

Keynote for Edinburgh

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What is the purpose of education, and in particular of outdoor education? And what kind of educational practice meets that purpose? I want to start with a little piece I wrote from my yacht Coral

Daybreak in Plymouth Sound

I wake, wondering what time it is, and see a hint of gray through the cabin windows. Climbing out of my bunk my feet resist the contact with the cold cabin floor. I pull on warm socks, take the two steps to the companionway, pull back the hatch and put my head out. Looking eastwards from Cawsand Bay toward Bolt Tail the sky is just brightening with the coming dawn. Smoky-black cloud rolls in layers across the sky and settles on the far shore. To the north, over Plymouth, there is a patch of washed out blue. To the south, out to sea, a glowing orange wedge is sharply articulated between the line of the horizon and the sombre clouds. Puffs of black cloud are silhouetted against the orange. At the acute eastern end of the wedge, a gray mist smudges the clear edges: a rain shower out to sea.

An owl calls from ashore. Surf lightly pounds on the beach. Waves slap gently on the hull. The rigging creaks and halliards frap against the mast. From a warship moored behind the breakwater a voice over the PA system of gives an order. Nearby, the grinding of light chain as a man in a dinghy pulls up an anchor—checking his lobster pots, I imagine. A group of terns fly by, skreeking in their high sound, dancing lightly around each other and over the surface of the sea. Another group calls from across the bay, a shrill, penetrating call, “Eeeeeeeegh!” Then the soft thud of a diesel engine as a yacht making an early start leaves the bay.

All around the Sound and out to sea are pinpoint lights of buoys and ships, bright now but fading as the day awakens. Three flashing red buoys mark the main channel into Devonport. Out to sea more flashing: yellow, green, red; and on the horizon lights from ships, twinkling through the temperature gradients. The yacht

passes close to where Coral is anchored, its navigation lamp a harsh artificial red against the dawn. In Plymouth the last scattering of sodium lights flick off one by one.

The morning brightens. Within the gray-black mass I can now see the puffy shapes of individual clouds, a monochromatic pattern from cold off-white to dark slate-gray. But those in the centre remain deeply black and threatening, hanging over the breakwater in overlapping dark bands—no puffy edges there.

It is now almost day. I can see colour in the oaks on the cliff edge, early autumn green and brown dulled in the half-light. The lights of Plymouth have all gone out. Above the town and the rolling line of Dartmoor beyond, the sky is definitely blue, streaked with clouds blown in by a westerly wind.

It is nearly time to set sail.

I start here, following the injunction of the ecological teacher Joanna Macy to begin with gratitude. What an extraordinary world we live in. Her second injunction is Don't be afraid of the dark!

The ecological crisis

The ecology of our planet is under extreme stress as a result of human activity. In broad terms this is incontrovertible, although many details are open to debate. The challenge of climate change often grabs the headlines, but is only part of the sustainability story. Other important issues include loss of biodiversity, mass extinction, pollution, depletion of carbon-based energy sources, pressure on water supplies, and food insecurity. First and foremost these are challenges to the integrity of the planet on which humans along with all other creatures are dependent; but in addition, as Stern has pointed out in relation to climate change and Pavan Sukhdev shows in relation to biodiversity, the economic costs are overwhelming and growing. Alongside, and in interaction, we have global social injustice - poverty, hunger, political oppression, the impacts of war, of HIV/AIDS, the persistence of widespread

curable diseases, and loss of cultural diversity. These are the significant challenges of our times, indications of a world well beyond its ecological limits, as the Limits to Growth team first pointed out in the 1970s and the WWF Living Planet reports and the recent work on planetary boundaries continue to show. My concerns are for the more-than-human world as well as whether the planet can remain a safe operating space for humanity. We must accept the warnings of those who say we have violated safe operating limits for us all, and that appropriate, significant, action is required - urgently.

