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re(Forming) the 'Physical' in a Curriculum / Pedagogy for Health: A socio-ecological perspective.

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Abstract

This paper argues for an inclusive and socio-ecological approach to health, physical education, outdoor and environmental education curriculum and pedagogy. Recent changes to school Health and Physical Education (Australia), and Health, Physical Education and Home Economics (New Zealand) curricula has created new possibilities and challenges for educators and learners. These reforms require learners, teachers and teacher educators to carefully consider how such a curriculum will be enacted in practice. The paper presents a paradigmatic reconnaissance of the discourses that have informed these changes which is matched with reconciliation at the pedagogical level. An analysis of the implications of this change will be presented together with a socio-ecological perspective of health through the 'physical'.

Introduction.

We acknowledge at the outset that this paper will not be attempting to write a definitive account of recent developments in Health and Physical Education (HPE) curricula in Australia and New Zealand, as they have emerged as one of eight Key Learning Areas (KLAs) in both countries. We assume a reasonable knowledge, on the part of the reader, of the curriculum content and procedural approaches promoted by these curriculum documents. The purpose of this paper is to consider the quite profound cultural shifts in conceptualisations of health and the 'physical', and to consider the significant possibilities and challenges to teachers and teacher educators alike that arise through these reforms.

We begin by describing our own pedagogic context, as academics and educators of emerging professionals (undergraduate and postgraduate students), many of who will find themselves working with the new HPE policy documentation. We recognise the full scope of physical activities implied by the curriculum but will draw particularly upon 'physical' health and outdoor education examples in this paper. Many of our graduates will also be required to teach Physical Education and Outdoor and Environmental Studies at Year 11 and 12 (in the Australian context), which are separate subject areas, despite being integrated in the HPE KLA from the preparatory year to Year Ten.

Thus we find ourselves responding to the 'new' agenda that appears to have informed the changes within HPE, specifically the socially critical and public health discourses, and the nascent emergence of a socio-ecological perspective. We argue that a 'lived-educative-experience' approach to pedagogic work is required in the formal context of schooling and university pre-service teaching, if we are to remain hopeful of success for the reformed curriculums.

Richard Tinning (2000, p, 20) believes that "in the always limited time available for physical education (even if integrated with health education), preference should be given to pursuing those educational objectives that are developed through participation in physical activity – objectives that focus on knowledge, skills and attitudes considered useful in preparation for a healthy lifestyle". We agree with this guiding principle, but perhaps for different reasons, that will become clear later in the paper. Also, we find it necessary to radically extend conceptualisations of the 'physical' and to explore notions of health beyond the scope of its usual representation in HPE discourse.

The discussion begins with two pedagogic stories that are intended to disturb assumptions that many professionals may bring to the reformed HPE curricula. We then attempt a reconnaissance of the paradigmatic discourses that are evident in HPE theorising, and which are embedded in curriculum theory and pedagogic approaches. We are very aware that we may be accused of constructing our own 'paradigm of convenience', and if so, so be it. Ultimately, we argue for a reconciliation of paradigmatic differences, and that this reconciliation must be 'lived' as curriculum is enacted into practice. Each learning context, whether it is university pre service teacher training or school program, will be required to find ways to interpret and act upon the 'new' HPE reforms.

Two stories:

You are a secondary school HPE teacher and at the morning briefing you are assigned an 'extra' in Year Eight 'Visual Arts' for the first period of the day, as the teacher is away completing a professional development program. The bell rings, you gather your things and head off to the classroom. Upon arriving at the room you sigh with relief to find a well-prepared lesson plan written up on the classroom whiteboard. It states that 'Students are to begin the lesson by viewing and discussing three colourful prints hanging at the front of room. How have the artists used colour to portray emotion? How do the artists balance composition differently in the three prints?' Students are then to continue working on their own poster project. There is a note from the art teacher for you pointing out the importance of 'keeping to the curriculum so that the students don't fall behind'. All appears well.

Students begin entering the classroom and head for their usual seats. A happy chatter fills the quiet space. Just as the class is about to begin the Year Eight Coordinator arrives at the door with a new student. It is her first day at the school, and this will be her first class. The room falls quiet. She enters the space at the front of the room, feeling her way with a white cane.

It is the final class of a unit of HPE work on the importance of healthy a diet. You have brought a bag of 'Riverland' oranges from the local supermarket, enough to allow one for each student. You have been examining the nutritional requirements of a balanced diet for a healthy, active lifestyle, and the oranges are a kind of signifier to the students about the need to make good choices when it comes to the foods that we consume. Towards the end of the class a boy raises his hand and tells the class this story.

