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M.A . Outdoor Education

Research Methods Reader

Ologies and Isms (2)

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Research from the Ground Up
POST-EXPEDITION ADJUSTMENT

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OCCASIONAL PAPERS 1

PART I

Considering Epistemology and Ontology

This section considers the foundations upon which research is based: our beliefs about reality and our beliefs about knowledge within that reality. These beliefs inevitably shape choices and actions within the world and more specifically within research. It is essential to understand some of this in order to effectively critique research findings and apply them to improve and / or justify practice.

What is epistemology? Epistemology fundamentally refers to the nature of knowledge. But what does this mean? It means questioning the sources of knowledge, the assumptions upon which it is based and therefore questioning what we 'do know' and 'can know'.

Ontology, a branch of metaphysics, is concerned with the nature of reality. As is discussed further below, this involves considering the filters through which we see and experience the world. Some consider reality to be out there waiting to be discovered, while others consider reality to be socially constructed. As we will see, differentiating between ontology and epistemology can become difficult at times.

At this point some readers may question the relevance of issues of epistemology and ontology. Some would say 'surely there are things that we know'. For example, we 'know' that the earth is round (not a perfect sphere, but fairly close). But it was not long ago that people thought that they 'knew' that the earth was flat. It is possible to question everything that we know or think we know. This is not particularly new, it has received the attention of many philosophers. One of these philosophers was Descartes (1591–1650) who, in his *Meditations on First Philosophy*, completed in 1641, questioned whether his senses were deceiving him or if he was actually experiencing the world. He set out to question everything and in doing so conjectured that there might be "...a certain genius which is extremely powerful, and, if I may say so, malicious, who employs all his powers in deceiving me?" (Chavez-Arviso, 1997, p.141). This is Descartes' demon who is always deceiving him, always deceiving the world which he senses and never lapsing in the

perfection of that deception. This is the first meditation of six in which he explains:

I shall then suppose, not that God who is supremely good and the fountain of truth, but some evil genius not less powerful than deceitful, has employed his whole energies in deceiving me; I shall consider that the heavens, the earth, colours, figures, sound, and all other external things are nought but the illusions and dreams of which this genius has availed himself in order to lay traps for my credulity.

(Chavez-Arviso, 1997, p.138)

For some this is a somewhat disturbing thought but Descartes, in his search for claims that were incontrovertibly true, came to the conclusion for which he is famous. He claimed that the only thing he could rely on was thinking, if he was thinking then he must be, hence:

... there is some deceiver or other, very powerful and very cunning, who ever employs his ingenuity in deceiving me. Then without doubt I exist also if he deceives me, to be nothing so long as I think that I am something. So that after having reflected well and carefully examined all things, we must come to the definite conclusion that this proposition: I am, I exist, is necessarily true each time that I pronounce it, or that I mentally conceive it.

(Chavez-Arviso, 1997, p.140)

This is Descartes' famous '*cogito ergo sum*' or 'I think therefore I am'.

So how shall we know? Can there ever be anything for sure other than thinking? Wittgenstein would probably answer that no, we can never 'know' anything. Rather, he says we can only 'believe' things. In his book *On Certainty* (1979) he argues that we should say that 'all evidence supports...' rather than 'I know that...'. One way of thinking about what we 'know' or 'believe' is to take a step back and consider the lens through which we see the world. We must consider our ontological vision, or put another way, we must consider the nature of reality as we see it. Surely the way in which we see the world will have an impact on what we believe we know. Given that each of us will view the world differently, we are all likely to possess different 'knowledge'. In considering research it is important to understand

how researchers view the world and, therefore, the 'knowledge base' from which they work. Having this background allows us to interpret and make useful that research. We can see that epistemology is closely connected to ontology, it becomes difficult to consider one without the other. Some consider the boundaries between the two to be increasingly blurred. This is illustrated in Table 1, where we see that positivist and post-positivist paradigms have a clear distinction between ontology and epistemology. However, as we move to critical theory and constructivism, the distinction is less clear, represented in the table by a dashed line.

Descartes was a rationalist, which means he emphasised the distinction between thinking (mind) and perceiving (senses). He was a founder of the rationalist approach which claimed that true knowledge comes through thinking about the world, by reason and logic, and that our sensory experiences of the world are subjective and flawed. Empiricists, such as Locke and Hume, see foundations of knowledge as experience based. Empiricism is the theory that sense experience is the source of knowledge and thus allows for no *a priori* knowledge. Both of these foundations of knowledge have come under increasing scrutiny over the last two decades (Errant, 1994, p.5). So much so that according to Phillips (1993, p.59):

It is now recognised that there is no absolutely secure starting point for knowledge; nothing is known with such certainty that all possibility of future revision is removed. All knowledge is tentative.

A third alternative to rationalist and empiricist epistemological foundations is an experiential approach. Classical physics was based on the separation of objective reality and subjective reality and used empirical and rational methods. In the early twentieth century the impossibility of this separation became clear, leading to dramatic epistemological and ontological shifts in physics. Parallel to this Dewey and the American pragmatists proposed that the only ultimate reality is experience. This truth is about what works rather than what is.

For some, considering the nature of knowledge and the nature of reality may seem like intellectual self-indulgence and of little practical use. To counter such charges, an example may be of use. If the ontological struggles that Descartes described are not worthy of consideration, then one could argue that the traditional approach to education is appropriate and nothing

else is required. By the 'traditional approach' I refer to didactic education which sees the learner as 'empty vessel' and the teacher's role is to fill it with knowledge. There is one truth and the teacher must transmit this truth to students. However, if Descartes' somewhat disturbing assumptions are correct then we can never 'know' the world that we live in, only experience images of it, or images that 'the demon' creates in front of us. The teacher is then no better placed to 'fill students with knowledge' than students are themselves. This means that the individual's experience and interpretation is central. Individuals, or learners, come to educational experiences with their own narratives (life stories) and perceptions, and interpret these experiences based on those narratives. It follows that an educator's role becomes that of facilitating access to learning environments and supporting the learner in their exploration, problem solving, growth and development. This description of the educator's role should, by now, have become very obviously familiar. So while Descartes' demon may seem improbable we can see how these philosophical considerations have profound implications for everyday practice at least in the field of education. Similar examples could demonstrate the implications of these philosophical considerations in other fields.

So how does all of this relate to research? As philosophers often remind us: an unconsidered life is not worth living; we must consider our own ontological visions and confront our epistemological preferences. These have huge influences on the way in which we interact with the world around us and on the way in which we conduct our professional lives, as the example above demonstrates regarding teachers and facilitators. In a similar vein, then, unconsidered research is not worth reading. As the 'information age' is now upon us the skills required of students and practitioners has changed. No longer are skills of accessing information so important – information is easy to access through multiple sources. What is now required is the skill to evaluate information, to look at it with a critical eye. Part of this is *the skill to interpret research findings and to understand the ontological and epistemological foundations upon which they rest.*

Ontology and epistemology have received much attention in the past and at this stage it is useful to outline a continuum which represents these discussions and provides a language with which to speak about ontological and epistemological concerns in research.

A Model for the Ontology and Epistemology Debates

Guba and Lincoln's (1994) work is helpful in that it provides a language and framework within which to consider current research approaches. While the following table may be difficult at first it is worth persevering with as it is widely accepted as a benchmark in many research circles.

Table 1 helps to outline the key features of four approaches to research. Across the top of the table are four research paradigms. These can be read as a historical progression in the field of research, although each approach continues to flourish in its own right. These approaches can be distinguished from one another on a number of issues. These issues are: inquiry aim, epistemology, ontology, and methodology. I have added a hypothetical example to help illuminate each approach. This allows for a comparison of the key features of each paradigm.

This is a commonly referred to continuum which provides a useful map and language. Positivism, on the left of the continuum, is the approach which many readers will be familiar with as it is perhaps the most traditional form of research. This approach assumes that reality is out there to be discovered. Post-positivism questions this view of reality, claiming that we can only determine what is probable, rather than what is 'fact'. Critical theory is concerned with the purpose of the research and its impact upon society. Constructivism focuses on the meaning that individuals and groups make of the world around them. Constructivism is the ontological vision that is claimed to be most prevalent in experiential learning *practice*, if not in the research in this field. Both Guba and Lincoln are dominant figures in qualitative research and tend towards the right half of the table (critical theory and constructivism). The importance of Guba and Lincoln's work to this paper is that it demonstrates that the world of research is far from unified in its beliefs, approaches and methodologies. Importantly, different approaches will have a significant impact on the type of 'results' that are gleaned from the research. It is important, then, to 'read' research results with an awareness of the researchers' particular approach, or research paradigm.

Paradigm Wars

Epistemology and ontology are intrinsically linked to values. Perhaps because of this, the research world can often seem to be divided into 'camps', each with their own set of beliefs, interests and concerns. Often

Issue	Positivism	Post-Positivism	Critical Theory	Constructivism
Inquiry Aim	Explanation, prediction and control.	Explanation, prediction and control.	Critique and transformation, restitution and emancipation.	Understanding the subjective meaning of the individual in its various constructions and reconstructions.
Ontology (Nature of Reality)	Naïve realism ¹ – there is a reality that we are able to apprehend: aims to determine what is there.	Critical realism – there is a reality but it is only imperfectly apprehendable and therefore predictable only in terms of probability.	Historical realism – virtual reality shaped by social, political, cultural, economic, ethnic and gender values; crystallised over time.	Relativism ² – reality is multiple and will be constructed differently by people depending on the meaning they make of their world.
Epistemology (Nature of Knowledge)	Dualist ³ / objectivist ⁴ ; findings are 'true'. Verified hypotheses are established as facts or laws.	Modified dualist / objectivist; Findings probably true. Non-falsified hypotheses are probable facts or laws.	Subjective, value-mediated findings which account for cultural and historical insights.	Transactional / subjectivist ⁵ ; created findings. Findings are read as significant when individuals' accounts of their reality converge.
Methodology	Experimental ⁶ / manipulative; verification of hypotheses, chiefly quantitative ⁷ methods.	Modified experimental / manipulative; falsification of hypotheses, may include qualitative ⁸ methods.	Methods seen as involving dialogue with participants as sources of information.	Hermeneutic ⁹ ; information fed back to participants for confirmation of correct interpretations.
Example: Self-concept and Outdoor Programmes	Pre-test, post-test, intervention group and control group. Find: Outdoor programmes enhance self-concept.	Pre-test, post-test, intervention group and control group. Find: Outdoor programmes can contribute to enhanced self-concept.	Ethnographic ¹⁰ , interviews and biographies. Find: Outdoor programmes can enhance self-concept in a way that contributes to social emancipation of historically disadvantaged groups.	Group interviews and focus groups. Find: Participants agreed that since participation in the outdoor programme their self-concept had improved, affecting most situations at home.

Table 1: Adapted from Tables 6.1 & 6.2, pages 109 & 112, Guba & Lincoln (1994).

1 Realism:	the view that the world exists independently of humans regardless of what humans believe or feel about various entities.
2 Relativism:	the view that beliefs, principles and values have no universality and are not timeless but only valid within the socio-historical-cultural context that they are expressed.
3 Dualist:	the view that reality is characterised by dichotomy, i.e. either/or choices.
4 Objectivist:	impartial judgement is determined by relevant factors and not influenced by irrelevant factors such as personal bias.
5 Subjectivist:	a theory which takes private experience to be the sole foundation of factual knowledge.
6 Experimental:	a procedure undertaken to test a hypothesis.
7 Quantitative:	concerned with measures such as size, weight, amount or number.
8 Qualitative:	concerned with understanding and explaining phenomenon in their natural setting.
9 Hermeneutic:	the art, skill or theory of understanding the significance of human actions, often through interaction and dialogue.
10 Ethnographic:	qualitative research that uses a form of analysis emphasising description and explanation rather than quantification and statistical analysis; often case studies.

these camps form around 'qualitative' or 'quantitative' methods. Qualitative researchers are more likely to struggle for legitimacy than quantitative researchers. Boyatzis (1997, p.vi) described qualitative methods as having "had a rough time gaining acceptance in the mainstream social and behavioural science research." He reasoned that some of this was caused by an incorrect impression that qualitative research did not have a rigorous framework such as that of quantitative methods (see Martens 1987, p.54). At the same time, qualitative researchers have levelled considerable criticism at quantitative research. This has become more the case in recent times when positivism has received the brunt of much unfair criticism and negativity (Ruddock & Hopkins, 1985). These criticisms and debates have led to seemingly endless polemics which are often referred to as paradigm wars (Miles & Huberman, 1994).

I have outlined an approach (Guba & Lincoln) which gives us a language to use with a shared understanding, at least to a certain degree. Polemics or 'paradigm wars' regarding which of these research paradigms is better continue but they are vacuous. The tensions and differences that are present between different research approaches are required in order to understand different aspects of different phenomena. Midgley's (1995, p.99) work is particularly useful here. She uses the metaphor of the Swiss Roll in which she describes slicing from different angles. If one cuts vertically then it reveals spirals but cutting horizontally reveals stripes, both of which are 'true' and equally 'valid findings'. Once the slicing angle of the knife is understood then it becomes possible to understand what would otherwise be contradictory findings. This example illustrates an important point: it helps us to appreciate and evaluate what we read, and consequently to think critically about the sources of knowledge. If outdoor education is the Swiss Roll and research the knife then we need to understand the 'slicing angle' of the research. Just as we attribute preferences and different values to articles in the newspaper based on reputation of the paper and the journalist, we must do the same with research articles.

At this point we must pause and ask if this 'just different perspectives' or a 'live and let live attitude' is good enough (also described by Pawson and Tilley [1997] as pluralism)? When I consider this question I am left wondering if I cannot reach a more concrete conclusion. Are there more and less accurate ways of 'knowing' the world and therefore more and less accurate research paradigms and methods? Deliberations have led me to

conclude that the answer to these questions with regard to experiential learning is yes, there are more and less appropriate research methods, depending on the question and the context in which the research is taking place. I am brought to think of Maslow's hammer and nail analogy: if the only tool we have is a hammer then we see everything as a nail. Midgley put it this way:

To become obsessed with a method for its own sake and try to use it where it is unsuitable is thoroughly unscientific. And the purpose of all *explanation* must be, ultimately, to illuminate the chaotic world with which we are actually surrounded. This is what we have to explain. [Emphasis as original].

(Midgley, 1995, p.103)

We still have to answer the question 'how can we understand the slicing angle of the knife with reference to experiential learning research'? I would like to suggest one way which I have found to be useful.

Thinking about Research in Experiential Learning

When I think about research in experiential learning I think about three categories (Allison 1999, p.74) which help to clarify my thoughts.

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| <i>Input</i> | The participants in programmes (e.g. youth at risk, corporate), the facilitators, and the context in which the programme takes place. These groupings can be broken down in to further sub-categories. |
| <i>Process</i> | Includes factors such as the various approaches used to working with the groups, the sequencing of events, the means utilised such as ropes courses, wilderness, drama, art and the resulting learning climate. Again, these areas can be broken into further sub-categories. |
| <i>Outcome</i> | The ends towards which the programme work, such as intrapersonal or interpersonal relationships, skills training, personal and organisational development. |

These three categories can be used as a framework for understanding the scope in this field and as a map for locating discussions and applications of research findings. We can see from the three categories that research can focus on any one or a combination of the areas. In doing so it will present a specific perspective on a specific situation. The number of combinations of input, process and outcome is staggering. The research itself adds another dimension. That is, there are many different ways to approach research in experiential learning.

From the above we can see how rich the vehicle of experiential learning is and how varied the relevant applications are. Why then do we tend to focus on a single research question 'Does it work?'. This seems to have been the desire, or perhaps requirement, of a great deal of research in the past. Ewert, among others, has drawn attention to this issue and comments that the above question:

...does not provide an understanding as to why it happened or how it can be made to happen again. Without the ability to explain how and why an outcome is realised, we lose our ability to predict that outcome in different situations or with different participants.

(Ewert, 1987, p.5)

Despite this there remains a focus on attempting to prove that experiential learning works. For example recent work by both Hattie *et al* (1997) and Neill & Richards (1998) attempts, through meta analysis, to prove the outcomes of outdoor education to be positive worldwide. The latter attempts to answer the question posed in the title *Does Outdoor Education Really Work?*. This work is not unimportant – it is likely to be of interest to a number of stakeholders, may increase our confidence in our work, or may justify programmes to external funders, enabling programmes to continue. However, research of this nature does little to help improve practice or understanding of the experiences of participants in programmes. More importantly they ask and attempt to answer an impossible question. By what criteria does one decide that a programme 'works', and who should determine that criteria anyway? What if participants report outcomes that they believe to be positive, but that do not match the success criteria? Does this mean that the programme is deemed unsuccessful? It could be argued that undertaking research of this nature is more damaging to the reputation

of the field of experiential learning than it is helpful. By focusing on a single, limited question, we could be seen to demonstrate a lack of understanding of the complexity and subtlety of the experiential learning field. Researchers who identify the 'does it work' question as the only research concern in the field of experiential learning undervalue and underestimate its potential and the multiple applications for which it can be used. Further, there are some ironies in trying to create these 'answers' to 'prove' the value of experiential education. If one of the aims of this field is to help learners make their own meaning of the world around them (that is, learn experientially), then how can we 'prove', in the traditional sense, that this is happening? And should this really be our focus anyway? Warner noted this irony when he eloquently commented that:

It is paradoxical that an education movement which places so much emphasis on learning as a process focuses its research efforts on documenting products.
(Warner, 1984, p.41)

Warner's insightful comment highlights the need for a different research paradigm.

So, if we do not ask 'does it work?' then what do we ask? I would like to suggest that we ask questions such as 'what processes are at work in this situation?' or 'what is the nature of the participants' experiences?' These questions shift concerns to 'understanding' or *verstehen* of what is occurring. *Verstehen* is a German word which is typically taken to mean understanding the point of view – the subjective meaning – of the other person (Holloway 1997, p.163). If we choose to change the approach we take to research and shift the focus of the questions that we ask (epistemological shift) then we are trying to understand reality in a different way (ontological shift). My stance is that this shift needs to take place in order to do justice to the work that is carried out in the field of experiential learning. This shift will involve a number of changes, which are listed below in no specific order.

- Further developing a common language with regard to experiential learning in order to describe the various aspects of the field, such as those which can be identified using the three categories described earlier in this article. (For example, the Association for Experiential

Education recently developed a 'DEEP initiative'. DEEP is an acronym for definition, ethics and exemplary practices. This initiative has resulted in guidelines for practice with regard to ethical issues in experience-based training and development).

- Re-conceptualising the purpose of research from 'proving hypotheses' to 'developing understanding'.
- Collaborating with all stakeholders of research in an attempt to help them to understand the complexity and inevitable uncertainty involved when working with individuals and groups utilising experiential techniques.
- Using research to make appropriate generalisations which will then impact on practice. The topic of generalisability in many research circles receives a great deal of attention. In the social sciences one useful author is Stake (1995, p.20) who identified three types of generalisation. Petite generalisations can be made from one case study to very similar cases. Grand generalisations are applied to a number of different settings in a more traditional 'law like manner'. Naturalistic generalisations are made by the reader as the author creates a vicarious experience for the reader. That is, the reader interprets the research, determining the extent to which it relates to and informs his or her own situation. This experience remains in the realm of the reader's private knowledge as it is understood in its complexity as the numerous factors involved are acknowledged.
- Including what Schofield (1993) calls a 'thick description' in research articles. This is crucial in order to allow the reader to make the different types of generalisations identified above. Thick descriptions are used to paint as accurate a picture as is possible of the socio-cultural historical context, to describe aspects such as the aims and objectives, the environmental factors, the group dynamics and the background of the participants. This allows readers to decide how relevant or useful the work is to their own circumstances.

We pride ourselves on learner-centred practice and then engage in research that treats the learner as a 'subject for study' and ignores their accounts of their experiences. Earlier I made the point that, although there are different ways of knowing, there are more or less appropriate ways of knowing a particular phenomenon. In the field of experiential learning, it may be more appropriate to employ a constructivist epistemology. This approach embraces a broader range of research questions, moving away from the singular, limited question 'does it work?'. A constructivist epistemology typically utilises approaches such as ethnography, case studies, biographies and phenomenology in order to develop understanding,

(Barratt & Greenaway, 1995, p.54)

...there is a desperate need for new research which focuses on young people themselves. Young people's accounts of their outdoor adventure experiences and their views about what most influenced their learning and development are almost entirely absent from the literature assessed in this review. Yet such information is essential.

Conclusion: The Epistemological Shift?

We have seen that there are ontological and epistemological issues which impact preferences for qualitative and quantitative methods. In doing so I suggest that we need to reconsider the way we understand and research experiential learning. This has led us to consider paradigm wars and to think about different types of research questions to ask. I have suggested that we ask a different question and outlined some of the implications of doing so. What I have suggested is that a shift in epistemological paradigm is required. Most experiential learning professionals pride themselves on the centrality of the learner in experiences which they facilitate. That is to say that they subscribe to a constructivist epistemological vision. However, it appears that an incongruent epistemology is often employed in research in this field. It is an outcome-focused, objective epistemology which tends not to complement the subjective nature of experiences. Somehow the experiences of individuals that are so central to our work are lost when it comes to research. Barratt and Greenaway in their review of research, recognise this and call for further research into the experiences of individuals:

or *verstehen*, of experiences. These experiences are necessarily subjective and are owned by, or belong to, the individual and the collective group.

Patterson *et al* (1998) made a similar point when they undertook a study which aimed to describe people's wilderness experiences. In doing so they utilised a hermeneutic approach which enabled them to "...represent a detailed understanding of individuals rather than an aggregate characterisation of some non-existing average individual" and to represent "... a possible type of experience in relation to the context of the setting rather than a statistically generalisable, law-like result" (p.430). While this type of work does not provide us with the kind of statistical 'facts' that many find to be reassuring, it may prove to be more useful and relevant to practitioners in the field as it offers increased understanding.

Surely understanding our work is a pre-requisite for improving it? I have argued that we need to explore different research paradigms and change the nature of our inquiry in order to understand the complex processes involved in experiential learning. Only by doing this will we be able to better understand and therefore improve the practice of experiential learning.

Part II of the paper provides an example of the type of research I have been advocating in this section. It is an example of qualitative constructivist research. It provides a description of the context within which the research takes place and then explores post-expedition adjustment in more detail. The purpose of this has not been to present 'seamless research' but to highlight the complexity of generalisability issues and to provide an alternative way of collecting information, which requires an element of interpretation.

Clear learning objectives

Focus on The outdoors		Focus on people
Skills Development Cognitivist – Trainer structures content of the learning activity to empower learners towards their own understanding of the matter in hand.	Clear-Objectives Human Development Behaviourist – Skinner's model applies in that we are encouraging people - via frontloading, clever design and selective review – to learn what <u>we</u> want them to learn	Emergent, developmental learning: Cognitive / humanist – Reminiscent of Carl Rogers in that the facilitator adopts an almost counselling-based approach, seeking to set up conditions in which learners explore their emerging insights, and co-construct learning agendas from them
Fun-focussed outdoor Activity Either no model (no learning sought) or sometimes an emergent community of practice as people bond through experience. This is certainly true of many, for example, summer camps.		Unclear /emergent learning objectives

The Case for Qualitative Research

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Debates regarding research methods in the social sciences are linked directly to assumptions about ontology, epistemology, and human nature. After reviewing a range of positions relating to these assumptions, we argue that the dichotomy between quantitative and qualitative methods is a rough and oversimplified one. Contemporary social science is dominated by commitments to research methods almost as ends in themselves, resulting in abstracted modes of empiricism based on both quantitative and qualitative methods. Qualitative research is an approach rather than a particular set of techniques, and its appropriateness derives from the nature of the social phenomena to be explored.

In recent years there has been growing concern regarding the longstanding debate on the adequacy of research methods in the social sciences. In particular, methods derived from the natural sciences have come to be seen as increasingly unsatisfactory as a basis for social research, and systematic attention has been devoted to a search for effective alternatives. This attention was recently highlighted in a special issue of *Administrative Science Quarterly* [December 1979], considering research based on so-called qualitative methods within the field of organization theory. In reaction against the way, in which organizational research of the 1960s and 1970s has been dominated by the use of quantitative methods, it now seems that a call is being raised in favor of qualitative methods.

While there can be little doubt that a more balanced approach to research in organization theory is required, there are many problems involved in the choice of a method that current debates have failed to explore. In particular, there has been a failure to examine the important relationship between theory and method. There has been a tendency to argue the case for different methods almost as ends in themselves, abstracted from the wider issues that they are ostensibly designed to examine. Whereas the 1960s and 1970s have been dominated by an abstracted empiricism based on the use of quantitative methods,

the threat now is that the 1980s may be dominated by a pendulum swing to an abstracted empiricism based on qualitative methods. There is a danger that one kind of abstracted empiricism will be replaced by another.

In this article, we seek to offset this possibility by exploring the core assumptions that underlie the arguments in favor of different methods. Our basic thesis is that the case for any research method, whether qualitative or quantitative (in any case, a somewhat crude and oversimplified dichotomization) cannot be considered or presented in the abstract, because the choice and adequacy of a method embodies a variety of assumptions regarding the nature of knowledge and the methods through which that knowledge can be obtained, as well as a set of root assumptions about the nature of the phenomena to be investigated. Our aim is to examine the issues relating to methodology within this wider and deeper context, and in so doing develop a framework within which debates about rival methods in social science might be fruitfully and constructively considered.

We take our lead in this endeavor from the scheme of analysis offered by Burrell and Morgan [1979], which suggests that all approaches to social science are based on interrelated sets of assumptions regarding ontology, human nature, and epistemology. Table 1 provides a general overview of the relationships between ontology,

human nature, epistemology, and methodology in contemporary social science. In order to simplify presentation, and make this article of manageable length, we shall restrict our attention to what Burrell and Morgan have described as the Interpretive and Functionalist paradigms. The social thought embraced by these two paradigms raises a number of important research issues, but they are wedded to ideological perspectives that overplay the tendency to spontaneous order and regulation in social affairs, while ignoring modes of domination, conflict, and radical change. This is a serious omission. A full discussion and critique of contemporary research practice should also consider perspectives characteristic of the Radical Humanist and Radical Structuralist paradigms, within which the qualitative/quantitative research issue would be regarded as an ideological debate of minor significance. With this qualification in mind, we shall now seek to show how assumptions about ontology and human nature, which provide the grounds of social theorizing, are captured metaphorically in ways that define different epistemological and methodological positions. The quantitative/qualitative debate has arisen on

the basis of these competing assumptions—which, for the most part, have gone unchallenged.

Assumptions about Ontology And Human Nature

The assumptions about ontology and human nature sketched out in Table 2 amplify the brief descriptions provided in Table 1. In essence, they are intended to provide a rough typology for thinking about the various views that different social scientists hold about human beings and their world. All the views have a distinguished history, are the products of long discussion and debate by their advocates, and their basic ideas are manifested in powerful kinds of social thought. Each has evolved in awareness of the existence of the other points of view, and indeed has to some extent developed in reaction to competing perspectives. As Table 2 seeks to show, most have left their mark on contemporary organization theory, although the influence of approaches represented by positions on the right-hand side of the continuum have been dominant. The transition from

Table 1
Network of Basic Assumptions Characterizing
The Subjective—Objective Debate within Social Science

	Subjectivist Approaches to Social Science					Objectivist Approaches to Social Science
Core Ontological Assumptions	reality as a projection of human imagination	reality as a social construction	reality as a realm of symbolic discourse	reality as a contextual field of information	reality as a concrete process	reality as a concrete structure
Assumptions About Human Nature	man as pure spirit, consciousness, being	man as a social constructor, the symbol creator	man as an actor, the symbol user	man as an information processor	man as an adaptor	man as a respondent
Basic Epistemological Stance	to obtain phenomenological insight, revelation	to understand how social reality is created	to understand patterns of symbolic discourse	to map contexts	to study systems, process, change	to construct a positivist science
Some Favored Metaphors	transcendental	language game, accomplishment, text	theater, culture	cybernetic	organism	machine
Research Methods	exploration of pure subjectivity	hermeneutics	symbolic analysis	contextual analysis of Gestalten	historical analysis	lab experiments, surveys

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Objectivist Approaches to Social Science

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surveys

one perspective to another must be seen as a gradual one, and it is often the case that the advocates of any given position may attempt to incorporate insights from others. Consequently, the success of efforts to determine who advocates what may be limited to determining the relative emphasis an advocate gives to one or more adjacent positions. Much time could be spent engaged in this particular sport, but that is not the major objective here. The point is that the scheme provides a useful way for thinking about the kind of assumptions that underlie continuing research and debate within the social sciences, and the thorny problems regarding epistemological and methodological adequacy.

Problems of Epistemology

The different assumptions regarding ontology and human nature pose interesting problems of epistemology. The different world views they reflect imply different grounds for knowledge about the social world. As we pass from assumption to assumption along the subjective-objective continuum, the nature of what constitutes adequate knowledge changes. To take the extremes of the continuum by way of illustration, an objectivist view of the social world as a concrete structure encourages an epistemological stance that emphasizes the importance of studying the nature of relationships among the elements constituting that structure. Knowledge of the social world from this point of view implies a need to understand and map out the social structure, and gives rise to the epistemology of positivism, with an emphasis on the empirical analysis of concrete relationships in an external social world. It encourages a concern for an "objective" form of knowledge that specifies the precise nature of laws, regularities, and relationships among phenomena measured in terms of social "facts" [Pugh & Hickson, 1976a, 1976b; Skinner, 1953, 1957].

At the other end of the continuum, the highly subjectivist view of reality as a projection of individual imagination would dispute the positivist grounds of knowledge in favor of an epistemology that emphasizes the importance of understanding the processes through which human beings concretize their relationship to their world. This phenomenologically oriented perspective challenges the idea that there can be any form of "ob-

jective" knowledge that can be specified and transmitted in a tangible form, because the knowledge thus created is often no more than an expression of the manner in which the scientist as a human being has arbitrarily imposed a personal frame of reference on the world, which is mistakenly perceived as lying in an external and separate realm [Husserl, 1962]. The grounds for knowledge in each of these perspectives are different because the fundamental conceptions of social reality to which the proponents of each position subscribe are poles apart.

Science As Metaphor

We thus encounter a fundamental issue that has attracted the attention of social philosophers for many centuries. It is the issue of whether or not human beings can ever achieve any form of knowledge that is independent of their own subjective construction, since they are the agents through which knowledge is perceived or experienced. A strong case can be made for the view that science of all kinds, whether nominalist or realist in its basic orientation, is primarily metaphorical [Brown, 1977; Morgan, 1980; Schon, 1963]. It is through the use of metaphor that scientists seek to create knowledge about the world. The metaphors that theorists choose as a basis for detailed theorizing usually derive from very fundamental, and often implicit, core assumptions about ontology and human nature. In selecting different metaphors for elaborating their theories, they implicitly commit themselves to an epistemological position emphasizing particular kinds and forms of knowledge. Debates about epistemology hinge largely on the advocacy of different kinds of metaphoric insight as a means of capturing the nature of the social world. It is worth examining this point in detail.

Reality as a concrete process As we proceed from right to left along the subjective-objective continuum illustrated in the two tables, the epistemology of extreme positivism, derived from a mechanical conception of the universe as a closed structure, gives way to an epistemology emphasizing the need to understand process and change. It is a change in epistemology that reflects a move away from a conception of the world as a machine, or closed system, to a conception of the world as an organism, an open system. The meta-

Table 2
Assumptions About Ontology and Human Nature

SUBJECTIVE APPROACHES ←

	Reality as a Projection of Human Imagination	Reality as a Social Construction	Reality as Symbolic Discourse
CORE ONTOLOGICAL ASSUMPTIONS	The social world and what passes as "reality" is a projection of individual consciousness; it is an act of creative imagination and of dubious intersubjective status. This extreme position, commonly known as solipsism, asserts that there may be nothing outside oneself: one's mind is one's world. Certain transcendental approaches to phenomenology assert a reality in consciousness, the manifestation of a phenomenal world, but not necessarily accessible to understanding in the course of everyday affairs. Reality in this sense is masked by those human processes which judge and interpret the phenomenon in consciousness prior to a full understanding of the structure of meaning it expresses. Thus the nature of the phenomenal world may be accessible to the human being only through consciously phenomenological modes of insight.	The social world is a continuous process, created afresh in each encounter of everyday life as individuals impose themselves on their world to establish a realm of meaningful definition. They do so through the medium of language, labels, actions, and routines, which constitute symbolic modes of being in the world. Social reality is embedded in the nature and use of these modes of symbolic action. The realm of social affairs thus has no concrete status of any kind; it is a symbolic construction. Symbolic modes of being in the world, such as through the use of language, may result in the development of shared, but multiple realities, the status of which is fleeting, confined only to those moments in which they are actively constructed and sustained.	The social world is a pattern of symbolic relationships and meanings sustained through a process of human action and interaction. Although a certain degree of continuity is preserved through the operation of rule-like activities that define a particular social milieu, the pattern is always open to reaffirmation or change through the interpretations and actions of individual members. The fundamental character of the social world is embedded in the network of subjective meanings that sustain the rule-like actions that lend it enduring form. Reality rests not in the rule or in rule-following, but in the system of meaningful action that renders itself to an external observer as rule-like.
ASSUMPTIONS ABOUT HUMAN NATURE	Humans as Transcendental Beings Humans are viewed as intentional beings, directing their psychic energy and experience in ways that constitute the world in a meaningful, intentional form. There are realms of being, and realms of reality, constituted through different kinds of founding acts, stemming from a form of transcendental consciousness. Human beings shape the world within the realm of their own immediate experience.	Humans Create Their Realities Human beings create their realities in the most fundamental ways, in an attempt to make their world intelligible to themselves and to others. They are not simply actors interpreting their situations in meaningful ways, for there are no situations other than those which individuals bring into being through their own creative activity. Individuals may work together to create a shared reality, but that reality is still a subjective construction capable of disappearing the moment its members cease to sustain it as such. Reality appears as real to individuals because of human acts of conscious or unwitting collusion.	Humans as Social Actors Human beings are social actors interpreting their milieu and orienting their actions in ways that are meaningful to them. In this process they utilize language, labels, routines for impression management, and other modes of culturally specific action. In so doing they contribute to the enactment of a reality; human beings live in a world of symbolic significance, interpreting and enacting a meaningful relationship with that world. Humans are actors with the capacity to interpret, modify, and sometimes create the scripts that they play upon life's stage.
SOME EXAMPLES OF RESEARCH	Phenomenology	Ethnomethodology	Social Action Theory

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them. As Geertz has noted in relation to ethnography:

From one point of view, that of the textbook, doing ethnography is establishing rapport, selecting informants, transcribing texts, taking genealogies, mapping fields, keeping a diary, and so on. But it is not these things, techniques, and received procedures that define the enterprise. What defines it is the kind of intellectual effort it is [1973, p. 6].

The virtues of techniques and methods cannot be determined and categorized in the abstract, because their precise nature and significance is shaped within the context of the assumptions on which the social scientist acts. It is for this reason that our presentation of methodological perspectives in Table 1, and in the above discussion, seeks to highlight broad differences in methodological approach rather than the place of specific techniques.

The range of possible approaches to qualitative research indicates clearly that the dichotomization between quantitative and qualitative methods is a rough and oversimplified one. Qualitative research stands for an approach rather than a particular set of techniques, and its appropriateness—like that of quantitative research—is contingent on the nature of the phenomena to be studied. Our analysis affirms the need for a more reflexive approach to understanding the nature of social research, with a focus on the way in which favored techniques are often linked to underlying assumptions. It emphasizes a need to approach discussions of methodology in a way that highlights the vital link between theory and method—between the world view to which the researcher subscribes, the type of research question posed, and the technique that is to be adopted as a basis for research. All these issues are related in the most fundamental of ways.

A preoccupation with methods on their own account obscures the link between the assumptions that the researcher holds and the overall research

effort, giving the illusion that it is the methods themselves, rather than the orientations of the human researcher, that generate particular forms of knowledge. The development of organization theory, like other social science disciplines, would be better served if researchers were more explicit about the nature of the beliefs they bring to their subject of study. Much of the debate and criticism over methodology involves researchers who are failing to communicate with one another because they hold varying basic assumptions about their subject. When the varying assumptions become explicit, less effort can be devoted to arguing about the relative superiority of this method over that, and greater effort devoted to more basic issues.

Everything that has been said here points to a neglected feature of *all* social research—that it is based on implicit and largely untested ground assumptions. All the ontological positions and views of human nature considered in this article offer plausible, or at least useful, insights with regard to the nature of the social world. Indeed, it is the fact that they do that accounts for their presence and robustness within contemporary social science. The really important methodological issues revolve around the problems of testing the grounds of these rival views. For the most part, social scientists have been so concerned with generating research that articulates a view of the world consistent with their underlying assumptions that the more fundamental need to test these assumptions has passed almost unobserved. Here rests the main challenge of our analysis. We are calling for a focus of attention on the ground assumptions of social theory and research in order to transcend the abstract debate about methodology on its own account and the abstracted forms of empiricism, both qualitative and quantitative, that dominate the contemporary scene.

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NATURALISTIC INQUIRY

*Don't think you
g. If you think
v novel, find a
If you do like*

rn Discomfort

Yvonna S. Lincoln
Egon G. Guba

1985



SAGE Publications

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Newbury Park London New Delhi

1

Postpositivism and the Naturalist Paradigm

And as we think, so do we act.

(Schwartz and Ogilvy, 1979)

PARADIGMS AND PARADIGM ERAS

The history of humankind is replete with instances of attempts to understand the world. Our curiosity has been directed at the same fundamental questions throughout time; our progress as inquirers can be charted by noting the various efforts made to deal with those questions. What is the world? How can we come to know it? How can we control it for our purposes? What is, after all, the *truth* about these matters?

The concept of truth is an elusive one. Julianne Ford, in her delightfully whimsical book, *Paradigms and Fairy Tales* (1975), asserts that the term *truth* may have four different meanings, which she symbolizes as Truth₁, Truth₂, Truth₃, and Truth₄. Truth₁ is the familiar *empirical* truth of the scientist; a claim in the form of hypothesis or predicate (an affirmation or denial of something) is T₁ if it is consistent with "nature" (or, in Ford's own language, "preserves the appearances."¹) Truth₂ is *logical* truth; a claim (hypothesis or predicate) is T₂ if it is logically or mathematically consistent with some other claim known to be true (in the T₂ sense) or ultimately with some basic belief taken to be T₁ (to which we shall return in a moment). Truth₃ is *ethical* truth; a claim is T₃ if the person who asserts it is acting in conformity with moral or professional standards of conduct.²

Truth₄, with which we are most concerned here, may be called *metaphysical* truth. Unlike the case of a claim's being T₂, T₃, or T₄, a claim that is said to be T₁ cannot be tested for truthfulness against some external norm such as correspondence with nature, logical deducibility, or professional standards of conduct. Metaphysical beliefs must be accepted at face value; as Aristotle knew (Reese, 1980, p. 70) and Ford affirms, basic beliefs can never be proven T₄—in conformity with

nature—or False₁. They represent the ultimate benchmarks against which *everything else* is tested, for if there were something more fundamental against which a test might be made, then that more fundamental entity would become *the* basic belief whose truth (T₁) must be taken for granted.

Now certain *sets* of such basic or metaphysical beliefs are sometimes constituted into a *system of ideas* that “either give us some judgment about the nature of reality, or a reason why we must be content with knowing something less than the nature of reality, along with a method for taking hold of whatever can be known” (Reese, 1980, p. 352). We shall call such a systematic set of beliefs, together with their accompanying methods, a *paradigm*.³

Paradigms represent a distillation of what we *think* about the world (but cannot prove). Our actions in the world, including actions that we take as inquirers, cannot occur without reference to those paradigms: “As we think, so do we act.” But, while paradigms are thus enabling, they are also constraining:

A paradigm is a world view, a general perspective, a way of breaking down the complexity of the real world. As such, paradigms are deeply embedded in the socialization of adherents and practitioners: paradigms tell them what is important, legitimate, and reasonable. Paradigms are also normative, telling the practitioner what to do without the necessity of long existential or epistemological consideration. But it is this aspect of paradigms that constitutes both their strength and their weakness—their strength in that it makes action possible, their weakness in that the very reason for action is hidden in the unquestioned assumptions of the paradigm. (Patton, 1978, p. 203)

It is the authors' posture that inquiry, whether in the physical or social sciences, has passed through a number of “paradigm eras,” periods in which certain sets of basic beliefs guided inquiry in quite different ways. We shall briefly describe these periods as prepositivist, positivist, and postpositivist, and show that each period had its own unique set of “basic beliefs” or metaphysical principles in which its adherents believed and upon which they acted. We shall take the position that the positivist posture, while discredited by vanguard thinkers in every known discipline, continues to this day to guide the efforts of practitioners of inquiry, particularly in the social or human sciences. Further, we shall argue that, since these methods are based on metaphysical principles that are dissonant with the principles guiding the vanguard development of substantive (discipline) thought, it is imperative that inquiry itself be shifted from a positivist to a postpositivist

stance. *For, if a new paradigm of thought and belief is emerging, it is necessary to construct a parallel new paradigm of inquiry.*

SOME CAVEATS

In discussing the eras through which paradigms have passed, it will be easy to assume that there exists somewhere *the* paradigm that past efforts at paradigm formation have approximated more and more closely. If science could successfully converge onto that paradigm, then it could quickly tease out its consequences, test them in the empirical world, and come, finally, to "true" understanding. A study of the history of science might be very important if we are to achieve an understanding of those successive approximations; it might be asserted, as Barnes suggests, that "the subject matter of the historian of science can only be demarcated by recognizing what it is in the past that exhibits causal continuity with present science" (cited in Hesse, 1980, p. 47). But, as Hesse (1980, pp. 4-5) points out:

The present is in this crude sense the standard of truth and rationality for the past, and gives the inductivist historian grounds for the reconstruction of past arguments according to an acceptably inductive structure, and for judging past theories as simply false and often ridiculous. *Such inductive history is of course, among its other defects, self-defeating, because if all theories are dangerous and likely to be superseded, so are the present theories in terms of which the inductivist judges the past.* (emphasis added)

We may draw from these remarks the following caveat: Since all theories and other leading ideas of scientific history have, so far, been shown to be false and unacceptable, so surely will any theories that we expound today. This insight induces a certain degree of humility in claims for the "ultimate truth" (T_1) of anything that is asserted here. This book should therefore be regarded not as an attempt to make ultimately true (and modern) pronouncements, but as an effort to mark our place along the path of understanding—a path that unfortunately is never ending. We are not setting forth a new orthodoxy; instead, we aim to make it a little more difficult to hold onto the old.

