However, I first need to say a little more about how my work has changed in recent years, with particular reference to the material places in which it has been situated and to which it refers.

Changing places

Prior to the *Landscapes and Learning* symposium, Somerville circulated a paper that she described as a 'provocation' for the conversations that the symposium was intended to stimulate (Somerville, 2008). I was pleasantly surprised to find that her paper begins by referring to some of the ways of theorising place that have been generative for me – and I am delighted that she finds them to be generative too. The title of the particular work to which she refers, 'Shaking the tree, making a rhizome: towards a nomadic geophilosophy of science education' (Gough, 2006), clearly signals my theoretical debt to Gilles Deleuze and Félix Guattari (1987), but I am now also indebted to Somerville for her generous and insightful reading of my essay – a reading that generates further interpretations and understandings of the deconstructive strategies I deployed in it.

I wrote 'Shaking the tree' for a special issue of *Educational Philosophy and Theory* on the philosophy of science education. My article builds on Sandra Harding's (1993) critique of the Eurocentrism and androcentrism of scientific knowledge. I argue that both popular media culture and non-Western knowings tend to be ignored or devalued within many forms of Western science education and these exclusions contribute to what Harding calls an increasingly visible form of scientific illiteracy. Somerville elaborates on the nomadic geophilosophy of science education that I attempt to demonstrate in my article, and draws particular attention to a passage in which I explain how a song, 'Shaking the Tree' (Gabriel & N'Dour, 1989), inspired my essay:

> Peter Gabriel and Youssou N'Dour's song, 'Shaking the Tree', is in several ways emblematic of my project. It is a call to change and enhance lives composed in a spirit which complements Deleuze and Guattari's (1994) practical 'geophilosophy' (p. 95), which seeks to describe the relations between particular spatial configurations and locations and the philosophical formations that arise therein. Both Gabriel and N'Dour compose and perform songs about taking action to solve particular problems in the world,

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[3] As it happens, the flyer's epigraph is a slight misquotation. Gruenewald (2003) actually asserts that 'places are profoundly pedagogical' (p. 621), which is a less totalising formulation because 'places' imply specific locations rather than the generic abstraction of 'place'.

and Deleuze (1994) believes that concepts should intervene to resolve local situations' (p. xx) (Gough, 2006, p. 625).

Somerville (2008) offers an interpretation of my words for which I am deeply grateful, because she makes explicit some aspects of my method that I struggled to articulate:

> This richly layered metaphorical passage works on several levels and I would like to briefly reflect on these. 'Shaking the Tree' is a song, so we begin with a metaphor of singing, sound and the human voice, of creative expression in song, a move between a metaphysics of logics and of poetics. Then we have the subject of the song, the tree, as an image of nature, being shaken, a vigorous physical action related to radical social critique. This action has both practical and metaphysical implications. The image of 'shaking the tree' is connected with Deleuzian notions of the problematic of the tree as opposed to the rhizome as a metaphor of thought. In this paper the tree stands for the certainties and hierarchies of western science and the paper is Gough's song, a song that is both practical and located, metaphysical and transformational. He names the variety of assemblages available to shake the tree of modern Western science: 'arts, artefacts, disciplines, technologies, projects, practices, theories and social strategies' (Gough, 2006, p. 626). In his paper he deploys many of these to disrupt the certainties of modern Western science (education).

I have for many years tried to heed Donna Haraway's (1991) advice that 'the only way to find a larger vision is to be somewhere in particular' (p. 196), that is, to work towards situated and embodied knowledge claims. In 1998 I began to work in an Australia-South Africa institutional links program and, between then and 2004, made over a dozen visits to various sites in southern Africa to work for periods of two to six weeks at a time with colleagues and doctoral students on various 'capacity-building' activities around issues of research methodology and supervision, with particular reference to environmental education and science education. In the course of this work I quickly became aware of the many material and theoretical difficulties and complexities of being 'somewhere in particular', especially when my South African colleagues expected (or assumed) that I might be situated in several places at once. Like Haraway (1991), I aspired to put 'a premium on establishing the capacity to see from the peripheries and the depths', but I was also aware of the 'serious danger of romanticizing and/or appropriating the visions of the less powerful while claiming to see from their positions' (p. 191). To 'see' from marginalised or subjugated locations is neither easily learned nor unproblematic. By 1999 I had begun, with tongue only partly in cheek, to characterise myself as a 'travelling textworker' (Gough, 1999), an identity through which I could collaborate with co-workers on very site-specific tasks *in* particular places without ever pretending to be *of* those places. Like Somerville (2008), my practice drew on poststructuralist and postcolonialist theorising, and the more productive collaborations tended to be consistent with the three key principles of the place-responsive pedagogy that she describes, namely: (i) our relationship to place is constituted in stories and other representations; (ii) place learning is local and embodied; and (iii) deep place learning occurs in a contact zone of contestation.