'My old uncle and aunty used to own a citrus farm in the Riverland, near the South Australian border, and I got to visit them every summer in the holidays. It was a great place – hot! Boy it was hot. With huge overhead sprinklers chucking water out over the rows of orange trees. Sometimes we'd go down to the river on a really hot day and go for a swim. We had a beaut swimming hole. But my uncle had to sell his farm. He says half the block is wrecked with salt now and most of the other blockies have sold out. They're ripping up all the orange tress and planting vineyards. Anyway, he says the river is stuffed! 'Full o' salt, full o' carp, full o' chemicals, full o' crap', he says. You used to be able to see right to the bottom he reckons and catch a cod anytime. Not any more. He even reckons the river

She wears dark glasses. She is obviously visually impaired.

Your move?

mouth is even going to close over.'

The class turn to you. Your move?

The story of the visually impaired girl has something to say about the ability of teachers and students to live in the 'pedagogic moment', and the ability to respond to students and their needs within formalised, structured and institutionalised approaches to curriculum delivery. It implies questions about the nature of exclusion, but equally the possibility of inclusion. It suggests a critical moment for the visually impaired girl in her introduction to a new community. Will she be accepted? How noticeable will her 'difference' be? What will happen to her in the next hour of visual arts? Will this be like her last school? But equally the moment is just as pivotal for the other students and the teacher. It is hard to imagine a scenario such as this eventuating in a school today. We would expect many structures to be in place to assist the visually impaired student. Yet, it is not difficult to imagine parallel examples of students with 'impaired ability' participating (or not) in the daily work of teachers and learners in HPE. A curriculum that *preferences* and *prioritises* pursuing those educational objectives that may be developed through participation in physical activity is problematic, potentially 'blind' in many ways to the needs of some students. It embeds the notion that students may be considered 'impaired' in some way (obese, injured, ill, motor disabled etc.) and that their lived-experience of the HPE curriculum is destined to be limited or different. The situating of the story in the visual arts room (as opposed to a HPE context) also declares our interest that HPE teachers are educators first and foremost, and that their work within a specialised curriculum is secondary to this professional role.

In the other story the consumption of the oranges seems well intended. But we find ourselves immediately connected to a wider social and ecological world through the boy's story. We also learn something about the boy – and a 'physical' world he has lost. As infinitesimally small as the contribution of eating a bag of Riverland oranges may seem in the decline of the river and its communities, the boy's story has brought us to another pedagogic dilemma. Philip Payne (2000, p. 186) reminds us that;

> "the health and environmental consequences of cleaning teeth, eating apples, riding a lift, dressing for work, kayaking a river and so on, at first glance are relatively trivial – each experience is 'embodied'. These routines slip below the level of talk and become habits, good or bad. We forget about them. They become imbedded in the 'everyday'".

Again, we see a HPE curriculum potentially blind to wider connections. The most basic assumption, in both the curriculum document and the teacher, that students are rational and autonomous decision makers in relation to their health, fails to recognise that health is a much larger and more complex social and ecological phenomena.

Our intent is not to denigrate the HPE curriculum in any way, but to argue strongly for a thorough, careful, and open consideration of its possibilities and limitations when it is enacted into practice. Both of the above stories require a careful 'listening', on our part as educators, to the nature of the lived-educative-experience. Like the Canadian teacher educator David Jardine, we fear that an acquiescence, or shallow acceptance of the curriculum will;

"render children into strange and silent objects which require of us only management, manipulation, and objective information and (ac)countability. Children are no longer our kin, our kind; teaching is no longer an act of "kindness" and generosity bespeaking a deep connectedness with children. In the name of clarity, repeatability, accountability, such connections become severed in favour of pristine, "objective" surface articulation" (1998, p. 7).

Tinning (2000, p.11) suggests "education *for* a healthy lifestyle is a reasonable compass-bearing for our professional mission as physical educators". He indicates that the notion of 'healthy lifestyles' is not without its problems. We agree, and suggest that the emergence of the socio-ecological perspective, explicit in the New Zealand curriculum and implied in its Australian counterpart, provides a significant opportunity to extend conceptualisations of the 'physical' and 'healthy lifestyle' beyond personal development, public health and socially critical approaches. What is critical here is an understanding of whether our values relating to knowledge and knowing are bounded and limited by these discourses, or whether they can be liberated from them.

