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Lifestyles & the Environment
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by

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Lifestyles and the Environment

1. Introduction

Lowe and Rudig's observation in 1986 that research on environmental attitudes and value changes was '*divided between too much uninformed and heavy handed empiricism on the one hand and too much grand theorising and pontificating on the other*' (p.513) still remains true today¹. The last ten years however, has established some common, middle-ground among the social sciences with disciplines often sharing similar vocabularies of risk, trust, representation, efficacy, and social dilemmas. There is growing acknowledgement of the relationship between individual behavioural shifts and the role of structural, institutional and communication processes for facilitating lifestyle change. Since the Rio Summit of 1992, this middle ground has been nurtured by an emphasis in the policy arena on sustainable development and the public 'space' it has provided for forging new values². Even so, theoretical positions, methods of enquiry and the applicability of insights still differ markedly across academic disciplines and policy arenas.

This paper will explore some of these distinctions, and their implications for furthering the research agenda on lifestyles and the environment. The paper is organised into five short sections as follows:

- A brief review of research on attitudes to the environment, environmental risk and pro-environmental behaviour conducted within *the dominant framework of environmental cognition* is presented.
- Research on 'lifestyles' is introduced and we explore how more reflexive and discursive approaches position *consumption and identity* at the centre of research on lifestyles and the environment.
- *Environmental knowledge and communication* is discussed in the context of emerging research on risk communication, institutional processes and practices, and their relationship to everyday understandings.
- The contribution new processes of *deliberation and involvement* can make to generating new public 'spaces' in which values, practices and policies consistent with forging sustainable lifestyles is outlined.
- Finally, we present four *emergent research themes* which provide the opportunity to strengthen and develop this middle ground around 'the nature and purpose of environmental knowledges', 'environmental conflict and consensus', 'new spaces of environmental concern' and 'the relationship between social and ecological processes'.

2. Lifestyle and Environment: Dominant frameworks

The bulk of work on the relationship between lifestyle choices and the environment is still carried out through research on the economic and psychological indicators of behavioural shifts³. A number of assumptions have dominated attempts by policy makers to promote sustainable practices and research undertaken by social scientists to understand the motivational processes involved in generating pro-environmental lifestyle choices. For example:

- Much existing research has followed a *realist stance* by defining sustainability as a set of issues identified through modern scientific enquiry, and 'environment' as a realm separate from social practice and human experience. This foundational assumption underpins much of the work that has dominated environmental psychology and, by association, the work of environmental economists. It is an approach that privileges the knowledge and authority of experts⁴.
- Consistent with this first assumption is dependence on the use of *cognitive models* to study environmental attitudes, intentions to behave in pro-environmental ways, and related behaviours. Best exemplified in studies of environmental behaviour through the Theory of Reasoned Action (TRA), innumerable studies have attempted to demonstrate how individuals respond rationally to a range of external stimuli from the physical and social environment⁵.
- Through reliance on cognitive models of behaviour, research and related policy responses place great emphasis of the role of *information as a motivational factor*. Within this framework, engendering more sustainable lifestyles is seen as a matter of providing more and better information, with the expectation that this will raise awareness, concern, informed choices and action. Pro-environmental behaviour is thus construed as the outcome of a linear and ultimately rational process⁶.

Such models occupy important positions in policy arenas operating alongside other policy institutions, and suggesting easily monitored outcomes. Policy responses consistent with this framework include: mass media campaigns exhorting the public to adopt more sustainable practices, risk communication strategies informed by science and experts, and practical initiatives such as curb-side waste collection, park-and ride schemes, recycling facilities etc., that create an environment which supports intentions to behave rationally⁷. This approach to promoting sustainable practices has also been extended via the work of environmental economists. When coupled with principles of neo-classical economics, cognitive approaches

view individuals as rational decision-makers whose environmental behaviour is governed by economic efficiency rather than for example, equity or ethics⁸. Appropriate policy responses guided by these approaches involve a variety of fiscal measures, including financial incentives and penalties, in order to engineer a market that takes account of environmental costs and benefits.