My 'travelling textworker' disposition has clearly informed my performance of the strategies I describe in 'Shaking the tree' as a 'nomadic geophilosophy' (more recently I have characterised these strategies as 'rhizosemiotic play' – (see Gough, 2007a, 2007b). However,

I doubt if I would ever have written 'Shaking the tree' without my extended experiences of working in southern Africa. The song itself celebrates and affirms the women's movement in Africa, and took on new meanings for me when I personally witnessed the many materialisations of patriarchal traditions and gender discrimination that remain pervasive across the continent. In addition, a key section of the paper, 'mosquito rhizomatics', began to take shape as a direct result of seeing how *particular* assemblages of parasites, mosquitoes, humans, technologies and socio-technical relations produce *particular* manifestations of malaria in different places. Malaria kills around 3 million people per year in sub-Saharan Africa, most of them under the age of five, and it is no coincidence that the nations hit hardest by the most severe forms of malaria have annual economic growth rates significantly lower than those in which it is rarely fatal.

In one sense, it is tempting to see my southern African experiences as evidence of Gruenewald's (2003) assertions that 'places are profoundly pedagogical' (p. 621), that 'places *teach* us about how the world works' and that 'places *make* us' (p. 621). But in those same experiences I can also find evidence of his alternative formulation: 'that places are what people make them – that people are place makers and places are a primary artifact of human culture' (p. 627). Indeed, much of the work in which I participated in southern Africa was explicitly directed towards changing the places in which we worked, to make them places that would no longer 'teach' the determinisms of apartheid and the patriarchy, sexism, homophobia, class and language bias, ethnic nationalism, and other social and spatial arrangements that supported its ideological machinery.

Since June 2006 the focus of much of my everyday practice has shifted from the international to the local. Although my interests in transnational curriculum inquiry and the globalisation of higher education are in no way diminished, my institutional responsibilities demand that I attend closely to practices of environmental education that are, in every sense, much closer to home. As Director of a Centre for Excellence in Outdoor and Environmental Education I have a responsibility to walk my ecopolitical talk.

My present standpoint on outdoor and environmental education can reasonably be characterised as educating for *ecocritical literacy*. In an essay exploring principles of ecocriticism, William Howarth (1996) describes an *ecocritic* as 'a person who judges the merits and faults of writings that depict the effects of culture upon nature, with a view toward celebrating nature, berating its despoilers, and reversing their harm through political action' (p. 69) – a characterisation with which I can readily identify. This definition is, of course, a point of departure for Howarth's speculations and I share his reservations about its adequacy and utility. Nevertheless, it serves my purpose here, which is to draw attention to some aspects of outdoor and environmental education that deserve ecocritical attention. Put briefly, outdoor and environmental educators (or people who in some way identify positively with environmental education) produce many of the 'writings that depict the effects of culture upon nature', where 'writing' is understood broadly as any means of representing environments and/or environmental issues. My concern is that many outdoor and environmental educators, through activities that they may conceive as 'celebrating nature' (or even as describing it dispassionately and objectively), might actually be despoiling and harming nature, albeit unintentionally.

I use the term 'ecocritical literacy' hesitantly and cautiously. Education is now so awash with 'literacies' – 'environmental literacy', 'scientific literacy', 'technological literacy', 'computer literacy' and so on – that the term is in danger of becoming an empty signifier. I agree with Andrew Stables and Keith Bishop (2001) that most references to environmental

literacy in the literature of environmental education exhibit a 'weak' conception of literacy that ignores many contemporary debates about language and literature, such as the limits of representation, referentiality and textuality. I therefore use the term 'ecocritical literacy' to tactically distance my project from naïve or shallow versions of environmental literacy, and to emphasise the need for environmental educators to embrace a 'stronger' conception of literacy that takes account of the broader ramifications of understanding environmental education as a textual practice – a practice that is susceptible to improvement through inquiries in disciplines of the arts and humanities that have tended to be undervalued in environmental education, including language arts, semiotics, literary criticism and cultural studies.

Against definition

Questions of definition often seem to loom large for environmental educators and I would venture the view that an obsession with defining terms is one manifestation of a weak conception of literacy. Consider, for example, the following extract from Mitiku Adisu's (2005) review of William Scott and Stephen Gough's (2004) *Sustainable Development and Learning: Framing the Issues*, in which he historicises the concept of *sustainable development*.