A second caveat is that theories, whether scientific or otherwise, are remarkably immune to change; hence one cannot expect an easy time of it when proposing something as radical as a paradigm revision. Theories are, to borrow a term from modern organization theory, "loosely coupled" (Weick, 1976.) There is, as Hesse (1980) suggests, a "many-to-one" relation between theoretical and practical facts; it

is possible to fit many different idealizations (theoretical facts) to a single practical fact:

Many conflicting networks may more or less fit the same facts, and which one is adopted must depend on criteria other than the facts: criteria involving simplicity, coherence with other parts of science, and so on. Quine, as is well known, has drawn this conclusion explicitly in the strong sense of claiming that any statement can be maintained true in the face of any evidence: "Any statement can be held true come what may, if we make drastic enough adjustments elsewhere in the system." (Hesse, 1980, p. 86)

Thus the loosely coupled nature of theories makes it possible for scientists to squirm mightily before giving up a theory (or a paradigm). Any conflicting fact can be accommodated by making adjustments elsewhere in the system.

Along the same lines, Wimsatt (1981, p. 134) has noted what he terms the "robustness" of prevailing theories, a robustness, he claims, that derives from the fact that portions of theory are "walled off from" (loosely coupled to) one another:

The thing that is remarkable about scientific theories is that the inconsistencies are walled off and do not appear to affect the theory other than very locally When an inconsistency occurs, results which depend on one or more of the contradictory assumptions are infirmed. This infection is transitive; it passes to things that depend on these results, and to their logical descendants, like a string of dominos—until we reach something that has independent support. The independent support of an assumption sustains it, and the collapse propagates no further. If all deductive or inferential paths leading to a contradiction pass through robust results, the collapse is bounded within them, and the inconsistencies are walled off from the rest of the network. For each robust result, one of its modes of support is destroyed; but it has others, and therefore the collapse goes no further.

Thus the failure of a paradigm to be fully coherent, that is, entirely internally consistent,⁴ can also be one of its chief defenses against challenge. As paradigms are assaulted by "facts" that do not fit, the facts can be walled off—a possibility only because the paradigm is loosely coupled. Further, even those elements of the paradigm that are most affected by the conflicting facts may be supported in independent ways—a fact that could not obtain if the paradigm were completely coherent. The result of this state of affairs is that it becomes possible for adherents of the paradigm to resist stoutly, even if at times irrationally, the efforts of others to replace it. Making it even a little

more difficult to hold onto the old paradigm may itself turn out to be an enormously difficult task, not one to be taken on by the fainthearted!

THE PREPOSITIVIST ERA

Of the three "paradigm eras," the prepositivist is both the longest and the least interesting from a modern perspective; indeed, its lack of provocative acts and ideas is best illustrated by its very title—*prepositivist*. This era is simply a precursor to the more exciting period that followed. It ranges over a period of more than two millennia, roughly speaking, from the time of Aristotle (384-322 B.C.) to that of (but not including) David Hume (1711-1776). One might expect that "science" would have made enormous strides over such a long period, but it did not, largely because Aristotle (and many other prepositivists) took the stance of "passive observer" (Wolf, 1981). What there was in "physis," Aristotle argued, occurred "naturally." Attempts by humans to learn about nature were interventionist and unnatural, and so distorted what was learned. Wolf (1981, p. 22) comments:

Aristotle believed in natural motion. Humans' interference produced discontinuous and unnatural movements. And, to Aristotle, such movements were not God's way. For example, Aristotle envisioned the idea of "force." The heavy cart being drawn along the road by the horse is an unnatural movement. That is why the horse is struggling so. That is why the motion is so jerky and uneven. The horse must exert a "force" to get the cart moving. The horse must continue to exert a "force" to keep the cart moving. As soon as the horse stops pulling, it stops exerting a "force" on the cart. Consequently, the cart comes to its natural place, which is at rest on the road.

Aristotle's mind was broad ranging enough to touch virtually every conceptual problem imaginable at his time. Not the least of these problem areas was that of logic. Aristotle contributed two principles, commonly known as the Law of Contradiction (which states that no proposition can be both true and false at the same time) and the Law of the Excluded Middle (which holds that every proposition must be either true or false), which, when applied to noninterventionist or passive observations, seemed sufficient to generate the entire gamut of scientific understandings that were needed (Mitroff and Kilmann, 1978). Wolf further observes:

Within the world of the mind, these thoughts occurred thousands of years ago. Scientists were passive then. It would take a while before

they would attempt to reach out and touch, to try ideas and see if they worked. (p. 23)

When scientists did begin to reach out and touch, to try ideas and see if they worked, in short, when they became *active* observers, science passed into the positivist period. The movement was slow; Isaac Newton (1642-1727) is said to have commented that "if I have seen further, it is because I have stood on the shoulders of giants." But the number of giants was exceedingly small. Only a few workers had emerged who went beyond Aristotelian science, and it is useful to observe that they also came from essentially noninterventionist fields: three astronomers (Copernicus, 1473-1543; Galileo, 1564-1642; Kepler, 1571-1630) and a logician/mathematician (Descartes, 1596-1650). Further, their work did little to challenge the prevailing paradigm of inquiry, however much it may have exercised established religion. It did, however, pave the way for that challenge.

THE POSITIVIST ERA

Positivism may be defined as "a family of philosophies characterized by an extremely positive evaluation of science and scientific method" (Reese, 1980, p. 450). Indeed, its early adherents saw in this movement the potential for the reform of such diverse areas as ethics, religion, and politics, in addition to philosophy, to which field it finally became confined. As a philosophy, the movement began early in the nineteenth century, primarily in France and Germany; its most powerful advocates in the twentieth century were formed into a group known as the Vienna Circle of Logical Positivists, which included philosophers and scientists such as Gustav Bergman, Rudolf Carnap, Philipp Frank, Hans Hahn, Otto Neurath, and Moritz Schlick, the last having founded the group. Schlick held an endowed chair at the University of Vienna that had been established in the memory of Ernest Mach, an extreme advocate of operationalism,⁵ whose ideas the group proposed to promulgate.

But positivism had its major impact not in reforming ethics, religion, and politics, or even philosophy, but scientific method. The concepts of positivism provided a new rationale for the doing of science that amounted to a literal paradigm revolution, although that revolution took place so slowly and was so imperfectly perceived by even the major actors caught up in it that its revolutionary character was never appreciated. If it is difficult for a fish to understand water because it has spent all of its life in it, so is it difficult for scientists—and

prepositivist scientists were no exception—to understand what their basic axioms or assumptions might be and what impact those axioms and assumptions have upon everyday thinking and lifestyle.

Given this slow and little-understood change, it is not surprising that different scientists and philosophers would have somewhat different views of just what positivism implied, and on what ground it stood. That confusion continues today, as can be seen from a reading of some representative authors on the topic. For example, David Hamilton, in a paper prepared for an informal workshop at the University of Illinois in 1976, suggests that positivism began with the publication of John Stuart Mill's *A System of Logic* in 1843. Hamilton (1976, p. 2) comments on this work:

Historically, *A System of Logic* was a powerful interpretation, formalization, and defense of the secular ideologies which had emerged alongside the political, economic, and social revolutions of the late eighteenth and early nineteenth centuries. Its twentieth century importance, however, is rather different. Mill's *Logic* offered a coherent set of principles of procedure for use in the social and natural sciences. Although subjected to considerable criticism . . . , Mill's original formulations have survived till the present day as the dominant methodological paradigm.

Hamilton summarizes Mill's assumptions as follows:

- (1) The social and natural sciences have identical aims, namely, the discovery of general laws that serve for explanation and prediction.
- (2) The social and natural sciences are methodologically identical.
- (3) The social sciences are merely more complex than the natural sciences.
- (4) Concepts can be defined by direct reference to empirical categories—"objects in the concrete."
- (5) There is a uniformity of nature in time and space. Hamilton comments that this assumption, itself an induction, enabled Mill to overcome Hume's objections to logical inference and thereby invested induction with the same procedural certainty as syllogistic logic. We may note that such an argument has been found to be invalid by modern philosophers; see the discussion below about the problem of the underdetermination of theory.
- (6) Laws of nature can be naturally (inductively) derived from data. Hamilton comments that Mill had little to say about theory because he held it to be isomorphic with "empirical uniformities."
- (7) Large samples suppress idiosyncracies ("partial causes") and reveal "general causes" (the ultimate laws of nature).

A second example: Wolf (1981, p. 56) discusses positivism in the guise of Newtonian mechanics, which he says rested upon the following assumptions regarding the "physical and therefore mechanical world":

- (1) Things move in a continuous manner. All motion, both in the large and in the small, exhibits continuity.
- (2) Things move for reasons. These reasons were based upon earlier causes for motion. Therefore, all motion was determined and everything was predictable.
- (3) All motion could be analyzed or broken down into its component parts. Each part played a role in the great machine called the universe, and the complexity of this machine could be understood as the simple movement of its various parts, even those parts beyond our preception.
- (4) The observer observed, never disturbed. Even the errors of a clumsy observer could be accounted for by simply analyzing the observed movements of whatever he touched.

A third example: Schwartz and Ogilvy, whose work will occupy a considerable portion of our attention in Chapter 2, describe the Newtonian "world view" as holding that matter consists of very small particles that are assembled into larger and larger complexes. The essential ideas are captured by the metaphor of the billiard table.⁶ The metaphor supports a deterministic physics—if we knew the masses, positions, and velocities of all the particles we could predict the future from the laws of physics. But Schwartz and Ogilvy (1979, p. 32) point out,

Embedded within the mechanistic view of the world are three basic assumptions. The first is that there is a most fundamental level of reality (i.e., the basic building blocks) composed of the smallest particles and the complete set of forces that govern them. Once we find that fundamental level and the laws that govern it, the world laws that govern matter and energy on the very small scale must be very similar, and hopefully identical, to those that apply on the very large scale. The governing laws thus would be universal, so that we ought to be able to build a picture of planets moving about the sun out of an understanding of the particles of which matter is composed. Finally, there is the assumption that we, as observers, can be isolated from experiments and the world we are studying to produce an "objective" description.

A fourth example: Mary Hesse (1980, p. vii), a British epistemologist and historian of science, suggests that what she calls the "stan-

dard account" of scientific explanation within an "empirical philosophy" depends upon a series of assumptions:

The most important of these are the assumptions of *naive realism*, of a *universal scientific language*, and of the *correspondence theory of truth*.

These three assumptions between them constitute a picture of science and the world somewhat as follows: there is an external world which can in principle be exhaustively described in scientific language. The scientist, as both observer and language-user, can capture the external facts of the world in propositions that are true if they correspond to the facts and false if they do not. Science is ideally a linguistic system in which true propositions are in one-to-one relation to facts, including facts that are not directly observed because they involve hidden entities or properties, or past events or far distant events. These hidden events are described as theories, and theories can be inferred from observations, that is, the hidden explanatory mechanism of the world can be discovered from what is open to observation. Man as scientist is regarded as standing apart from the world and able to experiment and theorize about it objectively and dispassionately.

A fifth example: Hesse (1980, pp. 170-171) also presents a statement of what are taken to be the characteristics of empirical method described by Habermas, who was presumably himself drawing upon the work of Dilthey:

1. In natural science experience is taken to be objective, testable, and independent of theoretical explanation. . . .
2. In natural science theories are artificial constructions or models, yielding explanation in the sense of a logic of hypothetico-deduction: *if* external nature were of such a kind, *then* data and experience would be as we find them. . . .
3. In natural science the lawlike relations asserted of experience are external, both to the objects connected and to the investigator, since they are merely correlational. . . .
4. The language of natural science is exact, formalizable, and literal; therefore meanings are univocal, and a problem of meaning arises only in the application of universal categories to particulars. . . .
5. Meanings in natural science are separate from facts.

A sixth example: Harre (1981, p.3) provides yet another formulation:

The positivist tradition in scientific methodology has been based upon the principle that the only reliable knowledge of any field of phenomena

reduces to knowledge of particular instances of patterns of sensation. Laws are treated as probabilistic generalizations of descriptions of such patterns. The sole role of laws is to facilitate the prediction of future sensory experience. Theories are logically ordered sets of laws. In consequence theories are reduced to a logical apparatus necessary to the business of prediction. It follows that for a positivist, the task of understanding a theory is exhausted by two processes. Analysis of theoretical discourse is aimed at revealing its logical structure. The empirical content of the theory is supposed to be brought to light by identifying those logical consequences of the set of laws which purport to describe observations. There are, therefore, two sides of modern positivism: one logical and one empirical. Modern positivism is sometimes called "logical empiricism."

Harre goes on to raise the question of how it ever happens that positivism gains a foothold. He describes positivism as a kind of fallback position, a "positivist retreat" that occurs whenever there is a serious loss of confidence in current theory in some field. Scientists, he speculates, tend to take their theories and models very seriously, as representations of reality, as factual descriptions of what actually occurs. But, he goes on:

If we are to take an imagined mechanism seriously as a possible representation of reality there ought to be some way of deciding between rival candidates for the role of best explanation. Sometimes the ingenuity of theorists produces a multitude of seemingly possible mechanisms, all capable of being imagined to produce close analogues of the empirically observed patterned regularities. But at the other extreme, it sometimes happens that the most talented and imaginative thinkers can make no headway at all in imagining any mechanism capable of simulating the behaviour of the real world in the field they are investigating. The former situation brought on a positivist reaction among astronomers in the sixteenth century, the latter among subatomic physicists in the twentieth. At the heart of the positivist reaction is a denial that theory could represent hidden realities. According to positivism a science should be taken as no more than a well-attested body of rules for predicting the future course of observation. But these "internal" historical conditions are not sufficient to account for the retreat to positivism. Historical studies clearly reveal an odd twist to this retreat. As scientists abandon the search for a deep knowledge of nature they tend to adopt a militant, even an arrogant posture, sometimes persecuting those who hope to continue on the path of scientific tradition. A kind of glorying in ignorance is displayed, like the Paduan professors who refused to look through Galileo's telescope. Positivist retreats seldom last beyond a single generation of scientists, though the damaging effect of widespread abandonment of

realism can sometimes be felt for a long time after the dominant figures have departed. (Harre, 1981, pp. 7-8)⁷

It is very clear from this sample of statements about positivism that there is no clear agreement about what either the philosophy or the method encompasses. Positivism can be reshaped, apparently, to suit the definer's purpose, and while there is certainly remarkable overlap in these statements there are also some inconsistencies and some idiosyncracies. One might venture to say that the particular form of definition offered by any commentator depends heavily upon the counterpoints he or she wishes to make. (The significance of that observation for the ways in which positivism will be interpreted later in this book should not be overlooked; we are "guilty" of the same "crime.") But it does seem to be the case that these authors do agree on one point: Positivism is passé. Harre's scathing comments noted a few paragraphs ago leave no doubt that he not only disagrees with the positivist position but believes it to be the product of small, confused minds who retreat to it because they lack any other viable alternatives. Such a harsh judgment is undoubtedly a strong overreaction, but hear some more temperate critics:

- Mary Hesse (1980, p. vii) having given it as her opinion that the three most important assumptions underlying positivism are naive realism, belief in a universal scientific language, and a correspondence theory of truth, goes on to comment, "Almost every assumption underlying this account has been subjected to damaging criticism."
- Schwartz and Ogilvy (1979, p. 32), having described what they take to be the three basic assumptions of the Newtonian world view, add that "all of these basic assumptions are now being challenged by theoretical and experimental findings."
- Wolf (1981, pp. 51-56), after describing his view of the assumptions "concerning the physical . . . world" of the Newtonian, comments, "But it would take nearly fifty years for the true [*sic*] story to be told"; with the "end of the mechanical age" coming into view because of certain unexplainable (in positivist terms) phenomena: the inability of physicists to find ether, that necessary component of wave theories of light, and their inability to deal with "the ultraviolet catastrophe," the failure of physicists to explain the colors of heated (glowing) objects.

CHALLENGES TO AND CRITIQUES OF POSITIVISM

What is the nature of the challenges to and critiques of positivism that have brought it to its metaphoric knees? Space precludes the

level of treatment that such a question deserves, but one may point to the following issues:

(1) *Positivism leads to an inadequate conceptualization of what science is:*

- Hesse (1980, pp. 46-47) cites the work of Barry Barnes, who

asserts that all attempts to find demarcating criteria, that is, necessary and sufficient conditions for a belief system to be science, have failed. These failures include all verifiability and falsifiability criteria, and all specific appeals to experimentation and/or to particular kinds of inductive or theoretical inference. At best, he argues, the concept "science" must be regarded as a loose association of family resemblance characteristics involving, among other things, aversion to all forms of anthropomorphism and teleology, and consequent tendencies to secularism, impersonality, abstraction, and quantification.

While it would be inappropriate to argue that this failure is entirely produced by adherence to positivistic principles, it is clear that the paradigm has offered no way out of the dilemma.

- Positivism thoroughly confuses two aspects of inquiry that have often been called the "context of discovery" and the "context of justification." The former deals with the genesis or origin of scientific theories and the latter with testing them. Positivism excludes the former and focuses on the latter. The process of theory conceptualization is seen as noncognitive or nonrational and hence outside the pale. But any theory, no matter how bizarre its origins, is admissible so long as it is coherent (T_1) and testable (T_2). In terms of these constraints, much of Einstein's work, for example, would be considered nonscientific by positivists, who would hardly be persuaded by or interested in Einstein's thought (*gedanken*) experiments.

It may be the case, as Cronbach (1982) seems to suggest, that verification has taken precedence over discovery within positivism because proponents of that formulation could not devise a means for coming to grips with it systematically. He comments:

"Design of experiments" has been a standard element in training for social scientists. This training has concentrated on formal tests of hypotheses—confirmatory studies—despite the fact that R. A. Fisher, the prime theorist of experimental design, demonstrated over and over again in his agricultural investigations that effective inquiry works back and forth between the heuristic and the confirmatory. But since he could offer a formal theory only for the confirmatory studies, *that part came to be taken as the whole.* (pp. ix-x; emphasis added)

- Positivism severely constrains the possible uses or purposes of science to prediction and control. Indeed, what is often called the "pragmatic criterion" of success in science is that it should lead to increasingly successful prediction and control. Such a delimitation forces out of contention other legitimate purposes, as, for example, *verstehen* or understanding, description, problem responses, status determination, and so on. It focuses on what might be called *kennenschaft* to the virtual exclusion of *wissenschaft*.

Of course, none of these reasons are sufficient to lead to discarding positivism, but they are sufficient to lead to an extreme degree of discomfort among practicing scientists who would prefer to have a more solid conceptualization to use as a touchstone.

(2) *Positivism is unable to deal adequately with two crucial and interacting aspects of the theory-fact relationship:*

- *The underdetermination of theory, sometimes also called the problem of induction.* In deduction, given the validity of the premises, the conclusion must be true and it is the only conclusion possible. But in induction, there are always many conclusions that can reasonably be related to certain premises. Deductions are closed but inductions are open. Thus there is always a larger number of theories that can fit observations more or less adequately. Hence there cannot be convergence, no ultimate conclusions, no certain or "true" (T_1) theory. Nor is this situation helped by the fact that there is no agreement about what a theory is (a pattern, network, nomological net, hypothetico-deduction system) or what it is for (to systematize, uncover, predict, explain).
- *The theory-ladenness of facts, that is, the apparent impossibility of having "facts" that are not themselves theory-determined.* It is, many assert, impossible to have an observational language that is not also a theoretical language. The "truth" of propositions (facts on trial) cannot be determined except in relation to a true theory, but, as we have just seen, true theories cannot be derived because of the problem of underdetermination. Hence the reasoning is entirely circular.

(3) *Positivism is overly dependent on operationalism, which has itself been increasingly judged to be inadequate.*

- Operationalism is simply not meaningful or satisfying; recalling the quotation from Ford (see note 5), most people are more interested in fear than in the number of fecal boluses emitted every hour.
- Operationalism is too shallow, depending as it does almost entirely on sensations for its "facts" and refusing to deal with meanings or implications.

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- Operationally defined facts are just as theory-laden as are any others.
- Despite the good intentions and the best efforts of the Vienna Circle of Logical Positivists, neither they nor any of their adherents have been able to rid science of its metaphysical underpinnings.
- The strict practice of operationalism results in a meaningless splintering of the world. Since nothing exists for the operationalist except through the instruments that measure it, even such conceptually close entities as two IQ scores measured by two different IQ tests must be asserted to be different *despite* a high correlation between them.

(4) *Positivism has at least two consequences that are both repugnant and unfounded:*

- *Determinism*, repugnant because of its implications for human free will and unfounded because of recent findings in many fields that argue strongly against it, for example, the Heisenberg Uncertainty Principle (Chapter 4).
- *Reductionism*, repugnant because it would make all phenomena including human phenomena ultimately subject to a single set of laws, and unfounded because of recent findings in many fields including mathematics and physics that rule out the possibility in those fields, for example, Gödel's Theorem (Chapter 5).

(5) *Positivism has produced research with human respondents that ignores their humanness, a fact that has not only ethical but also validity implications.*

- It has emphasized *exogenous* research—that is, research in which all aspects of the research, from problem definition through instrumentation, data collection and analysis, and use of findings, have been researcher-determined—to the virtual exclusion of *endogenous* research—that is, research in which the respondents have equal rights of determination.
- It has emphasized *etic* research—that is, research carried out with an outside (objective) perspective—to the virtual exclusion of *emic* research—that is, research carried out with an inside perspective (subjective).

(6) *Positivism falls short of being able to deal with emergent conceptual/empirical formulations from a variety of fields; three examples:*

- Gödel's Incompleteness Theorem, which states that no axiomatic system of mathematics is able to provide information about both the completeness and consistency of that axiomatic system; or, put another way, it asserts that no theory of mathematics asserted to be complete can also be internally consistent.

- Heisenberg's Uncertainty Principle, which asserts that the position and momentum of an electron cannot *both* be determined, because the action of the observer in making either measurement inevitably alters the other.
- Bell's Theorem, which asserts that no theory compatible with quantum theory can require spatially separated events to be independent.

The consequences of these three formulations, as well as others, for the basic premises of positivism, including ontology, objectivity, and causality, are devastating.

(7) Positivism rests upon at least five assumptions that are increasingly difficult to maintain. These five assumptions capture the most salient aspects included in the various definitions of positivism that have already been reviewed,⁸ and will form the basis for the counter-proposals that are the backbone of this book:

- An ontological assumption of a single, tangible reality "out there" that can be broken apart into pieces capable of being studied independently; the whole is simply the sum of the parts.
- An epistemological assumption about the possibility of separation of the observer from the observed—the knower from the known.
- An assumption of the temporal and contextual independence of observations, so that what is true at one time and place may, under appropriate circumstances (such as sampling) also be true at another time and place.
- An assumption of linear causality; there are no effects without causes and no causes without effects.
- An axiological assumption of value freedom, that is, that the methodology guarantees that the results of an inquiry are essentially free from the influence of any value system (bias).

The consequences of these several critiques of positivism are sufficiently telling and widely appreciated that a significant number of vanguard scientists have abandoned that paradigm and moved into the postpositivist era. We shall describe next what are still clumsy and emergent efforts to carry out that move.

THE POSTPOSITIVIST ERA⁹

Positivism has been remarkably pervasive. We have noted that its precursor era does not have a name of its own but is called, simply, the prepositivist era. Similarly, the new era has not yet gained sufficient credibility or self-assurance to have assumed a name of its own; it too is called by a simple name: postpositivism. The grip of *its* precursor is still on it; it is just as difficult for the modern-day scientist of whatever stripe to throw off the shackles imposed on thinking by

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the positivists as it was for Galileo's inquisitors to take his telescope, and what it revealed, seriously; or for Lavoisier's fellow chemists to be able to accept oxygen without simultaneously wondering where all the phlogiston had gone. The reader who has never contemplated postpositivist ideas may be in for a surprise; indeed, a rude shock. As the aphorism goes, "Expect the unexpected."

Perhaps the *most* unexpected aspect of postpositivism is that its basic tenets are virtually the reverse of those that characterized positivism—perhaps not so surprising, after all, when one contemplates that postpositivism is as much a reaction to the failings of positivism as it is a proactive set of new formulations; reaction, too, is a form of "standing on the shoulders of giants."

An example: it will be recalled that Habermas, expanding on the ideas of Dilthey, outlined what he took to be the crucial axiomatic differences between hermeneutics and empiricism. In opposition to what he saw to be the five central aspects of positivism—objectivity, hypothetico-deductive theory, external lawlike relations, exact and formal language, and separation of facts from meaning—Habermas proposed five counterpoints, which Hesse (1980) declares have *now* come to characterize the natural sciences as well. Indeed, she asserts, the positions ascribed by Habermas to the empirical sciences, while valid at the time that he wrote, have been "almost universally discredited" (Hesse, 1980, p. 172). She goes on:

Paralleling the five points of the [Habermas] dichotomy [of natural and human sciences], we can summarize this post-empiricist account of natural science as follows:

1. In natural science data is not detachable from theory, for what count as data are determined in the light of some theoretical interpretation, and the facts themselves have to be reconstructed in the light of interpretation.
2. In natural science theories are not models externally compared in nature to a hypothetico-deductive schema, they are the way the facts themselves are seen.
3. In natural science the law-like relations asserted of experience are internal, because what we count as facts are constituted by what the theory says about their interrelations with one another.
4. The language of natural science is irreducibly metaphorical and inexact, and formalizable only at the cost of distortion of the historical dynamics of scientific development and of the imaginative reconstructions in terms of which nature is interpreted by science.

5. Meanings in natural science are determined by theory; they are understood by theoretical coherence rather than by correspondence with facts. (pp. 172-173)

Objective reality has become very relative indeed!

Another instance: Rom Harre (1981), whose scathing dismissal of positivism was quoted above, also contrasts positivism with the "new paradigm." Where positivism is concerned with surface events or appearances, the new paradigm takes a deeper look. Where positivism is atomistic, the new paradigm is structural. Where positivism establishes meaning operationally, the new paradigm establishes meaning inferentially. Where positivism sees its central purpose to be prediction, the new paradigm is concerned with understanding. Finally, where positivism is deterministic and bent on certainty, the new paradigm is probabilistic and speculative.

Most of the distinguishing features of the postpositivist paradigm have emerged from fields such as physics and chemistry, customarily denoted as the "hard sciences." But the argument for the new paradigm can be made even more persuasively when the entities being studied are human beings.¹⁰ For such research, Heron (1981) advances six arguments in favor of the postpositivist paradigm:

(1) *The argument from the nature of research behavior.* Heron argues that researchers cannot define one model of behavior for themselves and a different one for their respondents. If the basic model for research behavior is that of "intelligent self-direction," then, to be consistent, the same model must be applied to the respondents.

(2) *The argument from intentionality.* Heron (1981, p. 23) argues for the necessity of checking with the respondents to be sure that their intentionality and the researcher's interpretation of it coincide: "When I am interpreting such basic actions [as walking, talking, looking, pointing] in terms of their more complex intentions and purposes, than I need to check against the [respondent's] version of what he was about, for a person may walk, talk, or look or point to fulfill many different higher order intentions."

(3) *The argument from language.* Language formation is interpreted by Heron as an archetype of inquiry itself. When human beings communicate they must agree on the rules of language they will follow. Hence the use of language contains within itself the model of cooperative inquiry. Heron (1981, pp. 26-27) asserts:

I can use the language to make statements about persons who have not contributed or assented to the formulation of those statements. . . . [But]

to use language in this way is to cut it off from its validating base. . . . The result is a set of alienated statements hanging in an interpersonal void: statements about persons not authorized by those persons. . . . My considered view of your reality without consulting you is a very different matter from our considered view of our reality.

(4) *The argument from an extended epistemology.* Heron notes that while science as *product* takes the form of a set of propositional statements, the *process* of scientific inquiry involves not only propositional knowledge but also *practical* knowledge (the skills, proficiencies, or "knacks" of doing research) and *experiential* knowledge (knowing a person or thing through sustained encounters). He notes:

What I am arguing . . . is that empirical research on persons involves a subtle, developing interdependence between propositional knowledge, practical knowledge, and experiential knowledge. The research conclusions . . . necessarily rest on the researcher's experiential knowledge of the [respondents]. This knowledge of persons is most adequate as an empirical base when . . . researcher and [respondent] are fully present to each other in a relationship of reciprocal and open inquiry, and when each is open to construe how the other manifests as a presence in space and time. (p. 31)

(5) *The argument from axiology.* Heron argues that the truth of a proposition depends on shared values. The data that researchers generate, he suggests, depend upon their procedural norms, which in turn depend upon their shared values. If the facts are about persons other than the researchers, "they have indeterminate validity, no secure status as truths, until we know whether those other persons assent to and regard as their own the norms and values of the researchers" (p. 33).

(6) *The moral and political argument.* Research in the conventional sense usually exploits people, Heron asserts, for knowledge is power that can be used against the people from whom the knowledge was generated. The "new paradigm" avoids some of these difficulties because

(1) it honours the fulfillment of the respondents' need for autonomously acquired knowledge; (2) it protects them from becoming unwitting accessories to knowledge-claims that may be false and may be inappropriately or harmfully applied to others; (3) it protects them from being excluded from the formation of knowledge that purports to be about them and so from being managed and manipulated . . . in ways

they do not understand and so cannot assent to or dissent from.
(pp. 24-35)

But just what is this new postpositivist paradigm? If we accept that its axioms or assumptions are virtually the inverse of those of positivism, we are not *definitively* helped because, as we have seen, different writers have cast the positivist assumptions in different terms; hence postpositivism's definition depends upon whose positivistic description is followed.

Of course, some scholars insist that postpositivism is nothing more than an overreaction, and that it is time for a rapprochement that realigns positivism with the relativism that characterizes postpositivism. One such writer is Donald T. Campbell, who suggests that it is time to move into a post-postpositivist era, in which positivism and postpositivism are married off and live happily ever after. In his William James Lecture #5, delivered in 1977, for example, he describes science as a *social system*, with all the usual attributes of such a system: norms, jobs, communication channels, modes of recruiting and rewarding members and keeping them loyal, and so on. He says:

But I want to assert that among all these belief-preserving mutual admiration societies, all of which share this common human tribalism, science is also different, with different specific values, myths, rituals, and commandments, and that these different norms are related to what I presume to be science's superiority in the improving validity of the model of the physical world which it carries. . . . In spite of the theory-ladenness and noisiness of unedited experimental evidence, it does provide a major source of discipline in science. . . . The experiment is meticulously designed to put questions to "Nature Itself" in such a way that neither the questioners, nor their colleagues, nor their superiors can affect the answer. . . . In our iterative oscillation of theoretical emphases, in our continual dialectic that never achieves a stable synthesis, we are now ready for a post-post-positivist theory of science which will integrate the epistemological relativism recently achieved with a new and more complex understanding of the role of experimental evidence and predictive confirmation in science. (cited in Brewer & Collins, 1981, pp. 15-16)

Now this whole statement moves from hidden assumptions rooted in the positivist tradition. "Theory-ladenness" and the "noisiness of unedited experimental evidence" are treated as minor technical inconveniences. The place of values in inquiry is ignored and the delu-

sion of objectivity is maintained in claims such as that experiments can be designed meticulously enough so that no one can influence the outcome, only "Nature Itself." But what this perspective misses completely is the fact that postpositivism is not merely a perturbation, a wrinkle, a new angle that simply needs to be accommodated to make everything all right. Postpositivism is an entirely new paradigm, *not* reconcilable with the old. Rapprochements, accommodations, compromises are no more possible here than between the old astronomy and Galileo's new astronomy, between phlogiston and oxygen, between Newtonian and quantum mechanics. We are dealing with an entirely new system of ideas based on fundamentally *different*—indeed, sharply contrasting—assumptions, as the quotations from Mary Hesse, Rom Harre, and John Heron so vividly illustrate. What is needed is a transformation, not an add-on. That the world is round cannot be added to the idea that the world is flat. Nor is the notion of a paradigm transformation simply an intellectual fashion, as Pollie (1983) suggests. To make this point crystal clear, it is worth making a brief digression into the nature of axiomatic systems.

FEATURES OF AXIOMATIC SYSTEMS¹

Axioms may be defined as the set of undemonstrated (and undemonstrable) "basic beliefs" accepted by convention or established by practice as the building blocks of some conceptual or theoretical structure or system. They are the statements that will be taken as Truth, in the sense proposed by Julianne Ford. Probably the best known and most widely experienced system of axioms is that undergirding Euclidean geometry. Euclid set himself the task of formalizing what was known about geometry (literally, the measurement of earth or surveying) at his time; essentially, that meant systematizing the rules of thumb used by land surveyors, which had never been "proved" but which everyone knew had validity. It was Euclid's powerful insight that these rules could be "proved" by showing them to be logical derivatives from some simple set of "self-evident" truths; or, to use Ford's terminology, that they could be shown to be T_1 by demonstrating their consistency with the basic beliefs—the self-evident truths—taken to be T_1 . Euclid began with four such basic beliefs, which have since come to be known as the axioms of Euclidean geometry (Hofstadter, 1979):

- (1) A straight line segment can be drawn joining any two points.
- (2) Any straight line segment can be extended indefinitely in a straight line.

- (3) Given any straight line segment, a circle can be drawn having the segment as radius and one end point as center.
- (4) All right angles are congruent.

With these four axioms, Euclid was able to derive ("prove") the first 28 of the eventually much larger set of theorems (statements shown to be T_1), but the twenty-ninth proof he attempted turned out to be intractable. In despair, and driven by the need to go on to other theorems, Euclid finally simply assumed it as a fifth axiom:

- (5) If two lines are drawn that intersect a third in such a way that the sum of the inner angles on one side is less than two right angles, then the two lines inevitably must intersect each other on that side if extended far enough.

The more modern way to state this axiom is as follows: Given a line and a point not on that line, it is possible to construct only one line through the point that is parallel to the given line.

As compared to the first four axioms, the fifth seems strained and inelegant; Euclid was sure that eventually he would be able to find a way of proving it in terms of the first four. But his hope was not to be realized in his lifetime or, indeed, ever; two millennia of effort by mathematicians have failed to provide a proof.

It is now known that a proof in Euclid's sense is impossible, but that fact was hidden from mathematicians' minds during many centuries when assiduous efforts were made to find it. Early attempts at proof were of the form that mathematicians would call *direct*, but, these having failed, *indirect* proof was sought, one variant of which is to assume the *direct opposite* of what one wishes to show and then to demonstrate that this opposite assumption leads to absurd conclusions (theorems). In that case, the original formulation rather than its opposite can be assumed to be correct. It was exactly this approach, however, that culminated in so-called non-Euclidean geometries, for not only were the consequences of non-Euclidean (opposite to Euclidean) axioms not absurd, they were in fact of great utility. One such geometry is called Lobachevskian; this form takes as its fifth axiom, "Given a line and a point not on that line, it is possible to draw a bundle of lines through the point *all of which* are parallel to the given line." Now this axiom flies in the face of all human experience; yet it yields results of great interest, for example, to astronomers.

One of the theorems "provable" (in the sense of T_1) from the Euclidean fifth axiom is that the sum of angles in a triangle is 180° . But

the sum of angles of a Lobachevskian triangle is *not always* 180° but approaches 180° as the triangle becomes "small." An intuitive understanding of this point can be had from examining the (impossible in either geometry but useful for pedagogical purposes) triangle shown in Figure 1.1. Assuming we have a triangle with three angles of 40° , summing to 120° , it is clear that as the triangle is bisected from its 40° superior angle by a perpendicular bisector, each of the smaller triangles now has a sum of angles of 150° . Now of course all human experience argues that triangles *do* have a sum equal to 180° , but that is simply evidence for the fact that, within Lobachevskian geometry, *all earth-size triangles are small*. But astronomically sized triangles are very much larger, and astronomers find that Lobachevskian geometry provides a better "fit" to the phenomena that they investigate than does Euclidean.

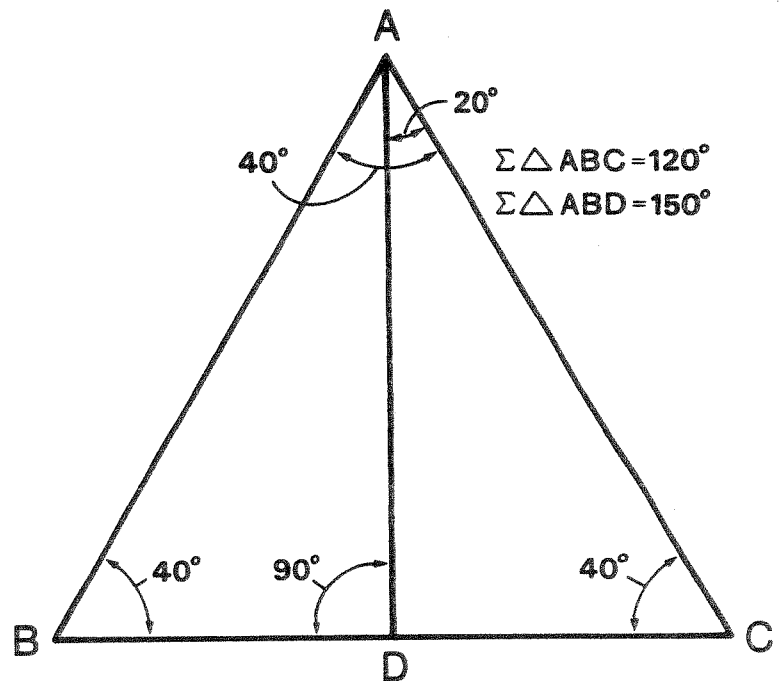


Figure 1.1: Smaller "Lobachevskian" triangles have large sums of angles (approaching 180°).

From this digression we may deduce several crucial points:

- (1) Axioms (basic beliefs) are arbitrary and may be assumed for any reason, even if only for the "sake of the game."
- (2) Axioms are *not* self-evidently true, nor need they appear to be so; indeed, some axioms appear to be very bizarre on first exposure.
- (3) Different axiom systems have different utilities depending on the phenomena to which they are applied. These utilities are *not* determined by the nature of the axiom system itself but by the *interaction* between the axioms and the characteristics of the area of application. Thus Euclidean geometry is fine for terrestrial spaces, but Lobachevskian geometry is preferred for interstellar spaces.
- (4) A decision about which of several alternative axiom systems to use in a given case is best made by testing the "fit" between each system and the case, a process analogous to testing data for fit to assumptions before deciding on which statistic to use in analyzing them.

We are ready now to deal with the axioms of the particular postpositivist paradigm we advocate in this book, which we will term the "naturalistic paradigm." The assumptions of that paradigm are briefly outlined in the next section and are contrasted with those of the positivist paradigm; the question of testing their "fit," particularly for use in human inquiry, is delayed for extended treatment in Chapters 3 through 7. The next section will also provide a preview of some of the methodological implications of the selected paradigm for actually doing research; these implications will be explored in detail in Chapter 8.

THE AXIOMS OF THE NATURALISTIC PARADIGM

We have made the point several times that the particular formulation of the positivistic paradigm that one adopts depends as much upon the counterexample that one will propose as upon anything else; the selection of points is essentially arbitrary. This presentation is not different in that respect; we hope, however, that the reader will agree that, first, we have selected to emphasize more salient rather than more bizarre aspects of positivism, and, second, that we have not misstated the position that a committed positivist would take on these points, whatever might be said about other points. The points of contrast that we have chosen are, we believe, crucial to an understanding of the naturalistic paradigm and the ways in which it differs, contrasts, and even conflicts with the positivistic.

TABLE 1.1 Contrasting Positivist and Naturalist Axioms

<i>Axioms About</i>	<i>Positivist Paradigm</i>	<i>Naturalist Paradigm</i>
The nature of reality	Reality is single, tangible, and fragmentable.	Realities are multiple, constructed, and holistic.
The relationship of knower to the known	Knower and known are independent, a dualism.	Knower and known are interactive, inseparable.
The possibility of generalization	Time- and context-free generalizations (nomothetic statements) are possible.	Only time- and context-bound working hypotheses (idiographic statements) are possible.
The possibility of causal linkages	There are real causes, temporally precedent to or simultaneous with their effects.	All entities are in a state of mutual simultaneous shaping, so that it is impossible to distinguish causes from effects.
The role of values	Inquiry is value-free.	Inquiry is value-bound.

Immediately following is a formal statement of the five axioms in both their naturalistic and positivistic versions; these are also summarized in Table 1.1 for convenience. The reader should here acquaint him- or herself with the axioms and delay concerns about whether these axioms provide a better fit to the phenomena of sociobehavioral inquiry until this matter comes under close scrutiny in later chapters.

Axiom 1: The nature of reality (ontology) (expanded in Chapter 3).

- *Positivist version:* There is a single tangible reality "out there" fragmentable into independent variables and processes, any of which can be studied independently of the others; inquiry can converge onto that reality until, finally, it can be predicted and controlled.
- *Naturalist version:* There are multiple constructed realities that can be studied only holistically; inquiry into these multiple realities will inevitably diverge (each inquiry raises more questions than it answers) so that prediction and control are unlikely outcomes although some level of understanding (*verstehen*) can be achieved.