The results of this research are revealing of the number, and motivations, of people prepared to undertake behaviour shifts for environmental concerns⁹. They are particularly valuable for enumerating and identifying those classes of people who are likely to decide to undertake behavioural shifts¹⁰. However, understanding the processes through which people take on or resist environmental lifestyle changes provides theoretical and methodological challenges. Research on environmental attitudes is conceptually eclectic and often fails to produce empirically cumulative results. Much empirical evidence suggests that realist approaches have achieved only modest and unpredictable successes in achieving demonstrable changes towards sustainable lifestyles¹¹. For example, although public opinion polls conducted in the wake of media campaigns suggest heightened awareness of environmental issues and high levels of public support for pro-environmental policies, ‘private resistance’ continues to ensure that lifestyles remain largely unchanged¹². This is particularly so in the case of transport, where repeated campaigns and projects have failed to reduce car dependency¹³.

Empirical studies in the field of risk communication also show that communications based on science may fail to convince the public and can even contribute to an increased sense of impotence and alienation¹⁴. Most potent of all however, has been public refusal to accept that environmental impact can be framed solely in financial terms. By ‘moralising’ the environment so that the impact of waste disposal at sea¹⁵ or in local rivers¹⁶ becomes a ‘criminal act’ rather than a technical problem to be solved by investment, large sections of the public demonstrate they remain unconvinced by the rhetoric of ‘ecological modernization’ and its foundational basis in science and applied technology¹⁷. The challenge to cognitive approaches is to expand their understanding of individual behavioural shifts in relation to the collective, cultural and structural nature of environmental dilemmas¹⁸.

All the social sciences have responded to the shortcomings of this realist or instrumentalist approach by developing alternative frameworks and new methodologies. Often these developments have evolved in parallel: for example, social representation and social dilemma research in psychology¹⁹, new strategies for risk communication²⁰, more reflexive research in the public understanding of science and within economics the development of multi-criteria analysis (MCA) as a technique capable of better capturing the kind of values people hold about the environment²¹. These developments build upon existing cognitive research in the

social sciences to incorporate the more contextual and relational elements of environmental decision making. The emergence of lifestyle research itself also reflects this common ground, forging alternative theoretical frameworks based in discursive and reflexive approaches from sociology, anthropology and geography²².

3. Lifestyles, Environment and Identity

'Lifestyles are patterns of actions that differentiate people'²³. Lifestyles are sets of practices and attitudes that make sense in particular contexts: situated practices located in particular places, spaces and timings. Lifestyles map onto conventional social categories of class, income, age, gender and ethnicity, but also transcend them. Critically, lifestyle is about identity choices: about how individuals wish to be, and be seen by others. Often expressed through what is consumed and through leisure, lifestyles embrace, material, aesthetic and symbolic dimensions. In a society often regarded as highly fragmented and individualised, lifestyle can also be a new means of negotiating 'space' between the private and the public, demonstrating the active and engaged processes through which people construct their identities in relation to their lived experiences.

In so far as research on lifestyles has concerned itself with sustainability, it is through concepts of consumption, leisure and identity. Those few empirical studies of lifestyles that relate to sustainable practices have focused on ethical consumption²⁴, the collective identity of environmental activists²⁵ and the emergence of new horizontal associations within the sphere of production, for example LETS²⁶. Studies of ethical consumers complicate the ideal of 'ascetic' consumption often demanded by environmentalists and challenge an over-reliance on fiscal measures for changing behaviour by positioning consumption as a particularly important component of identity formation and social bonds²⁷.

The circulation of contemporary consumerism does entail rapidly changing demands for different products, services and places. It builds in redundancy which has detrimental consequences for the environment. However, it is also the development of particular forms of reflexive consumption of places, environments, goods and services which has generated the environmental critique²⁸. Trends in 'ethical' consumption reveal these tensions in the shift from minimising consumption to asserting consumer autonomy and power through seeking ethical products, supporting consumer boycotts and demanding the right of the citizen as a consumer - e.g. the right to a non polluted environment²⁹. The broadening of consumption also recognises that all consumption is 'ethical', whilst exploring different ethical systems of care for self, family and environment³⁰.

Environmental issues challenge research in the social sciences by focusing on the body as the interface between environmental and social processes³¹. Environmental lifestyle choices are often performed through embodied identities such as, parenting or in response to 'environmental illnesses'³². The importance of the body as a site for bearing witness to environmental issues is seen in forms of environmental protest which use bodies as blocking devices or as symbols of alternative lifestyles³³. The car, for examples, is not just important as a symbol of consumption, but as a space that embodies safety and enhances personal mobility.