> Twenty years ago 'sustainable development' was a newly-minted notion. Unlike theorists of modernization and economic growth, the proponents of sustainable development promised that growth and environmental protection are not mutually exclusive and that one can have the cake and eat it too. Therein lay the charm – and the risk. The risk is in overlooking the fact that humans had, from time immemorial, a sense of the benefits of coexisting with the natural world and with each other. The charm is in that the new term engendered great optimism and created space for multiplicity of voices. Twenty years later, however, the promise remains as ambiguous and elusive as ever. Today, the respectability of the phrase is being contested by emerging definitions and by variant terms. Then as now, the focus of such inventiveness was decidedly to create awareness and improve the quality of life in a world of disparities and limited resources. Unfortunately, the minting of new phrases also favored those better disposed to set the global agenda (n.p).

Adisu rightly reminds us that we have already had two decades of sustainable development and that, as a concept, it remains 'as ambiguous and elusive as ever'. But his implicit positioning of the ambiguity and elusiveness of sustainable development as a matter of troubling concern puzzles me. Why should the 'respectability' (a curious term to invoke here) of sustainable development be anything but 'contested'? Although Scott and Gough (2004) begin by treating sustainable development '*at least initially*, as a set of contested ideas rather than a settled issue' (p. 2, my emphasis) and 'set precision aside and begin with working definitions which are as *inclusive* as possible' (p. 1, authors' original), they nevertheless 'see definition [of both (lifelong) learning and sustainable development] as a core process of the book' (p. 1). In other words, these writers (authors and reviewer alike) appear to be saying that contestation, ambiguity and multiplicity are conditions to be tolerated as we struggle to overcome them and eventually reach authoritative, stable and settled definitions. I agree with Adisu that Scott and Gough succeed, to a commendable degree, in bringing together many diverse perspectives on both learning and sustainable development 'in an effort to make sense

of the contradictory, the inconspicuous, and the time-constrained features of our individual and collective lives' (n.p.), but I also fear that they succumb to universalising ambitions by regarding contestation, ambiguity and multiplicity as problems to be solved (and which are, in principle, solvable) rather than as qualities that signal marvellous potentials for an on-going, open-ended fabrication of the world.

Thus I was not particularly surprised to find that poststructuralist thought is something of a 'blind spot' (see Gough, 2002; Wagner, 1993) for Scott and Gough and that they very largely ignore the possibilities and potentials afforded by poststructuralism and deconstruction for thinking imaginatively and creatively about socio-environmental problems. Indeed, they completely ignore deconstruction and make only two cursory references to poststructuralism, firstly in a section on 'Language and understanding; language and action' in which they conflate 'post-modern' and 'post-structuralist' (p. 26), and secondly in a section titled 'Literacies: the environment as text' in which they uncritically reproduce an assertion they attribute to Andrew Stables (1996): 'As structuralists and post-structuralists have pointed out, one way of looking at the world is to say that *everything* is a text' (p. 29; authors' emphasis)[4]. This appears to be an extension (and a misinterpretation) of Jacques Derrida's often-quoted assertion that 'there is nothing outside the text', which is in turn a somewhat misleading translation of '*Il n'y a pas de hors-texte*' (literally, 'there is no outside-text'). But Derrida was not, as some of his critics insisted, denying the existence of anything outside of what they (the critics) understood as texts; his claim was not that '*il n'y a rien hors du texte*' – that the only reality is that of things that are inside of texts. Rather, his point was that texts are not the sorts of things that are bounded by an inside and an outside, or *'hors-texte'*: 'nothing is ever outside text since nothing is ever outside language, and hence incapable of being represented in a text' (Derrida, 1976, p. 35)[5].

Poststructuralism invites us to approach questions of definition differently from those who take its importance for granted. Criminologist Mark Halsey has recently – and very cogently – exemplified this in relation to environmental law.

Naming nature

Halsey (2006) begins his book, *Deleuze and Environmental Damage: Violence of the Text,* as follows:

> one of the key purposes of this book is to offer a micropolitical account of the evolution of such taken-for-granted concepts as 'Nature', 'sustainability', and 'environmental harm'. For what law prescribes as permissible in respect of Nature, and *ipso facto*, what it deems to be ecologically criminal, is intimately linked to how such terms have been spoken of, imagined, and otherwise deployed over time. To believe other than this is to turn away from the ethical, and at times violent, dimensions that go along with speaking and writing the world (p. 2)

Thus, Halsey's book critically examines the process, impact, and ethics of naming nature, focussing specifically on the categories and thresholds used over time to map and transform a particularly area of forested terrain, namely, the Goolengook forest block in far eastern

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[4]   Scott and Gough add three other citations to Stables to authorise this assertion

[5]   I am especially grateful to Tony Whitson (2006) for clarifying the implications of misleading translations of Derrida's (in)famous aphorism.