The challenge, then, is to find ways to address these issues radically, to find ways to live together within the carrying capacity of the planet, with equality and justice for all human communities while allowing vibrant space for other life forms. This is what we mean by 'sustainability'. We are living in interesting and challenging times, times which require something from us. To respond adequately we need to acknowledge the enormity of the challenge, the uncertainties it brings, and discover and develop appropriate strategies and disciplines for living, now.

These stark comments may seem dramatic. That is part of the problem. It is hard to imagine that something so radical might be happening when the dawn comes up over Plymouth Sound and everyday life continues as usual. We can barely conceive it, and we have to reach towards understanding it from current patterns of mind, which we know are flawed and inadequate. While some politicians and pundits offer plausible but all too easy solutions, the challenge we face is that at individual, community, societal, global levels, humanity simply does not know how to respond to the enormous challenge of living sustainably on the earth.

I believe addressing these issues is the first and fundamental challenge of all education, including outdoor education.

Ways of responding

But while many people seem to turn a deaf ear to these issues, for those who listen there are so many different voices. How do we find our way through, between the reformists and the radicals, the light green, bright green and dark green, between practicality and ideals? The political theorist Dryzek offers a helpful way of thinking about this: environmental discourses, he argues, are on the one hand either reformist or radical, and on the other hand either prosaic or imaginal (see figure)—offering us a way of seeing four different kinds of discourse and practice.

- The prosaic and reformist sees the challenge within the current economic and social worldview and argues that what is needed is simply problem solving to make current policies and practices more effective and efficient. Markets and technology, properly applied, will solve the problem. The fundamental questions are, “How do we take environmental costs and benefits, the so-called externalities, into our economic and accounting systems?” and “how do we discount the future, balance present costs against future benefits?”
- The prosaic and radical perspective, staying mainly within taken-for-granted assumptions, argues that there are practical limits to what the planetary ecology can contain. This is the neo-Malthusian limits-to-growth argument, and leads to an attitude of survivalism: we must limit the damage by cutting back on economic growth. The fundamental question here is “How do we limit growth and consumption to stay within the carrying capacity of the Earth?”
- The reformist and imaginal perspective accepts that some form of market economy is ‘the only game in town’ but argues that we need to be much more imaginatively smart about what we do. This perspective sees that the industrial process of extraction-production-consumption often involves digging up stuff on one side of the world, expensively transforming it, carrying it to the other side of the world, using it briefly, and dumping it back in a hole in the ground. There must be smarter ways of doing business and ways that would create a

more attractive and satisfying mode of living for humans, for example in more human-centred cities. The fundamental question here is, “How can we direct the enormous human capacity for inventiveness toward the development of environmentally sound and humanly satisfying ways of making and living?”

- The imaginal and radical perspective seeks to change the way we experience ourselves and the planet. This is the deep green perspective which argues that all life on earth has intrinsic value, not just value as a resource to humans; for some this leads to a spiritual perspective, seeing the earth as a sacred unity and the divine is immanent in the ecology of life. The fundamental question here is, “How do we change our sense of who we are on the planet so we can live in a mutually enhancing manner?”

I could say more about all these discourses, maybe at question time, but for the present I will just say

There are many voices in the environmental movement. They usually come from only one or two of these discourses. I strongly believe that each one of these four discourses has something important to offer us and is a trap into which we can fall. We need the kind of thorough and detailed examination of our predicament that Stern offers, cast in the language of policy and economics, and drawing on the best scientific and economic data available. We need the terrible warning that there are necessary limits to growth, planetary boundaries, that we are going beyond these, and this must inevitably lead to overshoot and collapse. In response to the relative conventionality of Stern and the potential nihilism of Limits, we desperately need the visionary perspectives of thinkers and entrepreneurs who are reinventing our ways of providing the goods we need and creating a service based economy. And underneath it all we need to change our image of who we humans are on this planet.