It would seem that HPE has become more overtly a vehicle of the 'new public health' agenda (Glasby & Tinning, 2002), itself an amalgam of positivist and socially critical approaches. HPE, seen in this light, is perceived as an answer to those indicators of public ill health that appear on the increase (drug abuse, teen pregnancies, youth suicides, youth depression, obesity), whilst at the same time addressing indicators that appear on the decrease (fitness, skill, participation). Outdoor education (and outdoor environmental studies), whilst not generally discussed under the banner of public health has responded to the discourse of 'environmental crisis', by claiming to educate students about sustainability (in an increasingly toxic world) and appropriate relationships between self, others and the natural world. On the one hand we see the discourse of physical education being extended in one direction by the discourse of public health, and on the other hand we see outdoor education being challenged and extended in another direction by environmental discourses. Both may be interpreted as responses to changing cultural values of health.

In order to advance our discussion of being responsive to the new agenda of public health, the socially critical and the socio-ecological within HPE, and the influences that have resulted on our curricular and pedagogic understandings of the 'physical', it is first necessary to examine in more detail the nature of the paradigmatic discourse that has informed their rise to prominence.

A reconnaissance of paradigmatic discourse.

Thomas Kuhn popularised the term 'paradigm' in his book *The Structure of Scientific Revolutions* (1970). According to Hay, Kuhn used the term as a "conceptual tool to explain the periodic replacement of basic assumptions concerning the status of scientific knowledge and the nature of operating processes of the universe, with radically different assumptions" (2002, p. 278). Kuhn's conceptualisation maintained a linear and progressive view of the privileged status and advancement of scientific knowledge. In a typical post-modern socialisation of the paradigm concept into discourse it has flourished and multiplied, resulting in any number of possible

paradigms that overlap and compete for our attention. The various paradigmatic discourses become influential, potentially both generating and limiting debate.

> At a most fundamental level different paradigms provide a particular set of lenses for seeing the world and making sense of it in different ways. They act to shape how we think and act because for the most part we are not even aware that we are wearing any particular sets of lenses. (Sparkes, cited in Macdonald, 2002, p. 168)

A fracturing of knowledge and knowing occurs when the kind of myopic view of the world that Sparkes outlines holds sway. Particular views, beliefs and practices relating to a paradigmatic structuring of knowledge(s) become institutionalised and entrenched. The biomechanist literally 'sees' the 'physical' in a way that is utterly unfamiliar, and is seemingly inaccessible, to the philosopher, historian or sociologist of the 'physical'. The formal institutionalisation of knowledge results in a separation and reduction of knowing until we find a neat paradigmatic home for everything that can be known. This approach is characteristic of Western culture, and has been promoted most elegantly by the neo-Classical revolution of knowledge and values arising from the European Enlightenment movement of the 18th century. So persistent has it become that it now informs the structures of almost all Western learning environments from kindergarten to university. It is a flawed conceptualisation of reality. As much as it has afforded progress through a variety of specialist developments, it has hindered both integrated and holistic understandings and practices.

In recent times the theoretical rhetoric of physical education has considered the 'natural science-alternative qualitative' pairing (Schemp, 1987) and the emergence of a positivistic-naturalistic 'paradigmatic divide' (Sparkes, 1989). According to Sparkes (1991, p. 103) the 'paradigm wars' were a feature of physical education discourse of the 1980s. The two major paradigms of influence, he argues, were the positivist and the social constructivist.

> In essence, the positivist paradigm adopts a realist ontology; a dualistic, objective epistemology; and an interventionist methodology. In contrast, the social constructivist paradigm adopts a relativist ontology; a monistic-subjectivist epistemology, and a hermeneutic methodology. (Sparkes, 1991, p. 106)