Victoria, and the socio-ecological costs arising from these thresholds and transformations and ensuing conflicts. Although Halsey is a criminologist, his study is not specifically about 'crime' or even 'environmental crime':

> It is instead about the ways such terms as 'harm', 'sustainability', 'ecological significance', 'value', and 'right', have been coded, decoded, and recoded by various means, at various times, with particular results. Further, this is not a study about 'justice' – at least, not in the transcendental sense of the term. But it is most certainly about the ways law marks the earth. More particularly, it is about the composition of the various knowledges law calls upon to justify its 'justness', its 'rightness', and its 'comprehensivity' when it permits, for instance, the conversion of a 10, 000 year old ecosystem into scantling for houses or paper for copying machines (pp. 2-3).

Halsey provides a very detailed account of the modes of envisaging and enunciating the particular geopolitical space now known as Goolengook forest block over time and the 'violence' that make these visions and enunciations possible – the '*violence borne by way of the slow and largely inaudible march of the categories and thresholds associated with using and abusing Nature*' (p. 3, author's emphasis).

Typically, accounts of the conflict over Goolengook (and other forest conflicts) are rendered as variants on David and Goliath narratives: greenies versus loggers, or greenies versus government, or sometimes loggers versus government. Halsey contends that stories based on such dichotomies fail to articulate sufficiently the subtleties and nuances contributing to forest conflict as *event* – as 'something which is both a discursive invention (i.e. an object of our policies, laws, imaginings) *and* a body consistently eluding efforts to frame, categorise, think, speak – in short, *represent*, "its" aspects' (p. 3).

Halsey applies poststructuralist concepts, especially the work of Deleuze and Guattari, to demonstrate that the conflicts at Goolengook are about something much more than 'forests' (Australian or otherwise) – they also raise critical questions about subjectivity (who we are), power (what we can do), and desire (who we might become). For example, the struggles at Goolengook raise questions about the ontological consistency and ecopolitical utility of categories such as 'we', 'society', 'global', 'environment', 'forest block', 'old-growth', 'truth', 'harm', 'right', 'crime' and so on. Halsey clearly shows how the geopolitical terrain of Goolengook has been textually configured over time – by Indigenous knowledges, legislation, management plans, mining leases, etc. – and how, why and for whom each textual configuration 'works'.

Following Deleuze and Guattari, Halsey argues that places like Goolengook *become* – they are always already invented and fabricated, although they are no less 'real' for being so. He suggests that the process of 'becoming-known', 'becoming-forest' (or, for that matter, becoming-uranium mine, becoming-housing estate, becoming-hydro-electric dam, etc.), and thus of 'becoming-contested', is intimately related to what he calls four 'modalities' of nature involving the way nature is *envisioned*, the way nature is *named*, the *speed* at which nature is traversed and transformed, and the *affect* (image, concept, sense) of nature that is subsequently produced (p. 229). These modalities always already harbour an ethic linked to the production of a life (or lives) and/or a death (or deaths). For example, the Australian Federal Government envisions 'forest' to mean 'an area… dominated by trees having usually a single stem and a mature stand height exceeding 5 metres' (Commonwealth of Australia, 1992, p. 47). Envisioning 'forest' in terms of trees exceeding 5 metres – rather than, say, 20

meters – has significant consequences for biodiversity, employment, resource security, research and development, and so on.

Following Halsey, I would argue that places 'becoming-pedagogical' could also be explored by reference to the modalities of nature he identifies. In the following sections, I present three pedagogical vignettes (two of which draw on the work of colleagues) that characterise approaches or dispositions to aspects of these modalities: these focus, respectively, on unnaming nature, envisioning nature in a video game, and choosing a speed for traversing a forest.