It is the fourth dimension of Dryzek’s figure I want to develop. All the others are important for all of us to understand, and they have enormous

potential for changing our world, but they all rest on the assumption that the natural world provides 'resources' or 'capital' for the use of the human.

We humans in the Western world are in some senses separated from the natural ecology within which we evolved: many people rarely hear an owl call or see the stars; most don't know where their water comes from or where their waste goes; we utterly dominate the space we occupy. And even more, we experience an ontological discontinuity between ourselves and the more than human world. Somewhere in the development of civilization, maybe in particular western civilization, we started to see ourselves as separate from the natural world. There are many influences that contributed to this development—the development of agriculture, the rise of cities and of dominant classes, the Renaissance view of man as the measure of all things. In particular the dualism of Enlightenment thought, as philosopher Mary Midgley so neatly puts it, 'has been constantly engaged in separating individuals from their surroundings' and led to what the great sociologist Max Weber described as the 'disenchantment' of the world.

This is a strange and dangerous predicament for how can we attend appropriately to that from which we experience as radically separate? From this perspective the challenge of the ecological crisis is a challenge to human sense of identity.

The earth scholar Thomas Berry told me when I talked through these ideas with him, that different approaches may seem like a viable programmes

...but there's no talk about mutuality or learning to interact with other living things as part of a community. If we don't have a sense of community we won't have the psychic energy to carry it through. These ideas of natural capitalism will make demands on us, and we will be able to accept the demands only if we have a certain intimacy with the process that rewards us spiritually.

The challenge of education

Like many others I believe that modern western societies are caught in a conceptual trap that renders our accepted ways of understanding our world unequal to the task that the sustainability challenge offers. As Gregory Bateson said, we fall into errors of epistemology, so the most important task is to learn to think in new ways. Over four centuries we have refined and developed our ways of understanding the world based on a model of apparently value-free scientific knowing which has enabled us to do many things that have benefited humanity, and yet has failed adequately to make sense of the connection between humans and the planet that we rely on and are part of. Our mode of accepted understanding relies on the separation of mind from body and of person from place. We have created a culture in which it is taken for granted that worthwhile knowledge is held in disembodied minds, and that what is not known in that way is of secondary importance.

But, I would argue, the idea of sustainable living on a finite planet requires that we loosen our reliance on the rational thinking mode that has led us to treat our 'environment' as something 'other', a resource at our disposal to be mapped, controlled, exploited and consumed. In other words, we believe that the 'problem' of sustainability is partly a problem in the way we think.

As the ecological educator David Orr puts it

The disordering of ecological systems and of the great biogeochemical cycles of the earth reflects a prior disorder in the thought, perception, imagination, intellectual priorities, and loyalties inherent in the industrial mind. Ultimately, then, the ecological crisis concerns how we think and the institutions that purport to shape and refine the capacity to think.

Our educational institutions and practices must see their purpose not as training personnel for exploiting the Earth—and I am sure you would agree with me that this is what much educational debate is about—but as guiding students

toward an intimate relationship with the earth. As now functioning, education can be seen as preparing students for their role in extending human dominion over the natural world, not for intimate presence to the natural world.

One way of putting it is to remember that the universe is a community of subjects rather than a collection of objects, so that every encounter engages both an objective, physical presence, and a subjective, spiritual presence. This position is formally argued by panpsychic philosophy.

Another way to put it is quite simply, that we need to fall in love with the planet again

Education as Inquiry

How to do this. I have spent my professional life developing the theory and practice of action research, a practice of developing living knowledge in practice. I want to draw on my experience with education as inquiry from my work at the University of Bath, in particular the MSc in Responsibility and Business Practice to think about education as a practice of inquiry.

Our Masters programme was based on the premise that we don't know how to create responsible business in a global context, that this is a problem to be addressed with curiosity, creativity and bold action. My colleague Judi Marshall describes the challenge in developing education that is question-posing, critical and values-aware:

We also wanted to encourage participants to engage reflectively with challenging, controversial, multi-dimensional and potentially disturbing issues and, consequently, to help them think and act differently.