Axiom 2: The relationship of knower to known (epistemology) (expanded in Chapter 4).

- *Positivist version:* The inquirer and the object of inquiry are independent; the knower and the known constitute a discrete dualism.
- *Naturalist version:* The inquirer and the "object" of inquiry interact to influence one another; knower and known are inseparable.

Axiom 3: The possibility of generalization (expanded in Chapter 5).

- *Positivist version:* The aim of inquiry is to develop a nomothetic body of knowledge in the form of generalizations that are truth statements free from both time and context (they will hold anywhere and at any time).
- *Naturalist version:* The aim of inquiry is to develop an idiographic body of knowledge in the form of "working hypotheses" that describe the individual case.

Axiom 4: The possibility of causal linkages (expanded in Chapter 6).

- *Positivist version:* Every action can be explained as the result (effect) of a real cause that precedes the effect temporally (or is at least simultaneous with it).
- *Naturalist version:* All entities are in a state of mutual simultaneous shaping so that it is impossible to distinguish causes from effects.

Axiom 5: The role of values in inquiry (axiology) (expanded in Chapter 7).

- *Positivist version:* Inquiry is value-free and can be guaranteed to be so by virtue of the objective methodology employed.
- *Naturalist version:* Inquiry is value-bound in at least five ways, captured in the corollaries that follow:

Corollary 1: Inquiries are influenced by *inquirer* values as expressed in the choice of a problem, evaluand, or policy option, and in the framing, bounding, and focusing of that problem, evaluand, or policy option.

Corollary 2: Inquiry is influenced by the choice of the *paradigm* that guides the investigation into the problem.

Corollary 3: Inquiry is influenced by the choice of the *substantive theory* utilized to guide the collection and analysis of data and in the interpretation of findings.

Corollary 4: Inquiry is influenced by the values that inhere in the *context*.

Corollary 5: With respect to corollaries 1 through 4 above, inquiry is either *value-resonant* (reinforcing or congruent) or *value-dissonant* (conflicting). Problem, evaluand, or policy option, paradigm, theory, and context must exhibit congruence (value-resonance) if the inquiry is to produce meaningful results.¹²

Following the naturalistic rather than the positivistic version of these key axioms has, as one might expect, enormous implications for the *doing* of research; these implications are very briefly sketched in the following section and will be pursued in more detail subsequently.

IMPLICATIONS FOR THE DOING OF RESEARCH

An inquirer doing research in the style or mode of the naturalist paradigm needs more than just the five axioms listed above as guides. In this section we shall describe very briefly some of the more important implications of the paradigm for actual research operations. The importance of these modes will be more fully appreciated as we return to them in more depth in Chapter 8.

We shall describe fourteen characteristics of operational naturalistic inquiry. These characteristics can be justified in two ways: (1) by their logical dependence on the axioms that undergird the paradigm, and (2) by their coherence and interdependence. These fourteen characteristics display a synergism such that, once one is selected, the others more or less follow. Some attempt will be made in the paragraphs that follow to support these claims.

Logical Dependence upon the Axioms

Characteristic 1: Natural setting. N (the naturalist) elects to carry out research in the natural setting or context of the entity for which study is proposed because naturalistic ontology suggests that realities are wholes that cannot be understood in isolation from their contexts, nor can they be fragmented for separate study of the parts (the whole is more than the sum of the parts); because of the belief that the very act of observation influences what is seen, and so the research interaction should take place with the entity-in-context for fullest understanding; because of the belief that context is crucial in deciding whether or not a finding may have meaning in some other context as well; because of the belief in complex mutual shaping rather than linear causation, which suggests that the phenomenon must be studied in its full-scale influence (force) field; and because contextual value structures are at least partly determinative of what will be found.

Characteristic 2: Human instrument. N elects to use him- or herself as well as other humans as the primary data-gathering instruments (as opposed to paper-and-pencil or brass instruments) because it would be virtually impossible to devise a priori a nonhuman instrument with sufficient adaptability to encompass and adjust to the variety of realities that will be encountered; because of the understanding that all instruments interact with respondents and objects but that only the human instrument is capable of grasping and evaluating the meaning of that differential interaction; because the intrusion of instruments intervenes in the mutual shaping of other elements and that shaping

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the investigator's interaction with the site and consequent biases that may result (reflexive reporting); because it provides the basis for both individual "naturalistic generalizations" (Stake, 1980) and transferability to other sites (thick description); because it is suited to demonstrating the variety of mutually shaping influences present; and because it can picture the value positions of investigator, substantive theory, methodological paradigm, and local contextual values.

Characteristic 11: Idiographic interpretation. N is inclined to interpret data (including the drawing of conclusions) idiographically (in terms of the particulars of the case) rather than nomothetically (in terms of lawlike generalizations) because different interpretations are likely to be meaningful for different realities; and because interpretations depend so heavily for their validity on local particulars, including the particular investigator-respondent (or object) interaction, the contextual factors involved, the local mutually shaping factors influencing one another, and the local (as well as investigator) values.

Characteristic 12: Tentative application. N is likely to be tentative (hesitant) about making broad application of the findings because realities are multiple and different; because the findings are to some extent dependent upon the particular interaction between investigator and respondents (or object) that may not be duplicated elsewhere; because the extent to which the findings may be applicable elsewhere depends upon the *empirical* similarity of sending and receiving contexts; because the particular "mix" of mutually shaping influences may vary markedly from setting to setting; and because value systems, especially contextual values, may be sharply at variance from site to site.

Characteristic 13: Focus-determined boundaries. N is likely to set boundaries to the inquiry on the basis of the emergent focus (problems for research, evaluands for evaluation, and policy options for policy analysis) because that permits the multiple realities to define the focus (rather than inquirer preconceptions); because focus-setting can be more closely mediated by the investigator-focus interaction; because boundaries cannot be satisfactorily set without intimate contextual knowledge, including knowledge about the mutually shaping factors involved; and because foci have no meaning in any event in abstraction from the local investigator value systems.

Characteristic 14: Special criteria for trustworthiness. N is likely to find the conventional trustworthiness criteria (internal and external validity, reliability, and objectivity) inconsistent with the axioms and procedures of naturalistic inquiry. Hence he or she is likely to define

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new (but analogous) criteria and devise operational procedures for applying them. Chapter 11 is devoted to this matter; here it is worth noting that the conventional criterion of internal validity fails because it implies an isomorphism between research outcomes and a single, tangible reality onto which inquiry can converge; that the criterion of external validity fails because it is inconsistent with the basic axiom concerning generalizability; that the criterion of reliability fails because it requires absolute stability and replicability, neither of which is possible for a paradigm based on emergent design; and that the criterion of objectivity fails because the paradigm openly admits investigator-respondent (or object) interaction and the role of values. The case will later be made that there exist substitute criteria (called credibility, transferability, dependability, and confirmability) together with corresponding empirical procedures that adequately (if not absolutely) affirm the trustworthiness of naturalistic approaches.

Coherence (Mutual Reinforcement) Among the Characteristics

A second justification for claiming that the above list of fourteen characteristics is justifiable for naturalistic inquiry is the fact that they display a remarkable coherence and interdependence. One simple illustration will suffice to make the point that each may be taken as a *raison d'être* for the others; and that the exclusion of any one of them would seriously damage all.

In doing research from a naturalistic perspective, N is forced into the natural setting because he or she cannot specify, without an *a priori* theory or hypothesis, what is important to control or even to study. Until N has spent some time in the setting he or she cannot specify the focus (problem, evaluand, or policy option) in more than rudimentary form, or place boundaries on it. N could not design a contrived study (an experiment, say) because he or she would not know what to contrive. If theory is to be grounded in data, those data must first be located and analyzed inductively. Since N cannot specify the precise form of the data to be sought, he or she must fall back on an open-ended adaptive instrument: the human being, who, like the "smart bomb," can identify and wend its way to (purposefully sample) the target without having been precisely preprogrammed to strike it. Humans find certain data collection means more congenial than others; they tend toward the use of qualitative methods that "extend" human senses: seeing, hearing, and tacit "sixth-sensing" that lead one to observation, interview, documentary analysis, and the like. These methods results in insights and information about the sending context so that the extent of transferability and applicability in some other receiving

context may be judged. No aggregations, no generalizations, no cause-effect statements can emerge, but only idiographic interpretations negotiated with knowledgeable respondents; hence an air of tentativeness surrounds any proposed application. Finally, the case study mode lends itself well to the full description that will be required to encompass all of these facets and make possible understanding on the part of a reader (building on his or her own tacit knowledge and making "naturalistic generalizations" possible). Judgments about the trustworthiness of such a process cannot be made with conventional criteria; criteria devised especially for and demonstrably appropriate to naturalistic inquiry are required.

AN OVERVIEW

The remainder of this volume is devoted to a fuller explication of the ideas that have been introduced so sketchily in this chapter. Chapter 2 is an effort to provide further legitimation for the naturalistic paradigm by showing its resonance with a more encompassing new "paradigm of thought and belief" that draws upon *substantive* (rather than merely methodological) vanguard ideas from a wide variety of disciplines. Chapters 3 through 7 deal in more detail with each of the five axioms—reality, knower-known interaction, generalizability, causality, and values—and make the case that the naturalistic version of these axioms provides a better fit to sociobehavioral phenomena at least, if not to all phenomena. Chapter 8 deals in more detail with the first thirteen of the fourteen characteristics listed in this chapter, and closes out the first and more theoretical part of the book.

Beginning with Chapter 9, we attempt to provide more practical guidelines for the actual *doing* of naturalistic inquiry. That chapter discusses the design of a naturalistic study (although, as the reader can guess, the term "design" will be found to have a somewhat different meaning than is conventionally the case). Chapter 10 gives directions for actually carrying through a design. Chapter 11 returns to the theme of trustworthiness techniques. Chapter 12 outlines the procedures for inductive data processing, and Chapter 13 for writing the case study and closing out the inquiry with a general member check and audit.

NOTES

1. The concept of "preservation of appearances" was common in medieval and early positivist periods.
2. The wisdom of taking T_1 on faith (as one often must) is called into question by the frequency with which it is discovered that one or another well-known scientist has "fudged" the data.

3. We are aware that this definition of *paradigm* is not that which scientists customarily use, that is, a model or pattern (as for example, a paradigm equation that illustrates the procedures for solving an entire class of equations). It is, however, consistent with the use of that term by Kuhn (1970) and others who have written in a similar vein about "paradigm revolutions."

4. A serious question can be raised whether any theory that aims at comprehensiveness can also be perfectly coherent. Gödel's Theorem in mathematics suggests that a comprehensiveness/coherence union is in principle impossible. See the excellent discussion in Hofstadter (1979).

5. We cannot resist citing a memorable paragraph from Julianne Ford (1975, p. 149), who, in describing operationism in terms of the concepts of Percy W. Bridgman, a staunch advocate, says:

Bridgman's argument is quite simply that to be meaningful a variable must be defined in terms of the measurement operation that would be involved in detecting it in reality. This view is usually termed *operationism* (though it is sometimes referred to as *operationa!ism*) and it amounts to the methodological assertion that any variable which cannot be directly represented by a measurement operation has no place in science. Thus a hypothesis like "*Those rabbits will be afraid*" is regarded as meaningless. However, the statement, "*Those rabbits will be seen to be emitting more faecal boluses per hour than is normal for rabbits*" is perfectly meaningful as far as Bridgman and his men are concerned. Fear, then, is meaningless to the operationist but an observably increasing defecation rate does have meaning. (Notice incidentally that Cockneys seem to think that Bridgman has a point: The Cockney rarely says "Huck is afraid", instead he says "Huck is shitting himself".)

6. This same metaphor also served David Hume in his critique of the concept of causality. See Chapter 6.

7. Harre's reference to the "Paduan professors who refused to look through Galileo's telescope" is a famous instance of what might be called the "reluctant mind," the mind that refuses to accept the need for a new paradigm and that capitalizes on what we earlier termed the "loose coupling" of theory. Galileo, it will be recalled, had gotten himself into trouble with the Church (it was only in 1983 that the Church admitted having committed a major blunder in Galileo's case; *Time*, May 23, 1983, p. 58) because of his publications outlining a heliocentric universe, a formulation clearly at odds with the Church's position that the universe was geocentric. Ordered to an inquisition in 1633, he was censured and actually condemned to death, although the sentence was suspended in view of his abject recantation. But prior to the official "hearing," Galileo was visited in Padua by a group of inquisitors, composed (to the eternal shame of all academics) mainly of professors from the nearby university. According to the story, which may well be apocryphal, Galileo invited his visitors to look through his telescope at the moon and see for themselves the mountains and the craters that the marvelous instrument revealed for the first time. But his inquisitors refused to do so, arguing that whatever might be visible through the telescope would be a product not of nature but of the instrument. How consistent this position is with Aristotelian "naturalism"! Galileo's active intervention in building the telescope and viewing the moon through it were, to the inquisitors' prepositivist minds, an exact illustration of how the *active* observer could distort the "real" or "natural" order. Their posture was perhaps not so much a "glorying in ignorance," as Harre claims, but adherence to the best "scientific" principles of the time.

Another example of the fact that even the best thinkers of an era may have difficulty in throwing off the constraints imposed by the paradigm they follow can be found in the conversion of the field of chemistry from a phlogiston-based theory of combustion and calcination to an oxygen-based theory. The oxygen theory seemed to offer a better explanation of these two phenomena than did the phlogiston theory/and, indeed, offered an explanation of several other phenomena that had not been contemplated by the phlogiston theories: respiration and acidity. Chemists steeped in the phlogiston theory were accustomed to working with equations that included terms for either the absorption or emission of phlogiston. When Lavoisier provided a variety of evidence in support of the oxygen theory, many chemists were prepared to accept his formulation but stumbled over one crucial issue: What happened to the phlogiston in Lavoisier's equations? They could not understand that the very concept of phlogiston was foreign to the paradigm being offered by Lavoisier; that it did not require explanation in the new paradigm, that the construction of the new paradigm denied phlogiston's existence. For an instructive treatment of this important piece of chemical history, see McCann (1978).

8. The reader should recall at this point our earlier caveat about describing the positivist paradigm in terms that best accommodate the rebuttal or counterproposal that the critic intends to make.

9. The reader should be aware that we use the term "postpositivist" to refer to paradigms that represent genuine breaks with the positivist tradition. A substantial number of writers who refer to their own work using this phrase are, in our terms, only *neopositivists*. They have attempted to respond to criticisms of positivism by making adjustments or accommodations, not by radical revision. They represent modern-day counterparts of the "reluctant minds" that we have already encountered in our description of the "Paduan professors" or the phlogiston-oriented chemists. We shall return to this theme repeatedly throughout this book.

10. One notable difference between conventional and emergent paradigms can be detected in the terminology common to each to describe human entities being studied. Positivists tend to call them "subjects," or even "objects of inquiry," treating them as though they were equivalent to the inanimate objects encountered in physics and chemistry. We prefer to call them "respondents," a term that not only retains their humanness but reminds us of the interactive character of human inquiry.

11. The language of this and the following section follows closely Guba and Lincoln (1982).

12. This assertion is one of the most central in this book. If it were not the case that these various value aspects could be resonant or dissonant, one need not be too concerned about which paradigm was being used in any particular inquiry. But it is precisely because the foci of modern inquiry and the substantive theories used in their study may rest on assumptions that are inconsistent with those of the positivist paradigm that it is imperative to move to a paradigm that *is* resonant. The fact that the emergent substantive theories in virtually all disciplines are better supported by the naturalist paradigm will be argued in Chapter 2.

13. Hofstadter (1979) points out that adaptability and perfectability stand in a trade-off relationship to one another. The more perfect an instrument is for some specific purpose, the less adaptable it must be for other purposes. The human, while far from perfect as an instrument, is nevertheless infinitely adaptable.

Researching Leisure, Sport and Tourism

The Essential Guide

Jonathan Long

2007

Ch. 2



Los Angeles | London | New Delhi
Singapore | Washington DC

Ways of Knowing, Ways of Seeing

The relation between what we see and what we know is never settled ... The way we see things is affected by what we know or what we believe. (Berger, 1972: 7–8)

Different people do research in different ways. This leads to fierce arguments. I want to avoid suggesting that there is a single right way to do research, and instead provide the means by which researchers can decide for themselves how best to proceed in order to resolve the challenge they have set themselves. Continually improving research practice gives confidence in the quality of the findings. This chapter will address:

- formulating a do-able research challenge and refining a manageable set of questions
- the range of techniques available in the researcher's armoury
- rehearsing arguments and posing questions
- the rationales and remits that establish the point of the research
- research design – from case study to controlled experiments
- the process of doing research.

As I pointed out in the opening chapter, some people have very definite views about *the* way to do research. Having followed many different approaches and used many different techniques, I just do not see the world like that. Everything has to flow from what you decide you need to know. The relationship between the research question, the data needs and the techniques is crucial, and one research style should not be expected to suit all occasions.

Getting Your Research Underway

People often find identifying a suitable research challenge extremely difficult. Some people choose to do an extended literature review. This is not the easy option many imagine it to be because a descriptive account is not acceptable. This route requires considerable powers of synthesis and analysis, and being comfortable with sophisticated theory is a prerequisite. Consequently most students choose to incorporate some empirical component to gather their own data – that at least gives a story to tell.

You should not assume that all research has to be grand or abstract; indeed, for your purposes it is better for it not to be. Equally, you should not undervalue your own interests. So if you have been involved in stamp collecting, Civil War re-enactments or your idol's fan club since the age of 8, why not try to work out how that can be related to ideas addressed on the course? But beware; simply having been mad about football since before you could walk is not enough to provide the rationale for the research. There needs to be something that suggests intellectual inquiry, the wanting to know bit. While university supervisors may emphasise the links to theory, employers may emphasise the link to policy. This may affect the shape of the research itself or the nature of the reporting.

What interests you?
What have others done?

Just jot down any ideas that come into your head. What is it that intrigues you about your area of interest? You cannot just stop there. There then has to be some process of refinement and you have to be convinced that what you are proposing is worth knowing.

Some questions to ask yourself:

- How does my chosen topic relate to the subject matter of the course? If you are doing the research as part of your job, you need to be clear how it will relate to the goals of your department/organisation.
- Do I have the resources to do it (time, money, contacts, means of travel, etc.)?
- Do I have the knowledge and skills to do it? If not, how can I acquire them?

Identifying a Dissertation Challenge

Most dissertations can be seen to address one of just a handful of different kinds of challenge (by all means try to identify more).

Filling in gaps

e.g., *We know _____ about the relationships between work and leisure, but not the reactions of the worker's family. So _____*
 or, *Belt and Braces gathered a large amount of data about the relationship between different types of leisure and health. However, in their preoccupation with physical fitness they overlooked the data they had on mental wellbeing. I intend to analyse this to _____.*
 (Be careful that the gap you identify is a real one and there isn't already a body of work addressing just that.)

Changes over time

e.g., *20 years ago Long found that leisure activities in retirement were essentially the same as before retirement. Since then _____ changes have occurred, so I shall repeat the earlier study to find out if the same pattern persists.*
 or, *Does the trail of abandoned cinemas/bowling greens/tennis courts in Birmingham tell us more about shifts in population or shifts in fashion?*

Evaluation of an initiative

e.g., *Midtown Library Service will be running a read-a-book scheme. I shall monitor its progress and evaluate its success in changing reading patterns among people from different educational backgrounds.*

Cross-cultural comparisons

e.g., *Crompton found this in the US, but Britain is different because _____, so can we expect the same to apply here?*

Applying someone's theory to new circumstances

e.g., *Bourdieu's ideas of 'cultural capital' have rarely been applied to aspects of working class culture. I intend to explore whether the same frameworks can be applied in the arena of gambling, and try to work out the implications for the industry.*

Contrasting the explanations different theories offer for the same phenomenon (and exploring the consequences for practice)

e.g., *I shall examine the evidence for feminist and anthropological explanations of group behaviour in city centres, and explore the likely effectiveness of alternative methods of control within each of these frameworks.*

Applying someone's model

e.g., *Slack has proposed that the best way for a company to address organisational change is _____. I shall examine how closely Bettalezya followed this process, how issues were dealt with and with what success.*

Research Techniques

It seems commonplace for people approaching social research for the first time to take for granted that they will be doing a questionnaire. There are many good reasons for using social surveys, but there should be no presumption that this should be the approach of choice. Later chapters introduce alternatives, but there are many more.

My apparently trivial example in the previous chapter of feeling '77 bad today' is the kind of issue that underlies discussions about how we find out about the world and what passes for knowledge. Accurate measurement allows comparison. Can we measure the kinds of thing we talk about in the social sciences? Some choose their research techniques in the firm belief that it is vital that we should find a way of doing so; others are equally convinced that such precision is an illusion and a distraction from finding out how social processes operate.

Exercise

It is not unusual to hear professionals and policymakers arguing that leisure enhances quality of life (or promotes social inclusion or aids neighbourhood renewal). This is normally a statement of belief rather than something for which they have any evidence. So if you were set the challenge of trying to do some research that would help address whether or not that kind of claim is justified, where would you start?

Some important principles:

1. *Define your terms* – It is important to be clear and precise about what you are investigating.
 - What is meant by 'quality of life'?
 - Is leisure more than just sport?
2. *Narrow the focus* – You would be well advised not even to think about trying to address the question as a whole. Instead, choose a manageable chunk. So you might decide to examine whether those involved in a wider variety of leisure pursuits report a higher level of life satisfaction. Is 'variety' the most important consideration?
3. *Decide what evidence you will need* – How would you measure variety of leisure pursuits and life satisfaction? Do you need a quantitative measure or is this an occasion when qualitative data would tell you more?
4. *Question the (potential) findings* – If we find a relationship does that imply we know what causes improvements in the quality of life? Suppose that those involved in a wider variety of leisure pursuits did in fact report a higher level of life satisfaction, maybe they are able to take part in this variety of leisure because they have a higher income and it is this higher income that is determining their satisfaction with life.

Research Design

I mentioned in the opening chapter that many social researchers have been bewitched by the scientific method, so I shall take as my starting point here the basics of the *experimental* method which tries to establish causal relationships through examining whether a change in one thing leads to a change in another. In its simplest form:

- Step 1 Hypothesise some relationship between a causal variable (the independent variable, conventionally labelled X) and some form of performance (the dependent variable, conventionally labelled Y) [e.g. 'increased stamina improves performance' or, in the previous example, 'a wider variety of leisure activities leads to higher levels of life satisfaction'].
- Step 2 Randomly allocate people to two groups.
- Step 3 For both groups, measure the key variable you are interested in [e.g., stamina or number of leisure activities and indicator of performance or life satisfaction]
- Step 4 Give some treatment to one group (the treatment group) but not the other (the control group) and keep all other conditions the same. [The treatment might be in the form of nutritional supplements, a training programme, classes at the leisure centre or anything that is hypothesised to bring about change.]
- Step 5 Repeat the measurement of Step 2.

If some change has been recorded in the treatment group and not in the control group, the cause of the change is attributed to the treatment, as long as nothing else has been changed.

Researchers gradually became aware of various limitations in this approach, and devised more sophisticated designs to try to address those shortcomings.¹ Although sport psychologists often try to replicate the conditions of experimental design, elsewhere in our field of leisure, sport and tourism it is not common. The problem is that in social research it is rarely possible to conduct even the basic experimental design. Instead the research designs are usually less structured, and as a consequence it may not be possible to say confidently that one thing causes another.

¹For example, it was realised that some people may have been affected simply because they were being 'treated', independent of the 'treatment' itself, ie they were responding to something being done or someone taking an interest in them. To counteract this a group was included in the research design that received a placebo, something which of itself should have no impact on the outcome.

Consider, for example, an area of considerable contemporary interest – whether sport, the arts, outdoor adventure or other leisure pursuits can be used to divert people from crime. Quite apart from problems of measuring sport/arts/adventure and crime, the chances are it is not possible to allocate people randomly to treatment and control groups. It may not even be desirable, never mind possible, to administer the same dose of sport to each person in the control trial; it is impossible to hold the other aspects of people's lives constant, and other than in exceptional circumstances you can hardly prohibit those in the control group from taking part in sport. Nonetheless people do try to put together experiment-like research designs to meet such research challenges, and you can try to work out what that might look like in these circumstances. Experimental design is not foolproof though. It cannot protect against a wrongly formulated model. A researcher may think they have established that involvement in sport has turned people away from crime, but the key variable may have been the charisma of the person running the project or the social contact provided by the sessions rather than the activity itself.

Elsewhere the research design problems may be less complex. We may, for example, be interested in how to reduce the amount of litter left at picnic sites in national parks. Assuming we can devise a good measure of the amount of littering that can be administered at different points in time, part way through that sequence we might remove all litter bins from picnic sites in one park (in the belief that people will then take their litter home), mount an anti-litter media campaign in the catchment area of another and leave things unaltered in a third. The consequences can then be carefully tracked in each park, though of course the visitors have not been randomly allocated to the three parks. Alternatively, we may be more interested in why littering occurs and in what circumstances.

Working with a single group receiving the 'treatment', conducting repeat measures (or soundings), still represents a **longitudinal** study. Returning to our sport and crime example, researchers might gather data at the start of a project (or even before) and again some time into the project or at its end. This might be with the same individuals on both occasions, a panel (e.g. the young people on the programme), or with different people drawn from the same population (e.g. for community perceptions of violence/crime). Although this lacks the random allocation to treatment and control groups, the interest is still with change over time.

However, the majority of small scale studies in social research are either **cross-sectional studies** or one-off **case studies** conducted in one place at a single point in time (snap shots).

A **cross-sectional study** might involve a community survey to establish people's views on how threats to safety limit their leisure choices; or it might be a survey

of those in a young offenders' institution to identify their characteristics, how they got involved in crime and their attitudes towards crime and corrective practices. What happens then is that the researcher searches for how different groups vary in their attitudes or behaviour. This might mean seeing if there is any difference in the way in which fear of crime varies according to age, gender, how long people have been resident in the area, whether or not they have been the victims of crime or whether there is a diversionary project running in their area. In such circumstances attempts to establish causal relationships come not through allocating people randomly to groups as above, but through statistical procedures to 'control' the effect of different variables to try and identify whether, for example, committing crime can be attributed to educational experience, peers, parental influence or (lack of) involvement in sport.

Continuing with our example, a **case study** might involve examining the success of a project that has been set up among young people considered to be 'at risk' with a view to diverting them from crime. While this might not produce 'hard' data to prove a link between participation in the project and deviant behaviour, it might be possible to identify participants' interpretations of what causes them to engage or not engage in such behaviour and whether they think leisure activities play any part in that. Typically a case study would not be concerned only with those receiving the 'treatment', but all the players in the game (e.g., policymakers, project workers, local residents) as well as the structures and operations of the project.

Of course, anything observed in that case study may be peculiar to that place/project. The research design might therefore be strengthened by examining two or more projects to introduce a *comparative* dimension. It is, of course, possible to introduce a comparative dimension *within* a case study to provide a focus for interpretation and analysis. This might involve comparing how males and females react to the demands and opportunities of the programme. Comparative studies may be either cross-sectional or longitudinal.

Your interest may instead be in the use of libraries or allotments as a leisure resource or the phenomenon of Disney Land/World. It should be fairly straightforward to identify the same kinds of research design that might be put into operation in that context (see also Chapter 16 on writing a research proposal). Whatever the design, researchers should always go looking for alternative explanations and never believe their own publicity. Others will certainly be asking questions about whether or not the research really addresses the issues it claims to (the validity of the measures involved), whether the logic of the argument justifies the conclusions (commonly referred to as **internal validity**), and how generalisable the findings are to other circumstances (commonly referred to as **external validity**).

Most researchers share these concerns, but those who prefer a more qualitative approach may talk about them in a different way (Chapter 15).

Mixed Method and Triangulation

In scientific research researchers are expected to test the reliability, validity and generality of findings. In social science we cannot expect to know things precisely, but the more times we examine something in different ways the more we increase our chances of understanding what we are studying. The term most commonly associated with this in the research literature is 'triangulation'.² This is all about taking different fixes, different bearings on the phenomenon under investigation, from different perspectives. These alternative 'takes' can come in several forms, through:

- *Data* – Staying with the theme introduced above, imagine a scenario in which some children are playing in a newly provided adventure play area when a group of slightly older children turns up; apart from one, the younger children soon leave; later a fire breaks out at the play area. The researcher may compare accounts given by different youngsters, then draw in the interpretations of the youth worker and local police officer and compare all those accounts with CCTV footage.
- *Methodologies* – It is not hard to imagine different styles of research in similar circumstances that use personality profiling, observation, interviews or video diaries, so more than one of these might be combined within a single study to gather different kinds of information.
- *Theories* – Different insights might be provided by applying different theories to analyse and interpret the data being collected (in this case we might use theories of personality, territory or gender, for example).
- *Researchers* – Presented with the same data different researchers may offer different interpretations because of their personal background, experience of similar events or academic training.
- *Cases* – scientific replication may not be possible in the social sciences (we cannot treat 'the real world' as a laboratory in which everything is controlled), but we might still want to explore what element of replicability can be established in different circumstances – analogous to the comparative research design discussed earlier in this chapter.

²I'm not sure of the origins of the term. I first came across it in Norman Denzin (1970) *The Research Act*.

If they come up with the same findings we start to have some confidence that maybe the suggested relationship really does exist. If they do not, it should suggest new ideas and theories to us.

The hope is that different lines of inquiry will be confirmatory, reinforcing each other and our confidence in our findings. However, in the face of the desire to arrive at *the* answer, one of the most important benefits of using multiple methods and different perspectives may be to reduce inappropriate certainty, to avoid us having blind faith in our findings and accepting an explanation that may not be warranted (Robson, 1993).

Although they are not quite the same, other writers use multi-method or multiple strategies to address similar ideas. You need to be clear about what you think each approach will contribute to your research, not use multiple methods just because you think it is 'the done thing'.

The Research Process

When I read about other people's research I am curious to know the story of the research, so I can work out how the conclusions have been arrived at. The research process is a complex mix of the methodical and the creative. One of my previous bosses was fond of describing it as 99% perspiration and 1% inspiration (he did not pretend that was original) in order to make sure I did not labour under any romantic notion that I could get away with not doing the hard graft. The research process associated with the scientific method introduced above might be summarised as being:

observation $\Rightarrow$ formulate preliminary theory $\Rightarrow$ devise testable hypothesis $\Rightarrow$ collect data $\Rightarrow$ conduct analysis to test hypothesis $\Rightarrow$ confirm/revise theory.

Although it represents a model he was not particularly comfortable with Bulmer (1977: 6) identified an ideal-typical approach to social research that he likened to a military campaign:

design the research $\Rightarrow$ select sampling procedures $\Rightarrow$ construct a questionnaire $\Rightarrow$ collect data $\Rightarrow$ coding and analysis $\Rightarrow$ interpretation and reporting.

Like many others, my experience of research in leisure, sport and tourism has been that the process is less straightforward than either of those suggests. In one of our research projects some time ago (Long et al., 1988) the process was more like that set out below.

The Research Process

- 1 Purpose
- 2 Audience
- 3 Focus
- 4 Questions (hypotheses)
- 5 Information Needs
- 6 Information Sources (+ negotiating access)
- 7 Methods
- 8 Time and Resources
(how the practical constrains the desirable)
- 9 Procedures
(including sampling)
- 10 Data Gathering
(after pilot, pre-test or trial)
- 11 Data Preparation
(e.g. coding and data entry)
- 12 Analysis and Interpretation
- 13 Writing-up
- 14 Dissemination

N.B.

- (a) all stages are interlinked
- (b) think through all stages before starting
- (c) data gathering is Stage 10 not Stage 1
- (d) in practice the process is not as neat as this

That piece of research was done to inform the Local Education Authority's policy on community schooling, but to test the transferability of the process to other circumstances I have tried to work through how it might apply to someone doing their research on that ever popular topic of football hooliganism.

1. *Purpose* – This simply establishes a general starting point. For the current exercise we shall take this as being 'to explore the nature and consequences of football crowd behaviour'.
2. *Audience* – That starting point might suggest any number of possible research projects, and different groups/organisations will have different priorities and push the research in a particular direction. The Home Office might choose a different research project from the clubs, which might in turn differ from the interests of academics. Dissertation research may have to satisfy the demands of both tutors and people 'out there' who have agreed to co-operate in your research.

3. *Focus* – The particular focus may be suggested by a review of the literature. So, for example, you may have identified that a major gap in the literature is the impact the behaviour of the fans has on local residents. The focus may also be suggested by related theories – theories of risk, territoriality, masculinity, the civilising process, cultural conflict ...
4. *Questions* – Whatever the focus you choose it is likely to suggest a whole set of more precise questions that you might be interested in, for example:
 - How do the views of business owners and residents compare?
 - Is there a difference in the experiences of white and black residents?
 - Are arrests for incidents between fans, offences against other people or against property?
 - What is the reaction in those communities where the stadium has been relocated away so that it no longer affects them?

In scientific research such questions would be reformulated into hypotheses (and you may wish to follow that route), but in other styles of research in the social sciences such issues are simply used to give shape and direction to the research.

5. *Information Needs* – It is then necessary to identify what information is going to be needed. In this case we might need some record of offences or people's reactions/feelings.
6. *Information Sources* – The source of the relevant data has to be identified: the archives of the local newspaper, police/club records, police officers themselves, local residents, your own observations in the field. Check that these sources will actually produce the information you need. Check too that you can get access to them (negotiating access may be especially difficult for a student project).
7. *Methods/Techniques* – You might start out doing a statistical analysis of arrest data to try to identify trends, supplement that with individual or group interviews with officers so you can understand how the statistics relate to what happened on the day, and administer a questionnaire to local people to find out how people's attitudes vary.
8. *Time and Resources* – There never seems to be enough money or time, so the practical must constrain the desirable. Map out what can be done with the resources available or heartache will follow. Your friend in the statistics department may tell you that you need 1000 respondents, but if you are the only interviewer that is unlikely. Be realistic about what can be achieved so you don't bite off more than you can chew. On the other hand your tutor/boss is not going to be amused if they think you have been skiving and not doing much work.

9. *Procedures* – Think through what you are actually going to do and then run a pilot (trial run) to see if it works in practice. Where, when and how is it best to do the research? How will you get there, how will the sample be selected and the data collected, what will you do if it rains?
10. *Data Gathering* – Only after all that has gone before are you able to collect your data.
11. *Data Preparation* – You have to get the data into shape so you can try and make sense of it. This often involves coding, whether the data are in the form of questionnaires, lengthy interviews, police reports or your field notes from attendance at matches. Quantitative data, and increasingly qualitative too, have to be entered into computer files.
12. *Analysis and Interpretation* – Pure description is rarely enough, even if you have managed to quantify some component of behaviour/outlook. Reporting that 27% of residents said something may be of some interest, but does not advance our understanding very far (especially if you have to add that they are only four people). So you might at least consider if there is a difference between male and female residents or the behaviour of fans of different ages. What can you say about why or how something happened? Importantly, you need to consider what implications your findings might have for theory, policy or practice.
13. *Writing-up* – I enjoy this, but only if there is enough time to do a good job. Don't underestimate how long this stage will take, especially as it is important to leave time for editing and proof-reading. It is important to take into consideration once again the audience (academics or professionals; councillors or officers; customers or Board members) and to choose an appropriate style.
14. *Dissemination* – Having spent a lot of time doing the research it seems only sensible to make sure that the findings get noticed by as many people as possible.

Four important points should be noted from this.

- (i) The research process is normally far messier than a model like this might imply. By the time the report gets written, it has been tidied-up ... and you don't want to know about the mistakes.
- (ii) The different stages are interlinked and, typically, one stage overlaps with another.
- (iii) Data collection is only stage 10 in this process. Which particular stage it is matters less than an appreciation that data gathering is not the first step in the research process. A lot needs to happen before that. To coin a popular aphorism, 'prior preparation prevents piss poor performance'.
- (iv) Of course things will change, but it is important to think through all the stages before setting out.

It is good practice to get into the habit of keeping a research diary, noting what decisions have been taken, what has happened to you, your reactions to what you have seen or been told. It is also important to engage in conversations with yourself, asking questions about how the research is being conducted and your own role in that,³ and possible interpretations of what you have seen and heard.

Research Planning

While you are just talking about the research it is easy to bluster – many of us have become quite practised at that – so it is a good idea to find an alternative way of representing the research. Try drawing a diagrammatic representation of what it is about with boxes and arrows to show the imagined relationships. Having refined the nature of the research challenge it is also important to clarify the data requirements. Completing a simple table like that in Figure 2.1 will help here. For each of the research questions you want to address (sub-divide these as much as possible), record the information you will need if you are to say anything sensible about your chosen topic, and then identify where that is going to come from.

Identify area of research interest ... review ... focus ... and then ask yourself:		
What questions am I interested in?	What information do I need to be able to answer those questions?	How will I get it?

Figure 2.1 Research Planning

When working on an extended research project it is important to have a route map that charts the expected journey through the process. This often takes the form of a timeline, setting out key stages, milestones and thresholds. In any project some

³Much has been written in recent years about 'the reflexive researcher', which is concerned with the impact researchers have on the world around them and upon the findings of the research, because of their own experience, their understanding of how the world operates and their impact on others.

things cannot be done until other stages have been completed. A good project plan containing a timeline should make sure that the necessary building blocks are in place at the right time – make sure that important stages like negotiating access/approval are not left out. For all my insistence that the preparatory stages are important, it is vital that you press on at this stage and don't procrastinate. Data collection, analysis and writing all need substantial blocks of time and should not be squeezed so that corners have to be cut. The schedule needs to have enough flexibility to allow time to recover from a computer virus or the Managing Director taking a week longer than expected to grant permission for interviews with the firm's employees. This exercise also helps to maintain momentum through the course of the project, offering a way of monitoring progress and providing reminders.

Those involved in sport may be familiar with ideas of 'the inner game' or mental rehearsal. It is useful to apply the same principles here. Project yourself into the future and imagine you are actually doing each step of the research. If you can do this well it will cut out some avoidable mistakes.

Exercise

Many of these ideas seem very abstract and hard to relate to when talked about in these terms. Find an article that you like in one of the academic journals and then try to work out:

- How has the research problem been formulated?
- What are the key issues and variables under consideration?
- How did the researcher(s) understand/measure these? (It is hard enough to measure, examine or assess something like income never mind more complex ideas like social class or power.)
- What was the basic structure of the research design – experimental, longitudinal, cross-sectional, case study, comparative?

Ask these same questions of your proposed research.

Further Lines of Enquiry

For those working in more scientific parts of the leisure, sport and tourism area, a useful introduction to the idea of experimental research design can be found in Thomas and Nelson's (2001) *Research Methods in Physical Activity*. In the context of social research, try de Vaus's (2002) book *Surveys in Social Research*. For anyone wanting to explore these issues in more detail de Vaus (2001) has devoted a complete book to the examination of research design, in which he presents design as the logical structure of enquiry.

From: Critical Ontology and Indigenous Ways of Being: Forging a Postcolonial Curriculum (in Yatta Kanu (2006) (Ed.), *Curriculum as Cultural Practice: Postcolonial Imaginations*. Toronto: University of Toronto Press.

Critical Ontology and Indigenous Ways of Being: Forging a Postcolonial Curriculum

Joe L. Kincheloe

Mainstream teacher education provides little insight into the forces that shape teacher identity and consciousness. Becoming educated, becoming a postcolonial teacher-scholar-researcher necessitates personal transformation based on an understanding and critique of these forces. In this context this chapter develops a notion of critical ontology (ontology is the branch of philosophy that studies what it means to be in the world, to be human) and its relationship to *being* a teacher in light of indigenous knowledges and ontologies. As teachers from the dominant culture explore issues of indigeneity, they highlight both their differences with cultural others and the social construction of their own subjectivities. In this context they come to understand themselves, the ways they develop curriculum, and their pedagogy in a postcolonial world. Such issues become even more important at a time where new forms of economic, political, and military colonialism are reshaping both colonizing and colonized societies. This chapter makes three basic points:

Critical ontology is grounded on the epistemological and ontological power of difference.

The study of indigeneity and indigenous ways of being highlights tacit Western assumptions about the nature and construction of selfhood.

A notion of critical ontology emerges in these conceptual contexts that helps us push the boundaries of Western selfhood in the twenty-first century as we concurrently gain new respect for the genius of indigenous epistemologies and ontologies.

What Is Critical Ontology?

In this context we engage in the excitement of attaining new levels of consciousness and "ways of being." Individuals who gain such a critical ontological awareness understand how and why their political opinions, religious beliefs, gender role, racial positions, and sexual orientation have been shaped by dominant cultural perspectives. A critical ontological vision helps us in the effort to gain new understandings and insights as to who we can become. Such a vision helps us move beyond our present state of being--our ontological selves--as we discern the forces that have made us that way. The line between knowledge production and being is blurred, as the epistemological and the ontological converge around questions of identity. As we employ the ontological vision we ask questions about ethics, morality, politics, emotion, and gut feelings, seeking not precise steps to reshape our subjectivity but a framework of principles with which we can negotiate. Thus, we join the quest for new, expanded, more just and interconnected ways of being human.

An important dimension of a critical ontology involves freeing ourselves from the machine metaphors of Cartesianism. Such an ontological stance recognizes the reductionism of viewing the universe as a well-oiled machine and the human mind as a computer. Such colonial ways of being subvert an appreciation of the amazing life force that inhabits both the universe and human beings. This machine cosmology has positioned human beings as living in a dead world, a lifeless universe. Ontologically, this Western Cartesianism has separated individuals from their inanimate surroundings, undermining any organic interconnection of the person to the cosmos. The life-giving complexity of the inseparability of human and world has been lost and social/cultural/pedagogical/psychological studies of people abstracted--removed from context. Such a removal has exerted disastrous ontological effects. Human beings, in a sense, lost their belongingness to both the world and to other people around them.