Kirk et al (1996) tried to simplify things with a Biophysical / Socio-cultural dualism and in more recent times the Positivist-Interpretive-Critical paradigms (Curtner-Smith, 2002; Macdonald, 2002) have been reviewed as providing the major theoretical framework for research discourse in physical education, and subsequently for arguments about the appropriateness of various content and pedagogic processes in HPE. The polarisation around the dominant positivistic and alternative social critical paradigmatic approaches has fuelled much theoretical reflection in recent years.
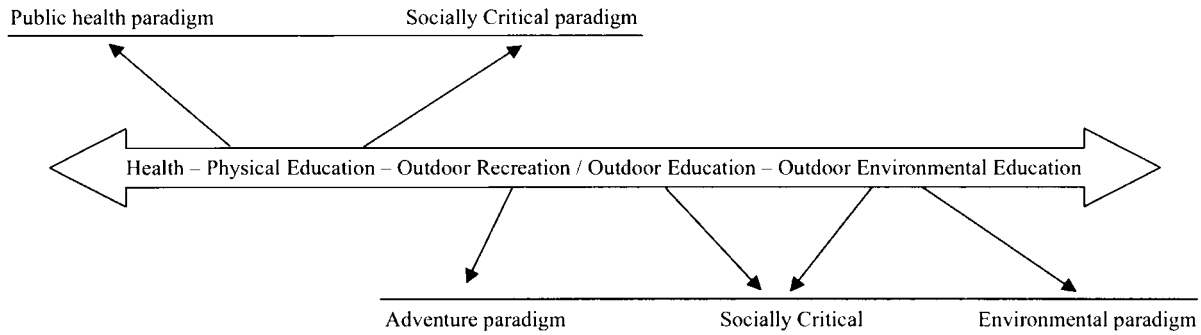
Outdoor education has not remained unaffected by a division of knowledge and practice into separate paradigm camps. The Adventure – Environmental paradigm split was signalled relatively early on (Priest, 1996) in the North American context. Advocates of the adventure paradigm claim that personal development and team building are significant educational outcomes and that minimal impact practices may limit environmental damage. In the Australian

context members of an 'environmental paradigm' have criticised the adventure approach, arguing that it teaches an anthropocentric view of the domination of nature that cannot but fail to contribute to an environmentally damaging set of values and beliefs (Brookes, 1993). This environmental paradigm is representative of both a critical agenda in outdoor education as distinct from outdoor recreation (Martin, 1999), and the popularisation of the environment movement in the later decades of the 20th century. Significantly, much environmental discourse has also promoted a dualistic separation of the 'Dominant Paradigm' (anthropocentric, progressive, consuming resources unsustainably, anti-ecological) from an 'Alternative Environmental Paradigm', and also called for an 'Ecological Paradigm' (Hutton, 1987) or 'New Ecological Paradigm' (Hay, 2002, p. 278). Its application has been extended to education in the Australian context via Gough's (1987) dominant 'Epistemological' and alternative 'Ecological' paradigms, which has become popular in environmental education, but less so in outdoor education.

Most recently Loynes (2002) has critiqued the fracturing of educational practice in the outdoors along the following paradigmatic lines: Algorithmic (typified by adventure programming approaches); Moral (Hahnian / Outward Bound style values of personal emancipation and collective citizenship); Ecological (described through Scandinavian approaches to culture/nature such as Deep Ecology); and, an Emerging Generative paradigm (arising locally and inspired by personal and collective discovery of learning and a commitment to the politics of sustainability). We suggest that outdoor educators may soon find themselves on the brink of their own 'paradigm war'.

Sparkes argues importantly that it becomes possible for the nature of paradigmatic influence to be continually reproduced as newcomers are initiated into specific sets of assumptions, both overtly and covertly which he argues may lead to a "blind allegiance to a specific worldview and its concomitant methodologies. This allegiance facilitates the asking of certain questions but excludes from consciousness other forms of questions, ways of knowing, and frameworks for viewing the world" (1991, p. 107). It is difficult not to interpret the 'paradigm wars' as a wrong-headed ongoing cultural mission to methodically purge educational discourse of its ambiguities (Jardine, 1988). Rather than foster communication and a collaborative community they appear to encourage further specialisation and division as the proponents of each paradigm try to position themselves on the high ground of their own perceived certainty. Table 1 presents one version of a simple overview of the resulting paradigmatic divides.

Table 1. A reconnaissance of paradigmatic division.

Public health paradigm   Socially Critical paradigm

Health – Physical Education – Outdoor Recreation / Outdoor Education – Outdoor Environmental Education

Adventure paradigm   Socially Critical   Environmental paradigm

Arguably, the most recent foray into prescribing HPE as a paradigmatic space to be colonised, is contained in the rhetoric of the new public health agenda. Since the elevation of physical inactivity to primary risk factor status for cardiovascular disease, and the merging of physical and health education in Australian and New Zealand curriculums, the new HPE has advanced its role in promoting physical activity as a means to enhance public health. Schools have been touted as an efficient vehicle for providing physical activity instruction and programs that have the potential to improve the health of young people (CDC, 1997; Lambert, 2000). With caution, Tinning (2000) suggests the New Zealand and Australian HPE has a substantiative health orientation.