Unnaming nature

Ursula Le Guin (1987) demonstrates how we might use words to subvert the contemporary politics of 'naming nature'. In one of her short stories, aptly titled 'She Unnames Them', Le Guin mocks the biblical assertion that 'Man gave names to all the animals'. In this story Eve collaborates with the animals in undoing Adam's work: 'Most of them accepted namelessness with the perfect indifference with which they had so long accepted and ignored their names' (p. 195). In 'She Unnames Them' Le Guin demonstrates the practicality of some insights that we can draw from relating deep ecology to semiotics. Modern science maintains clear distinctions between subject and object and, thus, between humans and other beings, plant and animal, living and non-living, and so on. These distinctions are sustained by the deliberate act of *naming*, which divides the world into that which is named and everything else. Naming is not just a matter of labelling distinctions that are already thought to exist. Assigning a name to something constructs the illusion that what has been named is genuinely distinguishable from all else. In creating these distinctions, humans can all too easily lose sight of the seamlessness of that which is signified by their words and abstractions. So, in Le Guin's (1987) story, Eve says:

> None were left now to unname, and yet how close I felt to them when I saw one of them swim or fly or trot or crawl across my way or over my skin, or stalk me in the night, or go along beside me for a while in the day. They seemed far closer than when their names had stood between myself and them like a clear barrier... (p. 196)

We could do with some creative unnaming in our work. We could start with some of the common names of animals and plants that signify their instrumental value to us rather than their kinship. There is a vast difference between naming a bird of the Bass Strait islands an 'ocean going petrel' or a 'short-tailed shearwater' and naming it a 'mutton bird'. Only one of these names identifies a living thing in terms of its worth to us as dead meat.

Names are not inherent in nature; they are an imposition of human minds. It is as if we wish to own the earth by naming it. We corrupt education by naming parts – by constructing illusions that suggest that meaningful distinctions can be made between 'facts' and 'values', or between 'perception' and 'cognition', or that 'arts', 'humanities' and 'sciences' are separate 'subjects' (when we treat them as *objects* anyway). Furthermore, we cannot reconstruct the whole by 'integrating' the names. Integration in education is a desperate attempt to recapture the wholeness that has been lost through naming. Unnaming our professional identities as 'environmental' or 'outdoor' or 'health' or 'science' educators is one way in which we might establish closer connections and continuities with one another and with the earth. Unnaming makes it harder to explain ourselves – we cannot chatter away as

we are so accustomed to doing, hearing only our own words making up the world, taking our names and what they signify all for granted.

In *Always Coming Home*, Le Guin (1986) offers a meditation on scrub oak that suggests another critical perspective – I am tempted to call it 'uncounting nature' – on modern scientific techniques of observing and interpreting nature:

> Look how messy this wilderness is. Look at this scrub oak, *chaparro*, the chaparral was named for it… there are at least a hundred very much like it in sight from this rock I am sitting on, and there are hundreds and thousands and hundreds of thousands more on this ridge and the next ridge, but numbers are wrong. They are in error. You don't count scrub oaks. When you count them, something has gone wrong. You can count how many in a hundred square yards and multiply, if you're a botanist, and so make a good estimate, a fair guess, but you cannot count the scrub oaks on this ridge, let alone the ceanothus, buckbrush, or wild lilac, which I have not mentioned, and the other variously messy and humble components of the chaparral. The chaparral is like atoms and the components of atoms: it evades. It is innumerable. It is not accidentally but essentially messy… This thing is nothing to do with us. This thing is wilderness. The civilised human mind's relation to it is imprecise, fortuitous, and full of risk. There are no shortcuts. All the analogies run one direction, our direction… Analogies are easy: the live oak, the humble evergreen, can certainly be made into a sermon, just as it can be made into firewood. Read or burnt. *Sermo*, I read; I read scrub oak. But I don't, and it isn't here to be read, or burnt.

> It is casting a shadow across the page of this notebook in the weak sunshine of three-thirty of a February afternoon in Northern California. When I close the book and go, the shadow will not be on the page, though I have drawn a line around it; only the pencil line will be on the page. The shadow will then be on the dead-leaf-thick messy ground or on the mossy rock… and the shadow will move lawfully and with great majesty as the earth turns. The mind can imagine that shadow of a few leaves falling in the wilderness; the mind is a wonderful thing. But what about all the shadows of all the other leaves on all the other branches on all the other scrub oaks on all the other ridges of all the wilderness? If you could imagine those even for a moment, what good would it do? Infinite good (pp. 239-41).

Envisioning nature in a video game

John Martin is a doctoral student in educational communications and technology at the University of Wisconsin-Madison. Since 1993 he has also helped to run Flying Moose Lodge, a deep woods summer camp for boys in Maine, USA. He brings these interests together in his research on experiential learning, educational design, and what he calls 'the importance of situating learning in culturally significant places'.[6] In a paper titled 'Making video games in the woods: an unlikely partnership connects kids to their environment', Martin (2008) examines some of the successes and failures of his three-year study of incorporating place-based Augmented Reality games in outdoor activities:

> Video games and computers have been derided as 'inside' technologies that pull kids away from the outdoors. They connect less with, and value less, their outdoor environments. Rather than fight the pull of these inside technologies and their attraction to

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[6]   http://regardingjohn.com/learn/

kids, we have developed a handheld outdoor GPS-enabled video game platform that attempts to build in the lure of video games and online social spaces, and connect them with real places. Kids play a place-based hiking video game, and then help redesign it for their peers.