The importance of indigenous (Semali and Kincheloe, 1999; Steinberg, 2001) and other subjugated knowledges emerges in this ontological context. With the birth of modernity, the scientific revolution and the colonial policies they spawned, many pre-modern, indigenous ontologies were lost. Ridiculed by Europeans as primitive, the

indigenous ways of being were often destroyed by the colonial conquerors of not only the military but the political, religious, and educational variety as well. While there is great diversity among pre-modern worldviews and ways of being, there do seem to be some discernible patterns that distinguish them from modernist perspectives. In addition to developing systems of meaning and being that were connected to cosmological perspectives on the nature of creation, most premodern viewpoints saw nature and the world at large as living systems. Western, often Christian, observers condescendingly labeled such perspectives as pantheism or nature worship and positioned them as an enemy of monotheism. Not understanding the subtlety and nuance of such indigenous views of the world, Europeans subverted the sense of belonging that accompanied these enchanted understandings of nature. European Christomodernism transformed the individual from a connected participant in the drama of nature to a detached, objective, depersonalized observer.

The Western modernist individual emerged from the process alienated and disenchanted. As Edmund O'Sullivan (1999) puts it, Cartesianism tore apart "the relationship between the microcosmos and the macrocosmos" (p. 18). Such a fragmentation resulted in the loss of cosmological significance and the beginning of a snowballing pattern of ontological imbalance. A critical ontology involves the process of reconnecting human beings on a variety of levels and in numerous ways to a living social and physical web of reality, to a living cosmos. Of course, in this process Westerners have much to learn from indigenous educators. Teachers with a critical ontological vision help students connect to the civic web of the political domain, the biotic web of the natural world, the social web of human life, and the epistemological web of knowledge production. In this manner, we all move to the realm of critical ontology where new ways of being and new ways of being *connected* reshape all people.

THE POWER OF DIFFERENCE

The concept of difference is central to a critical ontology. Gregory Bateson uses the example of binoculars to illustrate this point. The image of the binocular—a singular

and undivided picture—is a complex synthesis between images in both the left and right side of the brain. In this context a synergy is created where the sum of the images is greater than the separate parts. As a result of bringing the two different views together, resolution and contrast are enhanced. Even more important, new insight into depth is created. Thus, the relationship between the different parts constructs new dimensions of seeing (Bateson in Newland, 1997). Employing such examples of synergies, critical ontologists maintain that juxtapositions of difference create a bonus of insight. This concept becomes extremely important in any cognitive, epistemological, social, pedagogical, or self-production activity.

Deploying difference: Using subjugated/indigenous knowledges in critical ontology

Cartesian rationalism has consistently excluded subjugated/indigenous knowledges from validated databases in diverse disciplines. These local, unauthorized knowledges are central to the work of the bricolage. Too often in Western colonial and neo-colonial history Europeans have viewed the knowledges and ways of seeing of the poor, the marginalized, and the conquered in a condescending and dismissive manner. Many of these perspectives, of course, were brimming with cosmological, epistemological, and ontological insight missing from Western perspectives. Western scholars were often simply too ethnocentric and arrogant to recognize the genius of such subjugated/indigenous information. Critical ontologists unabashedly take a hard look at these perspectives—not in some naïve romantic manner but in a rigorous and critical orientation. They are aware that Western scientific thinking often promotes contempt for indigenous individuals who have learned about a topic such as farming from the wisdom of their ancestors and a lifetime of cultivating the land. Many of the subjugated knowledges critical ontologists employ come from postcolonial backgrounds. Such ways of seeing force such scholars and teachers to account for the ways colonial power has shaped their approaches to knowledge production while inscribing the process of self-production.

Starting research and pedagogy with a valuing of non-Western knowledges, critical ontologists can spiral through a variety of such discourses to weave a multilogical theoretical and empirical tapestry. They can even juxtapose them with Western ways of seeing. For example, using a Hindu-influenced ontology that delineates the existence of a non-objective, purposely constructed reality, a critical theory that traces the role of power in producing this construction, a Santiago cognitive theory that maintains we bring forth this constructed world via our action within and upon it, and a poststructuralist feminist theory that alerts us to the ways patriarchal and other structures shape our knowledge about this reality, we gain a more profound understanding of what is happening when human beings encounter the world. The insights we gain and the knowledges we produce with these concepts in mind move us to new levels of both epistemological and ontological awareness. Such an awareness may be similar to what the Vajrayana tradition of Buddhism calls “crazy wisdom.” Critical ontologists seek the multilogical orientation of crazy wisdom in their efforts to push the envelope of knowledge production and selfhood (Thomas, 1998; Parmar, 2003; Progler, 2001; Berry, 2001; Capra, 1996; Varela, 1999).

With these insights in mind scholar-teachers can operate in a wide diversity of disciplines and use an infinite number of subjugated and indigenous forms of knowledge. Ethnomathematical knowledges can be used to extend understanding of and knowledge production about math and math pedagogy (Appelbaum, 2003). Organic African American knowledges of grandmothers, beauticians, and preachers can provide profound insight into the nature of higher order cognition (Dumas, 2003). Hip-hop musicians can help educators working to develop thicker and more insightful understandings of youth cultures and their implications for pedagogy (Parmar, 2003). Ancient African epistemologies and ontologies can help shape the theoretical lenses one uses to study and teach about contemporary racism and class bias.

Feminist understandings are important as they open doors to previously excluded knowledges. Such knowledges often point out the problems with the universal pronouncements of Cartesianism. The presence of gender diversity in this context reveals

the patriarchal inscriptions on what was presented as universal, always true, validated knowledge about some aspect of the world. Indeed, this psychological pronouncement about the highest form of moral reasoning may apply more to men than it does to women—and even then it may apply more to upper-middle class men than to lower socio-economic class men or more to Anglo men than to Asian and African men. With these feminist insights in mind, critical ontologists find it easier to view the ways the knowledges they produce reflect the cultural, historical, and gendered contexts they occupy. In this context universality is problematized. Indeed, the more we are aware of those different from us on a variety of levels, the harder it is to produce naive universal knowledges. In our heightened awareness, in our crazy wisdom, we produce more sensitive, more aware modes of information (Burbules and Beck, 1999). Once the subjugated/indigenous door is open the possibilities are infinite.

The bricolage, difference, and self-awareness in research

When researchers, for example, encounter difference in the nature of the other, they enter into symbiotic relationships where their identity is changed. Such researchers are no longer merely obtaining information but are entering a space of transformation where previously excluded perspectives operate to change consciousness of both self and the world. Thus, research in a critical ontological context changes not only what one knows but who one actually is. In this process the epistemological and ontological domains enter into a new relationship that produces dramatic changes. Lev Vygotsky was on the right track as he documented the importance of the context in which learning takes place—the zone of proximal development (zpd). Difference in the sense we are using it here expands the notion of the zpd into the domain of research, drawing upon the power of our interactions in helping shape the ways we make meaning. In the new synergized position ontologically sensitive researchers construct new realities where they take on new and expanded roles.

Aware of the power of difference, these researchers develop a new consciousness of the self: 1) the manner in which it has been constructed; 2) its limitations; and 3) a

sense of immanence concerning what it can become. Self-awareness is a metacognitive skill that has historically been more valued in Eastern traditions such as Buddhism, Taoism, and Yoga than in the West. Time and again we see the value of pluralism manifest itself in this discussion of difference and the bricolage. A pluralistic epistemology helps us understand the way we are situated in the web of reality and how this situatedness shapes what we see as researchers. Such an awareness reveals the limited nature of our observations of the world. Instead of researchers making final pronouncements on the way things are, they begin to see themselves in a larger interdisciplinary and intercultural conversation. Critical ontologists attuned to this dynamic, focus their attention on better modes of listening and respecting diverse viewpoints. Such higher order listening moves them to new levels of self-consciousness (Williams, 1999; Newland, 1997; Lepani, 1998; Thayer-Bacon, 2000).

Of course, difference does not work as an invisible hand that magically shapes new insights into self and world. Humans must exercise their complex hermeneutic abilities to forge these connections and interpret their meanings. In this context critical ontologists confront difference and then decide where they stand in relation to it. They must discern what to make of what it has presented them. With this in mind these critical scholar-educators work hard to develop relationships with those different from themselves that operate to create new meanings in the interactions of identity and difference. In this interaction knowledge producers grow smarter as they reject modernist Cartesian notions that cultural conflicts can be solved only by developing monological universal principles of epistemology and universal steps to the process of research. Too often, these scholars/cultural workers understand that these “universal” principles simply reflect colonial Western ways of viewing the world hiding in the disguise of universalism. Rigorous examination of the construction of self and society are closed off in such faux-universalism. Indeed, it undermines the development of a critical self-consciousness.

In the face of a wide variety of different knowledges and ways of seeing the world, the cosmos human beings think they know collapses. In a counter-colonial move

critical ontologists raise questions about any knowledges and ways of knowing that claim universal status. In this context they make use of this suspicion of universalism in combination with global, subjugated, and indigenous knowledges to understand how they have been positioned in the world. Almost all of us from Western backgrounds or non-Western colonized backgrounds have been implicated in some way in the web of universalism. The inevitable conflicts that arise from this implication do not have to be resolved immediately. At the base of these conflicts rest the future of global culture as well as the future of research and pedagogy. Recognizing that these are generative issues that engage us in a productive process of analyzing self and world is in itself a powerful recognition. The value of both this recognition and the process of working through the complicated conceptual problems are treasured by critical ontologists. Indeed, they avoid any notion of finality in the resolution of such dilemmas (Richardson and Woolfolk, 1994; Degenaar, 1995; Howley, Pendarvis, and Howley, 1993; O'Sullivan, 1999; Fenwick, 2000).

INDIGENEITY AND THE CONSTRUCTION OF SELFHOOD

Always looking for multiple perspectives, insight in diverse places, the power of difference, critical ontologists examine human interconnectedness via the lens of indigenous knowledges. Many systems of indigenous knowledge illustrate the *enaction* of interconnectedness and raise profound questions about the ways Western scholars have constructed knowledge, scientific methods, and the scholarly disciplines. While there is great diversity in these indigenous knowledges, most assume that humans are part of the world of nature. Extending this holism many indigenous scholars maintain that the production and acquisition of knowledge involves a process of interactions among the human body, the mind, and the spirit (Dei, 1995). R. Sambuli Mosha (2000) writes that among the East African Chagga peoples knowledge that is passed along to others must further the development of morality, goodness, harmony, and spirituality. Indeed, he continues, in the Chagga worldview it is impossible to separate these domains. Such fragmentation simply does not make sense to the Chagga. Embedded in every Chagga

child is a part of the divine dimension of reality, illustrating the interconnectedness of all aspects of reality. Thus, knowledge production and the construction of selfhood cannot take place outside this intricate web of relationships.

In Cartesian-Newtonian modes of colonial science the interrelationships cherished by the Chagga are not as *real* as their individual parts. For example, in Cartesian psychology consciousness is often reduced to neural and chemical dynamics. Researchers in this context often study nothing outside the narrow confines of brain chemistry from graduate school to retirement. The notion that the understanding of human consciousness might be enhanced by anthropological, theological, or philosophical investigations rarely, if ever, occurs to such researchers over the decades of their research.

Making use of indigenous knowledges and the theological insights of Buddhism in this domain, cognitive theorist Francisco Varela develops a dramatically different concept of consciousness. Understanding the indigenous notion that the individual cannot be understood outside the community of which she is a part, Varela posits that human consciousness *emerges* from the social and biological interactions of its various parts. This understanding may over the next couple of decades revolutionize the fields of cognitive science, psychology, and even pedagogy. When scholars grasp the multilogical, interrelated nature of the possibilities for dramatic changes in the ways scholars and educators operate begin to take place. Using the indigenous metaphor, knowledge *lives* in the cultures of indigenous peoples. As opposed to the disciplinary knowledges of Cartesian-Newtonianism which are often stored in archives or laboratories, indigenous knowledges live in everyday cultural practices (Woodhouse, 1996; Dei, 1995; Maurial, 1999).

Critical ontologists ask hard questions of indigenous knowledges. They know that folk knowledges--like Western scientific knowledges--often help construct exploitation and oppression for diverse groups and individuals. With this caution and resistance to essentialism in mind, ontological scholars study the ways many indigenous peoples in Africa construct the interrelationships of their inner selves to the outer world.

This indigenous tendency to avoid dualism that when unacknowledged undermines the balance of various relationships is profoundly important. For example, the dualism between humans and nature can wreck havoc in an indigenous social system. In many indigenous African conceptions humanness is viewed as a part of nature, not separate from it. Unlike scholars in the Cartesian-Newtonian disciplines, the world was too sacred for humans to study and dominate or conquer. Once humanness and the environment were viewed as separate entities, forces were unleashed that could destroy the delicate eco- and social systems that sustained the indigenous culture. Thus, to accept the dualism between humanness and nature in the minds of many African peoples was tantamount to committing mass suicide.

Another example of indigenous culture whose knowledges critical ontologists deem valuable is the Andean peoples of South America. Everyone and everything in traditional Andean culture is sentient, as, for example, the rivers and mountains have ears and eyes. Acting in the world in this cultural context is a dimension of being in relationship to the world. In one's actions within the physical environment, an Andean individual is in conversation with the mountains, rivers, trees, lakes, etc. This language of conversation replaces in Andean culture a Western traditional scientific language of knowing. A profound epistemological shift has taken place in this replacement. In Andean culture the concept of knower and known is irrelevant. Instead humans and physical entities engage in reciprocal relationships, carrying on conversations in the interests of both.

These conversations have been described as mutually nurturing events, acts that enhance the ontological evolution of all parties involved via their tenderness and empathy for the living needs of the other. Thus, the epistemology at work here involves more than simply knowing about something. It involves tuning oneself in to the other's mode of being--its ontological presence—and entering into a life generating relationship with it (Apffel-Marglin, 1995). Critical ontologists take from this an understanding of a new dimension of the inseparable relationship between knowing and being. Those working in the academic disciplines of Western societies must enter into ontological relationships

with that which they are studying. Such relationships should be enumerated and analyzed. How am I changed by this relationship? How is the object of my study changed or potentially changed by the relationship?

Great change occurs as a result of the Andean peoples' conversation with nature. Nature's voice is heard through the position and brilliance of planets and stars; the speed, frequency, color, and smell of the wind; and the size and number of particular wild flowers to mention only a few. Such talk tells Andeans about the coming weather and various dimensions of cultivation and they act in response to such messages. Because of the overwhelming diversity of ecosystems and climates in the Andes mountains and valleys, these conversations are complex. Interpretations of meanings--like any hermeneutic acts--are anything but self-evident. Such conversations and the actions they catalyze allow the Andean peoples to produce an enormous variety of cultivated plant species that amaze plant geneticists from around the world. As Frederique Apffel-Marglin (1995) describes this diversity:

The peasants grow and know some 1,500 varieties of quinoa, 330 of kaniwa, 228 of tarwi, 250 of potatoes, 610 of oca (another tuber) and so forth... The varieties differ according to regions, altitude, soils, and other factors. Such incredible diversity cannot only be due to ecological diversity. The manner in which peasants converse with plants and all the other inhabitants of the world, be they animate or inanimate, with not only an infinite attention to detail but with a receptive, open, and direct or embodied attitude is at the heart of such diversity (p. 11).

The Andeans actually have a word for those places where the conversation between humans and the natural world take place. *Chacras* include the land where the Andeans cultivate their crops, the places where utensils are crafted, and the places where herds and flocks live and graze. According to the Andeans these are all places where all entities come together to discuss the regeneration of life. The concept of interrelationship is so important in the Andean culture that the people use the word, *ayllu*, to signify a

kinship group that includes not only other human beings but animals, mountains, streams, rocks, and the spirits of a particular geographical place. Critical ontological scholars adapt these indigenous Andean concepts to the rethinking of the ways they study, as they identify the methodologies, epistemologies, ontologies, cultural systems, social theories, ad infinitum that they employ in their multilogical understanding of the research act. Those who research the social, psychological, and educational worlds hold a special responsibility to those concepts and the people they research to select critical and life affirming logics of inquiry. A critical hermeneutics demands that relationships at all levels be respected and engaged in a ways that produce justice and new levels of understanding--in ways that regenerate life and, central to our ontological concerns, new ways of being.

Thus, critical ontologists are able to make use of the power of difference in the context of subjugated/indigenous knowledges. The power of difference or “ontological mutualism” transcends Cartesianism’s emphasis on the thing-in-itself. The tendency in Cartesian-Newtonian thinking is to erase mutualism's bonus of insight in the abstraction of the object of inquiry from the processes and contexts of which it is a part. In this activity it subverts difference. The power of these synergies exists not only in the cognitive, social, pedagogical, and epistemological domains but in the physical world as well. Natural phenomena, as Albert Einstein illustrated in physics and Humberto Maturana and Francisco Varela laid out in biology and cognition, operate in states of interdependence. These ways of seeing have produced perspectives on the workings of the planet that profoundly differ from the views produced by Western science.

What has been fascinating to many is that these post-Einsteinian perspectives have in so many ways reflected the epistemologies and ontologies of ancient non-Western peoples in India, China, and Africa and indigenous peoples around the world. Thus, critical ontology's use of indigenous knowledge is not offered as some new form of postcolonial exploitation--as in pharmaceutical companies' rush into indigenous locales to harvest plants that indigenous peoples have known for millennia possess medicinal

qualities. In this context such products are then marketed as culturally sensitive postcolonial forms of exotica. The hipness of such entrepreneurial diversity provides little benefits for the indigenous people watching the process--they are not the beneficiaries of the big profits. Instead, a critical ontology *uses* of indigeneous peoples as teachers, as providers of wisdom. In their respect for such indigenous knowledges and indigenous peoples critical ontologists use such indigenous teachings to create a world more respectful and hospitable to indigenous peoples' needs and ways of being.

CONSTRUCTING A CRITICAL ONTOLOGY

Making use of our concept of difference and the insights provided by indigenous knowledges and ways of being, we are ready to construct our critical ontological postcolonial curriculum. In a critical ontology the teaching, learning, and curriculum development processes emerge as profoundly exciting enterprises because they are always conceptualized in terms of what we can become--both in an individual and a collective context. In our socio-ontological imagination we can transcend the Enlightenment category of abstract individualism and move toward a more textured concept of the relational individual. While abstract individualism and a self-sufficient ontology seem almost *natural* in the Western modernist world, of course, such is not the case in many indigenous cultures and has not been the case even in Western societies in previous historical eras. In ancient Greece, for example, it is hard to find language that identified "the self" or "I"--such descriptions were not commonly used because the individual was viewed as a part of a collective who could not function independently of the larger social group (Allen, 2000). In the "common sense" of contemporary Western society and its unexamined ontological assumptions this way of seeing self is hard to fathom.

Enlightenment ontology discerns the natural state of the individual as solitary. The social order in this modernist Eurocentric context is grounded on a set of contractual transactions between isolated individual atoms. In other works I (Kincheloe, 1993) have

referred to Clint Eastwood's "man with no name" cinematic character who didn't need a "damn thing from nobody" as the ideal Western male way of being--the ontological norm. Operating in this context, we clearly discern, for example, cognitive psychology's tradition of focusing on the autonomous development of the individual monad. In our critical complex ontology a human being simply can't exist outside the inscription of community with its processes of relationship, differentiation, interaction, and subjectivity. Indeed, in this critical (and complex) ontology the relational embeddedness of self is so context dependent that psychologists, sociologists, and educators can never isolate a finalized completed "true self." Since the self is always in context and in process, no final delineation of a notion such as ability can be determined. Thus, we are released from the rugged cross of I.Q. and such hurtful and primitive colonial conceptions of "intelligence." In this context it is interesting to note that famed psychometricians Richard Herrnstein and Charles Murray (1994) in *The Bell Curve* noted without any data that the average I.Q. of African is probably around 75--epistemological/ontological neo-colonialism in a transparent form.

One can quickly discern the political consequences of a Cartesian ontology. Human beings in Western liberal political thought become abstract bearers of particular civic rights. If individuals are relational, context-embedded beings, however, these abstract rights may be of little consequence. A critical ontology insists that individuals live in specific places with particular types of relationships. They operate or are placed in the web of reality at various points of race, class, gender, sexual, religious, physical ability, geographical place, and other continua. Where individuals find themselves in this complex web holds dramatic power consequences. Their location shapes their relationship to both dominant culture and Western colonialism and the psychological and curricular assumptions that accompanies them. In other words the intelligence mainstream psychology deems these individuals to possess profoundly depends on this contextual, power-inscribed placement. A prime manifestation of ontological alienation involves a lack of recognition of the dramatic effect of these dynamics on everything that takes place in the psycho-educational cosmos.

In the context of our critical ontology the autonomous self with a fixed intellectual ability becomes an anachronism. As an effort to appreciate the power of human beings to affect their own destinies, to exercise human agency, and to change social conditions, critical ontologists study selfhood in light of the sociological, cultural studies, cultural psychological, and critical analytical work of the last few decades. Much of what dominant psychology and education consider free will and expressions of innate intelligence are simply manifestations of the effects of particular social, cultural, political, and economic forces. While we can make decisions on how we operate as human beings, they are never completely independent of these structuring forces. This is true whether we are Diane Ravitch or Michel Foucault--neither person can operate outside of society or free from cultural, linguistic, ideological influences.

It is important to note here that neo-positivist educational policy makers contend that their work takes place outside of the influence of these dynamics. They claim that their work avoids cultural values and morally inscribed issues and because of such diligence, they have presented us the truth about how students learn and how teachers should teach. In the critical ontological context developed here, such researchers must take a closer look at who they are and the structuring forces that have shaped their views of the world, mind, and self. Their inability to discern the effects of these forces reflects ontological alienation. Such alienation undermines their ability to imagine new and better ways of being human both for themselves and for the teachers and students their knowledges and policies oppress.

A postcolonial curriculum informed by a complex ontology asks the question: how do we move beyond simply uncovering the sources of consciousness construction in our larger attempt to reconstruct the self in a critical manner? Critical teachers must search in as many locations as possible for alternate discourses, ways of thinking and being that expand the envelopes of possibility. In this context teachers explore literature, history, popular culture, and ways of forging community in subjugated/indigenous knowledges. In this context teachers develop their own and their students' social and aesthetic imaginations. Here we imagine what we might become by recovering and

reinterpreting what we once were. The excitement of curriculum as ontological quest is powerful.

The infrastructure of a critical ontology

Employing an understanding of complexity theory, Maturana and Varela's Santiago Enactivism as the process of life, a postcolonial appreciation of indigeneity, critical theoretical foundations, the critique of Cartesianism, and poststructuralist feminist analysis, we can lay the conceptual foundations for a new mode of selfhood. Such a configuration cannot be comprehensively delineated here, but we can begin to build theoretical pathways to get around the Cartesian limitations on the ontological imagination. With Humberto Maturana and Francisco Varela's concept that living things constantly remake themselves in interaction with their environments, our notion of a new self or a critical ontology is grounded on the human ability to use new social contexts and experiences, exposure to new knowledges and ways of being to reformulate subjectivity. In this context the concept of personal ability becomes a de-essentialized cognition of possibility. No essentialized bounded self can access the cognitive potential offered by epiphanies of difference or triggered by an "insignificant" insight.

As we begin to identify previously unperceived patterns in which the self is implicated, the possibility of cognitive change and personal growth is enhanced. As the barriers between mind and multiple contexts are erased, the chance that more expanded forms of "cognitive autopoiesis"—self-constructed modes of higher-order thinking—will emerge is increased. A more textured, a thicker sense of self-production and the nature of self and other is constructed in this process. As we examine the self and its relationship to others in cosmological, epistemological, linguistic, social, cultural, and political contexts, we gain a clearer sense of our purpose in the world especially in relation to justice, the indigenous-informed notion of interconnectedness, and even love. In these activities we move closer to the macro-processes of life and their micro-expressions in everyday life.

A key aspect of the life processes is the understanding of difference that comes from recognition of patterns of interconnectedness. Knowing that an individual from an upper-middle class European background living in a Virginia suburb will be considered culturally bizarre by a group of tribespeople from the Amazon rainforest is a potentially profound learning experience in the domain of the personal. How is the suburbanite viewed as bizarre? What cultural practices are seen as so unusual? What mannerisms are humorous to the tribespeople? What worldviews are baffling to them? The answers to such questions may shock the suburbanite into reorienting her view of her own "normality." The interaction may induce her to ask questions of the way she is perceived by and the way she perceives others. Such a bracketing of the personal may be quite liberating. This interaction with the power of difference is another example of Maturana and Varela's structural coupling that creates a new relationship with other and with self. In Maturana and Varela's conceptualization a new inner world is created as a result of such coupling (Maturana and Varela, 1987; Varela, 1999; Sumara and Davis, 1997).

Such explorations on the ontological frontier hold profound curricular implications. As students pursue rigorous study of diverse global knowledges, they come to understand that the identities of their peer groups and families constitute only a few of countless historical and cultural ways to be human. As they study their self-production in wider biological, sociological, cultural studies, historical, theological, psychological and counter-canonical contexts, they gain insights into their ways of being. As they engage the conflicts that induce diverse knowledge producers to operate in conflicting ways, students become more attuned to the ideological, discursive, and regulatory forces operating in all knowledges. This is not nihilism, as many defenders of the Eurocanon argue; this is the exciting process of exploring the world and the self and their relationship in all of the complexity such study requires.

The processual and relational notions of self structurally couple with the socio-cultural context and can only be understood by studying them with these dynamics in mind. These characteristics of self hold profound implications politically,

psychologically, and pedagogically. If our notion of the self emerges in its counter-colonial relationship with multiple dimensions of the world, it is by its nature a participatory entity. Such an interactive dynamic is always in process and thus demands a reconceptualization of the concept of individualism and self-interest (Pickering, 1999). The needs of self and others in this context begin to merge, as the concept of self-reliance takes on new meanings. Notions of educational purpose, evaluation, and curriculum development are transformed when these new conceptions of the personal domain come into the picture. In the first decade of the twenty-first century we stand merely on the threshold of the possibilities this notion of selfhood harbors.

Enactivism as a way out: Exploring the ontological possibilities

A critical ontology understands that the effort to explain complex cognitive, biological, social, or pedagogical events by the reductionistic study of their components outside of the larger processes of which they are a part will not work. It will not move us to new levels of understanding or set the stage for new, unexplored modes of being human. The social, biological, cognitive, or the curricular domain is not an assortment of discrete objects that can be understood in isolation from one another (Pickering, 1999). The fragmented pieces put forth in such studies do not constitute reality--even if commonsense tells Westerners they do. The deeper structures, the tacit forces, the processes that shape the physical world and the social world will be lost to such observers. As I argue in the introduction to *The Stigma of Genius: Einstein, Consciousness, and Education* (1999), Einstein's General Theory of Relativity could not have been produced without this ontological understanding of connectedness, process, and the limitations of studying only things-in-themselves.

For 250 years physicists had been searching for the basic building block of gravity--some contended it was a particle (a graviton), others argued it was a gravity wave. Einstein pointed out that it was neither, that it was not a *thing* at all. Gravity, he maintained, was a part of the structure of the universe that existed as a relationship connecting mass, space, and time. This insight, of course, changed the very nature of how

we conceptualize the universe. It should have changed how we conceptualize epistemology, cognition, pedagogy, and ontology. Of course, it didn't--and that's what we are still working on. The emphasis on studying and teaching about the world as a compilation of fragmented things-in-themselves has returned with a vengeance, of course, in recent educational reforms and mandates for use of only positivistic forms of educational research.

In this context the work of Humberto Maturana is instructive. Maturana and Varela's Santiago Enactivism employ the same ontological concept of interconnectedness that Einstein's used in the General Theory of Relativity to explain life as a process, a system of interconnections. Indeed, they argue, that the process of cognition is the process of life. In Enactivism mind is not a thing-in-itself but a process--an activity where the interactions of a living organism with its environment constitute cognition. In this relationship life itself and cognition are indelibly connected and reveal this interrelationship at diverse levels of living and what are still considered non-living domains. Where mind ends and matter begins is difficult to discern, a situation that operates to overturn the long-standing and problematic Cartesian separation of the two entities. In Maturana's and Varela's conception mind and matter are merely parts of the same process--one cannot exist without the other. A critical ontology seeks to repair this rupture between mind and matter, self and world. In this re-connection we enter into a new phase of human history, new modes of cognition, and dramatic changes in pedagogy and curriculum.

According to the Enactivists perception and cognition also operate in contradiction to Cartesianism, as they construct a reality as opposed to reflecting an external one already in existence. The interactive or circular organization of the nervous system described by Maturana is similar to the hermeneutic circle as it employs a conversation between diverse parts of a system to construct meaning. Autopoiesis as the process of self-production is the way living things operate. Self-construction emerges out of a set of relationships between simple parts. In the hermeneutic circle the relationships between parts "self-construct" previously unimagined meanings. Thus, in an ontological

context meaning emerges not from the thing-in-itself but from its relationships to an infinite number of other things. In this complexity we understand from another angle that there is no final meaning of anything; meanings are always evolving in light of new relationships, new horizons. Thus, in a critical ontology our power as meaning makers and producers of new selfhoods is enhanced. Cognition is the process in which living systems organize the world around them into meaning. With this in mind critical ontology creates a new era of immanence--"what could be" has never implied so much.

Specifically, Maturana and Varela argue that our identities do not come with us into the world in some neatly packaged unitary self. Since they "rise and subside" in a series of shifting relationships and patterns, the self can be described using the Buddhist notion that the "self is empty of self-nature." Understanding this, Francisco Varela (1999) maintains, self-understanding and self-change become more possible than ever before. The self, therefore, is not a material entity but takes on more a virtual quality. Human beings have the experience of self, but no self--no central controlling mechanism--is to be found. Much is to be gained by an understanding of the virtual nature of the self. Such knowledge is an important dimension of a critical ontology. According to the Enactivists this knowledge helps us develop intelligent awareness--a profound understanding of the construction and the functioning of selfhood. Intelligent awareness is filled with wisdom but devoid of the egocentrism that undermines various notions of critical knowing. In such a context intelligent awareness cannot be separated from ethical insight. Without this ontological understanding many of pedagogies designed to empower will fan the flames of the egocentrism they attempt to overcome. If nothing else a critical ontology cultivates humility without which wisdom is not possible.

Maturana and Varela's Enactivism and the development of the relational self

From Maturana and Varela's perspective learning takes place when a self-maintaining system develops a more effective relationship with the external features of the system. In this context Enactivism is highlighting the profound importance of *relationship* writ large as well as the centrality of the nature and quality of the

relationships an organism makes with its environment. In a cognitive context this is an extension of Vygotsky's notion of the zone of proximal development to the ontological realm--it is our assertion here that indigeneity should become a part of Westerners' zpd. In the development of a critical ontology we learn from these ideas that political empowerment vis-à-vis the cultivation of the intellect demand an understanding of the system of relationships that construct our selfhood. In the case of a critical form of curriculum development these relationships always involve students' connections to cultural systems, language, economic concerns, religious belief, social status, and the power dynamics that constitute them. With the benefit of understanding the self-in-representation teachers gain a new insight into what is happening in any learning situation. Living on the borderline between self and external system and self and other, learning never takes place outside of these relationships (Pickering, 1999). Such knowledge changes our orientation to curriculum development and pedagogy.

Thus, a critical ontology is intimately connected to a relational self (Noddings, 1990; Thayer-Bacon, 2000). Humans are ultimately the constructs of relationships, not fragmented monads or abstract individuals. From Varela's perspective this notion of humans as constructs of relationships corresponds precisely to what he is labeling the virtual self. A larger pattern--in the case of humans, consciousness--arises from the interaction of local elements. This larger pattern seems to be driven by a central controlling mechanism that can never be located. Thus, we discern the origin of traditional psychology's dismissal of consciousness as irrelevant. This not only constituted throwing out the baby with the bath water but discarding the tub, the bathroom fixtures, and the plumbing as well. In this positivistic articulation the process of life and the basis of the cognitive act were deemed unimportant. A critical ontology is always interested in these processes because they open us to a previously occluded insight into the nature of selfhood, of human being. The autopoiesis, the self-making allows humans to perpetually reshape themselves in their new relationships and resulting new patterns of perception and behavior.

There is no way to predict the relationships individuals will make and the nature of the self-(re)construction that will ensue. Such uncertainty adds yet another element of complexity to the study of sociology, psychology, and pedagogy, as it simultaneously catalyzes the possibilities of human agency. It causes those enamored with critical ontology yet another reason to study the inadequacies of Cartesian science to account for the intricacies of the human domain. Physical objects *don't necessarily* change their structures via their interaction with other objects. A critical ontology understands that human beings do change their structures as a result of their interactions. As a result the human mind moves light years beyond the lifeless cognitivist computer model of mind--a psychological way of seeing that reduced mental activity to information processing (Lapani, 1998).

The human self-organization process--while profoundly more complex than the World Wide Web--is analogous to the way the Web arranges itself by random and not-so-random connections. The Web is an autopoietic organism that constructs itself in a hypertextual mode of operation. Unanticipated links create new concepts, ways of perceiving, and even ways of being among those that enter into this domain of epistemological emergence. Such experience reminds one that a new cultural logic has developed that transcends the mechanical dimensions of the machine epistemologies and ontologies of the modernist industrial era. Consider the stunning implications that when numerous simple entities possessing simple characteristics are thrown together--whether it be websites on the Internet or individuals' relationships with aspects of their environments--amazing things occur. From such interactions emerge a larger whole that is not guided by a central controlling mechanism. Self-awareness of this process of creation may lead to unanticipated modes of learning and new concepts of human being.

Students of critical curriculum have no choice; they must deal with these ontological issues. When they are considered within the context of our understanding of the power of difference and the specific benefits of indigeneity, a postcolonial curriculum begins to take shape that is truly global in its scope, its concerns and its influences. Such

a curriculum is transformative in ways that other "transformative" curricula have not been in its connection to a plethora of knowledges and ways of being. Employing interconnectedness with difference to push the boundaries of the Western alienated self, this postcolonial curriculum sets off an autopoietic process energized by the interplay of multiple forms of difference--cultural, political, epistemological, cognitive, and, of course, ontological. It will be fascinating to watch where a critical ontology can take us in the coming years.

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evaluation - theory and practice

Evaluation is part and parcel of educating – yet it can be experienced as a burden and an unnecessary intrusion. We explore the theory and practice of evaluation and some of the key issues for informal and community educators, social pedagogues youth workers and others. In particular, we examine educators as connoisseurs and critics, and the way in which they can deepen their theory base and become researchers in practice.

contents: introduction · on evaluation · three key dimensions · thinking about indicators · on being connoisseurs and critics · educators as action researchers · some issues when evaluating informal education · conclusion · further reading and references · acknowledgements · how to cite this article



A lot is written about evaluation in education - a great deal of which is misleading and confused. Many informal educators such as youth workers and social pedagogues are suspicious of evaluation because they see it as something that is imposed from outside. It is a thing that we are asked to do; or that people impose on us. As Gitlin and Smyth (1989)

comment, from its Latin origin meaning 'to strengthen' or to empower, the term evaluation has taken a numerical turn - it is now largely about the measurement of things - and in the process can easily slip into becoming an end rather than a means. In this discussion of evaluation we will be focusing on how we can bring questions of value (rather than numerical worth) back into the centre of the process. Evaluation is part and parcel of educating. To be informal educators we are constantly called upon to make judgements, to make theory, and to discern whether what is happening is for the good. We have, in Elliot W. Eisner's words, to be connoisseurs and critics. In this piece we explore some important dimensions of this process; the theories involved; the significance of viewing ourselves as action researchers; and some issues and possibilities around evaluation in informal and community education, youth work and social pedagogy. However, first we need to spend a little bit of time on the notion of evaluation itself.

On evaluation

Much of the current interest in evaluation theory and practice can be directly linked to the expansion of government programmes (often described as the 'New Deal') during the 1930s in the United States and the implementation of various initiatives during the 1960s (such as Kennedy's 'War on Poverty') (see Shadish, Cork and Leviton 1991). From the 1960s-on 'evaluation' grew as an activity, a specialist field of employment with its own professional bodies, and as a body of theory. With large sums of state money flowing into new agencies (with projects and programmes often controlled or influenced by people previously excluded from such political power) officials and politicians looked to increased monitoring and review both to curb what they saw as 'abuses', and to increase the effectiveness and efficiency of their programmes. A less charitable reading would be that they were both increasingly concerned with micro-managing initiatives and in controlling the activities of new agencies and groups. Their efforts were aided in this by developments in social scientific research. Of special note here are the activities of Kurt Lewin and the interest in action research after the Second World War.

As a starter I want to offer an orienting definition:

Evaluation is the systematic exploration and judgement of working processes, experiences and outcomes. It pays special attention to aims, values, perceptions, needs and resources.

There are several things that need to be said about this.

First, evaluation entails gathering, ordering and making judgments about information in a methodical way. It is a research process.

Second, evaluation is something more than monitoring. Monitoring is largely about 'watching' or keeping track and may well involve things like performance indicators. Evaluation involves making careful judgements about the worth, significance and meaning of phenomenon.

Third, evaluation is very sophisticated. There is no simple way of making good judgements.

It involves, for example, developing criteria or standards that are both meaningful and honour the work and those involved.

Fourth, evaluation operates at a number of levels. It is used to explore and judge practice and programmes and projects (see below).

Last, evaluation if it is to have any meaning must look at the people involved, the processes and any outcomes we can identify. Appreciating and getting of flavour of these involves dialogue. This makes the focus enquiry rather than measurement - although some measurement might be involved (Rowlands 1991). The result has to be an emphasis upon negotiation and consensus concerning the process of evaluation, and the conclusions reached.

Three key dimensions

Basically, evaluation is either about *proving* something is working or needed, or *improving* practice or a project (Rogers and Smith 2006). The first often arises out of our accountability to funders, managers and, crucially, the people are working with. The second is born of a wish to do what we do better. We look to evaluation as an aid to strengthen our practice, organization and programmes (Chelimsky 1997: 97-188).

To help make sense of the development of evaluation I want to explore three key dimensions or distinctions and some of the theory associated.

Programme or practice evaluation? First, it is helpful to make a distinction between programme and project evaluation, and practice evaluation. Much of the growth in evaluation has been driven by the former.

Programme and project evaluation. This form of evaluation is typically concerned with making judgements about the effectiveness, efficiency and sustainability of pieces of work. Here evaluation is essentially a management tool. Judgements are made in order to reward the agency or the workers, and/or to provide feedback so that future work can be improved or altered. The former may well be related to some form of payment by results such as the giving of bonuses for 'successful' activities, the invoking of penalty clauses for those deemed not to have met the objectives set for it and to decisions about giving further funding. The latter is important and necessary for the development of work.

Practice evaluation. This form of evaluation is directed at the enhancement of work undertaken with particular individuals and groups, and to the development of participants (including the informal educator). It tends to be an integral part of the working process. In order to respond to a situation workers have to make sense of what is going on, and how they can best intervene (or not intervene). Similarly, other participants may also be encouraged or take it upon themselves to make judgements about the situation. In other words, they evaluate the situation and their part in it. Such evaluation is sometimes described as educative or pedagogical as it seeks to foster learning. But this is only part of the process. The learning involved is oriented to future or further action. It is also informed by certain values and commitments (informal educators need to have an appreciation of what might make for human flourishing and what is 'good'). For this reason we can say the

approach is concerned with praxis – action that is informed and committed

These two forms of evaluation will tend to pull in different directions. Both are necessary – but just how they are experienced will depend on the next two dimensions.

Summative or formative evaluation? Evaluations can be summative or formative. Evaluation can be primarily directed at one of two ends:

- To enable people and agencies make judgements about the work undertaken; to identify their knowledge, attitudes and skills, and to understand the changes that have occurred in these; and to increase their ability to assess their learning and performance (**formative evaluation**).
- To enable people and agencies to demonstrate that they have fulfilled the objectives of the programme or project, or to demonstrate they have achieved the standard required (**summative evaluation**).

Either can be applied to a programme or to the work of an individual. Our experience of evaluation is likely to be different according to the underlying purpose. If it is to provide feedback so that programmes or practice can be developed we are less likely, for example, to be defensive about our activities. Such evaluation isn't necessarily a comfortable exercise, and we may well experience it as punishing – especially if it is imposed on us (see below). Often a lot more is riding on a summative evaluation. It can mean the difference between having work and being unemployed!

Banking or dialogical evaluation? Last, it is necessary to explore the extent to which evaluation is dialogical. As we have already seen much evaluation is imposed or required by people external to the situation. The nature of the relationship between those requiring evaluation and those being evaluated is, thus of fundamental importance. Here we might usefully employ two contrasting models. We can usefully contrast the dominant or traditional model that tend to see the people involved in a project as objects, with an alternative, dialogical approach that views all those involved as subjects. This division has many affinities to Freire's (1972) split between banking and dialogical models of education.

Exhibit 1: Rowlands on traditional (banking) and alternative (dialogical) evaluation

Joanna Rowlands has provided us with a useful summary of these approaches to evaluation. She was particularly concerned with the evaluation of social development projects.

The characteristics of the traditional (banking) approach to evaluation:

1. A search for objectivity and a 'scientific approach', through standardized procedures. The values used in this approach... often reflect the priorities of the evaluator.
2. An over-reliance on quantitative measures. Qualitative aspects..., being

3. A high degree of managerial control, whereby managers can influence the questions being asked Other people, who may be affected by the findings of an evaluation, may have little input, either in shaping the questions to be asked or reflecting on the findings.
4. Outsiders are usually contracted to be evaluator in the belief that his will increase objectivity, and there may be a negative perception of them by those being evaluated'.