This poses, of course, some difficult educational challenges. Institutions of higher education in general and business schools in particular are places in which disembodied rational knowledge is generated and disseminated. Creating

a masters degree with the intention to move away from established and embedded ways of knowing in such a context is an exercise in paradox, or perhaps folly. Finding out how to stay inside this setting, with credibility and integrity for ourselves and for the participants who chose to join us, was one of the challenges we set ourselves.

This initiative did not come out of the nowhere. For all of us it was the culmination of a longer story, of rising concern for sustainability, of epistemological explorations, of pedagogical explorations in student-centred learning, and of building and working with feminist awareness. I want also to acknowledge the encouragement and support we received from Anita Roddick, now sadly departed, who was for us an inspirational figure. And developing the MSc was a further experiment in radical management education that we knew would require considerable learning as we went along; we knew broadly what we wanted to do, but not initially how to do it in practice.

The 'obvious' way that we could think to shape the course involved taking seriously Bateson's notion that *form* is a primary mode of communication, giving the context for meaning in which *content* is interpreted. We believed that delivering a conventional taught course, with content about sustainability, would be to negate the very communication of change that we wished to offer.

So the programme had to be an exploration. We envisaged we might, together with students, act our way into a different response to the challenge of sustainability, guided by a spirit of inquiry, drawing on a wide range of ways of knowing – experience, practice, presentation, emotion, embodiment, intuition - as well as thinking. We thought that in so doing we might meta-communicate something important about the human relationship with the more-than-human world. The course was therefore innovative in both content and educational process.

We expressed this idea in practice by making some specific educational choices:

- To ground the course in the disciplines of action research as a foundation for the course design and pedagogy
- To respect and work with multiple ways of knowing, respecting intuitive, experiential, presentational and practical ways of knowing alongside the rational and propositional. This meant using creative writing, psychodrama, gaming, artwork alongside the reading, lectures and discussion
- To seek to cultivate an 'attitude of inquiry' in both the format of the course and the way in which we worked with expert and other forms of knowledge
- To try and create an environment of participatory, collaborative learning
- To align our assessment practices with the course aims and approach

Action Research

- The form of the programme in cycles of action and reflection
- The conduct of each workshop as an inquiry into the topic, starting with defining the questions brought
- Teaching on action research methods and specific exercises in inquiry practice
- Using inquiry practices as teaching processes—open space, world café
- Staff as modelling inquiry moment to moment

Cultivating an attitude of inquiry:

- Curiosity: learning to ask good questions and commitment to a serious exploration of the implications of asking

- Worthwhile purposes: a continual inquiry into how to address competing values
- Humility: acknowledging the limits of what we know, and how our understanding is influenced by the perspective we bring
- Participation and understanding that we are embodied beings that are part of a social and ecological order, that we are radically interconnected with all other beings.
- Radical empiricism: always checking frames, assumptions, actions, against evidence in the widest sense of that evidence
- Uncertainty: Willingness to act in circumstances of radical uncertainty; Willingness to start from where one is without necessarily knowing where one is going.

Developing a participatory and collaborative learning

- Open days to present programme and its philosophy clearly
- Mutual selection
- Sitting in a circle; later world café arrangement
- Collaborative development of learning agenda
- Regular process and content reviews
- Process interventions:
 - making space for quieter people
 - moderating disputes and creating dialogue across difference

Aligning assessment with the course philosophy

- self selected essay topics demonstrating exploration
- qualitative assessment
- clear criteria: ideas/practice/inquiry/reflection

- learning groups

Design of programme

- Globalization and the new context of business
- New economics
- Ecology and sustainable development
- Sustainable corporate management
- Humanity and enterprise
- Corporate citizenship
- Diversity and difference in a global context
- Self and world futures

Workshop 3: Ecology and Sustainable Development

When we originally designed the programme, we were adamant that the programme, while clearly a business programme in a prestigious business school, should attend to questions of meaning, value, spirit, and in particular that students should be exposed to radical thinking about the nature of the planet Earth which is the originator of all human and non-human wealth. We wanted to explore deep ecology and Gaia theory, and, as far as it possible in the overcrowded British Isles, offer students a 'wilderness experience', an opportunity for a direct experience of the wildness of the natural world.