Martin's study encompasses six trips of 11-15 year old boys, and counsellors, over the course of three summers. The first was a fact-finding trip to come up with ideas for a game. The boys carried a handheld GPS, notebook, and video camera, and documented their progress as they explored the landscape with an eye toward designing a game. They created a rudimentary game narrative involving five characters (including Axman Sam, Pat the Pirate, and Harry the Hiker), and a few quests. The second group played, critiqued, and redesigned the game based on John Marsden's (1993) young adult novel, *Tomorrow When the War Began*, and the movie *Red Dawn* (John Milius, dir., 1984). In this narrative, woven together by Martin from the boys' ideas, a rival (rich) camp attacks and takes over the boys' camp while they are hiking in the area. The group is 'contacted by videophone' (that is, their location triggers a video on the handheld computer) by a survivor and has to perform a number of quests in order to foil the rich camp's evil plan to construct a Grey Poupon mustard factory on the pristine lake. Quests include spy-like activities designed by the boys to appeal to their peers, such as surreptitiously topping three nearby mountain peaks to triangulate and decode messages sent out by invading campers, setting up a low-impact campsite to avoid detection by the invading camp's scouts, and canoeing under cover of darkness to the centre of the lake to broadcast a counter-message. The following groups test-played the game and developed it further.

Martin's particular study connects to a broader issue for place-conscious educators. If we are to have meaningful place-based pedagogical encounters with young people, we need to understand the new literacies and learning styles that today's 'screenagers' develop through playing video games.[7] James Gee (2007b) explores this issue very thoroughly in his book, *What Video Games Have to Teach Us About Learning and Literacy* (see also Gee, 2007a). Gee argues that schools, workplaces, families, and academic researchers have a lot to learn about learning from good video games and also that they can use games and game technologies to enhance learning. Many video games incorporate learning principles that are strongly supported by contemporary research in cognitive science. For example, Gee notes that video games are long, complex and hard – yet people (especially but not only young people) spend many hours playing them, involving themselves in complex learning, and even paying for the privilege. He argues that the way to make complex tasks easier to learn is *not* to make them simpler: game designers understand that although games must be easy to learn, game players demand that the games themselves be difficult.

According to Gee, human minds and video games work in similar ways. At one time we assumed that the human mind functions like a big inference engine, manipulating symbols and rules. But humans do not follow rules – they act on experiences from which they construct simulations in their minds. The brain is a neural network and experience forms a pattern of neural activation in the mind; cognition is a process of reflecting and manipulating these patterns of perception. Conventional schooling in Western nations is based on a 'content fetish' – that if a learner understands 100 facts about biology then he or she has 'mastered'

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[7]   The term 'video games' encompasses all games played using digital visual interfaces, including computer games, web-based role-playing games and simulations, and platform games played with digital consoles or hand held devices.

biology. Gee argues that learning biology, like learning a video game, should be about asking of this learning, 'what experiences did it give you?'

Gee (2007b) derives a set of thirty-six learning principles from his study of the complex, self-directed learning each game player undertakes as s/he encounters and masters a new game. He suggests that adherence to these principles could transform learning in schools, colleges and universities, both for teachers and, most importantly, for students. Many of these principles are consistent with experiential learning, and suggest many generative possibilities for outdoor and environmental education.

Traversing Lyell Forest: choosing a speed

A number of my colleagues in the Centre for Outdoor and Environmental Education at La Trobe University are developing place-based pedagogies that converge with and complement those articulated by Gruenewald and Somerville and that I see as being implied by Halsey and Le Guin. For example, Alistair Stewart (2003; 2004a; 2004b; 2006) is investigating place-conscious natural history with particular reference to the Murray River and its environs. Similarly, Andrew Brookes (2000; 2002a; 2002b; 2004; 2005) focuses on 'situationist' outdoor education practices that develop deep consciousness of particular places. Here I borrow extensively from his account of developing an appropriate pedagogy for the Lyell Forest (near Bendigo, Victoria) that demonstrates how different modalities of nature may be enacted through different pedagogical choices.