1. Evaluation is viewed as an integral part of the development or change process and involves 'reflection-action'. Subjectivity is recognized and appreciated.
2. There is a focus on dialogue, enquiry rather than measurement, and a tendency to use less formal methods like unstructured interviews and participant observation.
3. It is approached as an 'empowering process' rather than control by an external body. There is a recognition that different individuals and groups will have different perceptions. Negotiation and consensus is valued concerning the process of evaluation, and the conclusions reached, and recommendations made
4. The evaluator takes on the role of facilitator, rather than being an objective and neutral outsider. Such evaluation may well be undertaken by 'insiders' - people directly involved in the project or programme.

Adapted from Joanna Rowlands (1991) *How do we know it is working? The evaluation of social development projects*, and discussed in Rubin (1995: 17-23)

[illegible]

$$1 \leq i \leq n, \quad 1 \leq j \leq m, \quad 1 \leq k \leq n, \quad 1 \leq l \leq m, \quad 1 \leq p \leq n, \quad 1 \leq q \leq m,$$

1 / 00 / 00 1 0

The quality of relationships available. Many of us talk about our work in terms of ‘building relationships’. By this we often mean that we work both *through* relationship, and *for* relationship (see Smith and Smith forthcoming). This has come under attack from those advocating targeted and more outcome-oriented work. However, the little sustained research that has been done confirms that it is the relationships that informal educators and social pedagogues form with people, and encourage them to develop with others, that really matters (see Hirsch 2005). Unfortunately identifying sensible indicators of progress is not easy - and the job of evaluation becomes difficult

as a result.

How well people work together and for others. Within many of the arenas where informal education flourishes there is a valuing of working so that people may organize things for themselves, and be of service to others. The respect in which this held is also backed up by research. We know, for example, that people involved in running groups generally grow in self-confidence and develop a range of skills (Elsdon 1995). We also know that those communities where a significant number of people are involved in organizing groups and activities are healthier, have more positive experiences of education, are more active economically, and have less crime (Putnam 1999). (Taken from Rogers and Smith 2006)

For some of these areas it is fairly easy to work out indicators. However, when it comes to things like relationships, as Lesley Sewell noted many years ago, 'Much of it is intangible and can be felt in atmosphere and spirit. Appraisal of this inevitably depends to some extent on the beholders themselves' (1966: 6). There are some outward signs – like the way people talk to each other. In the end though, informal education is fundamentally an act of faith. However, our faith can be sustained and strengthened by reflection and exploration.

On being connoisseurs and critics

Informal education involves more than gaining and exercising technical knowledge and skills. It depends on us also cultivating a kind of artistry. In this sense, educators are not engineers applying their skills to carry out a plan or drawing, they are artists who are able to improvise and devise new ways of looking at things. We have to work within a personal but shared idea of the 'good' – an appreciation of what might make for human flourishing and well-being (see Jeffs and Smith 1990). What is more, there is little that is routine or predictable in our work. As a result, central to what we do as educators is the ability to 'think on our feet'. Informal education is driven by conversation and by certain values and commitments (Jeffs and Smith 2005).

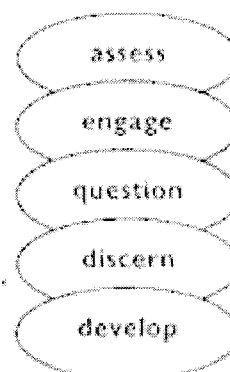
We make an assessment of what may be going on and our role.

We engage in conversation.

This raises questions.

We consider these in relation to what we discern makes for human flourishing.

This enables us to develop a response.



Describing informal education as an art does sound a bit pretentious. It may also appear twee. But there is a serious point here. When we listen to other educators, for example in team meetings, or have the chance to observe them in action, we inevitably form judgments

about their ability. At one level, for example, we might be impressed by someone's knowledge of the income support system or of the effects of different drugs. However, such knowledge is useless if it cannot be used in the best way. We may be informed and be able to draw on a range of techniques, yet the thing that makes us special is the way in which we are able to combine these and improvise regarding the particular situation. It is this quality that we are describing as artistry.

For Donald Schön (1987: 13) artistry is an exercise of intelligence, a kind of knowing. Through engaging with our experiences we are able to develop maxims about, for example, group work or working with an individual. In other words, we learn to appreciate - to be aware and to understand - what we have experienced. We become what Eisner (1985; 1998) describes as 'connoisseurs'. This involves very different qualities to those required by dominant models of evaluation.

Connoisseurship is the art of appreciation. It can be displayed in any realm in which the character, import, or value of objects, situations, and performances is distributed and variable, including educational practice. (Eisner 1998: 63)

The word connoisseurship comes from the Latin *cognoscere*, to know (Eisner 1998: 6). It involves the ability to see, not merely to look. To do this we have to develop the ability to name and appreciate the different dimensions of situations and experiences, and the way they relate one to another. We have to be able to draw upon, and make use of, a wide array of information. We also have to be able to place our experiences and understandings in a wider context, and connect them with our values and commitments. Connoisseurship is something that needs to be worked at – but it is not a technical exercise. The bringing together of the different elements into a whole involves artistry.

However, educators need to become something more than connoisseurs. We need to become critics.

If connoisseurship is the art of appreciation, criticism is the art of disclosure. Criticism, as Dewey pointed out in *Art as Experience*, has at its end the re-education of perception... The task of the critic is to help us to see.

Thus... connoisseurship provides criticism with its subject matter. Connoisseurship is private, but criticism is public. Connoisseurs simply need to appreciate what they encounter. Critics, however, must render these qualities vivid by the artful use of critical disclosure. (Eisner 1985: 92-93)

Criticism can be approached as the process of enabling others to see the qualities of something. As Eisner (1998: 6) puts it, 'effective criticism functions as the midwife to perception. It helps it come into being, then later refines it and helps it to become more acute'. The significance of this for those who want to be educators is, thus, clear. Educators also need to develop the ability to work with others so that they may discover the truth in situations, experiences and phenomenon.

Educators as action researchers

Schön (1987) talks about professionals being 'researchers in the practice context'. As Bogdan and Biklen (1992: 223) put it, 'research is a frame of mind – a perspective people take towards objects and activities'. For them, and for us here, it is something that we can all undertake. It isn't confined to people with long and specialist training. It involves (Stringer 1999: 5):

- A problem to be investigated.
- A process of enquiry
- Explanations that enable people to understand the nature of the problem

Within the action research tradition there have been two basic orientations. The British tradition - especially that linked to education - tends to view action research as research oriented toward the enhancement of direct practice. For example, Carr and Kemmis provide a classic definition:

Action research is simply a form of self-reflective enquiry undertaken by participants in social situations in order to improve the rationality and justice of their own practices, their understanding of these practices, and the situations in which the practices are carried out (Carr and Kemmis 1986: 162).

The second tradition, perhaps more widely approached within the social welfare field - and most certainly the broader understanding in the USA - is of action research as 'the systematic collection of information that is designed to bring about social change' (Bogdan and Biklen 1992: 223). Bogdan and Biklen continue by saying that its practitioners marshal evidence or data to expose unjust practices or environmental dangers and recommend actions for change. It has been linked into traditions of citizen's action and community organizing, but in more recent years has been adopted by workers in very different fields.

In many respects, this distinction mirrors one we have already been using – between programme evaluation and practice evaluation. In the latter, we may well set out to explore a particular piece of work. We may think of it as a case study – a detailed examination of one setting, or a single subject, a single depository of documents, or one particular event (Merriam 1988). We can explore what we did as educators: what were our aims and concerns; how did we act; what were we thinking and feeling and so on? We can look at what may have been going on for other participants; the conversations and interactions that took place; and what people may have learnt and how this may have affected their behaviour. Through doing this we can develop our abilities as connoisseurs and critics. We can enhance what we are able to take into future encounters.

When evaluating a programme or project we may ask other participants to join with us to explore and judge the processes they have been involved in (especially if we are concerned with a more dialogical approach to evaluation). Our concern is to collect information, to

reflect upon it, and to make some judgements as to the worth of the project or programme, and how it may be improved. This takes us into the realm of what a number of writers have called community-based action research. We have set out one example of this below.

Exhibit 3: Stringer on community-based action research

A fundamental premise of community-based action research is that it commences with an interest in the problems of a group, a community, or an organization. Its purpose is to assist people in extending their understanding of their situation and thus resolving problems that confront them....

Community-based action research is always enacted through an explicit set of social values. In modern, democratic social contexts, it is seen as a process of inquiry that has the following characteristics:

- It is *democratic*, enabling the participation of all people.
- It is *equitable*, acknowledging people's equality of worth.
- It is *liberating*, providing freedom from oppressive, debilitating conditions.
- It is *life enhancing*, enabling the expression of people's full human potential. (Stringer 1999: 9-10)

The action research process

Action research works through three basic phases:

Look - building a picture and gathering information. When evaluating we define and describe the problem to be investigated and the context in which it is set. We also describe what all the participants (educators, group members, managers etc.) have been doing.

Think – interpreting and explaining. When evaluating we analyse and interpret the situation. We reflect on what participants have been doing. We look at areas of success and any deficiencies, issues or problems.

Act – resolving issues and problems. In evaluation we judge the worth, effectiveness, appropriateness, and outcomes of those activities. We act to formulate solutions to any problems.

(Stringer 1999: 18; 43-44;160)

We could contrast with a more traditional, banking, style of research in which an outsider (or just the educators working on their own) collect information, organize it, and come to some conclusions as to the success or otherwise of the work.

Some issues when evaluating informal education

In recent years informal educators have been put under great pressure to provide 'output indicators', 'qualitative criteria', 'objective success measures' and 'adequate assessment criteria'. Those working with young people have been encouraged to show how young people have developed 'personally and socially through participation'. We face a number of problems when asked to approach our work in such ways. As we have already seen, our way of working as informal educators places us within a more dialogical framework. Evaluating our work in a more bureaucratic and less inclusive fashion may well compromise or cut across our work.

There are also some basic practical problems. Here we explore four particular issues identified by Jeffs and Smith (2005) with respect to programme or project evaluations.

The problem of multiple influences. The different things that influence the way people behave can't be easily broken down. For example, an informal educator working with a project to reduce teen crime on two estates might notice that the one with a youth club open every weekday evening has less crime than the estate without such provision. But what will this variation, if it even exists, prove? It could be explained, as research has shown, by differences in the ethos of local schools, policing practices, housing, unemployment rates, and the willingness of people to report offences.

The problem of indirect impact. Those who may have been affected by the work of informal educators are often not easily identified. It may be possible to list those who have been worked with directly over a period of time. However, much contact is sporadic and may even take the form of a single encounter. The indirect impact is just about impossible to quantify. Our efforts may result in significant changes in the lives of people we do not work with. This can happen as those we work with directly develop. Consider, for example, how we reflect on conversations that others recount to us, or ideas that we acquire second- or third-hand. Good informal education aims to achieve a ripple effect. We hope to encourage learning through conversation and example and can only have a limited idea of what the true impact might be.

The problem of evidence. Change can rarely be monitored even on an individual basis. For example, informal educators who focus on alcohol abuse within a particular group can face an insurmountable problem if challenged to provide evidence of success. They will not be able to measure use levels prior to intervention, during contact or subsequent to the completion of their work. In the end all the educator will be able to offer, at best, is vague evidence relating to contact or anecdotal material.

The problem of timescale. Change of the sort with which informal educators are concerned does not happen overnight. Changes in values, and the ways that people come to appreciate themselves and others, are notoriously hard to identify - especially as they are happening. What may seem ordinary at the time can, with hindsight, be recognized as special.

Workarounds

There are two classic routes around such practical problems. We can use both as informal

educators.

The first is to undertake the sort of participatory action research we have been discussing here. When setting up and running programmes and projects we can build in participatory research and evaluation from the start. We make it part of our way of working. Participants are routinely invited and involved in evaluation. We encourage them to think about the processes they have been participating in, the way in which they have changed and so on. This can be done in ways that fit in with the general run of things that we do as informal educators.

The second route is to make linkages between our own activities as informal educators and the general research literature. An example here is group or club membership. We may find it very hard to identify the concrete benefits for individuals from being member of a particular group such as a football team or social club. What we can do, however, is to look to the general research on such matters. We know, for example, that involvement in such groups builds social capital. We have evidence that:

In those countries where the state invested most in cultural and sporting facilities young people responded by investing more of their own time in such activities (Gauthier and Furstenberg 2001).

The more involved people are in structured leisure activities, good social contacts with friends, and participation in the arts, cultural activities and sport, the more likely they are to do well educationally, and the less likely they are to be involved even in low-level delinquency (Larson and Verma 1999).

There appears to be a strong relationship between the possession of social capital and better health. 'As a rough rule of thumb, if you belong to no groups but decide to join one, you cut your risk of dying over the next year *in half*. If you smoke and belong to no groups, it's a toss-up statistically whether you should stop smoking or start joining' (ibid.: 331). Regular club attendance, volunteering, entertaining, or church attendance is the happiness equivalent of getting a college degree or more than doubling your income. Civic connections rival marriage and affluence as predictors of life happiness (Putnam 2000: 333).

This approach can work where there is some freedom in the way that you can respond to funders and others with regard to evaluation. Where you are forced to fill in forms that require the answers to certain set questions we can still use the evaluations that we have undertaken in a participatory manner – and there may even be room to bring in some references to the broader literature. The key here is to remember that we are educators – and that we have a responsibility foster learning, not only among those we work with in a project or programme, but also among funders, managers and policymakers. We need to

view their requests for information as opportunities to work at deepening their appreciation and understanding of informal education and the issues and questions with which we work.

Conclusion

The purpose of evaluation, as Everitt *et al* (1992: 129) is to reflect critically on the effectiveness of personal and professional practice. It is to contribute to the development of 'good' rather than 'correct' practice.

Missing from the instrumental and technicist ways of evaluating teaching are the kinds of educative relationships that permit the asking of moral, ethical and political questions about the 'rightness' of actions. When based upon educative (as distinct from managerial) relations, evaluative practices become concerned with breaking down structured silences and narrow prejudices. (Gitlin and Smyth 1989: 161)

Evaluation is not primarily about the counting and measuring of things. It entails valuing – and to do this we have to develop as connoisseurs and critics. We have also to ensure that this process of 'looking, thinking and acting' is participative.

Further reading and references

For the moment I have listed some guides to evaluation. At a later date I will be adding in some more contextual material concerning evaluation in informal education.

Berk, R. A. and Rossi, P. H. (1990) *Thinking About Program Evaluation*, Newbury Park: Sage. 128 pages. Clear introduction with chapters on key concepts in evaluation research; designing programmes; examining programmes (using a chronological perspective). Useful US annotated bibliography.

Eisner, E. W. (1985) *The Art of Educational Evaluation. A personal view*, Barcombe: Falmer. 272 + viii pages. Wonderful collection of material around scientific curriculum making and its alternatives. Good chapters on Eisner's championship of educational connoisseurship and criticism. Not a cookbook, rather a way of orienting oneself.

Eisner, E. W. (1998) *The Enlightened Eye. Qualitative inquiry and the enhancement of educational practice*, Upper Saddle River, NJ: Prentice Hall. 264 + viii pages. Re-issue of a 1990 classic in which Eisner plays with the ideas of educational connoisseurship and educational criticism. Chapters explore these ideas, questions of validity, method and evaluation. An introductory chapter explores qualitative thought and human understanding and final chapters turn to ethical tensions, controversies and dilemmas; and the preparation of qualitative researchers.

Everitt, A. and Hardiker, P. (1996) *Evaluating for Good Practice*, London: Macmillan. 223 + x pages. Excellent introduction that takes care to avoid technicist solutions and approaches. Chapters examine purposes; facts, truth and values; measuring performance; a critical approach to evaluation; designing critical evaluation; generating evidence; and making judgements and effecting change.

Hirsch, B. J. (2005) *A Place to Call Home. After-school programs for urban youth*, New York: Teachers College Press. A rigorous and insightful evaluation of the work of six inner city boys and girls clubs that concludes that the most important thing they can and do offer is relationships (both with peers and with the workers) and a 'second home'.

Patton, M. Q. (1997) *Utilization-Focused Evaluation. The new century text* 3e, Thousand Oaks, Ca.: Sage. 452 pages. Claimed to be the most comprehensive review and integration of the literature on evaluation. Sections focus on evaluation use; focusing evaluations; appropriate methods; and the realities and practicalities of utilization-focused evaluation.

Rossi, P. H., Freeman, H. and Lipsey, M. W. (2004) *Evaluation. A systematic approach* 7e, Newbury Park, Ca.: Sage. 488 pages. Practical guidance from diagnosing problems through to measuring and analysing programmes. Includes material on formative evaluation procedures, practical ethics, and cost-benefits.

Stringer, E. T. (1999) *Action Research* 2e, Thousand Oaks, CA.: Sage. 229 + xxv pages. Useful discussion of community-based action research directed at practitioners.

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Acknowledgements and credits: Alan Rogers and Sarah Lloyd-Jones were a great help when updating this article - and some of the material in this piece first appeared in Rogers and Smith 2006.

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The extinction of experience

October's letters in *The Guardian* included a thread about kids not knowing what to do with conkers. The contributions were both funny and serious, not least the one suggesting a Playstation game called Conker Combat. They also illustrated our scared, inhibited culture, as headteachers justified conker bans because of the odd freak accident. Year by year we protect our children in thicker layers of cotton wool, so even the autumn acquaintance with conkers has now become a struggle.

This issue starts the BANC inquiry into the 'extinction of experience' – to include a workshop on the topic late in 2004, a follow up *ECOS* in 2005, and perhaps some action with fellow organisations who want to help tease away the cotton wool. It's a big topic, embracing perceptions of children's safety, the threat of traffic, an increasing risk-averse culture, the distractions of our mobile phones and computers, and it's probably not just about the effects on children and young people – we're all in this together.

But first, is there actually a problem? Are we just evolving differently these days? Are we finding less need for camping, making dens, and playing Pooh sticks – and are these worthwhile experiences anyway, or are they just worthy things we did in our day, that we believe our kids should do today? Weren't field trips a drag, and aren't today's CD images of river catchments and geological cross sections better than any text books?

Our contributors in this issue are in no doubt about the drawbacks of getting divorced from the elements. Curtailing children's play and freedom denies them a chance to understand and experience risk, responsibility and adventure. This probably does matter in many ways, not least for personal skills and development, and maybe for environmental values - experiencing nature helps you understand it, and become an advocate for it. A computer's interactive images of habitats and rainforest ecosystems are powerful, but still abstract. They're no substitute for the wind in your face, hearing the bird song live, pottering on the beach for fossils, and getting puffed out on a trek.

Here are two thoughts at the outset of this debate...

First, our modern gizmos are here to stay, so we must learn to use them wisely. They are our slave, and we're the master. Until we learn that, we will deny ourselves and our children, a freedom to follow our senses.

Second, the conservation sector itself does have some influence – we provide some of the places and the experiences that can explain nature and inspire young minds. The message in this issue is that we must present these opportunities and events with a sense of fun. We must be creative, not earnest. As Chris Rose and Sarah Wise suggest, we're competing with Disney...

Geoffrey Main

Is Nature good for you?

An overview of the evidence that contact with nature can benefit people's health and well-being.

JULES PRETTY, MURRAY GRIFFIN, AND MARTIN SELLENS

It is well-established that a balanced diet containing sufficient, but not excessive, calories, together with physical activity associated with work, commuting and leisure, contribute to the physical and emotional health of individuals, and are associated with long life expectancy.¹ Ironically, just as food shortages have been largely conquered in industrialised countries, so has come a recognition that ill-health arising from over-consumption of food is now a major public health cost. At the same time, people have adopted increasingly sedentary lifestyles, which have further contributed to ill-health. Both these trends carry considerable economic costs, both to individuals and to the public health budget.

It is also known that the natural and built features of the environment affect behaviour, interpersonal relationships and actual mental states.² The environment can, therefore, be therapeutic or harmful. Though there are many reasons for preserving nature, from the value of its economic services to the fundamentals of ethics, relatively little attention has been paid to the potential personal health benefits.³ Why does nature still seem to have a positive effect on people, despite the increasing urbanization of modern societies?

Psychological and Healing Benefits of Nature

There is growing evidence that contacts with the natural world can benefit mental and physical health. The contexts include the effectiveness of wild places in contributing to spiritually beneficial recreation and leisure experiences; the healing value of hospital gardens or of nature views from hospital or gaol windows; the benefits of community gardens and nature areas in urban settlements; the psychological benefits of companion animals and pets; and the benefits of consuming distinctive local foods coming from systems with known positive effects on nature and local communities.⁴ Some of the most convincing research includes:

- A comparison of prisoners in Michigan whose cells faced either farmland and trees or the prison yard, in which it was found that those with a view of nature had a 24% lower frequency of sick cell visits;

- A 10-year comparison of post-operative patients in Pennsylvania whose rooms looked out on trees or a brick wall, in which it was found that patients with tree views stayed in hospital for significantly less time, needed less strong or moderate medication and had fewer negative comments in the nurses' notes;
- A comparison of pain experienced by bronchoscopy patients (during which a fibre-optic tube is inserted into the lungs), in which the group viewing a nature scene before the treatment and listening to sounds of a bubbling brook during the proceedings had a 50% increase in the level of self-reported 'very good' or 'excellent' pain control;

- Studies of pet owners, who were found to have lower blood pressure and cholesterol levels than non-pet owners in Australia and to make fewer visits to doctors in the USA; and of dog-owners suffering from myocardial infarction, who were six times more likely to survive a year after the trauma than those with no dogs (though curiously there was no effect for cat owners);

- Positive effects of animals on depressed and asocial patients, in which usually unresponsive patients interacted with animals by holding, stroking and hugging, smiling and laughing, and also talking to the animals and their carers;

- A study of dental patients, in which those observing a live aquarium before treatment were more relaxed than control patients.

Some of this evidence should not be a surprise. Howard Frumkin of Emory Medical school points out that "hospitals have traditionally had gardens as an adjunct to recuperation and healing", and 95% of people living in retirement communities say windows facing green landscapes are essential to well-being. Roger Ulrich⁵ states this aesthetic preference for nature may be universally expressed across human cultures: "one of the most clear-cut findings in the literature is the consistent tendency to prefer natural scenes over built views, especially when the latter lack vegetation and water".

Benefits of wilderness

There is also a large body of research to investigate the benefits of wilderness experiences, dating back to the testimony of 19th century writers such as John Muir and Henry David Thoreau. Muir's writing on the Sierra Nevada, and the importance of such wild areas for well-being was instrumental in the establishment of the world's first National Park at Yellowstone in 1872.

A number of studies have shown that people both seek and derive a variety of values when they visit wild places, in particular a desire for tranquillity and natural beauty, escape from the stresses of urban life, and the potential for dramatic "peak experiences" or transcendent moments. It seems that the restorative potential of natural settings is widely underappreciated – particularly in the face of competition from the many other leisure and entertainment opportunities of modern life.

Wilderness therapy has been used for psychiatric patients, emotionally disturbed children, bereaved people and patients with cancer and others suffering various stresses and ailments. Positive effects on both physical and mental health have been found, but it remains unclear the extent to which benefits are also accruing from participation in organised programmes and trips, nor whether people's exposure to less wild forms of nature was having a distorting effect.

One study explored the effects of a wilderness experience on two groups of women in two wild areas of Minnesota and Arizona.⁶ Participants stated that benefits arose from both individual contact with nature, and from connections with their social group sharing the experiences. The experience left a lasting impression on most participants, particularly as these experiences were so different to those of their daily lives at home. Many spoke of renewed hope, a reawakening of emotions and a new sense of identity. The authors found that person-person interactions were just as important as person-place connections; "the affective appeal of a particular place setting has as much to do with the social

interactions that occur there, as with the overall visual appeal of the landscape itself". The researchers concluded that these wildernesses contributed substantially to participants' well-being.

Comments from female participants of wilderness experiences in USA

"It was so incredible being able to hear the birds... just the crunching of animals all around us... The sounds of the forest, the snapping of twigs, hearing the tiny sigh of the wind through the treetops at night."

"I noticed more. I felt more connected to myself and even to other people on the trip."

"I can't even fully capture in words what happened to me when I was out there... It's like the spirit is burning deep inside me again, and I'm looking at my life a little differently."

"Instead of sitting back and observing it [the landscape], it's like I was moving into it... some way, or rather it was moving into me. I couldn't deny its effect on me."

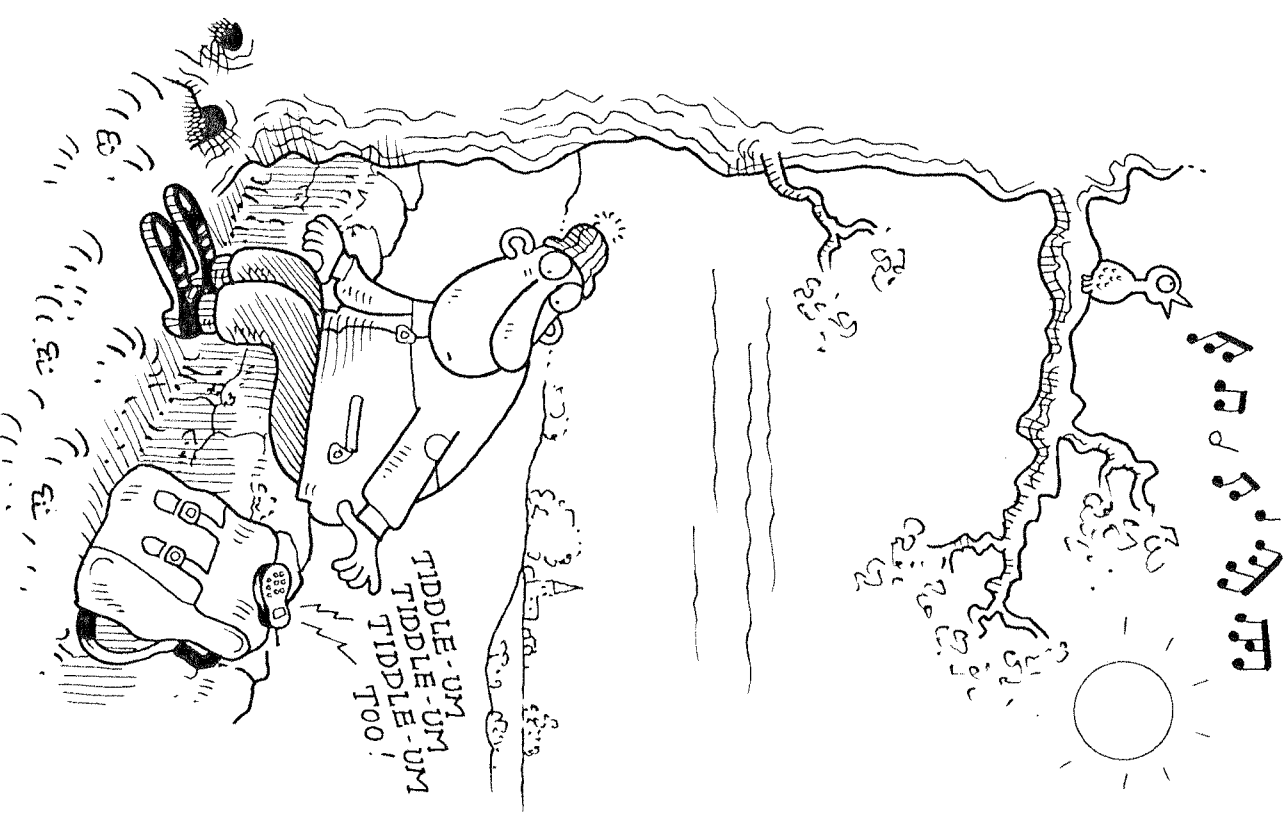
Similar experiences have been noted in the forests of Australia, where so-called 'transcendent' experiences were found to provoke a sense of harmony, freedom and well-being that were sufficiently long-lasting to change long-term attitudes to the environment.⁷ Several other studies have noted the value of natural and wilderness experiences and their therapeutic potential, and the additional role that physical hardship can play in triggering more profound experiences.⁸

Benefits of local nature

Wildier landscapes are not the only settings or places that can confer benefits. Healing gardens are acknowledged to be beneficial for patients of hospitals.⁹ Such benefits appear to have been recognised as early as the Middle Ages, with garden cloisters and vegetable gardens used as part of the healing process. In the Victorian period, gardens were routinely located in hospitals for the benefit of patients, and hospitals themselves located in pleasant surroundings. Some argue that modern health systems, with a focus on treatment of diseases rather than patient comfort and care, have abandoned useful principles regarding connections with nature and place.¹⁰ Empirical studies have shown that patients and staff with windows overlooking gardens have reduced stress, and patients regularly report positive changes in mood when visiting gardens.

One recent study found that a healing garden at a children's hospital in California had positive effects on users, with 54% reporting they were more relaxed and less stressed, 12% refreshed and rejuvenated, 18% more positive and able to cope, and only 10% having no difference in mood.¹¹ Even very short visits were beneficial, as nearly half of all observed visitors spent less than five minutes at a time in the garden. However, a majority of adults and children in the hospital did not know of the garden nor knew of its potential.

Such principles are being applied in the Eden Alternative nursing homes - healing gardens, greenhouses, ariums and plants have been deployed in five homes in Texas.¹² After conversion, there were 57% fewer bedsores, an 18% reduction in patients restrained, a 60% reduction in behavioural incidents, and a



48% reduction in staff absenteeism. The costs of such nature-based treatments are expected to be much less than expenditure for drugs and surgery to achieve the same outcomes.

Private and community gardens provide another direct link to nature for many people. In the UK there are now some 300,000 occupied allotments on 12,000 hectares of land – down from 120,000 hectares in the 1940s. These allotments yield some 215,000 tonnes of fresh food each year. But more importantly, they provide an opportunity for regular contact with nature. There are now several hundred city farms or community gardens in the UK.¹⁴ They provide vegetables and fruit for poorer groups, and a range of other natural products such as wood, flowers and herbs.

The contribution of community gardens in New York

Ruth Fergus, Madison Community Garden

"When we first began our community garden, it meant changing an eyesore of a burnt-out building into something beautiful. Now, each morning I wake up to a dream come true. It also changed our mischievous teenagers to a positive junior block association, learning parliamentary procedure and conducting their own meetings instead of destroying the block."

Bertha Jackson, 127th St Block Association, Central Harlem, 1995

"This is the beauty. Yearly we got two or three bushels of peaches from the tree. People have come from near and far for Harlem grown peaches from our garden tree. The peach that grew in Harlem."

Glenn Bader, Mount Eden, Bronx

"No one believed it could be done. Everyone told us that the students were failures. Students that had a history of violence and trouble could add nothing to their community. We fooled them."

Tito Arroyo, Bronx

"The landlord to the right of the garden said this makes this block, my building, more valuable and more beautiful!"

Mary Scales, in a letter in the New York Times (30 Jan, 1997)

"Our community garden was created by students, staff, neighbours, community workers and environment groups. Together we managed to have the lot cleared, a fence erected and a garden created. The students, along with our neighbours, have improved the environment, which has made East New York a more beautiful place to work and live. Flowers bloom, vegetables are harvested, the smell of barbecues fills the air and the students learn. They enjoy learning outside... and our gardens are an oasis of beauty in the deserts of urban decay."

To what extent do the benefits of wild landscapes and local nature experiences continue off-site? Do they provoke long-term changes in thinking, which could lead to deep social and political transformations? It is also true that people with a certain set of positive environmental values may be predisposed towards the restorative potential of nature, and that these values help to shape environmental attitudes. What happens, then, if people's enjoyment of nature also involves physical activity that can bring further health benefits?

Benefits of green exercise

Physical activity is now known to be a co-determinant of health. It greatly reduces the risk of dying from coronary heart disease, and also reduces the risk of developing diabetes, hypertension and colon cancer. It enhances mental health, fosters healthy muscles and bones, and helps maintain health and independence in older adults. Appropriate exercise also induces physical fitness which has a substantial influence on people's sense of well-being.

Compared with active people, those who are sedentary have an up to two fold increased risk of dying, with levels of cardiovascular fitness strongly associated with overall mortality. One study found that men reduced their risk of death by 33% if they walked 15 or more km per week, by 25% if they climbed 55 or more flights of stairs a week, and by 53% with 3 or more hours per week of moderate sports activity.¹⁴ There also appears to be a protective effect in later life, with the effects of activity early in life persisting into the 70s and 80s.

In Europe, there has been a dramatic fall in physical activity over the past 50 years with on average 2 MJ (500 kcal) less energy output per day in adults aged 20-60 years - equivalent to the running of a marathon each week. Although similar trends have occurred across Europe and North America, the UK compares badly with many countries. Jobs have become less physical, people are more likely to take the lift than walk the stairs, and adults and children are more likely to travel to work or school by car than to walk or bicycle. Some 63% of men and 75% of women in the UK do not take enough physical activity to benefit their health. In almost all activities (except swimming and yoga), female participation is lower than male. In the group aged 16-24 years, 42% of men and 68% of women are inactive, and these proportions rise steadily as people age. One of the major problems is that although 80% of people in the UK correctly believe that regular exercise is good for their health, a majority wrongly believe that they take enough exercise to stay fit.

As physical activity can positively affect mental well-being and self-esteem,¹⁵ there may be a synergistic benefit in adopting physical activities whilst at the same time being directly exposed to nature. We have called this 'green exercise'.

The behaviour of many groups of people seems to suggest that they already appreciate the benefits of protecting the environment, undertaking physical activity, and combining the two. Despite the increased daily disconnections between a predominantly urban and suburban population and nature, and the increase in sedentary lifestyles, people still express their values in a variety of direct and indirect ways, through membership of environmental and wildlife organisations, visits to the countryside, and membership of gymnasiums and of sports and outdoor organisations.

Each year, some 551 million day visits are made to the UK countryside (433 m) and seaside (118 m), and these visitors spend more (£14 bn) than the gross income earned by farms for the food produced in the landscape. A substantial proportion of these day visits involves significant physical exercise, including 110 m days on outdoor sport and leisure, 104 m days on hiking and walking, 77 m on pony trekking, mountaineering and shooting, and 32 m on cycling.

There is also evidence that membership of private and public gyms and health clubs has increased in recent years, as people look to local opportunities to engage

in physical activity. In 2001, there were 4,059 public and private health and fitness clubs, up from about 2,200 in 1980. Some 5.4 million people are members of these clubs (though this does not mean they all take regular advantage of their membership). The UK has a network of some 110,000 community amateur sports clubs run by 1.5 million volunteers. Large numbers of people regularly engage in physical activity in their communities – for example, 400,000 people play football each weekend in 33,000 registered amateur football clubs. There are, however, concerns that organised local sports are under threat from loss of playing fields for development, and the number of sports clubs has declined by 40,000 since 1996.

Policy consequences

Green exercise has important public and environmental health consequences. At a fundamental level, a fitter and emotionally more content population costs the economy less. Obesity already costs more in public health terms, and will overtake smoking as Britain's biggest killer in 10-15 years if current trends persist. If trends continue, other diet and physical inactivity related diseases will also increase. Increasing the support for and access to a wide range of green exercise activities for all sectors of society will produce substantial public health benefits and avoided costs. Can green exercise be considered a good buy for public health, providing physical, social and mental health benefits? Could some of the annual £10 bn of costs of obesity, coronary heart disease and physical inactivity be avoided?

Getting the policies right will help, including support for gyms at GP surgeries, healthy walks projects, exercise on prescription, healthy school environments, healthy travel to school projects, green views in hospitals, support for city farms and community gardens, less anonymous food, more fruit and vegetable consumption, and support for ecotourism, outdoor leisure activities, and visits to the countryside.

A 10% increase in adult physical activity is calculated to benefit England by £500 m per year, saving 6000 lives. The emotional benefits and mental well-being would be additional to these benefits, and could indeed outweigh them. If these benefits are also achieved through activities that provoke long-term changes in attitudes to nature and the environment across society, then the possibilities for transformations and actions to support sustainability outcomes will be all the more likely to occur.

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The demise of real experience and the case for outdoor education

Outdoor education can help young people develop personal skills, connect with the environment and manage their own risk.

GEOFF COOPER

Sheep World

"Is this Sheep World?" I was stunned by the question. It was on the third day of an outdoor education course in the Lake District for 10 and 11 year olds. They had kayaked on Coniston Water, orienteered in a local forest and explored a slate mine. Now the group was walking over Holme Fell and we were discussing how the land was used. "What do you mean by that, Dave?" I asked. "Well, this summer I went to Alligator World and I've been to Dolphin World in Florida. Is this Sheep World?"

Another occasion that says much about young people and their experiences in the outdoors occurred on Bonfire night: crowds gathered in anticipation by the lakeshore. A thick rope kept the viewers at least 100 metres from the fire while the local fire brigade finished their preparations and managed the whole exercise. The fire was lit and rockets and fire-crackers illuminated the night sky. The huge fire was ablaze but the distance too great to feel the heat. There was insufficient light to see your neighbours. Not experiencing or feeling the focus of the event, our son joined the queue for hot dogs and sought out his friends to have some fun - they had lost any interest they might have had in the fire.

However, the next night we were at a party in the village. A bonfire had been carefully prepared in the large garden. The fire quickly spread its warmth. Everyone gathered round - it was communal and conversation came easy. The boys fed the fire with logs and branches. They felt the heat on their cheeks and the smoke in their nostrils. Occasionally they retreated into the cold night to take in blasts of fresh air but soon returned to restock the fire. The youngsters felt responsible and instinctively responded to potential danger and adjusted their actions. Above all it was their fire - they were not the passive observers of the night before.

Fear of the Outdoors

The young person's universe is shrinking. Basic outdoor activities like going to the shops, crossing the road, building dens on waste land or playing in the local park are being denied or supervised by parents. Children are missing out on getting to know wild, informal areas and instead are being taken to theme parks, animal 'kingdoms' and other outdoor attractions.

As a society we are becoming obsessed with protecting children. Over the last 10 years the media has highlighted the risk from strangers and this has been reinforced by police visits to schools, campaigns and slogans to put young people

on their guard from the threats that supposedly lurk on every corner. In fairness there have been abductions and murders that have been engrained in the public's mind, but they should be put in context. Frank Furedi, professor of sociology at the University of Kent, states that "a child is no more likely to be kidnapped and murdered by a stranger today than 40 or 60 years ago, when children had far greater freedom to play and explore the world outdoors. Though terrible, such cases are extremely rare. The truth is that our anxiety regarding children's safety has become a national malady. We are oversupervising and overprotecting our children."

The danger of abduction is minute and should be balanced carefully against the need to give young people the confidence and independence essential to growing up in a rapidly changing society. The chance for children to play in their chosen outdoor environment away from adults helps to encourage creativity, a sense of independence and an appreciation of nature.

Fear of road accidents is another common concern. Many parents are reluctant to leave their children alone out of doors. A report from the Policy Studies Institute states that in Britain in 1971, 80% of all seven and eight year olds went to school on their own. By 1990 this had dropped to just 9%. Practically all eleven year olds used to walk to school, now this figure is down to 56% and still falling.²

Some children hardly ever experience the outdoors, travelling by car to visit friends, shops and entertainment centres. Play is increasingly confined to backyards, gardens, playrooms and bedrooms. Children are shielded from the vagaries of the weather and may never experience the intensity of wind, rain or sun, the sound of a dawn chorus or the expanse of a night sky.

Discovering Inkcaps...

Photo: Geoff Cooper



There are more opportunities for passive leisure in the home with increasing use of television, video and games machines. Although there are obvious benefits of computers they can deaden a child's creativity and lead to an overload of information and a shortage of experience. In a survey of more than 3,000 children aged 6 to 17 reported in *The Observer* in 1999 many resented being kept in and saw themselves as battery kids, force fed inside the home on a diet of TV, videos and computer games.³ Children would rather play outside in the street, as their parents did, or go off on their own with friends, or join in activities such as sport than be stuck in their lounge or, increasingly, their bedroom. There is little doubt that children need physical action and direct experience in order to develop their senses of space and time.

Millennium robots

The repercussions of this are enormous. When these over-protected children go to school, they have fewer social skills and find it difficult to mix. Behavioural problems are more likely as the children have not learnt to socialise and negotiate with their peers. Play is learning about life, meeting challenges and taking risks. If children are restricted in decisions they are able to make about their leisure time, we risk a generation being unable to make decisions they need in later life. Elsa Davies, director of The National Playing Fields Association (NPPA) states, "By overprotecting children, I fear we are creating a generation of Millennium robots. We need to create a climate in which parents have a realistic appreciation of the risks. Children stand to lose far more than they gain by being overprotected".⁴

There is concern about young people's health. The British Heart Foundation warns of a huge rise in heart disease in 20 to 30 years as a result of fewer children getting out and about. A recent report by the Health Development Agency states that one in ten six year olds are classed as obese. By the time children reach 15 years nearly one in five are obese. The Agency claims that obesity kills about 34,000 people a year and costs the NHS £2.6 bn a year in treating conditions such as diabetes and heart disease.⁵

Studying nature opens the mind to many other worlds...

Photo: Geoff Cooper



Perhaps even more significant is the fact that we are producing an inward-looking generation, less independent, less critical and more easily shaped by television, multi-national corporations and government.

Learning through experience

This is a time when outdoor education is needed more than ever. There is an absence of risk and excitement in young people's lives and this can lead them to creating their own risk culture through, for example, drug taking and anti-social behaviour. Young people generally feel dispondent about their role in society. They feel that they have little control over their lives and that their quality of life in the future will be worse.

In this situation, outdoor education has much to offer. Although it involves adults leading young people into outdoor experiences, it should encourage them to do it for themselves in the future. It may be a vital step in giving young people greater confidence, skills and independence. It plays an important role in the personal and social development of young people. Many children fail in formal education. They may not be good at exams or the type of analytical thinking required for most school subjects. They may also fail at home or amongst their own social circle. Outdoor education gives them a chance to succeed, to develop self-esteem, to grow in confidence. Keith Trencher, a Wigan secondary teacher, says "watch a child develop confidence as she inches up a rock climb. I could fill a book with the success stories I have personally witnessed over the years".