This strengthened focus on 'healthy lifestyles' presents interesting challenges for educators. Many of the healthy lifestyle outcomes are posed in ways that assume students can make rational decisions and in so doing 'choose' the healthy alternative (Tinning & Glasby, 2002). This perpetuates one of the central tenants of Enlightenment thinking - the view that human choice is based solely upon rational objectivity. Kirk (1996; p.26) argues "it is not the job of the school to make children fit" rather that "…it is the job of schools to ensure that children have knowledge and competencies to use exercise appropriately in contributing to an active lifestyle." Indeed Tinning and Glasby (2002) believe that physical education is ignoring the influence of the broader social context which can confuse the attainment of 'healthy lifestyle' objectives.

> If HPE is really to help students as future citizens negotiate 'healthy lifestyle' practices in the 'risk society', then it must open itself up to the challenges offered by other ways of knowing about the body and health. (Tinning & Glasby, 2002, p. 117)

Yet the now mainstream acceptance of a social-critical approach within HPE signals a fundamental challenge to the belief that teachers and/or students can be considered to operate as independent and rational selves. These assumptions about how an individual and/or community, as opposed to a collection of independent individuals 'make' decisions about health, provides one of the central contradictions of the reformed HPE. In addition, the emergence of a socio-ecological perspective must argue that any consideration of lifestyles of health (through the physical) must extend beyond the social, to include a mutual relationship with the environment. It is the dynamic interaction between the personal, the social and sustaining natural systems that is foundational for all physical activity and ultimately for health.

Let us turn our attention then to examine specifically the nature of these quite profound cultural shifts in HPE curriculum, and consider issues central to the possibility of its successful implementation. Firstly, we discuss the rise of a socially critical agenda.

<u>Social-critical theory and its implementation in HPE.</u>

Social critical theory is summarised by Macauley as being characterised by a "critical perspective on technology, power, scientism, and instrumental reason along with an opposition to exploitative capitalist social relations" (Macauley, 1996, p. 2). The enacting of social critical theory into practice is nicely summarised by Carr and Kemmis (1986, p. 144) in reviewing the contribution of the leading critical theorist Jurgen Habermas.

> A critical social science is, for Habermas, a social process that combines collaboration in the process of critique with the political determination to act to overcome contradictions in the rationality and justice of social action and social institutions. A critical social science will be one that goes beyond critique to critical praxis; that is, a form of practice in which the 'enlightenment' of actors comes to bear directly in the transformed social action.

More directly in physical education it has promoted a social justice agenda based on exposing the hidden curriculum. This has been summarised recently by Nutt and Clarke (2002) who draw upon significant writings spanning the last three decades of Giroux, Bain, Kirk and Fernandez-Balboa, to name a few. In short it is the 'everyday' encounter with, and the transmission of, social inequity in all its forms, and the cultural mechanisms that make this process persistent, that social critics of education want to interrogate, challenge and change. A significant mechanism for critiquing social situations can be found in the structured, systematic questioning of social practice and discourse (see Table 2, Cherryholmes via Sparkes). This approach has been extended towards a socially critical pedagogy for physical education (see Table 2, Macdonald).

Specific analysis of the hidden curriculum in outdoor education appears more recent (Boyes et al, 2003). Analysis of educational 'myths' relating to the nature of personal development via outdoor adventure activities, and commonly accepted 'truths' such as their 'character building' qualities are being challenged (Brookes, 2003). Additional critical analysis of experiential learning methods within the outdoor adventure education field have also been presented which question how genuine the claims for student-centred experience can be if the orthodoxies of Dewyian/progressive approaches (a commitment to logic, rationality and scientific method) are sustained (Bell, 1993). Both Hovelynck (2001) and Brown (2002) have examined how teachers and instructors continue to control the nature of learning activities and sites, the pedagogies employed and even how so-called student reflection is validated or dismissed by the teacher/leader in outdoor settings.

The ascendancy of a critical theory inspired social justice agenda, Tinning argues, "now behoves university teacher education programs in Australia [*and presumably New Zealand*, italics added] to actually set about teaching student teachers how to implement a HPE curriculum that is coherent with social justice principles that are inscribed in contemporary policy and curriculum documents" (2002, p. 229). Yet, he also describes the resistance of undergraduate physical

education students to the critical agenda (Tinning, 2002) suggesting that their desire for technical competence and certainty rather than ambiguity, even if the certainty is illusory, were significant points of resistance. Recalling the 'reconceptualist project' Tinning quotes a colleague; "we became engaged in a typically abstract form of pedagogy in which we struggled to colonize the rational side of students' brains" (Fitzclarence, cited in Tinning, 2002, p. 132). Students, by and large, rejected the overtures of the socially critical agenda, as they confronted the seemingly more immediate demands of developing the knowledge(s) and technical and pedagogic competence they felt their profession required.