Brookes (2005) examines relationships between outdoor activities and environmental learning by considering bushwalking as a cultural practice in Victoria. From the early 1900s, small numbers of city-dwellers sought to understand the Australian environment by bushwalking in their leisure time, often as members of a club. Accounts by bushwalkers published in the early post-war period indicate that they understood bushwalking to be a knowledge-based activity, which the clubs assisted by providing a social milieu for telling stories of past experiences and for planning future visits. Tales of exploration and discovery permeate many accounts, but the dominant theme was of individually and collectively building experience of the bush regions around Melbourne. Bushwalking maintained and transmitted experiential knowledge through programs of walks that formed loose patterns of repetition and geographical coverage (see Brookes, 2002b, p. 410-411).

The development of more formalised outdoor education courses during the 1970s inflected bushwalking towards becoming either an activity for its own sake or a technical exercise. This change was particularly evident in approaches to navigation:

> At least in the early years, the bushwalker was someone who 'knew the bush'. Accurate topographic maps were not available, and bushwalking clubs allowed knowledge to be shared, through written accounts of trips, contacts with local stockmen who grazed cattle in the bush under licence, sketch maps made on previous trips, and above all through providing relationships with experienced and trusted individuals…
>
> In contrast, when bushwalking became part of formal education there was more emphasis on technical navigation… Topographic map-reading and navigation using a compass became central to bushwalking instruction. Maps originally developed for the military provided information that enabled the technically competent to plan a bushwalk as a strategic exercise in unknown terrain…
>
> At two extremes, navigation can be approached using the knowledge and world view of an invading military force with no local knowledge but advanced technology, or from

the perspective of a local defending force with little technology but who know the country. The sport of orienteering – competitive cross country navigation, based on maps using standardised information similar to military maps, and with very little if any local cultural information, contains within it an invader's perspective of the land as a strange place, offering strategic challenges than can be overcome with strength and skill. This might be contrasted with older traditions of mountain guiding, earlier forms of bushwalking, and Aboriginal ways of knowing, in which local experience was essential (Brookes, 2002b, p. 418).

Making pedagogical choices among different ways of knowing the Victorian bush requires detailed site-specific knowledge. The Victorian bush is not singular – it is a multitude. Brookes (2005) draws on his experience of using Lyell Forest as a site for learning to demonstrate the importance of situation-specific details in understanding how outdoor activities shape and distribute knowledge in communities, and why we might choose one activity rather than another in locally-based environmental education.

The Lyell Forest near Bendigo is well-suited to technical navigation training and is a popular place for orienteering. The vegetation is not too thick to prevent running, the topography has just the right mixture of complexity and subtlety, and there are boundaries that prevent anyone from becoming really lost. But the Lyell Forest does not attract bushwalkers. It is small, has no water, and may seem drab and uninteresting in comparison to the landscapes favoured by many bushwalkers. The forest also bears the scars of many different uses and abuses since the 1850s, and thus does not fit the imported American ideal of pristine wilderness (which has recently found favour in Australia despite the inconvenient truth of Aboriginal occupation of the land).

The Lyell Forest is part of the Box-Ironbark group of forest types found mostly inland of the mountain range along the east coast of Australia. Between 3% and 45% of the Box-Ironbark vegetation that existed at the time of European settlement now remain, and these remnants have in turn been altered since then, through a series of interrelated 'ripple effects' which continue to spread. For example: very little forest remains along streams or rivers – it is almost all along ridges, which has had consequences for the rivers, and also for the wildlife that lives in the forest; trees have been cut down faster than they can grow back and there are few large old trees in the forests; the forests are mainly in small fragments, so although they are mostly government owned, they are difficult to manage compared to the large blocks of land that can be managed as a national park.

As a group, the Box-Ironbark forests have wider environmental significance. Almost all of them are within the Murray-Darling catchment, which supports 60% of Australian agriculture and faces many difficulties, some of which depend in practical ways on how those living in Box-Ironbark areas understand and treat the land. None of these facts determine what people should or should not do in the Box-Ironbark forests, but they indicate what might be at stake in the relationship between a community and a forest.

Different outdoor activities provide lenses through which to 'see' forests. Orienteers prefer an area that is not familiar to them, mapped according to desired topographical features (rather than cultural features), and terrain where running is possible. Once an area has been mapped the map may be used many times but, symbolically at least, orienteering resembles the search for new land 'beyond the frontier'. Fossickers see a historical landscape, focussing in particular on the sites of the nineteenth century gold rushes. But they also look for 'new ground', because they hope to find places where other contemporary fossickers have not used

their metal detectors. Beekeepers develop particular local knowledge, especially about the trees; different species produce different honey, at different times, and older trees produce more nectar. A fox-shooter may sometimes be an orienteer. An apiarist may be a naturalist, or may collect firewood. These examples should suffice to demonstrate that outdoor activities can create complex maps of knowledge of a forest within a community.