Learning in the outdoors involves the whole person-mind, body and soul. It places young people in real situations and it encourages them to take responsibility and reflect on their actions. Motivation and learning come easily when you need to keep your boat afloat, cook a meal or build a shelter. The writer and broadcaster, Libby Purves, is vigorous in her support of the benefits of outdoor education: "A real expedition, in real wilderness, shows children the eternal reality beneath the thin skin of civilisation. It takes them beyond the shallowness of fashion and style to point out certain basic truths without which a great deal of history, literature and art will never properly touch them. It demonstrates that clothes are for warmth and protection first, that food is fuel, that cold and heat can kill you and that you have to watch your companions as closely as yourself".⁶

Outdoor education can unlock talents that would remain hidden in formal teaching. Young people can experience challenging situations involving leadership, problem-solving, co-operation, creative thinking, negotiation and decision making. It is common for teachers to comment on improved levels of interest and achievement and this is often taken back to school. Outdoor education can challenge attitudes and values and encourage lifestyles based on quality of life rather than material possessions. It encourages self respect, respect for others and respect for the environment. Outdoor education clearly has much to offer the recent introduction of citizenship into the school curriculum, which aims to promote greater responsibility and community involvement.

Managing risk

But outdoor education is itself under threat. There are now fewer opportunities for young people to experience outdoor adventure, either through schools or outside organisations, than there were 10 years ago. In 1999 the Royal Geographical Society called a special meeting to discuss the decline in outdoor activities and expeditions.

Delegates were told that schools and youth organisations were reluctant to organise these because of difficulties with risk assessments, insurance and licensing regulations. Tony Escritt of Harrow School said that in 40 years of leading expeditions he had never felt so constrained by red tape and the risk of litigation. Frank Furedi in his book *Culture of Fear* says, "an intense sentiment of risk aversion now prevails in virtually every domain of human activity. Unfortunate incidents, which would have been shrugged off as bad luck are now interpreted as indications of a major danger. The tragic death of a child on a school outing invariably turns into a major national story about the risks involved in such activities. Such tragedies are usually followed by calls for tighter regulation of school outings. Another response is to seek someone to blame. Not surprisingly, many teachers have become reluctant to organise such events. Numerous teachers have reported that their school has cancelled trips because of the perceived risk of such events. Sadly our inability to accept the fact that accidents and tragedies can happen threatens to deprive children of the important experience they gain through such outings".⁷

Undoubtedly the pressures of the National Curriculum introduced in 1988 and the constant changes and initiatives schools have faced since that time have meant that teachers have felt constrained and have not had the financial and staff support they enjoyed in the past. The reduction of central funds held by local authorities has led to fewer training courses for outdoor teachers and less provision through outdoor education centres and youth services.

Outdoor education can play an important role in helping young people manage risk. Giving them greater independence in the outdoors allows them to deal with unexpected situations. Through these experiences and the skills they acquire in dealing with them they learn to manage risks in other situations. Learning about risk in this way allows children to better cope with the hazards and choices they face throughout their life. The real risk to society is not about introducing young people to challenging activities in the outdoors but about banishing a generation to the controlled and perceived safety of their homes.

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Born to be wild

*Like a true nature's child,
 We were born, born to be wild.
 We can climb so high,
 I never want to die,
 Born to be wild!*

DUNCAN MACKAY

I have a dark secret: I think in geologic time and never wear a wristwatch. This can have unusual side effects but it is not an excuse for being late for meetings. If you can read a cliff face like a book and see massive biological global extinction; a million years recorded in a yard of chalk; evidence of catastrophic asteroid impacts; the fossilised beauty of unlamented life; or the individual dribbles of grains of garnet in a small river channel from a mid Carboniferous age delta then *Pop Idol* veers towards the inconsequential. Maybe even without it *Pop Idol* veers towards the inconsequential.

Thinking geologically in everyday life steers you away from the entrapment of religious idolatry, political ideology and indeed the futility of personal destiny or individual human importance. However, it gives you the massive freedom to enjoy life, nature, the universe, it, everything. It allows you, as anthropologist Joseph Campbell once said, to "follow your bliss".²

The contemplative faculty

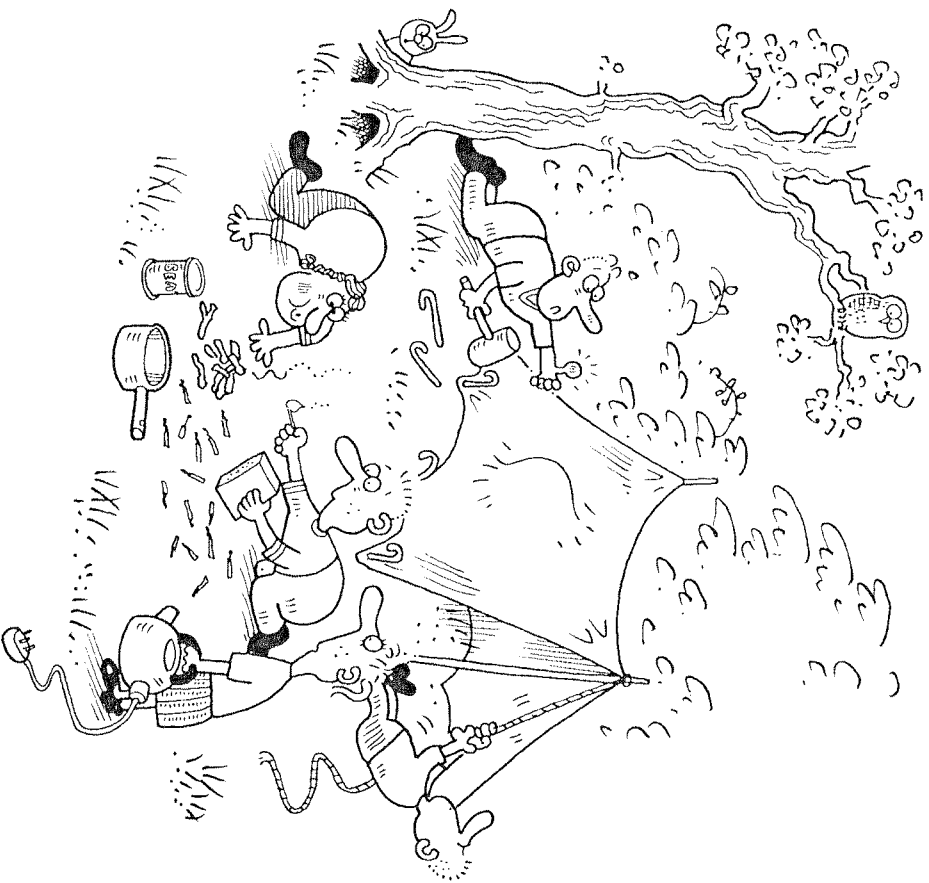
I began to follow my bliss from a relatively early age when I enjoyed the unintentional mentoring of my maternal grandfather. I was also unfairly blessed with advantage by being born into a coalmining community in Conisbrough, South Yorkshire. This was a special place for lots of reasons and almost incidentally for having a gleaming white limestone Norman keep amidst wooded valleys, huggemugger with smoky, noisy, industrial activity. Here was *Ivanhoe* in times past. Sir Walter Scott opens his romantic (1819) novel with the words:

"In that pleasant district of merry England which is watered by the river Don, there extended in ancient times a large forest, covering the greater part of the beautiful hills and valleys which lie between Sheffield and the pleasant town of Doncaster."

Some of the beauty and pleasantry had been tarnished by the time my grandfather arrived there as a coalminer but because of his experiences amidst it he gave me a great gift: he showed me the joy of sunlight. This is perhaps something that only people who go to work in the dark, work in the dark and come home in the dark (often for weeks on end) are really qualified to express. He made sunlight and darkness live in my imagination. Often we would sit on the 'crags', a bit of scruffy wasteland overlooking the dirty valley of the Don and contemplate

the frenetic ant-like activity below us, under the ground, the relative peace around us and the sun-filled space above us. We would talk about how ancient sunlight made ancient plants, how they made coal, fossils, rock strata and seams, the language of mining, the process of mines, slag heaps, winding gear, engines, railways, canals, barges, trains and trackless electric buses, Norman castles, Saxon legends and anything else associated with that fascinating semi-aerial view.

Miners would come up and down the steep slopes and grunt greetings as they passed on the unmade paths and tracks. In the summer, gaudy daylight moths would flit around our heads, grasshoppers and a million insects would fill the air with vibrant noise, small birds would swoop and twitter bush to bush. Spikes of plants with flowers just like bumble bees would reach out to the sunlight and occasional lizards would scuttle from their sunbathing spots on limey rocks. There was no end to my questions and no end to my grandfather's patient explanations.



NEIL BENNETT

I never became a coalminer but I was inspired to want to know more about cosmology, geology, botany, history, landscapes, mythology and the whole process of how people respond to the stimulus of place.

Science has now described the joys of my childhood. The Conisbrough crags are now North Cliff Hill SSI (Site of Scientific Interest, in the care of Doncaster Metropolitan Borough Council) noted for its magnesian limestone plant communities. The pits have been eradicated, socially, politically and now physically. The effluent has been cleared up and for me, most bizarrely of all, the grimy industrial landscape of my childhood has been replaced by the Earth Centre. My mentor would be amused.¹

Relearning basic skills

There are few essentials for human existence: water, food, shelter come first and everything else is a luxury. Those of us who were born near a tip can say this without a trace of post-Python irony. But where in our education do we pay any attention to these three essentials? Water comes from a plastic bottle (occasionally in old fashioned places from a tap); food comes from a supermarket or an 'eaterie'; and shelter is taken for granted, even if much of it is increasingly unaffordable.

Much is made of the concept of lifelong learning but very few people seem to understand the basic essentials of water, food and shelter. The good news is that you do not have to enlist in the Special Air Services to equip yourself with sufficient skills to pitch a tent, light a fire and forage for food. You can, however, spend a lifetime learning how to do this better in a variety of challenging environments.

Sadly, many people in this country do not seem to have acquired these elementary skills. Witness most summer barbecues. Recently, I heard a group of teenagers lamenting the late arrival of one of their holiday group as he was the only one who knew how to light a bonfire on the beach. The rest of them had resorted of an evening to sitting around in a huddle with a flashlight under a pile of damp twigs *pretending* that they had a fire. But at least they were on a beach at night. This one happened to be in a Scottish National Scenic Area where they could gain by the simplicity of experience: the brilliance of the night sky free from the spoiling sodium glow of city life; shooting stars; the night time scent of gorse flowers; bioluminescence of wavelets; the states of the tides; activity of mullet and sea bass netters; the sounds of scratchy nocturnal animals; the pipping of oyster catchers and the joy of each others' company.

But at least they were *allowed* on the beach by a tolerant and sympathetic landowner. There are a panoply of dire byelaws, restrictions, curtailments, instructions and warnings of the 'thou shalt not' variety as well as the basic right to remove trespassers using 'appropriate' force. There is a small legal industry in risk and control measures which arise simply because we don't view land as being communal property with shared responsibilities and social opportunities. However, in some places access to land and the use to which it can be put is nothing short of being the very stuff of nationhood. Finland, Norway and Sweden are not backward bastions of prehistory but they exhibit a much more integrated social model of how to live in relative harmony with their land as well as developing advanced technology and sophisticated lifestyles. At the heart of their style of living is knowledge of their landscape gained from experiences in it encouraged by family mentoring, constant cultural affirmation,

simple rights of access and usage, sport and recreation opportunities and the state ownership of land. This breeds confidence in the outdoor environment, constructive skills, recreational fitness and responsible attitudes to social and cultural life.

Responsibility and community

There is no signage in the Finnish countryside describing an incomprehensible list of restrictions. In England (especially) there are masses. I remember a particularly ironic touch to one of them on Greenham Common at the height of the cruise missile era and women's peace camp protest. This was the byelaw that forbade the 'discharge of missiles' on the common but the edict only applied to the public not 'authority'. However, that is but one amongst many framed at the end of the nineteenth century to prevent the use of open spaces for potentially riotous assemblies, the taking of game, and similar anti-establishment felonies. This situation is still with us today albeit that the police have sweeping powers of arrest. It belongs in that sad age when the taking of a sheep meant death by hanging or at best transportation for life. Society has moved on but somehow the spirit of the past lives on to exert a malign cultural influence. In Finland people are encouraged into the countryside to *enjoy* it and this spirit is ingrained into its tourism policies directed at foreign as well as domestic visitors.

"Is unspoilt natural environment is the perfect setting for all kinds of activity whether you are seeking excitement or relaxation."³

One of my most enjoyable experiences in Finland was being introduced to the communal gathering of wild fungi and berries with everyone participating in the process: collecting in baskets, sorting, preparing fires, cooking outdoors, bottling and preserving the surplus, and, finally sitting together round a fire to tell tall stories about the day's work whilst eating the fruit of our labours. Where do we do this in Britain? A few people still collect brambles and sloes in the autumn but they seem to be a dwindling band of devotees. Far fewer still engage in the collection of wild edible food through the whole range that any Scandinavian might recognise. Life seems to have become too fat and sleek for the majority of us to be bothered.

Richard Mabey and Hugh Fearnley-Whittingstall have 'sexed up' the dossier of wild food gathering; and boatloads of 'celebrity' chefs have fallen over each other to batter us in wild fungi. The joy of *real* wild edible fungi is finding them yourself (they are eminently findable with a modicum of knowledge). In looking for them you will have lots of close encounters with wildlife: deer, rabbits, hares, wood pigeons, tawny owls, jays and, where I go in the Chilterns, ever increasing numbers of spectacular red kites. Some fungi are very specific in their habitat preferences and associations with certain trees. Most are very seasonal or rainfall affected. But to use this opportunity to promote the study of wild fungi, mycology and nature in general on the back of TV exposure would seem to be very sensible. However, instead we seem to obtain puritanical pleasure in smothering such joys in 'thou shalt not' regulations and precautionary principles. A teacher friend recently took a school geology trip to Lyme Regis, where, for Health and Safety reasons, they were not allowed either near the rocks nor the sea and were coralled along the middle of the beach. We are stunting our children's creative instincts for learning and we will suffer the long term consequences.

Granny knows best

There needs to be some evidence gathering to assess whether our lack of outdoor activity is specifically related to the rising tide of obesity, coronary heart disease and indeed stress related illnesses (see the article by Jules Pretty and colleagues in this issue). Exercise is a well known stress buster and getting out in the fresh air, as any granny will tell you, is good for you. We need to put space into our lives in both the temporal dimension and the planar dimension. If this requires the creation of accessible 'wild green belts' around every town as well as larger conurbations then so be it. Wrester the land off those whose sole interest is in profit and make it conducive to the health and well-being of the nation.

We all need space to be wild because we are wild animals with a hint of domestication and biochemical adjustment to our new environment of cities, towns and suburbia. But we are still really unreconstructed Paleolithic people with mobile phones. Our cultural values are changing and rival pursuits are competing for our leisure time as never before. This is not just the time allotted to sedentary video gaming; multiple TV channeling; virtual arcadia; internet surfing; texting and fast fooding but a whole host of new extreme sports. Perhaps the latter is just a reaction to the former performed by the naturally fitter.

Michael Gurian in his book *What could he be thinking? How a man's mind really works* has suggested that men are not programmed to notice things like dust and to do housework because of a biochemical imbalance in the brain of the bonding chemical oxytocin and the calming chemical serotonin. In reporting this *The Guardian* concluded that: "Couch potatoes can rest in peace. It is what nature intended them to be."⁴

I would agree about the dust but disagree about the couch potatoes... I think that is what cultural *nurture* has made them. We just need to unmake it before it's too late, or, as American cyclist Ken Kifer says as the prescription for a healthy life: "take two bicycle wheels, daily."

References and notes

1. Lyrics of Born to be Wild by Mars Bonfire; music by Steppenwolf
2. Campbell, J (1988) *The Power of Myth* Doubleday
3. Scott, Sir Walter *Ivanhoe* 1819 (var. ed.)
4. Thanks to Melissa Massarella at Doncaster MBC and Brian Davies at English Nature's Yorkshire and Humberside team for information on 'Conisbrough Crag'
5. Finnish Tourism www.finland-tourism.com
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Living on the edge - the risks of going wild

Peter Taylor reflects on the experience of nature, parenting, control, safety and rebellion, and the rise and rise of managerial safety.

PETER TAYLOR

When I was a teenager, I courted death though I would never have called it that. Out of sight of parental view I explored sea-caves, having to wade chest deep when caught by the incoming tide; slid to the edge of an untimely end down crumbling chalk at the edge of a 200 foot drop; and there was a near-miss of dislodged rock on an (un-roped) climbing escapade. In my 20s, I was more philosophically aware, and the Eiger in winter, or crossing the oven-heat of the southern Sahara, was clearly a counterpoint to the slow death of office life. I thought then, I pushed the envelope, because to live on that edge was to affirm life – one false move and you were dead! As a parent, life looked decidedly different. It took great effort to allow my children the same freedom, and now I know why I never told my parents of my escapades.

Troublesome teenagers

A Mayan shaman, a teacher for these, my later years, reckons that the Gods of Death stalk teenagers especially.¹ His culture's darker deities hunt down the creative spark of men and can only be appeased by poetry. If they like it, they let you live. But then, you are truly alive, because good poetry can only come from those who really live. For those who fail, those who seek comfort and security, those who would hold on to their life so dearly and try to cheat death, they die. Not materially, of course. Not immediately. The dark Gods have no need of that as ultimately, it happens to everyone and is therefore immaterial. They become the walking dead, and they belong to the Gods of Death.

Other indigenous cultures, perhaps also, our own now distant, have similar understandings, and similar Gods that might gobble up the unwary poet or lop off the head of an arrogant warrior, all to ensure life moves forward with a meaning beyond mere survival. In all of these tribal cultures, young people are initiated into poetic realities, usually at 14 years of age. Here began art, song, music and dance to add to the hunt, to warrior combat, and courtship. Life took on a greater meaning and the risk of life also.

My Mayan friend looks upon our modern troublesome teenagers with delight. They risk all for ecstatic dance or a wild car chase, and rock-and-roll still lives on the city streets. They may get locked up, or worse, but they will have lived on the edge. He sees in that the potential for poetry in all its forms, for the creative spark of human life, at least with the aid of a little mentoring and focus. Oddly, these

kids, when faced with an initiation as simple as a night walk in the forest, get truly fearful. The adrenalin still flows, but the mind makes a far bigger deal of the risk! Until recent times, the most trouble from the uninitiated arose from boys. Now girl gangs are becoming more of a problem. Both sexes benefit from encounters with the wild, with the girls just as eager to experience that edge. But indigenous cultures always have very separate initiatory rites, and I wonder not so much as to whether our unisexual approach does any harm, rather, what it is the girls may be missing. There is now little trace of an ancient wisdom on that score, the churches having systematically eradicated the uncooperative 'wise women' healers, diviners, and herbalists of Europe over a 500 year time span.

Nature co-opted

Most children, the ones that do not rebel, are over-parented and un-adventurous. If they get to visit the great outdoors, they are usually accompanied by adults with one eye on the twin gods of insurance and litigation. They may go white-water rafting, kayaking, mountain biking, abseiling and orienteering, but all hell will break loose if a supervisor is negligent in an unwatchful moment, or their protective gear is not appropriately checked. The mountains and rivers of our National Parks abound with well-zipped goretex. Nature is co-opted in the enterprise. Our young people must be given a wild experience, exposed to some risk, just as long as it is well-managed.

This, to my mind, is little better than the criminal car chase or the pillied-up buzz of the rave. Indeed, it is the same uninitiated craving, but lesser, because it is well managed, and both types of adrenalin junkies, if you left them alone in the forest, by twilight would be crying for mum.²

This is a bizarre circumstance. Young people crave risk in an over-civilised society. And their greatest physical risks, from car accidents, drug abuse, or violence, arise within the very bounds of that supposed civility, yet they fear most that which is in the unknown land beyond the city gate. Then they grow up and become managers! Countryside risks get fenced off. Up go the notice-boards. Beware! Deep Water, Falling Rocks. And further – not even a humble beaver allowed to disturb the comforts of fishermen and cattle-grazers, let alone a lynx, a bear or a wolf.

In the pioneering Dutch experiment of turning a 5000 ha polder into a paradise for wild cattle and horses, along with deer and boar, visitors are shepherded around in safe safari vehicles. Perhaps that has to be, but the local authorities soon put a stop to the carcasses lying around, dying variously from disease, starvation, or combat, and left to rot. Too much risk of disease.

The risk averse and the hypocrisy

There occurs within this risk-averse mindset, a curious hypocrisy with regard to natural processes of death, whether by predation or decay. The supposed 'safe' world of civil order, including its agricultural counterpart, is actually very dangerous. City streets, and even country roads are dangerous places, especially for children. Farms and their produce are full of disease and death. Foresters and hunters cull deer, and occasionally, inadvertently, themselves. Yet, I have heard Vosges shepherds and hunters decry with great emotion, the introduced lynx for

the deer and sheep they kill, and Norwegian sheepherders likewise the wolf, not only for its livestock depredations, but also for its apparent potential to attack children. This same Norwegian community continually ignored pleas to cull a pack of domestic dogs gone wild, and then lost a child to a grisly death, something regularly documented in civil Europe; whereas no European wolf has ever been recorded killing a human. In the Vosges, cars killed more deer than the hunters, and in Norway, pneumonia kills a good many more sheep than the wolves.

Avoiding the darker Gods

At one time I used to believe this madness was the fault of the Christian God. The Saviour spoke in glorious wisdom of lilies and sparrows, but not a jot about eagles and wolves, and the Divine Mother always hovered around in the background wondering where He was. The Christian feminine deity, ever nurturing of the boy-child God-to-be, is a far cry from Ceridwen the crone, able to shape-shift and pursue Taliesin to the final transformational devouring. Other cultures seemed to understand the psyches need for an accord with death, decay, and mortality, whereas our own sought to cheat, all three. Has this now carried over into massive investments in anti-biotic warfare, on the fields and inside the body, where all bacteria, invasive fungi, and pesky insects are subject to military campaigns. Cancer has become a 'big enemy', yet cancer-wards, for all the fear, can be places of immense healing and insight into life.

Rationalist modernity, despite its disavowal of the spiritual, hardly differs in approach, indeed, it takes the whole operation further. After several decades of wielding ever more powerful technological weapons against pests and diseases, the war seems to have made the enemies stronger! When one is knocked down, as with cancer and diseases, another appears. And the pests evolve genetic resilience and come back with supercharged aggression.

We also now have a whole science of risk analysis, to which can be added costs and benefits. Probabilities are ascribed and comparative assessments made. Yet, within that process, the same prejudices operate. The emotional content and meaning of risk is removed and reduced to statistics. One apologist even said that the childhood leukaemia deaths hypothetically ascribed to the discharge of radioactivity to the food chains of the Irish Sea should not be called deaths, rather, 'life-shortening', for everyone dies someday! Such statistical life-shortenings could then be added up and compared to those from burning coal, or getting hit by a truck carrying coppiced willow. Surprisingly, on this level, there is not much difference between one fuel cycle and the other.

Lessons from Romania

The sanctification of 'man apart' by the Christians, and the sanitisation of a desecrated nature by their descendants, I thought at least must be contributory factors to this collective myopia, until I visited Romania. The Carpathian forests are quite salutary. They are replete with bear, wolf and lynx. The former regularly kill people and cattle, the wolves never people, but sheep rather often, and the lynx... well enigmatic as ever, for there is no data, taking a few sheep but certainly, no threat to people. Yet, these tolerant Romanians are as Christian in their history, as any other, despite their hard road under Communism. Some clue exists along the roads and pavements, where extreme caution is necessary. Any hole is simply left

as it is for the unwary drunk or over-exuberant child. Some of these gaps in the path are yawning, people-traps that would, in any Western country merit a manhole cover, or at least some bright warning tape. Here physical risk seems to be courted, though sadly that also extends to burning the rubbish, plastic and all, in huge open fires on the edge of the town or village.

Here I had my only encounter with wild bears. Distance 30 feet. Place, Racadau housing estate on the edge of Brasov. Time, 10.30 pm. Circumstances – three bears rummaging in the skips serving the blocks of flats adjacent to the forest, as they do every night, just a service road's width from open windows and TV soaps. The taxi drivers do good business with tourists who get to hear, and want an encounter. These bears are big, sometimes with cubs, and though nervous, potentially very dangerous, yet there is no oversight and no regulation. Whether conscious or not, the holes and the bears mean that every Romanian learns to live with risk, to take care and watch where they are going.

As I left the Carpathians, the New American Century announced that Romania was their new frontier and they would be building a big new factory for helicopter gunships. In exchange, Romania will get new roads, dams, power stations, PVC windows, satellite TV, and a drug culture, to add to its rampant sex trade. No doubt the streets will be paved, traffic regulated, holes covered, forests fragmented, livestock subverted, and the countryside more managed. Wildlife will have to become economic if its risks are to be tolerated. I had an unsubstantiated suspicion, though, that Carpathian shepherds, hunters and foresters, though well Christianised, had retained some pagan sense of joy and poetic ease with wild nature, and I hoped they would fight to retain it when the new Gods of Death arrive.

The wild bites back

In all this, there is, however, a slow turning. The wild with all its risks, is coming back. There are wolves in the Brandenburg forests close to Berlin, and new tracks in the Cevenne and Pyrenees. Bears have been trans-located from Slovenia to Austria and France. Scotland brought back the Sea Eagle and Osprey. Norway has agreed to tolerate one wolf pack as long as it stays in one place. If we are to re-establish natural processes in our wilder land, with herds of large herbivores such as reconstituted aurochs and tarpan, boar, bear and wolf, then risks to life and limb will have to be accepted. And along with risks, and with time, perhaps will come benefits to local economies. Even our wayward panthers and pumas, once confirmed as more than mere spectacles, might get a fair crack of the symbiotic whip from a public increasingly willing to accept the presence of something wild, unpredictable and potentially dangerous. If so, conservationists might take a few risks themselves, and stick their necks above the office parapet with a bit more of the wild dream.

References and notes

1. Martin Prechel *Secrets of the Talking Jaguar. The Toe Bone and the Tooth.*
2. It is a common experience of those who take delinquent boys into the wild that the hardest often show the greatest fear of the simplest things, like darkness.

Peter Taylor heads the environmental consultancy Ethos; he also teaches shamanic practices and initiatory work. See www.ethos-uk.com and www.caemabon.co.uk

What do children want?

Do we understand children's needs relating to play in the outdoors, and will we tolerate them when they go there?

ALISON PARFITT

I was recently walking down from the Black Mountains heading into Crickhowell for the night. I was talking with my friend about the glories around us at the same time as chewing over current projects and interests.¹ Near the top of that huge slope, we had seen two excited boys, shouting and darting about with a dog, whacking bracken. They raced past us as we plodded down. We saw them again, swinging on a rope under a tree by an abandoned farmstead. Further on, my friend looked over a hedge, down towards the river bank, at an isolated house with an attractive garden. I did not have a camera, so you will just have to imagine the scene that summed up much of the 'extinction of experience' discussion, relating to the BANC project, we were having. In the garden of this house was the biggest and most brightly coloured play structure I have ever seen - it must be Ikea's deluxe best. It had ladders, a tunnel up in the air, and bits for climbing and swinging. Even beside the freshly painted house, it seemed conspicuous, if not out of place, in this wild valley, which is a playground close to Paradise, as I saw it.

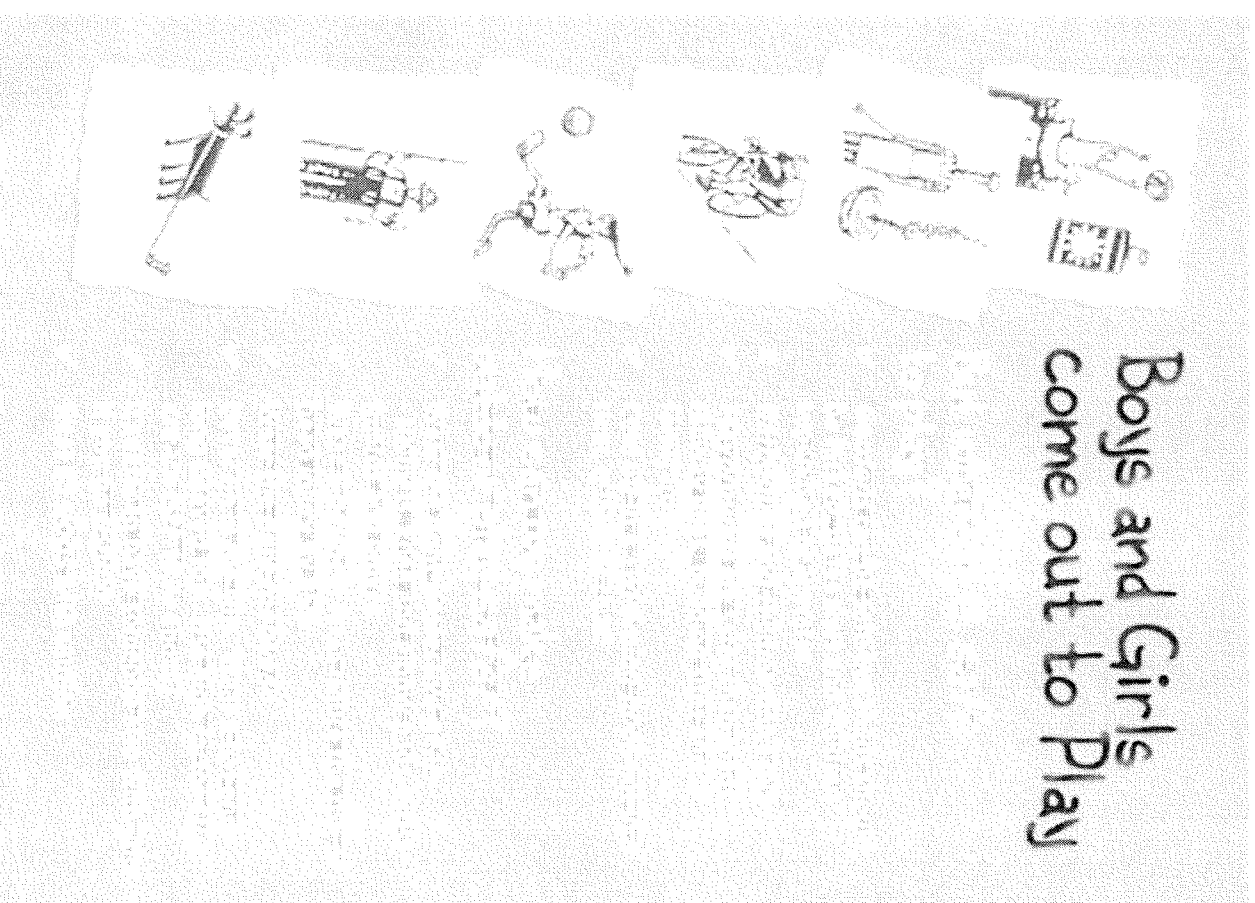
Boys and girls come out to play

A few days after coming round the mountain, I saw a poster about 'where is it safe to play?' (see illustration) in a waiting room at the local Physiotherapy Clinic. My reaction was one of dismay. Like any other parent, I often peer out into the dark night, long after 'the right time', wondering what might have happened to my son. He and I continue to have rows about the wearing of the helmet (which squashes the fashionable Tintin-like quiff). Yes, the poster gives sensible advice but Good Grief! Where will all this lead? Look at the illustrations, potentially demonising everyday activities. Extinction of experience is exactly where this sort of approach takes us.

'Grumpy grown ups stop play',

Playday on August 6, was celebrated with the above headline, heralding revelations from research released by the Children's Society.² The news release started:

"Children are being prevented from playing outdoors by intolerant adults who claim they cause a noise or a nuisance.... In one case an eight-year old girl in West Somerset was stopped from cycling down her street because a neighbour complained the wheels squeaked. And a boy in Liverpool was banned from bouncing his tennis ball against an unused garage wall, in case it damaged the bricks."



Quotes from children interviewed for Playday 2003 research...

Girl, aged 13, from Devon

"We go down the bus shelter usually after school, because there's nowhere else to go. I meet my friends, chat and sing and stuff. We got told off for bike riding near the old people's bungalows so we have to ride somewhere else now."

Girl, aged 15 from Oxfordshire

"We've been shouted at and told to get lost a few times by a couple of old people for making too much noise. It makes me feel annoyed because there's nothing else for us to do so we have to make our own fun - they can't understand it."

Girl, 15, Sheffield

"When the youth club isn't open we just hang around the shops. There's nothing else for our age group to do. We can't go to the park a lot because it's full of younger kids and the parents have a go at us."

Boy, aged 15, Barnet

"I just want somewhere you can play football and not get into trouble. Because if you can't play here and you go in the park and put the swings up to make goal posts, like we did a couple of weeks ago, we get shouted at."

Extreme cases you might think, but of the 2,600 children and young people, aged 7 to 16, questioned, two thirds said they like to play outside daily, mostly to meet friends. But:

- Four in five (80%) say they have been told off for playing outdoors;
- Half (50%) say they have been shouted at for playing outdoors;
- one in three (32%) aged 7 – 11 say being told off stops them playing outdoors;
- 11 year olds say they are told off more than any other age group.

Tim Linehan, The Children's Society's spokesperson, said: "Playing outdoors is a fundamental part of everyone's childhood, but that is being threatened by a culture of intolerance towards children's play in public. We are in danger of letting grumpy grown ups tidy our children away."

Tim Gill, the Children's Play Council's director, said: "Children want to get out and play; it's healthy and good for them. Everyone agrees children should be able to play safely near their homes. But too often a 'not in my back yard' attitude denies children the chance to have fun and meet with their friends, stifling their social development. And the charities are concerned that neighbours' complaints and byelaws could be banishing children from our streets. Disturbing reports of play bans include:

- Plans to put up a netball hoop on a village green blocked because residents didn't want to attract children. (Oxfordshire);
- Skateboard park refused planning permission due to residents' objections, despite a 1,500 signature petition and £100,000 raised by children. (Cumbria);
- 115 No Ball Games signs on one housing estate where four out of five play grounds were also shut down (North West).

The Playday findings are backed by Helen Woolley³, urban spaces expert at Sheffield University, who said: "There is evidence of an increasing number of byelaws against skateboarding or bike riding and restrictions on children playing in public spaces. This is socially excluding children from playing in our towns and cities. What are public spaces for if not to bring the community, including children, together?"

The Children's Commission

Than I remembered work I did two years ago for the Children's Commission. Here again, children spoke of their difficulties in finding anywhere to go where they could just hang out, never mind make noise, play games, chuck things about. The Children's Commission was set up by the Gloucestershire Neighbourhood Projects Network (the eight most disadvantaged neighbourhoods). They wanted to find out from primary and secondary aged children and their parents what was wanted to improve play and spare time outside their homes and how this could contribute to better quality of life. We did separate focus groups with primary school aged children, young people of secondary school age and then their parents. This work was not aiming to explore the more profound questions behind our extinction of experience inquiry. We talked about how children's and young people's play and leisure time is in their neighbourhoods and how it could be better. Some of the questions used to prompt the discussions were about what do you do and where do you go, anti-social behaviour and crime, what schools provide for play and leisure time, what makes for a more healthy lifestyle, and do you feel included and accommodated within the neighbourhood?

What came out included:

- lots about relationships eg. with older children or between different sectors of the community; bullying; angry individuals etc;
- lack of space and places, more options wanted for places to hang out, few places that groups could make their own;
- lots about facilities – wanting more, sharing them, upkeep, access;
- different age groups and different parts of the community needing different space at different times – lots of 'them' and 'us';
- anxieties (media fed?) amongst parents and some children about paedophiles, abduction and other dramatic terrors;
- anger and frustration about hazards such as fast vehicles, drug users in public space leaving needles, broken glass in playgrounds, vandalism, dog shit.

Accepting that many children and young people go through phases of "...I am bored...there is nothing to do...nowhere to go..." And accepting that they are likely to come up with those sorts of responses when busy bodies come along asking questions, this work still produced an overall picture of limited opportunities out of doors. The parents, when asked about their own childhood - what they did when they were not at home, had memories of imaginative games such as cowboys and Indians in the woods, helping Grandad at the allotment, loitering about by the canal and fishing in the brook as well as hanging around in gangs. When speaking about what their children did there was less of this sort of activity as they talked more about provision of facilities, especially sports equipment and playgrounds.



Photo: Peter Johnstone

A love of place

Thinking about all this afterwards, I realised that I had not detected much of the connection, passion even, that I had as a child for my surroundings living in the country and then a town. Neither had I detected the same sense of freedom to roam that I remember. We moved home when I was 10, and years afterwards I hung onto the idea that I would go back to live in that much loved place again. I would walk round that country garden every night, in my head, savouring memories of each plant at different times of the year. Even now, I could draw the shapes of those trees and colour views of early morning and seasons passing. I did not feel so strongly about my surroundings after moving, but I do remember getting into trouble for not going to a tennis lesson because I felt it was more important to go round the neighbourhood, saying goodbye to all my favourite places before going away on holiday.

The implications

You might say that none of what these children are telling us should come as a surprise. This is the world we live in, or some people live in. Here are some of the implications:

1. All the above rapidly leads into debates, regularly discussed in *ECOS*, about improving public space, more green space, home zones and more child friendly streets, traffic free routes, safer cycling and walking, green corridors. And then beyond that into what do we want green belt and accessible land around our cities, towns and villages for?⁶ Do we need to think more about all of this from children's points of view?
2. If this is an indication of a developing trend, then where on earth are we going (and is it on earth at all)? Extinction of experience' may well be one description.
3. What do children themselves want?

References and notes

1. *ECOS 20 (2)* - walking and reflecting in "As I went out one morning and left a year behind".
2. *Playday 2003 Summary of Survey Results*
These are the results of the Playday survey of 2,608 children across the country conducted between March and June, 2003, by Young Voice and the Children's Play Council for The Children's Society. A junior questionnaire was targeted at seven to 11 year-olds and a senior questionnaire at 11 to 16-year-olds juniors 7-11 Seniors 11-16 No of children questioned 2,131 477

No of children who say they like to play outside daily or often	Where they like to play:	Number told to go away
1419 / 66% (Juniors) 306 / 64% (Seniors)	Street 859 / 40% (Juniors) 257 / 54% (Seniors)	551 / 26% (Juniors) 205 / 43% (Seniors)
Number of children who like to play outdoors sometimes	Park near home 692 / 32% (Juniors) 147 / 31% (Seniors)	Age most likely to be told off often 11, 14, 15, 16
672 / 33% (Juniors) 159 / 33% (Seniors)	Garden 649 / 30% (Juniors) 62 / 13% (Seniors)	Number stopped from playing outside because told off 674 / 32% (Juniors) 76 / 16% (Seniors)
Why they like to play outside:	Other open spaces 285 / 13% (Juniors) N/A (Seniors)	Most common reasons told off:
To be with friends 1076 / 50% (Juniors) 359 / 75% (Seniors)	Spaces on estate 177 / 8% (Juniors) N/A (Seniors)	They said I was making a noise 588 / 28% (Juniors) 216 / 45% (Seniors)
It's fun 487 / 23% (Juniors) 173 / 36% (Seniors)	Playground further away 149 / 7% (Juniors) 39 / 8% (Seniors)	They said I was a nuisance 539 / 25% (Juniors) 164 / 34% (Seniors)
I like being out 380 / 18% (Juniors) 197 / 41% (Seniors)	Fields or woods N/A (Juniors) 104 / 22% (Seniors)	Who told them off:
I need to run about 162 / 8% (Juniors) N/A (Seniors)	Most popular activities:	Mum or dad 972 / 46% (Juniors) 132 / 28% (Seniors)
Time out from my family 145 / 7% (Juniors) 66 / 14% (Seniors)	Play with friends 1088 / 51% (Juniors) 358 / 75% (Seniors)	Neighbours 309 / 15% (Juniors) 110 / 23% (Seniors)
Space to play games 132 / 6% (Juniors) 50 / 10% (Seniors)	Play with ball 1027 / 48% (Juniors) 163 / 34% (Seniors)	Grown Ups/ Adults 363 / 17% (Juniors) 146 / 31% (Seniors)
Get out of home 98 / 5% (Juniors) 75 / 16% (Seniors)	Hang Out N/A (Juniors) 182 / 38% (Seniors)	Police 134 / 6% (Juniors) 111 / 23% (Seniors)
Get away from schoolwork N/A (Juniors) 96 / 20% (Seniors)	Number told off for playing outdoors	Shopkeepers N/A (Juniors) 138 / 29% (Seniors)
Relieve stress N/A (Juniors) 67 / 14% (Seniors)	It's healthy outside N/A (Juniors) 340 / 71% (Seniors)	
	Number shouted at by adults	
	1075 / 50% (Juniors) 233 / 49% (Seniors)	

- The Playday survey is based on the responses of 2,800 children, aged seven to 18 from across the UK, including 180 face-to-face interviews with children in Oxfordshire, Devon, Sheffield, and the Greater London boroughs of Hackney and Barnet. The survey was conducted between March and June, 2003 by Young Voice and the Children's Play Council and commissioned by The Children's Society.
- Young Voice is a charity, which listens to children's views. www.Young-Voice.org
- *The Human Rights Act*, 1998, Article 10 gives children the right to expression, Article 11 their Freedom of Assembly and Association. The UN Convention on the Rights of the Child enshrines their right to play and recreational activities
- The British Crime Survey, 2001-2002 reported that a third of adults perceived teenagers hanging out on the streets to be a very big problem.
- 3. The Children's Society is a national children's charity working with 36,000 children and teenagers in 90 towns and cities. It works in partnership with communities, schools and families to tackle bullying, exclusion, youth justice, drug and alcohol misuse and supports young carers, child refugees and asylum seekers. It is a voluntary organisation of the Church of England. www.childrensociety.org.uk
- 4. The Children's Play Council (CPC) is an alliance of organisations working to promote the importance of play and stimulate better play opportunities. www.ncb.org.uk/cpc
- 5. Helen Woolley is author of *Urban Open Spaces*, published by Spon Press, 2003. She is also joint author of *Improving Urban Parks Play Areas and Greenspaces*, ODPM, 2002.
- 6. ECOS 23 (1) page 99. On the Edge - a map of greenbelt possibilities

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Connecting with Nature - some success factors

Do you struggle to connect people with the wonders of the great outdoors? Here are some tips for success from a seasoned practitioner...