Table 2 – Orienting Questions: Socially critical to socio-ecological perspectives.

C. Cherryholmes (Cited in Sparkes, 1999) Socially-critical orientation	Doune Macdonald (2002) Critical pedagogy of physical education.	Richard Tinning (2002) 'Modest critical pedagogy' of HPE.	Philip Payne (1999) Critical Ecological Ontology
Sparkes orientates the reader to the problematic nature of paradigmatic discourse by restating Cherryholmes questions that may be asked of all discourses.	'Thus a critical pedagogues mandate is to develop a personal and collective consciousness as a platform for managing and creating change within a post-modern world' (Ferndandez-Balboa, cited in Macdonald, 2002, p. 185).	'There would be many forms of modest pedagogy … but they would be circumspect in their claims to know. They would not assume that there is a set of pedagogical procedures that … will lead to certainty with regard to the delivery of certain (emancipatory) outcomes' (p. 236).	'The initial formulation of a 'a critical ecological ontology' struggled with the need for a curriculum theory of a critical nature to be sufficiently comprehensive, socially just, and practically useful to a wide range of people in different settings in diverse cultural contexts' (p. 6)
Who is authorised to speak?

Who listens?

What can be said?

What remains unspoken?

How does one become authorised to speak?

What utterances are rewarded?

What utterances are penalized?

Which categories, metaphors, descriptions, explanations, and arguments are valued and praised; which are excluded and silenced?

What social and political arrangements reward and deprive statements?

Which ideas are advanced as foundations to the discourse? | What subject matter/issues are the learners addressing? How and why have these been selected? Whose interests do they serve?

How is the learning structured? What role does the teacher/leader take? What roles do the participant/learners take? Whose voices are heard?

What might be the impact of the episode on the participant/learners in the short and longer term?

Does the episode contribute to a more just society | Does the implementation of a socially critical curriculum require a critical pedagogy?

Can the socially critical agenda of the Australian KLA be implemented with a pedagogy that is essentially conservative?

Is it realistic, or indeed ethical, to talk about the problematization of knowledge as something for the school curriculum but not to teacher education itself? | In what ways do environmental concerns exist in a person's body? What pathways into and out of the body do environmental problems and issues take? What habits and routines … allow or deny an environmental problem to exist in the boy of each student? How do certain local conventions … use of language and presence of print and electronic images … permit or deny the embodiment of the environmental problem or issue? How do habits and routines vary among individuals? What influence on the pathways of the problems do historical, geographical, social, technological, material, and symbolic conditions have? What aspects of daily life might be changed? What are the consequences for self/others/environment, and for the pathways of environmental problems, if the routines of individuals/group/ community are changed knowingly? What is the justification for a knowledgeable response to each of the above questions … ? |

Macdonald recounts a similar response from an undergraduate physical education teacher education subject experienced by staff and students in the UK (Macdonald, 2002). Again, the theme of resistance is clear as "the student's preference for a knowledge base that was technical in nature, more readily consumed and grounded in the familiar was a recurring theme" (Tsangaridou and O'Sullivan, cited in Macdonald, 2002, p. 174). Macdonald summary of the project indicates some of the difficulties faced.

> Throughout the refining of the subject we were constantly faced with the dilemma of balancing utilitarian knowledge with socially critical emphases and meeting the organization requirements of the university.

Tinning's (2002) 'modest pedagogy' presents an important and thorough analysis of the problematic history of critical pedagogy as it has emerged in HPE in response to a social justice tradition, and he frames a number of useful questions regarding this approach to teaching and learning (see Table 2, Tinning). Although he does raise some of the "pitfalls of Enlightenment thinking" (p. 224), he does not extend discussion beyond the social world. The sustaining natural systems that support all healthy life are yet to find a voice in the discourses of the 'physical' in the HPE. The emergence of a nascent socio-ecological perspective signals the first occasion that a broader and more inclusive conceptualisation of health may be possible.

A nascent socio-ecological perspective.

Post-Enlightenment modernity is often characterized by ecological critics in educational theory (for example; Orr, 1992; Bowers, 1993; Hutchinson, 1998) through its promotion of the scientific method as the primary arbiter of legitimate knowledge; the presentation of time and change as linear on the human trajectory of infinite technological progress and improvement; a separateness of culture from nature, of knower from known, the mind from the body; and, that the rational, autonomous individual is the central actor in an anthropocentric world. The challenge provided by a predominantly modern world-view in terms of health concerns not just the elevated status of a set of cultural beliefs and practices, but also their 'invisibility'. So embedded into our 'being' have the assumptions governing our values and behaviour become that challenging them first requires dragging them up from the level of the subconscious and the routine.