Each of these ways of knowing produces tensions between technical skills and personal experience, and between taking some benefit from the forest and becoming familiar with it. Individuals will learn different things about the forest from the particular activity they have chosen, but the meaning of that knowledge will also be shaped by the activity. A practical problem for outdoor environmental educators is judging whether an activity can be shaped to develop particular knowledges or to create particular meanings.

For example, the Lyell Forest has a relatively small number of old trees. Boxes and Ironbarks grow slowly and may require centuries to reach large sizes in some locations. Hollows, which are essential for much of the wildlife – particularly some of the mammals, but also some birds and goannas – form slowly in these trees. Much of the wildlife is nocturnal, and local people may be unaware of what lives in the forest or of the importance of hollow trees. The activity that Brookes introduces to outdoor education students has a simple premise. Students take a small area of forest and get to know the hollow trees in the area. The process begins in the first year of their course, requires that they spend several nights in the forest, and encourages them to spend more. They must learn what lives in the trees in a respectful, unobtrusive way. They may observe, but are allowed no trapping, spotlighting, banging on trees, playing recorded mating calls, feeding, or intrusive viewing (such as climbing trees to inspect holes in daylight). They must learn to see signs of wildlife, and wait until the creatures show themselves. The purpose of this activity is to teach students how an activity may be constructed which, in a small way, weaves some important but neglected aspects of the forest into the lives of local people.

The activity has a very different structure and pace from bushwalking – students walk from tree to tree, looking for scratches on the bark and signs of hollow branches. They arrange their day so that in the evening they can quietly watch a tree to see what creatures emerge. Many of the animals that live in the trees only come out at night, which, combined with the fact they hide in hollows, means that for many local people they barely exist. For the students, the activity makes the forest come to life in a particular way.

A single activity may teach some facts, but it is important that students understand how an on-going relationship changes the meaning of an activity. Students who have visited an area more than once recognise things they have seen before, and notice changes. They not only learn about wildlife and its relationship to the trees, but they connect what they have seen with personal stories. Students who expect to visit again have a reason to remember what they learn. Brookes uses a simple device to introduce this social aspect of learning. Students in the final year of their course introduce first year students to a small area of forest over three days and nights. The first year students visit the forest on several more occasions over the next two years. Then, in their final year, they in turn introduce a group of first year students to 'their' piece of forest.

A map of students' movements through the forest would show a very different pattern and pace from that of an orienteer visiting checkpoints, or a bushwalker passing through. The rhythm of activity is also different, because it has to take into account the schedule the wildlife sets. Instead of all meeting for an evening meal, students disperse to watch different trees at dusk. The activity also has some clearly evident social signatures. Students walk

without maps, and speak of places in colloquial and idiosyncratic ways: 'the goanna tree'; 'the Red Box tree where we saw the sugar gliders'; 'the echidna stump', and so on. When groups meet in the forest at least some of their conversation involves an exchange of stories about what they have seen. Thus wildlife becomes part of their social networking, in a similar way to which stories about sporting events on the weekend have a social function in the work place.

The interweaving of knowledge about wildlife with personal stories and social relationships makes this activity a little more like an indigenous way of knowing, and a little less like a field trip for a science class or walking for sport. Brookes calls the activity a recreation activity because for some students at least it provides the same interest and motivation as recreation; some have returned many times to watch 'their' trees. However, it is also a modest program, and it is important to note that it is more successful on some occasions than others. Which groups should undertake what activities where, if Australians are to learn how to live sustainably in Australia, is a much bigger question.

Inconclusion

Deleuze and Guattari (1987) explain that rhizomes have no beginnings or ends but are always in the middle: beginnings and ends – like introductions and conclusions – imply a linear movement, whereas working in the middle is about 'coming and going rather than starting and finishing' (p. 25). Thus, I have no desire to provide a 'conclusion' to this essay but will simply pause with this 'inconclusion' – a brief reflection in the middle of the comings and goings it performs.

I do not intend the stories, vignettes, arguments and meditations that I have assembled here to be interpreted as constituting a 'case' for any particular approach to theorising place in education. Nor have I attempted to answer the question in my essay's subtitle. Rather, I have explored a number of positions, dispositions and tactics that offer ways to think and act that have moved me in the direction of new or renewed possibilities for representing and performing place-based pedagogies. These ways of thinking and acting have been generative for me, and I offer them to readers for their own appraisal of their usefulness.

Acknowledgment

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