MARY PRATT

Forget the 'guided walk'. Is anyone's idea of an exciting experience trailing along behind an earnest guide, invariably straining to hear what is being said (often dull), and irritated by know-alls who can't refrain from showing off their knowledge? Maybe fine for the middle-class, middle-aged, already converted (oops! that's me!); but they aren't the people who need re-connecting. Professional time and resources could be far better deployed in other directions.

'Nature' must compete with Alton Towers, the visit to the zoo, driving JCBs at Diggerland; the essential ingredient is FUN, preferably with the occasional 'oh-ahh' adrenalin surge. There have been many admirable forays into experiential

A happy participant at the Cockwood Marsh Family Fun Day, Devon, 2003

Photo: Mary Pratt



events – 'Wild Nights Out', 'Bat and Moth' evenings, Art and Craft, 'Earth Education' programmes. The difficulty is drawing in the punters who wouldn't normally respond to advertised events such as these.

Providing the fun

A 'Family Fun Day', organised in a well-frequented public venue, talked up on local radio and in the press, is a potentially successful formula. The Yorkshire Wildlife Trust is fortunate in having a Nature Reserve (Bretton Lakes) within a popular Country Park (Bretton Park combined with the Yorkshire Sculpture Park). For several years the YWT has organised a Family Fun Day with jolly activities set up along a circular route. Those who participate are largely casual visitors, dog walkers, couples, families - and this year there were an estimated 500 of them. We have mounted a similar event here near Exeter, under the auspices of Wildlife Watch, albeit on a much smaller scale but successfully drawing in folk from the village who would otherwise not have had much to do with 'nature'. Activities which work well are quizzes – 'Who Wants to be a Millionaire'-type questions at numbered posts, scavenger hunts, guessing what's in 'feely boxes' and, dare I say it, pond-dipping. Let no-one disparage that old favourite! It always produces the ooh! (I've caught a fish), ow! (that beetle larva might bite), and yuck! (it's OK that leech won't suck your blood).

Be selective...

Give up on the techno-freaks. We're never going to engage the hard core of car-office-computer-telly-bound members of the human race. Does it matter? Romantic notions of the noble savage apart, a more realistic view of human evolution is one which acknowledges that becoming relieved of the 'nastier' aspects of life in the great outdoors has been an important driving force. Even in our temperate climate, struggling through a bog on a wet, cold day in winter, woodlands in August with biting insects, brambles, and nettles, and stepping on an adder on a hot heathland, are not experiences that 21st century humans have any desire to connect with. I well remember even my A-level environmental science students complaining bitterly when it was time to go outside and do some fieldwork. Admittedly, we need as many converts as possible to help advocate a wildlife-rich countryside, but let's not get too depressed if only a minority truly connect.

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The Fairyland Trust – Festivals, fun and magic

The Fairyland Trust is proving that people from all backgrounds enjoy the chance to engage with nature if the opportunities are provided in ways which are fun, practical and memorable.

CHRIS ROSE AND SARAH WISE

We started the Fairyland Trust because our young daughter wanted to know where she could go to look for fairies. This year, at a Fairy Fair in Thetford, a local lady well into comfortable middle age encountered one of our crown-making workshops and said "It's lovely all this – making fairy crowns with things from the hedgerows. I used to do it when I was a child. But I've not done it since. Now my children are grown up but I'll do it with my grandchildren".

So far a thousand or more people have attended each of the few Fairs we have organised since we set up in 2001 (see www.fairylandtrust.org). We've used volunteer staff, and very few of them are 'conservationists'. People attend because it's somewhere different to take their children and grandchildren, and they e-mail us afterwards wanting to come again.

The fairy formula...

As well as making crowns (from reed, grasses, feathers and leaves according to the season), we run magic wand-making workshops (choosing your wood by tree ogham¹ and smell), wing-making (based on 'common' UK butterfly species), treasure trails with eco-clues, potion workshops and fairy-garden making. Fairs also have organic cafes, yurts, story-telling, music and fairy queens to visit but no franchised sales or plastic cups. There are loos, car parking and first aid.

We started den making to give 'more things for boys to do' but found it was equally popular with girls and parents. We provide attractive materials like silky old curtains, pre cut big sticks and let them get on with it. There's help if needed. Some families tick it off and move on, others spend five hours in their den! At one Fair the children started 'selling' and 'renting' dens. A dad said "I haven't had so much fun since I was 14". Another: "what you've done here is an organic Disney".

We make fairy gardens with children. The steps involve: decorate flower pot, select plug-plant wildflowers for meadow or woodland, and add a fairy house using an acorn, or matchbox and the like. It results in a little bit of habitat creation they can take home. Parents often declare themselves astonished at the commitment of five or six year olds to caring for their gardens, some rushing in after school to water them and keep them attractive for fairies, even putting up signs: "Fairies This Way". We get 'green men' and ecological action heroes as well as boys and girls keen on making and wearing wings and head dresses. Journalists always say "isn't it for

girls?" but you don't hear that at the events themselves. Boys and girls are equally keen at decorating the Clouay Tree² with their messages to the fairies.

The term Fairy Fair seems largely self-explanatory. Some families have travelled across Britain to reach them: "my God" said one lot "this is a real fairy fair – this is what we've been looking for". What they see in it varies but our recipe is to mix mud and magic, ecology and enchantment, and let imagination take discovery by the hand. We provide no images of fairies – the idea is to free children (and inspire families) to use their imagination, and so make discovering nature fun.

In communications strategy terms it is fun first, facts afterwards: start from where your audience is (day out, tea, cake, interest in 'nature', spirits, elves, fairies, being a wizard, using magic etc) not from where you are (environmental crisis, biodiversity, interesting plant associations etc).

Making an impression

At one fair helper Pat Willis made fairy boxes with children. They took them home with small sparkly things, leaves, acorn cups to drink from, beech nut cases for hats etc, and hid them in the garden or window box for fairies to find. Later she met a family whose five year old had insisted on subsequent (and unprecedented) walks to find more natural bits and pieces to add for the fairies to find.

Resourceful fairies make their crowns...

Photo: The Fairyland Trust



From our experience the approach succeeds in getting people, young and old, to connect with nature, be that simply looking and finding things, just appreciating that there are more than one or two types of tree, or something more sophisticated like recognising a butterfly species and finding out what it eats.

Fairs are family events and our ambition is to also run permanent Fairylands – mixing habitat creation and a safe place with family facilities and magical things, where children can have fun and discover nature. If you know of a suitable site, preferably with funding attached (!) do get in touch.

With or without children, however, there is a strong desire to reconnect with nature, and be able to talk about the spiritual and empathetic feeling for the land, wild things and ancient places. If you visit 'Fairy Places' at our website, you'll see a range of accounts of places that 'make the hair stand up on the back of your neck'. Please add yours – it can be anonymous and vague or identifiable, as you wish. These are the places that make Britain's countryside magical.

Some Wildlife Trusts have enthused about what we are doing but limited resources means we've so far only worked with one (Sheffield). Organisations like the National Trust obviously conserve very many special places. We don't project ourselves as a conservation organisation. We've found it hard to raise funds, perhaps because we don't fit with established framings and grant giving criteria for 'delivering biodiversity'. On the other hand, even with shoestring resources we've had a great response from the public.

So far the only disappointed customer on record was a lady who, while queuing to enter a Fairy fair, spotted a notice designed to be read on the way out and was heard to remark loudly before leading her family away - "oh it's a conservation thing – let's go". Conservation doesn't sound fun.

The times we live in

Our experience supports the idea that people are out of touch with nature and being in-nature – and shows that there is a considerable demand to reverse that, so long as you engage through things that are enjoyable. But one can't just blame it on the internet. The drift away has spanned generations – the car probably has done more to insulate people than TV for example.

Moreover, the web is also a force for good. Like-minded people from all over the world access our website and without e-mail (we have no leaflets, no offices, no permanent paid staff :) and the 'net we couldn't do what we do.

What is also alarming is the extremely low level of the most basic knowledge of natural history. We find this working with the public and with schools, where the national curriculum certainly doesn't seem to help.

Whether it's punters at Glastonbury, wealthy parents from Burnham Market or people from local council estates, most adults seem genuinely shocked to hear that the adjacent hedgerow provided six or seven types of tree and bush, or that the bright green pastures couldn't support more than one or two butterflies. Rural or urban backgrounds make no difference.

Of course followers of conservation groups are a different matter but they now seem to have specialist countryside to visit and don't mix with the rest, any more than non-golfers are to be found on golf courses.

In our experience any negative children's attitudes to nature mostly come from parents. Taking fright at a bee and wanting to squash it for instance, is often

instigated by the parent. Similarly, mothers could be heard at a craft fair we attended telling their sons they couldn't go into the Fairyland Trust Yurt to make a fairy garden because that was "for girls".

Keeping the stories coming

Einstein said: "If you want to make your children intelligent, tell them fairy stories. If you want to make them more intelligent, tell them more fairy stories." Stories are the longest lasting communication form, an important resource for us in making sense of big issues in our world. We find insights in stories that were not apparent on the surface. Telling stories is something that uses both sides of a child's brain. It is said that it's important to tell them stories rather than just watch TV, as their mind is filling in the pictures.

'Fairy tales' are about fairies or other make-believe things, some fairy stories involve nature, particularly the Celtic and older European myths. We've been training our own eco fairy story tellers to work with schools, and we've had our first new story involving fairies and nature written for us.

If conservation was as popular as Disney, it would be a whole lot more effective. Any help 'appreciated'.

References and notes

1. Celtic tree calendar.
 2. Traditional tree dressing - a Scots word for a messenger tree for the faeries, used in May with strips of cloth.
 3. Running the fairs requires dozens of volunteers and temporary staff over months.
- The FLT has received £40,000 from the RSNL administered SEED Programme of the New Opportunities Lottery Fund for a pilot project developing an enchanted school garden in Wells. See BBC Newsround website http://news.bbc.co.uk/1/hi/newsid_3132000/3132774.stm

The Fairyland Trust is a UK-based conservation charity that engages families and children by combining ecology and enchantment. Fairyland Trust PO Box 14, Wells Next The Sea, NR23 1LA

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TV and DVDs make the mind boggle – but perhaps not enough

Recent research conducted by Opinion Leader Research on behalf of the Heritage Lottery Fund shows that visiting local parks competes with people's TV and gizmo addiction.

RUTHANN HUGHES

The media frequently paints a picture of a one dimensional Britain that is lazy, unadventurous and all too willing to resign itself to a life of watching mediocre soap operas and investing time and money on technological equipment and gadgetry. Of course TV and IT are being used more widely than ever before. Computers, DVDs and electronic games play a role in young people's lives which previous generations would have been unable to even contemplate. However, the picture that is generally painted fails to convey the attachment that people from different walks of life do have to other activities, not least to enjoying the outdoors.

Parks and the Heritage Lottery Fund

Heritage Lottery Fund is a major investor in parks, gardens and other open spaces in the UK. As one of the National Lottery's distributing bodies, HLF is responsible for awarding grants to support groups and organisations which take care of parts of the UK's 'heritage'. A significant proportion of these grants has been allocated to preserving open spaces, a term which covers a range of projects from restoring Highland paths and canal walkways to preserving historic features in inner-city parks.

Parks for all

In order to celebrate its £320m investment in public parks, HLF was keen to explore the extent to which people living in urban conurbations value their local parks. Opinion Leader Research was commissioned to conduct a programme of research² to investigate these issues.

The results demonstrate that public parks continue to be highly valued and well used. Around a third of people (29%) living in towns and cities visit their parks at least once a week, with over half visiting at least once a month. And it is not a select group who frequent parks. Results suggest that the frequency with which people visit parks is similar across different socio-economic groups, gender and age groups.

Bringing generations together

Not only do people of all ages value their local parks, but parks appear to play an important role in bringing different generations together: 95% of young families visit their local parks regularly. Around two thirds of parents with young children visit at least once a fortnight and 44% visit at least once a week. Grandparents seem to enjoy

frequent visits to the park with their grandchildren: over 63% of people with grandchildren under 11 years old make regular trips to their local parks.

These statistics echo sentiments expressed by the children in the qualitative research. For many of those who took part in the discussion groups, going to the park offers a valuable opportunity to spend quality time with other members of their family. Children talk animatedly about happy times spent in parks with parents and grandparents. As one young person put it: "sometimes I go to the park with just my dad. Sometimes with friends as well. But I prefer it when it is just me and my dad."

'There's nothing like them'

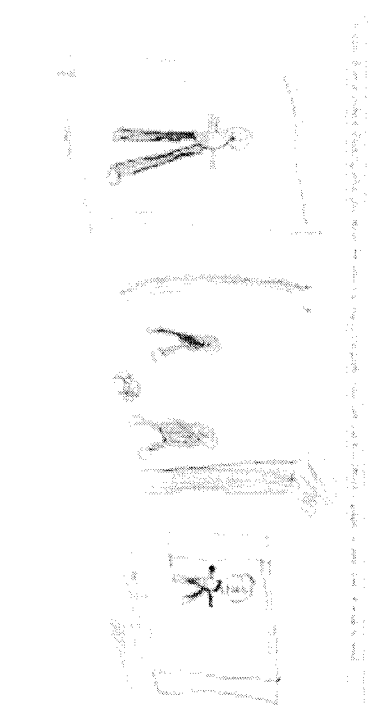
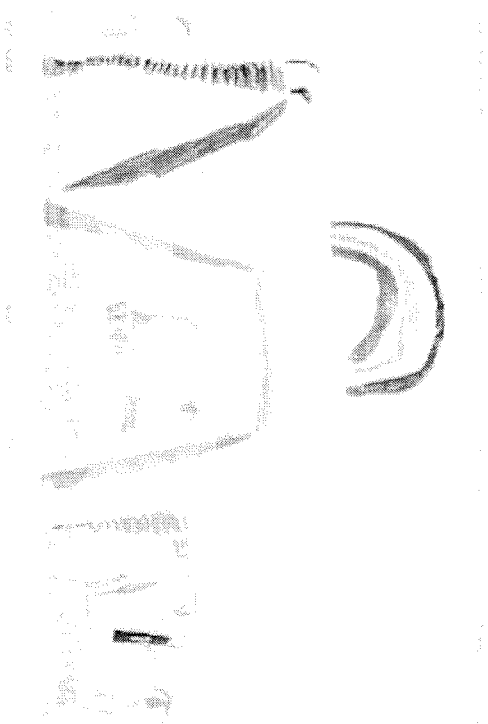
It appears that parks play an important and unique role in our urban communities. They add richness and diversity to the lives of people living in towns and cities.

People engage in a whole host of activities in their parks from reading, and interacting with nature to enjoying an ice cream or the occasional touch of romance.

In the discussion groups conducted in the study, children spoke with great feeling about their favourite activities in parks. The stories they recount suggest that public parks remain very special places for children living in towns and cities. They offer opportunities for creative play and discovery. They facilitate contact between children and between children and wildlife. For some children, parks offer an exciting range of activities which is simply not available at home. Young people's enjoyment of parks is not just a recent trend. The research shows that 83% of the adults questioned said that parks were important to them when they were growing up.

For respondents of all ages, parks offer a welcome means of escape. 85% of adult respondents agree that their local park is one of the best places to escape the stresses and strains of 21st century life. It is quite telling that this sentiment is even echoed among some of the youngest respondents. A number of the 5-10 year olds said they enjoy going to their local park to get away from the stress of school and family life.

The HLF Study asked children to draw what mattered most about their local Park...



Learning in parks

At the same time as providing a space for people to switch off and relax it is clear that parks offer a range of opportunities for informal learning.

It appears that many people are using the space and facilities that parks offer to learn and develop sporting skills. For young people, there is also much interest in learning about wildlife in their local parks, something that parents also regard as important. Whilst some children enjoy watching informative television documentaries on wildlife, they see clear benefits in being able to observe animals in real life. One child explains: "when you see animals in the park you can see exactly what they do. You can watch it. You can hear them...they're beautiful."

Parks versus telly

So whilst there is no denying that people continue to enjoy spending time watching TV and DVDs, surfing the net and using video games there is still room in people's lives for other activities of which frequenting parks is clearly a favourite pastime. 87% of adults agree that in good weather they would prefer to spend an afternoon in the park than an afternoon watching television and believe that their children would also prefer to go to the park than watch TV when the sun comes out.

Future of parks

It is clear that the majority of the public want to see continued investment in local parks. As with any proposition, the public have expectations which they want to see met. These expectations clearly put demands on those funding parks (including central and local government as well as award bodies like Heritage Lottery Fund) and, of course, on those using them to help maintain them.

People don't want to frequent just any old park. Safety and cleanliness, and the upkeep of facilities within the park are of real importance to the majority of

respondents including even the youngest children consulted. When asked what they regard as the most important factor of a park, the most frequent response, cited by 61%, was that it should feel safe, tidy, and well looked after. Young people clearly feel differently about the different parks in their area. This is partly triggered by the range of activities on offer (the more slides, nature trails and animals the better!) but also by their perceptions of other factors including, for example, how well maintained different amenities are and the quality of grassy areas.

Investing in quality

The desire to see parks improved and maintained should be taken seriously in the light of calls coming from all sectors for increased activity amongst the population as a whole. Making regular visits to the park is clearly one kind of activity that is enjoyed by many and should be encouraged. Whilst this research shows that young people do value parks and in many cases prefer being outside to sitting indoors playing computer games, this preference is largely dictated by the quality of parks on offer in their locality. For those whose nearest park is run down and lacking amenities, switching on the TV, logging onto the net or playing a video game may well be a preferable option. For those who can access lively and exciting parks, which feel part of their community and offer opportunities for safe play and discovery in a bright, clean and appealing environment, a trip to the park may well win out over an hour in front of the box.

A future where even more people access parks is surely an optimistic and exciting one: the implications for this both at a local and national level are potentially vast. Improving people's health, increasing creative play and building more cohesive communities are just a few of the potential knock-on effects of funding and maintaining public parks.

Parks may indeed represent part of a solution to a number of issues which we continue to struggle with as a country.

References and notes

1. For more information on HLF see their website, www.hlf.org.uk
2. This was a two stage study. Stage 1 consisted of 610 telephone interviews with a random selection of members of the public living in key urban areas across England. The second stage which was qualitative in its focus sought to engage with groups of children aged 5 to 10. Both stages of research were conducted in April 2003

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Protect our Pitches, they say - But why?

*"There's no use trying," said Alice. "One can't believe impossible things."
"I have to say you haven't had much practice," said the Queen. "Why sometimes,
I've believed as many as six impossible things before breakfast."*

Lewis Carroll, Alice in Wonderland

KIT CAMPBELL AND MATTHEW FRITH

Pitching for protection

Remember those "Keep off the Grass" signs that used to grace our parks? Well, they're back, but this time as the rallying cry for those who want to make sure that our increasingly obese young couch potatoes have as few opportunities to play football as possible, other than at the weekend and then only on gritty pitches, often with no or appalling changing accommodation. To be fair, that's not quite how they present their argument, but it's what will happen if their demands to increase the protection of playing fields from development are heeded. And the question is, at what cost to our social and environmental well-being?

Across much of the UK, there's a growing shortage of housing. Current rates of house building are well below levels needed to match the rate of household formation in many areas. The Government has patted itself on the back for achieving a significant proportion of new housing on brownfield rather than greenfield sites but, as various commentators have pointed out, the actual number of new houses on both is hopelessly inadequate. And there's growing evidence that the planning obligations system simply can't deliver the number of affordable houses needed.

So what's the solution? Well, if some people have their way it'll be a weasel-worded policy of "some controlled incursion into the Green Belt". Deputy Prime Minister John Prescott, England's planning supremo, is alleged to have made the somewhat ambiguous statement that "the Green Belt is one of Labour's finest achievements - and we're going to build on it". It's all part of his desire to promote an urban renaissance. Significantly to increase the number of new houses built each year, especially in south-east England. For towns and cities to be more densely developed. To protect the countryside. To persuade us all to use our cars less and public transport more. And he wants developers to provide affordable housing for essential key workers. In London, Ken Livingstone wants to do much the same for the capital under the notion of a 'Sustainable World City'. Meantime, in many areas the much-hyped urban renaissance is little more than yet more spin. And the ecological justification behind this framework is at best simplistic.

Own goals or a win-win?

The Government is depending on 'joined-up thinking' to deliver its urban renaissance, but there are too few signs of it happening. And the more that particular interests, such as those who defend football pitches, stick their head in the sand (or should that be the mud?) and insist that the status quo must continue, the harder it will be. "Renaissance" means looking at problems in new ways and doing things differently, not just building houses. Why think another 50 years of the policies that resulted in a need for an urban renaissance will also deliver it?

Wouldn't it be better to use the Green Belt for playing fields and existing football pitches for houses? After all, most playing fields are used by 20 odd people once or twice a week, while houses are in use every single day. And past attempts at building in the Green Belt, such as the large council estates on the periphery of many towns and cities, weren't exactly one of the planning system's greatest achievements, were they? Why condemn people who can't currently afford homes, and often personal transport, to live further and further from work and city centre amenities, forcing them either to drive into town, clogging up the city even more, or spend longer every day on unreliable public transport? It's hardly social inclusion.

So here's some real joined-up urban thinking, with the potential to deliver benefits for everyone. And what's more, it doesn't depend on Gordon Brown ditching prudence and taking on the unlikely mantle of a fairy godmother.

Do we want to retain most football facilities in their present state?

Certainly not: 41% of football pitches in England need drainage improvements; 38% have no changing and 94% have no female changing. Only 6% have floodlights.¹

How much will it cost to bring existing football facilities up to a decent standard?

Around £2,000,000,000 – two billion pounds. That's the amount the Football Association has estimated will be needed – just for England. Meanwhile, pitches and changing accommodation in Scotland, Wales and Northern Ireland need investment every bit as much. And the solution, according to the status quo thinkers, such as the National Playing Fields Association, London's Green Party, and others? Easy: more public or Lottery funding. But Lottery income is going down steadily, and if the UK bid for the 2012 Olympics is successful there'll be an estimated 10% less for each Lottery distributor to spend on local projects.

Do the players wish to maintain the status quo?

Take a medium-size city like Edinburgh. It has around 500 grass pitches, with 300 of them owned by the Council. Of those 300 at least 200 need major upgrading. After over 10 years of negotiations, a developer recently got planning permission, at a call-in inquiry, to build flats on a small, sloping part of one of the Council's playing fields – in the teeth of opposition from the "keep off the grass" lobby, determined to protect the site for future generations of players. How many of the current generation of players, from schools and cricket, football and rugby clubs using the site objected to the proposed development? None. Why? Because they want decent facilities, not a wind and rain-swept patch of mud with shoddy changing facilities dating back to World War One. Meantime the seven pitches on the site have deteriorated to such an extent that goalies sometimes spend more time padding than playing in goal. Thanks to the



Photo: Sourced from the web, origin unknown.

planning consent, the City will get £6m worth of pitch and pavilion improvements. And at this rate of progress the Council will be able to bring its other pitches up to an acceptable condition in only about another 280 years.

How many football clubs are actually doing much to develop participation or skill levels in football?

Very few. Most are little more than a group of pals who get together to play matches and train occasionally. The vast majority run only one team and don't want new members or the hassle of forging the links with schools which the Sports Councils have been promoting for years.

Does losing a few pitches really matter?

The Keep off the Grass gang is correct when they say that many areas have lost a few grass pitches over the past decade. So what? Each of them was playable for only 2-3 games a week. And against the loss, most areas have gained floodlit artificial turf pitches which can, at least in theory, be used 24 hours a day. In terms of average use per week, one artificial turf pitch is equivalent to ten or more grass pitches.² So, in spite of those pitches which have been "lost for ever", many areas can now accommodate more participation than ever before.

What's been happening to participation in football in recent years?

Simple: there's been a significant shift away from 11-a-side games on grass, mud and cinders to five-a-side play either indoors or on artificial surfaces. And as the average age of the UK's population increases, participation in pitch sports will fall

further. Sport England has forecast that if current trends continue, the number of team sports players in England will decline by around 5% from 1996 to 2026.³

Are grass pitches cost effective?

No. They're very expensive to maintain properly (not that many local authorities do - they simply can't afford it). 1990 research for the Scottish Sports Council found that the whole life costs of grass football pitches – excluding land and providing and operating changing facilities, but including regular upgrading to drainage - cost around £150 per football match, or about £7 per player. By comparison, using exactly the same calculation approach, and even allowing for the replacement of the carpet every ten years, artificial turf pitches cost only about £45 per match.⁴ All local authorities charge significantly more for artificial than grass pitches, so it doesn't take an accountant to work out which approach is more viable.

What do urban areas depend on?

Key workers. Without affordable housing for them, more and more of the people who actually make them work – for example, the people who drive the first bus in the morning and the last bus at night, the nurses, the teachers, the cleaners – will be forced to live elsewhere. Is that what we want?

Which needs to be closer to city centres - houses or pitches?

One hectare of land used for housing will generate significantly more traffic and car journeys in a week than one hectare of land used for a grass pitch. And even if pitches were accessible by public transport, does anyone really think footballers would rather use it than travel by car in groups?

Are we proud of the facilities we've got?

Across the UK, how many local authority grass pitches provide such superb playing conditions, week in, week out - not to mention warm, comfortable, well-equipped changing pavilions, free from vandalism - that players enthuse about them? Not a lot! How can Premier League clubs buy and sell their top players like expensive cattle, pay them millions of pounds a year, and countenance spending millions on rebuilding Wembley, when so-called "grass roots" football suffers such abysmal facilities?

What other roles do pitches perform in urban areas?

The Keep off the Grass lobby claims that playing fields are multi-functional. The London Green Party, for example, talk of the "natural heritage" of playing fields and Noel Lynch, a Member of the London Assembly, states that "playing fields are vital to the well-being of Londoners. They provide us with not just a place for sports, but also somewhere for walking or just to sit out in an open green space."⁵ Dog walking, maybe – but how many sports people welcome the fouling they tend to leave behind? And how much are pitches actually used for sitting? How many have seats? There seems to be deliberate confusion of large flat, featureless areas of short grass with more diverse green spaces that really serve a multitude of purposes. In terms of amenity and local character, pitches and playing fields do provide some openness, but are they really valued more than that? Surely this important land resource could be used better to support more sustainable urban areas.

Surely play pitches help perform a valuable ecological function?

The very fact so many are waterlogged must help reduce water run-off downstream, and therefore they can be considered as part of the network of greenspaces that fulfil a sustainable urban drainage function. Perhaps, but by accepting this, they hardly become useful for their original purpose. And their capacity for holding water would be enhanced by landscaping and structural planting. This in turn would benefit biodiversity, as their existing value for wildlife is extremely limited. Apart from occasionally catering for grazing Canada geese, gathering areas for roosting crows, or stop-over autumnal migration flocks of redwing and fieldfare they are utterly joyless. How many butterflies flutter over them? How many bank voles wiggle through the grass? How many plant species are present? Very few. Pitches are simply deadened monoculture prairies, designed for quick and cheap maintenance by machines, large expanses of over-nitrated perennial rye-grass, offering no food and no shelter, other than for the soil organisms below.

How brilliant are our Green Belts?

What purposes do they really serve? We are constantly told that the Green Belt is sacred, untouchable – the one real success of the planning system – "the most powerful policy tool for aiding urban regeneration... that any local authority can possess."⁶ Any politician daring to suggest otherwise would be crucified. Why? They are "all but useless in promoting positive outcomes", and some sharp new light on the matter is urgently required.⁷ Indeed, there have been some tentative ideas for the Green Belt to function in a more positive, holistic manner, to address the concerns of the 21st century.⁸ But with strong rural interests so effective in portraying the Green Belt as the last defence against the great unwashed of the towns, they have had little chance to set seed. The Minister for Regeneration, Jeff Rooker, recently hit the headlines at a Labour Party Conference meeting by stating that the environmental lobby had "an obsession with green belts", and that most of it "is rubbish."⁹ Undoubtedly his many critics will take quiet comfort in the thoughts that another one will bite the dust.

Put the houses where we need them

So let's take our courage in all 10 fingers. Both the unplanned, money-grabbing disposal of playing fields and the unthinking protection of them should be consigned to the dustbin of history. Instead, let's develop an approach designed to re-invent our urban areas and solve a number of urban problems in a joined-up way:

First, the reason house prices are rocketing is because there aren't enough of them. In large part, this is because there isn't enough land on which to build the houses to accommodate everyone who wants to live in successful towns and cities. The result is that many existing houses earn more than the people who live in them. That's daft. So sell those pitches which will generate the most cash to developers - not all at once, but over a period of years so as to maximise the value. Ban the use of standard house types and insist that the developers include high quality greenspaces, such as neighbourhood parks, to ensure householders have a decent home in attractive surroundings. Ensure these parks and greenspaces support a range of wildlife and are visually at the heart of these new housing

environments and physically accessible to everyone in them – not just the difficult to develop bits of land on top of major utility services. Incorporate Sustainable Urban Drainage Systems, green roofs and other specific features. And, crucially, ensure there is proper management and maintenance, ideally in a way which involves the new residents and gives them a real say over how resources are used.

Second, hand over those pitches closest to good public transport routes to registered social landlords such as housing associations for affordable housing. The people who will live in these new houses are those most likely to depend on public transport and can then use existing shops, schools and other facilities. Insist that these new developments also include attractive neighbourhood parks and green spaces which serve not only the new houses but existing ones nearby as well. Local authorities could easily make a deliberate and completely defensible decision not to seek full market value for their pitches if the result is key worker, affordable and/or social housing.

Planning for play-pitch gain

Third, use some of the cash generated from selling pitches to developers to build a floodlit artificial turf pitch at every school that doesn't already have one, including primaries. Include decent changing accommodation and social accommodation for local clubs, entirely separate from the school buildings - but share parking as the time of school and community use of the new pitches will be complementary. Primary pitches will give a good, all-weather 5-a-side, kickabout or training facility for adults and practice and match facility for mini-soccer teams within walking or cycling distance of every home. Secondary schools - most of which should have two artificial pitches - can provide facilities for training, coaching and matches for youth and adult teams.

The number of pitches in an area matters only if every match has to start at the same time on the same day. With floodlit artificial pitches they don't, as hockey has shown. All it needs is football leagues to be more flexible and stop assuming that they have a right to whatever they say they need, but pay only a fraction of the cost of providing it. Let's encourage children - and adults - to enjoy sport by giving them high quality, all-weather facilities, not put them off it by forcing them to use near-unplayable ones! The clubs based on these secondary school sites will be able to run a number of male and female teams in various age groups and offer coaching and sports development opportunities - and provide the direct school-club links which the Sports Councils keep promoting.

Fourth, use some of the cash to build new rugby and cricket pitches on the periphery and maybe even in the Green Belt - only rugby and cricket need grass pitches. Hockey doesn't, while FIFA has agreed that new "long pile" artificial turf pitches can be used for some matches in the 2006 World Cup. So why shouldn't British footballers play on them now?

Fifth, invest some of the cash to generate income to pay for the maintenance of the new neighbourhood parks and improving existing ones. Many are in a worse condition now than for many years.

Booting protection into the long grass

Granted, all of this will need some bold thinking and bold action. It'll also be necessary to ignore the inevitable cries that all playing fields are sacred and must be protected for future generations - irrespective of their condition and ignoring

the fact that they are, almost certainly, putting young people off sport. The protectionist lobby has far too narrow a perspective and it isn't clear exactly what its real motives are, other perhaps than nimbysism and a fear of change. In some cases, perhaps we should be looking at some playing fields as being the ideal canvasses to undertake exciting wetland creation projects that will be usable by more people and wildlife than they are at present. Moorhens rather than footballs?

Towards the liveable city

Finally, which offers more hope for the future? On the one hand, an unthinking "nothing should change" lobby offering increasingly unaffordable developers' standard boxes, continued reliance on the car, inevitable expansion into the Green Belt, urban sprawl and increasingly unplayable pitches used for a few hours each week. On the other, joined-up but radical action to re-invent and enhance our urban areas, promote the liveability agenda, give more people a decent home in an attractive and sustainable environment and significantly better opportunities for footballers to enjoy their sport in larger, more viable clubs on consistently high quality pitches close to home?

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Seeing the Tiger

Martin Spray's favourite holly bush has never had so many berries on it as this autumn - so we must be in for a pretty harsh winter. A good job, then, that he made the most of 2003's glorious summer that lasted until the very end of October....

MARTIN SPRAY

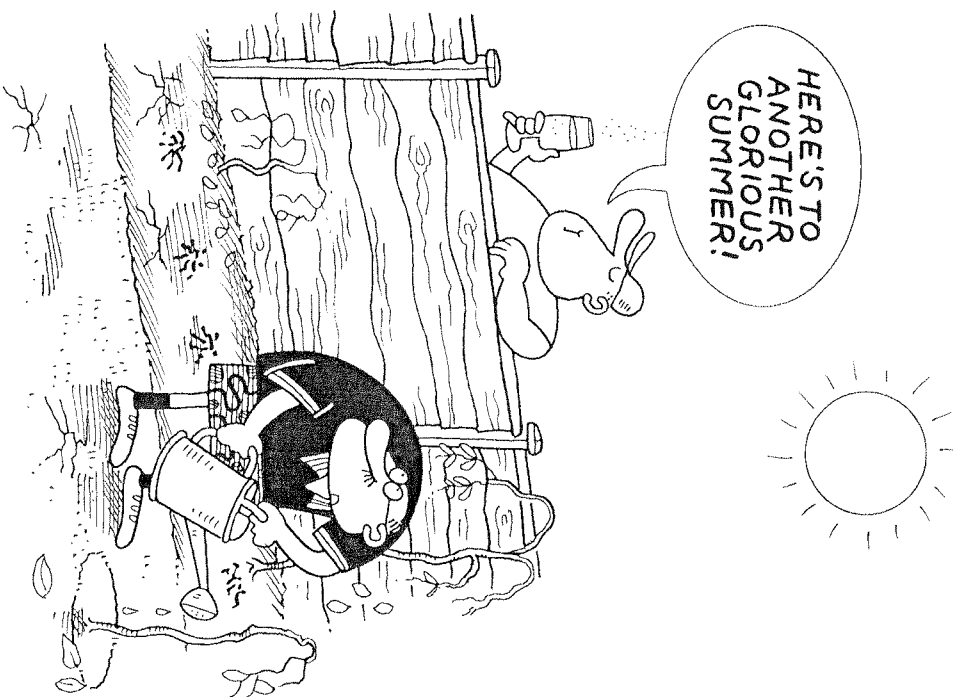
To the tiger, before and after it springs, you are but meat. To you, if you see it before it springs, the tiger is still a beautiful thing, though also a terrible one. There seem to be some tigers around that we look at almost every day, and see as beautiful things - whose beauty blinds us to the fact that they are tigers, and may be about to spring. Some people say there are more tigers around now than there used to be. Certainly, 2003 has been a fine year for watching these awesome creatures.

Yesterday, as I write, at the end of October, here in the Forest of Dean, I visited several new works along the Sculpture Trail, with a party that had gathered to celebrate their 'launch'. Before walking to see the sculptures, we had the usual little speeches, and a tasty buffet lunch - *al fresco* but for a canopy of plastic. Actually, three of us who don't walk very well were driven along the forest roads from site to site by one of the forestry staff.

It might all have been less pleasant if it had been a day of gusts and stair-rods, instead of calm, and cool but bright sunshine which made the autumn colours of beech and oak, hawthorn, bramble, and early-turning bracken, so beautiful. It made for a cheerful party, and for comments the likes of: "They couldn't have chosen a better day!", "What a wonderful summer - and it's still going on!", "It's a real Indian Summer!", "It's been too hot for me - but I didn't like that frost last week! Aren't the nights drawing in fast?", ... "We could do with a drop of rain, though." I am not being facetious: one of them is mine. I heard only two people mention the tigers that watched us.

A few days before, it had rained. At home, the grass was wet, the still sweet alpine strawberries washed ready to eat. But a tiger sat under the trees at the edge of the garden, in a ditch pretentiously called The Fernery. It is remarkable, how resilient and resourceful some plants are. Several of the ferns have looked more like piles of sun-dried, strand-line seaweed most of the time since July, but some, a few hours after waterings or showers, were usually upstanding and healthy-looking again. Nonetheless, it will not surprise me if a few of them do not wake next spring. At the top of the fernery, one limb of the half-mature beech began an autumn colour-show early in August: a gorgeous citrine against the tired greens - but now a tiger snoozes among its deep-sleeping, crinkled brown leaves. Along the Sculpture Trail, the forester with us remembered that in 1977 several of the prominent large beech in the area did not wake. A tiger had stalked them through the glorious summer before - and had sprung. Yes, he agreed, we were lucky to be in the forest on such a beautiful day, with colouring on the trees that will make 2003 quietly memorable.²

NEIL BENNETT



One of the new earth-work sculptures included - I'm not sure why - some ornamental plantings of bamboos. Planting had been stalled as long as possible: the dryness of the soil would not have been to the liking of bamboos. They were eventually watered in by a fire-fighting team and tanker. Once established, they should cope; indeed, the forester was more concerned about them getting out of hand. Like the squirrels, the milder winters might make life easier for them. And, as a green-fingered friend I met there added, for the *Musa* plants in his sheltered garden. These little banana trees had so far overwintered under ugly wrappings of dry bracken, bubble-wrap, and polythene sheet. I can forego mollycoddled *Musa* - but would - rather - like to add one or two tree-ferns to the Fernery. Like fellow members of the Hardy Plant Society, especially of its Half-Hardy Group, I can daydream about the widening range of plants to grow if winter becomes gentler...³ Through the earthworks-and-bamboo sculpture site runs a tiny stream - really just a drainage ditch, since foresters have been draining this part of the Dean for centuries.

Actually, during our saunter, it didn't rain; but after a downpour it would enhance the charm of the place; and as someone observed, there were usually little pools along the course of the ditch, with trickles between them. But this day the tiger on its bed was nicely dry. The children who had been told to put on their wellingtons could probably have come in shoes. Yet, predictably, a clear sky let the temperature crash at the end of the afternoon, and there was general regret, back at the car-park, that the café was closed. And later, back home, I was sorry not to have left the central heating on.

Today, it is raining and chill. *This* rain is too early for the new reservoirs whose proposal has just been (unfortunate word) leaked. Overnight, wind has transferred much of the red and foxy-brown, orange and yellow from the trees to the ground, where all becomes earthy-grey. But yesterday was altogether a delightful, refreshing, day. The sort of day when, with late-season butterflies in the garden (not so late or early, though, as the peacock accompanying our picnic tea on Christmas Day 1987!), getting back to nature is a joy - and so obviously beneficial. The sort of day that puts the world's problems out of mind. And it was a stimulating one: seeing how different artists had responded to and demonstrated different facets of 'the Forest.... And all-in-all, and notwithstanding the dearth of *official* sightings', it's been quite a good year for tiger-spotting in the Forest. They may, of course, turn out to be *paper* tigers - but you are probably reading *ECOS* because you do not think so. I err in favour of their reality. I feel I have to, as I see one every day. It frowns or smiles or just stares back at me from the mirror."

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1. especially for the babies and toddlers, and for one of my former students and the family of one of the artists all coincidentally flown from Singapore, the latter to spend a few weeks in their alternate English home.
2. He did not mention tigers - but I sensed that he was watching one, nearly in the shade. Nor did he comment on the incessant and insouciant scamperings of those delightful critters the grey squirrels, which in my corner of the woods have dead-topped half the maturing birch and scarred a creditable proportion of other trees the foresters actually want.
3. My friend is a highly competent naturalist - the discoverer of those obscure arthropod-relatives, *Peripatus*, under a log in the rich forests of Honduras. The theme the artists had worked within interested him. 'The diversity of the Forest of Dean'. They would have had as much biodiversity to stimulate them in his garden as in the plantations.
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At ease with radical knowledge¹: the more we know, the less we like GM

The Farm Scale Evaluation report is published: two out of three GM crops are shown to be more damaging to the environment than their conventional equivalents, while the third test is compromised by the use of inappropriate herbicides. The public still doesn't want GM; scientists cast more doubt on its safety; insurance companies won't cover it: but will the Government listen?

PHIL CHANDLER

Anti-GM campaigners' concerns about the potentially detrimental environmental effects of the technology were largely vindicated in October by the publication of the results of the Government's three-year Farm Scale Evaluation (FSE).

The FSE was designed to compare GM crops and their conventional equivalents for effects on biodiversity under different management regimes. Test plots of both types were grown side by side and comparative observations made of wildlife among the crops and at the field margins.

The report concluded that "Growing conventional beet and spring rape was better for many groups of wildlife than growing GM herbicide-tolerant beet and spring rape."²

In contrast, GM maize was claimed to be better for some wildlife when compared with conventional maize, with more weeds and more butterflies and bees. However, this is not surprising, considering that the conventional maize was sprayed with the lethal herbicide atrazine, banned in many countries and being phased out in Britain, but widely used in the USA.