To this end we teamed up with colleagues at Schumacher College in Devon, and in particular with the resident ecologist Stephan Harding. Together we designed a week-long experience which includes lectures on deep ecology, Gaia theory and the state of the natural world, but where a lot of time is spent outside. We took participants on a night walk through woodland and spent an afternoon meditating by the River Dart. We summoned the Council for All Beings, the ceremony developed by John Seed and Joanna Macy in which participants come to the council circle to speak as the many diverse beings of their concern for the state of the world. And we spent one whole day in a hike along the upper reaches of the River Dart, along what must be one of the last

remaining stretches of wilderness in England. On this walk we leave the footpaths and scramble over rocks and under branches. We have to help each other through bogs and over torrential streams. And under Stephan's guidance we experiment with deep ecology exercises: imagining how the world that we sense is also sensing us; guiding each other in pairs on a blindfolded experience of the trees, rock, and mud; identifying with a being in the natural world and exploring through imaginative meditation how it is part of the cycles of Gaia.

Much of this will be familiar to you. But these activities were held within a process of co-operative inquiry, a form of action research, both as an aspect of our educational philosophy and to demonstrate and teach the model.

Co-operative inquiry is a form of action research in which participants engage in cycles of inquiry, working with four ways of knowing. *Experiential knowing* is through direct face-to-face encounter with a person, place or thing; it is knowing through empathy and resonance; *presentational knowing*, which grows out of experiential knowing, provides the first form of expression through story, drawing, sculpture, movement, dance, drawing on aesthetic imagery; *propositional knowing*, is 'knowledge about', expressed in concepts and ideas; and *practical knowing*, consummates the other forms of knowing in action in the world. The process of co-operative inquiry can be seen as cycling through four phases of reflection and action, in each of which a different way of knowing holds primacy.

The focus of inquiry is 'what is the experience of deep ecology?' and 'what activities and disciplines aid its development?' Within these broad questions individual participants are invited to develop their own specific questions as the week progresses. The propositional knowledge on which the inquiry is based is the ideas about deep ecology and Gaia theory offered by Stephan.

Starting with the night walk the evening we arrive at Schumacher College, participants are invited into the range of activities outlined above. As faculty we

have designed activities through which they can bracket their preconceptions and engage with the natural world in novel ways—to enter into relation with trees, to walk on the earth as a living being, to meditate with the River, to speak as a slug or as an oak tree...

The deep ecology workshop is designed with three cycles of inquiry: discussion of the philosophy of deep ecology followed by an afternoon in meditation with the River Dart; an introduction to Gaia theory and the state of the world followed by the Council for All Beings; and the day-long eco-walk down the River Dart with mini-talks and exercises. Each of these cycles of followed by a review in small groups, and on the final morning we meet as a whole group. Each person is given 'post-it' stickers and asked to write three answers to each of the two questions of the inquiry: 'what is the experience of deep ecology? And 'how do you get there?' Participants take it in turn to present their answers to the group, and to place their stickers on a wall chart, with the aim of clustering them into meaningful groups. This session was audio recorded and forms the basis of this article. This reporting session was an energetic affair, full of both laughter and tears.

Some outcomes

What is the experience of deep ecology?