C. A. Bowers, in *Education, Cultural Myths, and the Ecological Crisis,* warns us that "if thinking that guides educational reform does not take account of how the cultural beliefs and practices passed on through schooling relate to the deepening ecological crisis, then these efforts may actually strengthen the cultural orientation that is undermining the sustaining capacities of natural systems upon which all life depends" (Bowers, 1993, p.1). Environmental and ecological critics have long argued that these conditions of modernity have led us away from a state of personal, social and environmental health (although they sometimes appear interested only in the latter), and that we need to work towards a values system and practices that are less environmentally damaging.

The work of HPE teachers sympathetic to a socio-ecological perspective will be to challenge the existing sets of assumptions, including those implicit in both public health and socially critical agendas, in terms of an extended physical/embodied, social and sustaining natural systems conceptualisation of health. This is precisely the radical opportunity that a socio-ecological perspective provides and it has not existed in any form in HPE curricula until now.

A socio-ecological perspective of health cannot separate the personal and social from the health of sustaining natural systems. Rather than the autonomous and rational decision maker, we should encourage educative experiences that foster the perception that of our physical bodies, as personal ecologies, are connected across space and time, to a multitude of other complex social and natural ecologies, some of which we can never hope to comprehend or control. This basic shift in perception impels us to consider the nature of connections between personal, social and natural ecologies that we, and our students, constantly experience, yet rarely examine. Some of these ecologies (and parts there-of) are healthier than others, and some are in a state of terminal decline. As the ecological philosopher Aldo Leopold wrote; "one of the penalties of an ecological education is that one lives alone in a world of wounds…. An ecologist must be the doctor who sees the marks of death in a community that believes itself well and does not want to be told otherwise" (Leopold, cited in Orr, 1992, p. 54).

Systematic ways of thinking about the 'physical' as a series of overlapping ecologies (healthy or otherwise) are beginning to emerge. Philip Payne's (1999), 'sensitizing questions' for environmental educators (see Table 2, Payne), provides a useful starting point for the development of an orientating approach from the socio-ecological perspective. The socio-ecological perspective is more than a coupling of social and environmental justice approaches, although it must acknowledge the same contradictions inherent when the personal, social and natural systems merge. That which is socially just is not necessarily environmentally just.

Rather, than generate yet another paradigmatic division, the intent of a socio-ecological perspective is to consider the work that must be done in reconciling paradigmatic differences. The ecological impulse is to connect, not divide, and this work can only be seen to occur in the ambiguous, less certain, domain of lived-educative-experience. It is found as it occurs, in enacting the curriculum into practice.

Enacting curriculum: The reconciliation of paradigmatic difference.

There is hope that teachers and learners can encounter a lived-educative-experience of health despite a curriculum that remains predominantly progressive and rational in its assumptions. The inclusion of a social justice agenda results in a curriculum that is less individualistic, but no less anthropocentric. In addition, Payne (2000, p. 196) warns us about the persistent authority of the 'intellectual' in human development curriculum areas like physical education, health education, outdoor education and environmental education.

> … schooling is a 'disciplined' form of human experience that is structured institutionally and pedagogically through learning activities of a very narrow and restricted type and style. If so, intellectual 'experience' is elevated in importance and subsequently reified as

vicarious due to the abstraction of knowledge or information deemed legitimate by the schooling system and authoritative by its messengers, such as the curriculum document, teacher implementer and researcher of it. The body is rendered docile, the mind infinitely malleable to the signs and symbols of different interests while the student perception of reality are increasingly made 'irreal'.

Canadian teacher educator David Jardine has called the never ending research and discussion of every facet of the curriculum, the schooling of the child and of teaching practice, an 'exhausting racket', beyond which "There is no silence, no pause, no unprepared space in which something other than our own voices can be heard" (Jardine, 1998, p. 30). He is a strident critic of the ways in which the legacy of a mind-body dualism has served as an extreme extension of rationality which have resulted in an alienation of knowledge systems from everyday life. We endorse an approach which Jardine articulates clearly, in seeking an ecological alternative, which calls us to "to admit that the continued existence of our lives and the lives of our children contain an Earthen darkness and difficulty – an Earthen life – that we have heretofore fantasized out of curricular existence" (1998, p. 76).