The GM maize was treated with glufosinate ammonium (Bayer's 'Liberty'), to which weeds rapidly develop resistance, and which has, in the USA and elsewhere, had to be mixed with atrazine in order to maintain its effectiveness. It is clear that, had the maize trials been treated according to actual, rather than theoretical, usage, the results would have been rather different.

Ian Panton, a spokesman for GM Free Gwynu, said:

"The trials give no guidance whatsoever as to the likely effects of growing GM maize commercially in the UK. For a start, the Atrazine used on the non-GM fields for comparison is so dangerous that its use will shortly be discontinued. It is already on the 'banned' list in France and other countries. Other herbicides will be used on non-GM maize in the future. So we are no further forward in knowing what the 'baseline' ecological effects of growing conventional maize are."

Mr Panton said the Government also knew in advance of the trials that the manufacturer's recommended herbicide for GM maize, used by some 75% of growers, is Liberty ATZ, in which the proportion of atrazine is 32%.

Professor Mike Owen of Iowa University found the actual percentage of atrazine used by GM farmers is closer to 90%. "If this herbicide mix was ever licensed for use in the UK it would have a much more dramatic effect on wildlife than the FSE programme suggests", he said.

Although mentioned in the report, the press has largely ignored the fact that the FSE was never intended to be a test of the safety of GM, but rather a comparative herbicide management experiment: it only compared one form of chemical farming with another, while taking no account of organic agriculture as a viable alternative. Parallel testing for biodiversity against chemical-free farming would undoubtedly have proved embarrassing for the biotechs, fond as they are of rubbishing organic methods.

"The real comparison should be between GM and organic agriculture. But organic is so obviously better for the environment that the GM industry refused point blank to have this included in the trials."⁹

Dr Firbank, scientist commissioned to conduct the FSE, was careful to underline the limitations of the exercise: "One of the key points to remember is that the results are only applicable to the three crops studied, and only under the regimes of herbicide usage which were employed."

John Sherrell, FARM founding member and South West dairy farmer, said "These trials are completely useless for working farmers. Not only have they been invalidated by the use of the now banned herbicide Atrazine, but they also provide no evidence of how these crops would perform under practical commercial conditions. It is amazing how the Government are trying to force farmers to grow these crops without providing the information farmers need."

Research in Hungary in 1998 revealed that Liberty alone was inadequate to control weeds on GM maize: "The results of field experiments showed that a weed management strategy with glufosinate must include multiple applications, residual herbicides or mechanical control"¹⁰

The limitations of Liberty were known and made public in June 2002 and was covered in the press and on *Newsnight*, yet the issue was never raised by the FSE Steering Committee, nor was the herbicide regime altered.

With two out of three trials finding against them, and a third rendered impotent by tests clearly biased in their favour, we might have expected the biotechs to keep their heads down and re-evaluate their position. Instead, they wheeled out their arch spin doctor, Paul Rylott, whose talent for Newspeak would surely have taken him into politics, were it not for his fascination with science.

Faced with possibly the worst day in the history of the GM industry, Dr Rylott managed to turn the results neatly on their head:

"These results confirm what industry has long argued. The flexibility of GM crops allows them to be grown in a way that benefits the environment."

"Activist groups claimed that GM crops were in effect 'green concrete' and would 'wipe out' wildlife. These studies show that this sort of scaremongering is not supported by the evidence. On the contrary - this evidence shows that GM crops are more flexible and can enhance biodiversity."¹¹

So remarkable were his Alice-in-Wonderland assertions, that on *Newsnight* on the day of publication, Jeremy Paxman could not conceal his amusement. With one eyebrow raised, he asked: "Are you sure you have read the same report?"

Surprisingly, no comparative yield testing was included in the FSE, raising speculation that the biotechs are less than confident in this area.

While oilseed rape and sugar beet are both processed before entering the human food chain, the maize varieties tested in the FSE are animal fodder crops, which would be consumed by us second-hand via meat, milk, and eggs. Yet there has apparently been no published, peer-reviewed, long-term feeding trials, either on humans or animals.

GM Nation?

The findings of the 'GM Nation?' debate revealed that most people were "cautious, suspicious or outrightly hostile" about GM crops. Some 54 per cent of the 40,000 people who took part were against the commercialisation of GM crops with a further 25 per cent undecided. Only 2 per cent said they would be happy to eat GM foods, with 86 per cent saying they definitely would not eat them.

Paul Rylott complained that the findings of the 'GM Nation?' debate were biased, laying most of the blame at the door of environmentalists and middle-aged mothers:

"Websites run by groups opposed to GM crops had urged members to attend meetings in force, for example. And the report identifies middle-aged mothers as displaying the most 'implacable' opposition."¹²

However, accusations of "ignorance and extremism" by the biotechs towards protestors were contradicted by the debate committee, who pointed out that the more people became informed, the more sceptical they became of the technology.

Poor lose out in GM power play

The world's poor and hungry are the big losers in the transatlantic power play over GM foods, according to the independent Food Ethics Council. They demolish arguments that GM foods are a moral crusade to feed the poor.

"The US government is playing the hunger card to breach EU opposition to GM crops," says Dr Tom MacMillan, the executive director. "Meanwhile, as we saw in Cancun, both the US and Europe are refusing to make the policy changes that are really needed."¹³

Contrary to US claims, the EU's caution on GM crops is unlikely to harm the world's poor and it is not 'immoral'. The new report argues that the EU should maintain a moratorium on GM crops until regulation is reformed to take public concerns more seriously.

The report also rejects claims that it is in the interests of the world's poor to spend more public money on GM research. Future food security research should be driven by the needs of farmers and consumers, rather than only those of international business and the scientific establishment.

"Farmers and consumers are locked out of key spending decisions, then locked into the course of action chosen in their absence – they're offered GM crops in ways they can't refuse."

The report questions why resources are invested in GM crops, in the name of solving hunger, whilst existing approaches that might work better are left to languish. One reason is that GM crops can be patented, which makes money for firms and public bodies.

"GM crops like Golden Rice promise simple solutions, but problems like vitamin A deficiency are complex," explains Elizabeth Dowler, a nutritionist and member of the Council. "Although Golden Rice is unproven, it is already being sold as a reason to spend more on GM research."

Helen Browning, who chairs the Food Ethics Council, says it is time governments got honest:

"GM crops have made food security a big issue for US and EU policy-makers, but for the wrong reasons. If our governments are sincere, they must tackle the unfair subsidies and trade rules that really make people poor and hungry."

French and Spanish protests

In September, an experimental Monsanto GM maize crop in southern France was attacked and destroyed a few hours after an anti-GM demonstration. Another of Monsanto's GM fields, also in the southwest of France near Toulouse, was destroyed in July. Spanish farmers and ecologists invaded fields of genetically-modified maize to protest against cultivation of the crop in the only European country where it is grown on a commercial scale. Around 80 protesters picked corncobs, cordoned off GM plants, unfurled banners and spray-painted slogans on walls at three GM trial sites throughout Spain.

Organisers said this was the first time farmers have risked arrest by interfering with GM crops at a protest in Spain, where 20,000 hectares of genetically modified maize were cultivated in 2002, out of a total of 460,000.

"I'm here to demonstrate my repulsion at genetically modified crops," said one 24 year old co-operative member. "We want to spark a debate on GM crops, because in Spain there is silence on this issue."

A number of similar attacks have been carried out by peasant farmers against Monsanto in India and Brazil.

Meacher slams USA

Former environment minister Michael Meacher accused the United States of "grotesque misrepresentation" in its portrayal of Africa as wanting GM foods.

He condemned the US pressure on Europe to accept GM through accusations of causing hunger in Africa.

His remarks were confirmed by a spokesperson for Africa, Teweolde Egziabher. The idea that Africa would accept GM food if Europe did is "rubbish," said Dr Teweolde.

Dr Teweolde points out that Africa led negotiations in the Biosafety Protocol⁸, which permits countries to reject GM if they deem it risky. They would not have



GM crops are rejected at Long Marston...

Photo: Chris Brian

done so if they wanted unregulated GM foods. "Hunger in Africa is caused by problems of storage, distribution and economic factors", said Dr Teweolde. "GM cannot address this."

US actions are seen as a message to Africa not to reject GM foods or face WTO reprisals.

Monsanto pulls out of Europe

Disheartened by Europeans' stubborn refusal to eat what they are told is good for them, Monsanto is withdrawing from many of its European operations and laying off up to two thirds of its British workers.

"If there's no market for something, you go elsewhere," said a spokesman. "The big companies are looking to China, South-east Asia and South America."

Monsanto said it was closing its multi million-pound research centre in Cambridge with the loss of up to 80 jobs.

NFU presses for no compensation

The Soil Association has attacked the National Farmers' Union's position that non-GM farmers should have no financial protection if GM crops are grown in the UK.

The NFU is keen that GM farmers do not have to pay in full for any damage they cause, saying that it would "be disproportionate to allow the entire responsibility for implementing management measures for coexistence [to] fall on the grower of a GM crop."

In fact, the NFU seems happy for the entire responsibility to fall on non-GM and organic farmers - but it doesn't come clean and say so. The NFU published a Policy Statement on the coexistence of GM crops with conventional and organic production on 7 October. Patrick Holden, Soil Association Director, said:

"This weasel worded statement from the NFU tells us what they don't want: GM farmers to be responsible for the economic losses they might cause their non-GM and organic neighbours. What the NFU don't have the guts to say is what they do want - which is to leave non-GM farmers paying for the damage that they will suffer if GM crops are ever grown in the UK."

The NFU says compensation schemes, whether funded by the taxpayer or industry, would be problematic, and could be highly bureaucratic. It "fundamentally opposes a levy" and appears to favour insurance - which means the cost (of insurance premiums) would fall on non-GM farmers and organic farmers. Patrick Holden added:

"The NFU's irresponsible position threatens the future of the vast majority of conventional farmers who do not want to grow GM crops. It could also spell financial ruin for many organic farmers. The Soil Association's position is clear: responsibility for any financial losses suffered by non-GM farmers, organic and conventional, should be met by the GM chemical companies who stand to profit from GM crops."

No insurance for GM

Embarrassingly for the NFU, its own insurance company, NFU Mutual, refuses to offer cover to GM growers. It believes that the risks are not fully understood, and it cannot see this position changing in the near future. Its recommendation to farmers considering growing these crops is to approach the industry/seed companies and obtain some liability insurance through them.

A survey of the main insurance underwriters in the UK, carried out by the new campaigning group FARM, found that neither farmers considering growing GM crops or non-GM farmers seeking to protect their businesses from contamination by GM crops would be able to find anyone willing to give them insurance.

The survey conducted by FARM staff and working farmer members revealed a level of opposition from companies taking on the risks of insuring GM crops, comparable to the public's hostility to purchasing and eating them. Insurance company spokespersons compared GM crops to 'Thalidomide', 'Asbestos' and 'Acts of Terrorism'. All the companies surveyed felt that too little was known about the long-term effects of growing these crops on human health and the environment to be able to offer any form of cover:

"50 years ago insurers were writing policies for asbestos without a care in the world - now they are facing claims of hundreds of millions of pounds. The insurance industry

has learned to be wary of new things, and there is a real feeling that GM could come back and bite you in five years time", said one company spokesperson. National Coordinator of FARM, Robin Maynard said:

"When insurers quantify GM crops in the same category as thalidomide, asbestos and terrorism, no thinking farmer should risk their business and public reputation by taking on this unproven, unwanted and unnecessary technology."

Time and time again, farmers have borne the brunt of someone else's mistakes or short-cuts - BSE, organophosphates, salmonella etc. It's time farmers got out of the firing line and let those seeking to force GM crops into our fields and onto supermarket shelves take the flak.

If Government and their friends in the Biotech companies dispute the judgement of the professional insurers, perhaps they will offer unlimited cover to the few farmers willing to risk growing GM crops? In addition, for both farmers and consumers, they need to guarantee, what the insurers clearly believe isn't possible, that GM-crops can be grown without contaminating the crops of the majority of farmers who want to remain GM-free."

AIUA (Agricultural Insurance Underwriters Agency) has an exclusion clause for liability arising from GM crops: it had "no idea what the long-term effects might be, as there is such a degree of uncertainty surrounding the potential risks, and the effects could take generations to manifest."

Rural Insurance Group (Lloyds) also have a set exclusion clause - 'putting GM crops in the same bracket as 'acts of terrorism'.

Market forces

The British public has once again given GM, in its present form, the thumbs down. Monsanto has tucked its corporate tail between its legs and trotted off to seek richer pickings elsewhere. Bayer is at bay. The Farm Scale Trials are at best deeply flawed. The Science Review¹ was dogged by resignations over undue pressure from vested interests and ultimately was inconclusive. The one thing everyone agrees on is that, if nobody wants to buy GM food, nobody is going to grow it.

As I write, the Government has not pronounced on the future of GM in Britain. Given Tony Blair's declared position, however, campaigners do not expect any sudden U-turns.

"It is curious that this government, which goes to such lengths to show that it responds to market forces, appears to believe, when it comes to genetic modification, that the customer is always wrong."¹⁰

Several groups have promised escalating campaigns of civil disobedience if Blair fails to listen to public opinion. But public opinion failed to stop him waging war on Iraq: will he be able to ignore the will of the electorate twice in twelve months?

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6. *Western Morning News*, 25 September 2003
7. Engineering nutrition: GM crops for global justice? 25-9-03 The FEC is an independent group of scientists, academics and consumer representatives set up to review ethical issues in food and farming and to make recommendations for change.
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Police removing a chain of protesters from BayerCrop Science HQ, Cambridge.

Photo: Chris Brian

How green is our land management?

GAP/FACT Conference, University of Lancaster,

9 - 11 September 2003

The conservation of wildlife is often assumed to contribute to sustainability. But what is the environmental footprint left by our practical approaches to nature conservation?

RACHEL COOK

In September, delegates from over 40 environmental organisations gathered to embark "on a journey" that would touch on everything from KISS to Ermintrude. This was no '70s-inspired trip, but the third Grazing Animals Project (GAP) / Forum for the Application of Conservation Techniques (FACT) conference on environmentally sustainable land management. I was asked by ECOS to distil some of the key messages from the event, so here goes...

Starting with the earth

Soil properties are often manipulated by land managers, adding lime or fertilisers, installing field drains or irrigation to cultivate the soil for crops. However, as Steve Woods from the Environment Agency highlighted, bad timing and overuse of agricultural machinery on unstable soil with weak structure can cause compaction or 'surface capping' preventing germination. Citing the National Soil Resources Institute's *Guide to Better Soil Structure* Steve emphasised the need to maintain vegetation cover in winter, restricting cattle access around riverbanks and establishing hedges, grasses and trees to help prevent soil deterioration.

Chris Mainstone from English Nature illustrated the impacts of over-application of inorganic fertilisers and manure, using examples from the Wye catchment where eutrophication has had an unbalancing impact on aquatic food chains. The risks of 'soil wash' are highlighted in the Ehen, a cSAC for native Pearl mussel, where enhanced silt loads have been caused by clear felling in the upper catchment. Chris urged that before major restoration works go ahead there should be an assessment of the possible pollutants generated, identification of possible 'pollutant pathways', and measures taken to minimise the impact. Obviously, organic farming has a role here to ensure that some of these issues are addressed.

How sustainable are our grazing systems?

English Nature's David Hodd runs the Wiltshire Interactive Grazing Initiative (WIGI). Funded through the Heritage Lottery Fund, WIGI is essentially a dating scheme, matching ungrazed wildlife sites with graziers. He sees the scheme as the "three-legged milking stool of sustainability", representing the community,

economy and environment. WIGI has had great success in fostering local participation and involvement by farmers, graziers and community volunteers, whilst restoring internationally important downland and hay meadows. In addition the scheme has provided local food, and an attraction for tourism. Extrapolating figures from John Nix's authoritative *Pocket Farm Handbook*² he argues that sustaining a grazing regime uses just 7.8 gallons of diesel per hectare per year, compared to 52.4 gallons to cut and bail with machinery. But, are "lawnmowers on legs" the only sustainable lawnmowers on the market as he believes?

ENPACT Project 'Ermintrude' - the 'cut and collect' machine, that mimics the grazing and hoof action of cattle and does something useful with the cuttings, is still just on paper. However, such a machine could have a future role in replacing livestock and reducing time and labour on urban sites where livestock are hard to come by.

Compared with the 22 million domestic car use in the UK, however, the number of machines used for land management is miniscule. Tighter standards and increased efficiencies have reduced engine emissions, and consumables, such as biodegradable chain oil, are more environmentally friendly. But, unlike in the USA we have yet to see widespread take up of bio-diesel or other fuel alternatives which are high in oxygen and result in a reduced number of particulates. Tom Overbury from the Royal Agricultural College believes it will take a drop in tax incentives to spur widespread use of LPG, bio-diesel and eventually 'hydrogen' as sustainable biofuels.

What you see is what you had...

Rob Jarman from the National Trust raised many challenging questions about how land managers will adapt to the changes we face as a result of climate change. He reminded us that the following predicted patterns of climate change will all mean considerable work for conservationists wishing to cling to the status quo: the spatial divergence in distribution of plants and animals; seasonal polarisation of temperature and humidity changes causing wetter, milder winters, drier, hotter summers and heavier rainfall; sea level rise and the diminishing impact of the Gulf stream on coastal areas.

One of the biggest impacts will be on our microclimates, soil structures and contents will be changed and with soil moisture deficits possibly the most significantly affected, this is likely to increase the area of land already subject to deterioration, exacerbating soil erosion in areas such as peatlands.

We currently base our view of the condition of many habitats on the presence of key indicator species. How do we ensure their continuity in light of climate change? Rob believes we are going to have to re-visit our thinking on many such concepts, including 'alien' and invasive species. He argues that we must become better ecologists: understanding much more about the systems, the physical, chemical and biological processes we are dealing with and working more on a catchment and landform scale.

In a changing climate we should be working towards a land-use planning system that envisages the land's capability, is less prescriptive and preoccupied with boundaries, but understands the natural processes and accommodates the dynamism.

Ecosystem scale management – is this the answer?

Frans Vera of the Netherlands National Forest Service and Hans Kampf of the Dutch Ministry of Agriculture, Nature and Food Quality, set out some of the inspirational thinking from the Netherlands, illustrating that "what's impossible today can be possible tomorrow, or if not then, next week!"

On the edge of a conurbation, the Oostvaardersplassen Nature Reserve was reclaimed from industrial land in 1968. After creation, it was agreed to relinquish traditional control and let natural processes dominate. The project came about as a result of three important factors: enthusiasm to create new large areas; a longstanding top-down tradition in the Netherlands of buying land from farmers to make 'wilderness'; and intensive lobbying to gain support for the ideas from the public.

Hans Kampf highlighted the dynamic nature of the area through the role of Greylag geese - 60,000 use the area for their summer moult. By grazing off the vegetation the Greylags create a habitat for many other species. In 1985, however, when the marshy areas began to dry out, the Greylags fled to Sweden. They returned within a few years in a 'cyclical succession': a situation which shows the importance of wider networks of sites across countries.

Recognising that there was a need for a modern-day equivalent of the Auroch, which became extinct in 1627, they rely on Konik ponies, red deer and Heck cattle to create habitat for more species. But they believe that agricultural grazing should be left separate to 'wilderness' grazing. Agricultural systems within the Oostvaardersplassen would put too much stress on the system compared to leaving it to function naturally, benefiting the few to the detriment of the species that would be there naturally, such as blue throats and songbirds.

Livestock are subject to ethical guidelines devised by the State Forest Service. To limit the spread of disease, animals can never leave the area to enter the food system. However, in the UK we would need to devise similar ethical guidelines to comply with animal welfare legislation if these approaches were ever to be adopted.

They have not gone down the road of seeking designation as a Natura 2000 site. This, they fear, would be too prescriptive to allow natural functioning of the area.

By 2020 there are plans to create a network of very large neo-wildernesses in the Netherlands: Veluwe, at 100,000ha; Utrechtse Heuvelrug, at 45,000ha; Oostvaardersplassen, at 6,000 ha; and the river systems of IJssel and Rhine, at 150,000ha. There is a vision for a pan-European ecological network, which has started to form in Germany, Belgium and adjoining countries.

How can we take these ideas forward?

Back here, ecosystem based approaches are being applied to several landscape-scale projects. The Corporation of London in Epping Forest is re-introducing Longhorn cattle on an area of 500ha of open grassland and 1400ha of woodland grassland, intending to be more relaxed about the natural dynamics of the area. These plans form part of a wider Green Arc initiative in north London. The aim is to link and expand through land acquisition, existing open space within the Green Belt to create wildlife habitat, and increase public access. The project is currently at the feasibility study phase.

The National Trust's Future Fen Vision, being pioneered by Adrian Colston has set its sights on turning the Cambridgeshire 'desert' into an 'oasis', hoping to

restore 3,700ha of drained arable land surrounding Wicken Fen National Nature Reserve over the next century. With recreation and public access routes the Reserve would provide a 'green lung' for Cambridgeshire and M11 corridor that is subject to plans for over 105,000 new homes by 2025. The project has similar goals to the Great Fen Project that will restore over 3,000 hectares of fenland connecting Woodwalton Fen NNR with Holme Fen NNR.

The question of taking these approaches forward in the UK is obviously not one of vision. But, is it one of the challenge of administration and decision making being too great to secure the vision? High level support from government is still needed for such projects, requiring considerable funding and a shift in incentives towards more holistic and co-ordinated approaches.

In a 1997 *ECOS* article Adrian Colston put the case for landscape-scale planning to go further than what the England Biodiversity Strategy can deliver.¹ Indeed, the Strategy has only just begun to take shape through the Rebuilding Biodiversity initiative. However, a UK network of ecosystem based areas in the UK could not occur without the political, policy and funding drivers in place. In taking these ideas further Hans Kamf implores us to remember his maxim "KISS. Keep It Simple. Stupid!"

The Conference has further highlighted these issues and the FACT and GAP organisations will be working on these ideas with others who want to take them forward.

References

1. National Soil Resources Institute (2001) the Guide to Better Soil Structure, NSRI, Cranfield University, Sluse, Bedfordshire
2. Nix, J. Pocket Farm Handbook, Wye College, Ashford.
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Wraybury revisited English Nature responds...

ALAN LAW

ECOS 24 (2) pages 71-79 included an article on the management of Wraybury and Hythe End Gravel Pits. The article implied that English Nature was failing to fulfil its responsibilities in safeguarding the special interest of the SSSI and SPA. English Nature appreciates the interest of the authors in this site, but we consider the article to be both misleading and factually incorrect. Fundamentally, it also overlooks the wide range of stakeholders and legitimate interests involved in the long-term management of the site at Wraybury. The authors also make personal criticism of the English Nature Conservation Officer responsible for this site, who has worked diligently with local partners over the last two years; these comments are unwarranted and inaccurate and, we believe, do not reflect the general opinion of those working to conserve this site.

The authors refer to a serious decline in numbers of gadwall on Wraybury. However, the WeBS counts for the period 1995 – 2001 do not demonstrate that numbers are declining, but they do show an annual variation. This fluctuation is also evident in the counts for the SPA as a whole and, just as importantly, at other sites across England. Reference to the latest WeBS report for Gadwall shows the extent to which very significant variation takes place at the site level and across the season. These data do not indicate a significant decrease. Data for shoveler, the other species for which the SPA is designated, display similar fluctuations during this period.

The other main accusation in the report is that English Nature fails to engage in the management of the lakes. However, we have worked closely with the site owners, the Parish Council, the police and other interested parties over recent years to develop and trial methods for tackling key issues; exploring ways to improve water quality, working with angling and sailing groups to avoid potential disturbance, supporting the landowners to manage access and tackle illegal activities, and funding a study on the impacts of recreation. Significant progress has been made, as the examples given below illustrate.

Wraybury and Hythe End Gravel Pits are part of a series of artificial waterbodies. These waterbodies became the home for a range of recreational activities, such as angling, sailing and dogwalking, as well as internationally important populations of wintering waterfowl. Following designation as SSSI and SPA, levels of formal recreation on the site have remained relatively constant, whilst angling has decreased following the departure of one angling club. However certain *illegal* activities such as quad biking, and occasionally shooting, are being reported on the site.

English Nature's primary objectives for Wraybury relate to the SSSI: we wish to maintain the site in a favourable condition for its wildlife interest – the wintering waterfowl. However, achieving this objective involves engaging the cooperation

and support of a range of people who have legitimate interests in the site. English Nature's national policy is to encourage public appreciation and enjoyment of wildlife, and this applies at Wraybury. Beyond safeguarding the key wildlife features at Wraybury, we have no wish to curtail legitimate recreational activities where these are compatible with the wildlife interest of the site.

To gain an overview of the activities at Wraybury and their effects on wildlife, English Nature commissioned a study in 2001 to explore the impact of both legal and illegal recreation activities on the populations of over-wintering wildfowl. The results are being used to refine management of the site, working with the landowners, and angling and sailing clubs to minimise potential disturbance effects. All these parties have proved cooperative and open to modifying their activities in line with the needs of the wildlife. Examples of progress being made include a) restriction of fishing areas to provide refuges for the birds, and agreement to prohibit angling from boats b) recent agreements with the sailing community to restrict sailing during the crucial winter months to one day a week, minimise club social activities, and provide a refuge for over-wintering wildfowl by limiting the area of the lake used, based on information provided by the disturbance study.

English Nature also operates as a 'consenting' body in relation to operations on the SSSI. We have *not*, for example consented removal of trees, as the Chambers/Curry article states – in fact, no such application has even been made. Nor have we permitted weed cutting by the sailing club, angling competitions, or agreed to the replacement of the angling club that had declined to renew its lease (this decision was actually because of the restrictions required by English Nature). The Chambers/Curry assertions are simply wrong. In relation to illegal activities such as shooting, we are also working with the landowners and the Thames Valley police to find solutions; however there are no simple or instant answers to these matters.

The management of access is a key issue at Wraybury. Proposed measures include improving the fencing, and using hedging to manage access towards official entrances. Formal access points also need to be upgraded to prevent entry by quad and motorbikes, and horse riders. Information boards could also be installed to inform the public about the wildlife, how to enjoy the site without disturbing the over-wintering birds, and the penalties for damaging the SSSI. However, these measures require resources, and will only succeed when the site is used, valued and supported by a public that appreciate the wildlife value of this site. English Nature is in discussion with the landowners over plans to seek external funding to enable this package of measures to be implemented at Wraybury.

Our vision for Wraybury is a public nature reserve, managed particularly for passive recreation such as bird watching and walking. This will involve a more proactive approach to access management in particularly sensitive areas. By ensuring the provision of better facilities, including formal paths, interpretation, and bird hides, we would hope to increase visitors' knowledge and their enjoyment of the site and its wildlife, and thereby encourage them to value it. We believe that greater formal access on the site will also significantly reduce the pressures caused by illegal activities. Such a change may even require a whole new management regime at this site. English Nature is working hard with our partners to make this vision a reality.

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Response to English Nature's reply by authors Vincent Chambers and Patrick Curry

Alan Law's reply is far from encouraging for those who are concerned at Wraybury's decline. In addition to noting that he makes no attempt to justify the destructive programme of 'restoration' of the SSSI, we would make these points:

1. No personal criticism of the conservation officer was made or implied. There was professional criticism, however. For example, the angling match, with its noise and confusion, was sanctioned.
2. Law considers there to be no decrease of relevant species on SPA. At a meeting on site in December 2001 we spoke to him of the decrease in both shoveler and gadwall on SPA that winter. He asked us to wait until the end of the season as numbers might pick up; they did not. He also asked us for our views on local management; we supplied them but received no response. At the same meeting, a vast quantity of weed was visible which had been removed from the water to permit access for sailing boats. We commented that this was illegal but Law literally looked the other way. We considered this to be at least tacit consent!
3. The article does not imply that EN consented to removal of trees. The point made was that, true to past form, "EN, despite being *informed*, once again *declined to act decisively*."
4. Law bases his denial of a decline in this site's condition on WeBS counts for 1995-2001, but WeBS counts from 2001 to 2003 – which are about to be put on the WeBS database and were made available to EN some months ago – show a drastic decline. Additionally, EN's own report into effects of recreational disturbance on SW London Waterbodies, commissioned in 2001 and published in April 2003, provides evidence that all is not well. It reveals "worrying declines during periods of peak occurrence occurred for shoveler at Wraybury 1, for tufted and gadwall at Wraybury 2..." It goes on to imply that these falls in numbers are, in part, responsible for the net decline of the species on the whole SPA. One recommendation of the report is for formal management planning, involving interest groups and target-setting. Sadly, it does not seem that this will be taken on board.
5. Dragonboating has recently been stopped on one of the SPA sites. Apparently, neither owner nor EN was aware of the practice, or at least, the extent of its practice. We received notice some time ago that motor boats could only be used in emergencies for sailing. However, they are still used (despite 'lack of consent') to check buoys etc. before races.

6. Tackling illegal activities continues? On September 8 2003, two quad bikes entered the site and have been present virtually on a *daily* basis to date. This has been repeatedly pointed out to both EN and the police without any results. Motorcycles are another problem: between 1 April and 30 June 2003, 22 incidents of motorcycle ingress were logged by the Parish Council. Over the same period there were 9 reports of firearm usage.
7. Law defines EN's goal for Wrayisbury as maintaining the site in favourable condition for wintering waterfowl. However, the document which first sets out its SSSI status clearly states, "wintering and breeding waterfowl." Why does he continue to ignore the implications?
8. EN's "primary objectives for Wrayisbury" may relate to the SSSI, but the JNCC, which has ultimate responsibility for the area's SPA status, and DEFRA, which has also been involved, both accept information from EN as definitive, and so far, that information has signally failed to include any reference to the post-2001 date or the conclusions it supports. Also, it is difficult to see how the area's SSSI and especially SPA designations – if they are to be taken seriously and enforced – can be reconciled with its becoming "a public nature reserve."
9. The importance of the SSSI areas in Wrayisbury has recently been compromised by the Environment Agency. Its workers recently removed trees from that part of the River Colne Brook river included in SSSI, as well as dumping rubbish from the river on to a different part of it. EN knew nothing of this until informed by residents. We are now assured that there will be consultation between the two bodies before such work is undertaken again. This sounds fine until it is realised that *the same undertaking* was given three years ago when similar activities were conducted by EA.
10. Finally, EN's Thatcham office is apparently considering including in the SSSI an adjacent infill site. One of the authors realised that a colony of skylark, an endangered species, was preparing to breed there last spring. This was brought to the attention of EN and the owners who were intent on continued dumping on the site. Only through badgering RSPB, however, who did likewise to the owners, was a survey carried out and a small but important colony found (and, later, lapwing). As with other conservation issues within Wrayisbury, we're it not for the vigilance of a number of dedicated locals, EN would be unaware of much that exists and takes place there.

Vincent Chambers Vinny1@tinyworld.co.uk and Patrick Curry pmc Curry@gn.apc.org

Response to authors reply from Alan Law, English Nature

The response from Chambers and Curry is consistent with the views expressed in their previous article. It would be inappropriate to go through these comments point by point, but we believe that a number of general issues are apparent:

First, the authors continue to show a lack of understanding of the processes involved. For example, it is again claimed that EN has not acted decisively in the case of the possible tree removal, but what action do the authors expect? We have repeatedly made clear that no application has been made for tree removal, and accordingly we have given no such consent. If an application is made for an action requiring our consent then we will consider that application in the light of the conservation features of interest of the site and make sure that they are protected – this is part of our role.

We also believe that the authors have shown a tendency to exaggerate in their claims. Whilst we have been informed by the authors of incidents of quad bike use and shooting on the site, the levels cited by the authors are simply not borne out by reports to the police, nor by anecdotal reports from others' using the site. In a second case the authors claim that no notice was taken of a "vast quantity" of weed having been "removed" for access for sailing. This is not correct: the matter was raised openly at the meeting in question and the sailing club representatives confirmed that *no* weed had been cut. Perhaps the clearest example of this tendency is seen in the authors' final point, where, the land in question is not under consideration for notification as SSSI; compost dumping was halted on the site as a precaution, whilst bird survey work was undertaken and the Police Wildlife Liaison Officer contacted, all under the advice provided by English Nature's Conservation Officer, and finally, the breeding birds referred to were all found to be outside the area where works were proposed, and a buffer zone was put in place by agreement with the land managers.

In point 8 of their comments, Chambers and Curry contest the compatibility of managing a public nature reserve with the task of conserving that site's wildlife interests; indeed, throughout their articles there is little tolerance of other public uses of the site. English Nature does not accept this position. Wildlife sites can and should be enjoyed by the public who, through their taxes, support their management; they cannot simply remain the domain of a privileged minority. Important wildlife sites, like Barn Elms and Minsterne, have demonstrated that wildlife can thrive alongside well-managed public access, as well as contributing to local quality of life, and to the learning and enjoyment of those who do not have such sites on their doorstep.

English Nature ends this response with an assurance that we remain committed to ensuring the effective conservation of wildlife at Wrayisbury. We are monitoring the populations of birds at this site, and evaluating trends in the context of the local area and the wider national population. We will ensure that sympathetic management is implemented, as we have recently shown through modifying the sailing and fishing regimes, to avoid disturbance to waterfowl. And, we will continue to work constructively with the wide range of local partners who have shown a genuine commitment to the conservation of wildlife at Wrayisbury.

ECOS will not be continuing the correspondence on Wrayisbury in 2004, but hopes to report more favourable outcomes for all parties in future years.



Book reviews

ONE NO. MANY YESSES:
A Journey to the Heart of
the Global Resistance Movement

PAUL KINGSNORTH

The Free Press.

Simon and Schuster UK Ltd, London, 2003.

355 pages. Paperback: £10.

ISBN 0-7432-2026-9.

This is a difficult book for me to review. I feel close to it in many ways and that may well compromise any notion of academic objectivity I could have otherwise appealed to, albeit spuriously! Ostensibly this is a book for the uninitiated - those who have reason to wonder what lies behind the white noise and smashed glass of the protest summits. Who are these people, what do they believe. What do they want and where did they come from? In this travelogue with attitude, we glimpse answers to some of these questions through the words and actions of those in struggle.

Demonstrating the investigative intent and eye for detail one might expect from a journalist and former deputy editor of *The Ecologist*, this book is also commendably infused by a desire to explain the righteous and riotous indignation resulting from the globalisation of casino capitalism. To achieve this Paul Kingsnorth spent eight months travelling the world in search of this movement of movements, its origins, philosophies, practices and general optimistic quickness. The result is what you would expect: an enjoyable, fast paced introduction that manages to squeeze in sufficient argument to be convincing without getting bogged down in the

labyrinthine detail of global trading regimes or the over politicised prose that often appears designed to ward off interested bystanders. He is helped of course by the unfailing ability of those he interviews to be interesting, incisive and passionately polemical. Whether they are from the Free Papua Movement fighting the double colonisation of Indonesia and transnational corporations, or New York based campaigners against corporate monocultures.

For instance, let me quote the Reverend Billy from the Church of Stop Shopping, a pastiche evangelist who campaigns against the evils of consumerism through the medium of annoying Starbucks:

"Starbucks believe they're selling a lifestyle, they're selling meaning, they're selling community, they're involving us in a consensus about what it means to be in a neighbourhood - it's completely delusional. The opposite is happening: we have fluorescent, hushed, centrally planned chain stores all over New York now, and gradually, the sassy verbosity that you love about this place, the ability of regular people to tell amazing stories - all that is considered a market, and that 'market' is having so many brands pushed on to it that it's being murdered."

Examples like this make you look up from the book - *is this the way the world is?* A soundtrack for easy consumption, a correlative of the need for pushy prose in a world with a short attention span, with correspondents like this I should imagine Paul felt his job was easy.

Nor is this capacity for apposite soundbites limited to slick northern paradises. This is a book which delights in the words of those whose struggles it documents, there is interview material from Mexico, Brazil, Papua New Guinea and South Africa, all illuminating, all emanating from the experiences of those on the rapidly changing frontlines. This refreshingly activist-centred approach is often moving, particularly in the instance of South Africa where the frustration of those who had

expected so much from the defeat of apartheid is viscerally evident in their finding courage to denounce the ANC's drive towards dismantling tariff barriers and privatisation of key services. An account that is worth reading for what it can teach us about the need for political education and constant vigilance against the demands of a *realpolitik* that is capable of co-opting all but the most determined resistance.

My criticisms would be the obvious ones, the sense one sometimes gets that this is an attempt to do too many things simultaneously, to write both a travelogue and manifesto, to revel in description of place yet skip the political contradictions of purpose. To act as a medium for the words of others whilst also seeking to offer a personal take on what is to be done. In this context though these grumbles would be somewhat disingenuous, above all this is an attempt to make sense of something that still eludes the majority of commentators. The simple fact that these colourful, divergent, plural and exploratory movements are indeed part of the same thing, a churning ferment of alternatives that is seeking ways of adding up to something bigger than we can yet imagine. That a whole host of different worlds may yet be possible.

Graeme Chesters, Senior Research Fellow in the Centre for Local Policy Studies, Edge Hill University College. Co-editor of We are Everywhere, Verso, 2003.

WE ARE EVERYWHERE the irresistible rise of globalanticapitalism,

edited by Notes from Nowhere,
Verso, London, 2003.
530pp., Paperback, £10.99.

This brick-shaped volume is no ordinary book about globalisation. Note the lower case of its title, the fact that it is edited by an anonymous collective rather than named

individuals, and that it is "Copyright" rather than Copyright, meaning that it can be freely reproduced for non-commercial use.

But remember to use the 'enlarge' facility when copying. The type size is tiny! Maybe the editors thought that middle-aged readers like myself should long since have fallen as front-line casualties to the movement or else been pensioned out of the way.

And yet, this book is usefully and attractively presented. Indeed, the review copy I was sent came wrapped in a lovely cloth wallhanging - just perfect for the radical study and proclaiming in four languages: "We will remain faceless because we refuse the spectacle of celebrity, because we are everyone, because the carnival beckons, because the world is upside down, because we are everywhere. By wearing masks we show that who we are is not as important as what we want, and what we want is everything for everyone."

Wait a moment ... did I say ... "wallhanging"? Oh dear - tear-gas mask, of course! And did I say ... "brick-shaped"? For throwing, no doubt, and certainly for ease of stuffing into rucksack pockets en route to the next Social Forum.

This is a book that aims to educate, inform and inspire - a glorious aria of hope in troubled times. It is written by people from all over the world who have hit up against the global monoculture of advanced capitalism with its psychologically obsessive paradigm of competition. And the contributors are angry. They're determined to fight the plutocratic Moloch that would privatise the benefits and socialise the costs ... of ... what? ... living itself!

So, what is the brick weighed with? It launches with an "Opening Salvo": "The powerful look at our diversity and see only miscellany. The media report that they don't know what we're talking about, we have no solutions, we represent nobody."

we should be ignored," say the editorial collective, continuing: "If they would stay quiet for a while they might begin to hear the many different accents, timbres, voices, and languages in which we are telling our myriad stories."

We then canter through seven densely-packed chapters – the emergence of the "irresistible" global uprising, networking and the ecology of the movements, autonomy and creating spaces for freedom, carnival as resistance being the secret of joy, "clandestinity" or resisting state oppression, power acquired by building it without taking it, and walking the talk while asking the questions.

This walk is strong on passionate essays and vibrant pictures. There's rather less on poetry and spirituality, but then, it is a book of youthful energy where action speaks louder than reflection.

Is there hope for the world? Not if you listen to the grey old men moribund in their Strangelove suits and questionable salutes. But step outside and join the Carnival and ... Man/Merri (as they'd say in Papua New Guinea) ... it's a trip!

Alastair McIntosh, Fellow of the Centre for Human Ecology.

Conkers being harvested in the park ...

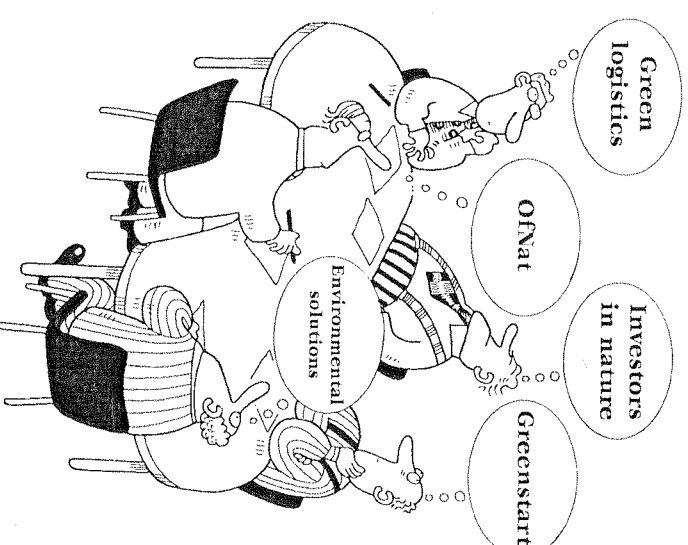
Photo: Rick Minter



Rural Delivery undelivered

The Rural Delivery Review has still to be delivered. Lord Haskins' report to Government was announced in November along with a holding announcement from DEFRA Minister Margaret Beckett. Haskins' report was driven by his obsession with separating policy from delivery. It recommended merging the environmental and access functions of parts of the Countryside Agency with English Nature, and grafting on part of the Forestry Commission for good measure, to form a land management agency. Haskins also recommended shifting social and economic objectives of the Countryside Agency to the Regional Development Agencies.

Margaret Beckett's November statement pledged a Government conclusion to the Review in the Spring. Meantime, DEFRA and the agencies are examining how to coordinate the proposed re-cast functions amongst DEFRA, the RDAs, a remaining but smaller Countryside Agency and a new land management agency. NCOs have called for the new land management agency to retain a fully independent status in its role, and meantime, it's interesting to speculate how long it will take for a future countryside review to recommend linking policy with delivery, and hence put some of the pieces back again. ECOS will discuss implications of the Rural Delivery Review's outcomes in 2004.



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