- *The experience of deep ecology is a feeling of joy and awe at the beauty of the more-than-human world*
- *It is an appreciation of the delicate balance between chaos and order*
- *It is the acknowledgement of the interconnectedness of all living beings, including ourselves, in the endless cycles of the planet*
- *This acknowledgement leads to the direct identification of ourselves with other living beings and a redefinition of our place, no longer dominating nature but one equal part of it*
- *It is a sense of the consciousness of other living beings and the reciprocal relationship between us*
- *The experience is both of the moment and of eternity*
- *The experience is that of a spiritual quest to reconnect with our true human nature and break down the artificial barriers we have erected*
- *It is the feeling of home-coming*
- *It is the celebration of the creation*

One participant expressed a commonly held view: 'Before I came on this week I had my doubts because I always felt that I had an affinity with nature but was outside nature, not necessarily a part of it. Now I see we're all equal parts of the same earth, there's the interconnectedness of one big family'.

Another participant agreed: 'The essence of deep ecology is seeing yourself as a part not as an observer, and so moving from knowing truths to feeling truths. It is still seeing but it's also smelling, touching, feeling and sensing, getting the whole of yourself into it. What was really powerful for me was putting myself in the place of another being and looking at myself in the mirror'.

We spoke of our surprise and pleasure at this, that the more-than-human world was soft and sensual rather than painful and frightening as we are sometimes brought up to believe. But it was only through 'active, strenuous physical engagement' with the more-than-human world that these experiences were made possible, 'by fitting yourself into the nooks and crannies'. One group member spoke of the artificial barriers we erect between ourselves and the more-than-human world when she said: 'Walking along the river, particularly the clambering, reminded me how neat and tidy we are invited to keep ourselves and how we never exert ourselves or get dirty. There's all sort of things we don't do, which stop us making the connection to the bigger picture'.

One of my favorite responses was written in a later paper

The third week of the MSc, of which this paper is the culmination, took place at Schumacher College in Devon where we had a weeklong introduction to Deep Ecology. This consisted of classroom sessions on Gaia and Complexity Theory but primarily of time in the woods behind the college and along the river Dart. We spent longer than we normally would in the trees, sometimes at night, to encourage a sensual understanding of the local ecology, the rhythms of life and decay, the interdependency of species, the intrusions of humankind and the extraordinary complexity and beauty of it all. It was a very easy time for me and many of my fellow students reflected on a sense of comfort and of feeling at home at the end of our week. This is partly because Schumacher has a strong community ethos and a strict routine that has the effect of shrinking the world. However, this sense was primarily due to the attention we paid to our environment. Whether to a square foot of earth, or to the flow of water and carbon molecules from the Tors of Dartmoor down the river Dart to the sea, the practice of engagement created a connection with ecology that we rarely have time for.

Despite the unique quality of this week my key learning from this experience took place weeks later on seeing blossom on the trees that lined the streets of Islington as I walked back to the office from a meeting. I put together

the ideas of the complexity scientists (Capra, Goodwin) and my direct experiences of the river Dart to really understand the blossom as an expression of systemic intelligence, or as Gregory Bateson might have said an 'ecological mind'. As the weather got warmer in spring the blossom had appeared, connecting the tree to other species, insects, and to its environment in a way that was both an independent action of the tree and an interdependent function within its ecological context. I saw in this process ... the micro functions of cells as discreet entities that are open to outside influence or change. Influences that Bateson would call "ideas immanent in a network of causal pathways along which transforms of difference are conducted", data about what was going on and ideas about how to respond. It made sense to think of the blossoms as the manifestation of ideas about the spring carried to the cells at the tips of the branches. It also made sense to see the tree in the same light as the cell - as an entity open to external information that made it able to be a part of a larger system. I continued walking with a new sense of satisfaction in my relationship to with the world.

Intriguingly this encounter took place in London where I live in relation to a tree planted in a hole in the pavement. It was an experience sparked by our time in Devon but it felt much more relevant and poignant in the city.

That, it seems to be, is a deeply ecological understanding which combines experience, appreciation of beauty, with Gaian and systems ideas. It cannot come from reading alone, nor from just getting out in the wild