There are issues here of attentiveness and listening, of finding ways to explore and articulate meaning making through "restoring life to its original difficulty" (Jardine, 1998, p. 11). This returns us to our initial stories at the beginning of this paper. The teacher and learners must live the curriculum together – and share its broader consequences and connections. This is not a further complication for HPE. Instead, it is a simplification. But reaching this simplification is by way of a paradox.

In radically extending our social conceptualisation of health and embodied 'physical' selves towards the socio-ecological, we erode old paradigmatic boundaries, and we move towards a more simple and unified practice. A curriculum that was extended in one direction by the imperatives and discourses of public health, and in the other direction by the imperatives and discourses of ecological health, become tied together around the centre of the lived-educative-experience of the 'physical'. The conceptualisation of the 'physical' has shifted from that of central actor and decision maker, to one that is connected and continuous across both social constructions and an embodiment of health through the lived-educative-experience (see Figure 1).

The HPE curriculum document is recognised as a significant repository of cultural values - conservative, emergent, and nascent - but it is not and cannot be the lived-educative-experience that is only found in practice. As a profession we face a new the challenge, both in universities and schools, to interpret, enact and continue to extend the 'physical' beyond the scope of our assumptions. As Richard Tinning suggests;

> …whether of not HPE can deliver on its long-term objective of educating (read 'making') healthy, physically active and informed citizens, will depend less on the sophistication of its curriculum documents and more on the ability of teachers to clearly know what they are attempting to do (the major orienting purpose of their work), and what is realistic in the doing. Sometimes, less is more. (2000, p. 20)

Figure 1. The socio-ecological health of the 'physical'.
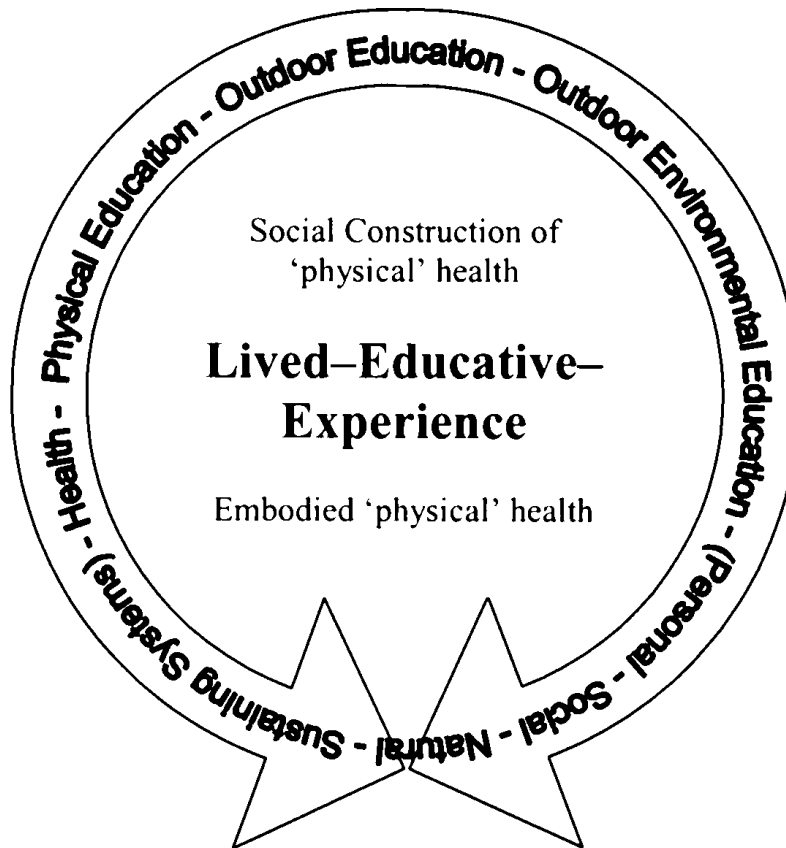
The start and the endpoint of curriculum theorising and enacting become one and the same. They expressly serve a lived-educative-experience, that is simultaneously a careful negotiation of the curriculum by teacher and learner, and an educative space that affords opportunities of knowing how to be within the connections and continuities of personal, social and natural ecologies. For Jardine (1998, p. 7), the challenge we face as teachers is clear.

> Self-understanding and self-reflection are required from which no theory will exempt me. My patience, my frustrations, my tolerances and preferences, my deeply held beliefs as to whether children are worth listening to, whether this child, here, now, is one for whom I care – all of these issues forth in the living experience of facing children and thereby, issues forth in any attempts to understand this lived experience.

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