Environmental issues also reassert the importance of place as the basis for understanding the environment and quality of life issues, and the scale at which people feel they can implement changes³⁴. Recent research has problematised a coherent and consistent 'environmental identity', demonstrating shifting behaviour in arenas like work and leisure and different value systems in relation to different products and the importance of social relationships. The work of Billig in particular has suggested that the expression of personal views or attitudes is not so much an expression of an internalised underlying belief, but rather a position whose meanings is only realised when located within wider societal beliefs³⁵. Such studies suggest a more complex, contingent and conflicting construction of identity and its relation to lifestyle choice. These perspectives require that *communication*, rather than an unproblematic *information* is placed at the centre of future research on lifestyle and environment.

4. Environmental knowledge and communication

One of the fundamental distinctions between realist frameworks and alternative approaches involves differing theories of knowledge, understanding, communication and action. Quantitative research on environmental activism has revealed high levels of knowledge and awareness of environmental issues, whilst levels of pro-environmental behaviour remains low³⁶. Information about environmental issues thus has a complex and ambiguous relationship to environmentally-benign behaviour. Mediating between lifestyle choices and environment issues are a series of institutional relations and intangible knowledges issues, which have been the focus of study in risk communication, the sociology of scientific knowledge and the public understanding of science. These studies indicate that environmental knowledges are embedded in complex flows of other signs, symbols and information which many lead to *uncertainty*; they necessitate relationships with institutions whose framing of issues effects perceptions of *authority* and feelings of personal *agency*; and they bring into focus the difference between knowledges constructed in *science* and embedded in *everyday life*.

Alternative frameworks explore and work with the detailed ecological 'world views' constructed by individuals and groups. Studies reveal people show much greater commitment to social practices which embody greater knowledges derived from their own experience and acquaintances, rather than the disembodied, abstract and mediated knowledges of experts³⁷. Lay understandings differ from expert knowledge in making connections across issues like the environment, health and crime, which derive authority from situated knowledge rather than universal constructs. What 'public' knowledges within science and the media appear to do is give people a vocabulary which can be used to legitimate different forms of knowledge within the public sphere. This can be seen in the support that wells up around the high profile issues driven by the media and NGO agendas³⁸.

Research findings from the public understanding of science reveal ways in which science communication is not a linear process³⁹. Firstly, the creation of a scientific research agenda has implications for the type of information communicated and the lifestyle changes it suggests. Cultural criteria are implicated in both the definition and the trajectories of environmental issues, even in apparently physical issues such as habitat protection, acid rain, global climate change and pollution⁴⁰. The institutionalisation of scientific research programmes embody certain assumptions about the form and function of knowledge, and the policy response it demands. The assumptions that science can provide secure information for environmentally benign lifestyle choices is challenged as the complexities, uncertainties and indeterminacies of environment are revealed. Moreover, there is mounting evidence from risk research that people can deal with uncertainty. Attempts by expert systems to claim authority can alienate and are likely to backfire⁴¹.

Studies also reveal that people discriminate carefully when deciding which information to trust⁴². Risk communication researchers are increasingly designing questionnaires and statistics to measure trust in experts and institutions, and 'faith' in processes such as science⁴³. Qualitative research also identifies trust as a necessary basis for effective communication, whilst also exploring some reasons for mistrust. Insights into these processes reveal that judgements about which sources are important often involve critical assessments of those agents meant to be controlling or regulating the process. Lastly, this research indicates that greater knowledge of a subject does not always lead to greater sympathy or action. Individuals or groups who oppose as well as endorse action are often the most knowledgeable⁴⁴.

In summary, communication of environmental messages is taking place in an environment where the self-conscious consumption of information and image is increasingly important to

the commercial and service sectors of the economy and to individual identities. Of considerable importance is an understanding that the adoption of environmentally conscious behaviour is only one of the several available 'lifestyles'. Against this background, institutions and policies seeking to communicate environmental action have to look critically at the assumptions embodied in their premises, processes and goals, as well as barriers to individual action. New deliberative forms of communication and public involvement in policy making seem essential if sustainable practices are to be shared across different lifestyles.

5. Individuals, Governance and Sustainability

The pursuit of environmental sustainability has proved challenging to the institutions of governance organised to establish civil life at the level of the nation state. Achieving goals is not only about new institutional forms, as seen in IPCC and LA21, but also about new institutional processes which are able to take account of public diversity and public scepticism. Quantitative research suggests that people place a high proportion of the responsibility for solving environmental problems with the national government and/or local authorities⁴⁵. Qualitative research also indicates a complex relationship with institutions such as the media and expert institutions which are seen to be in control of risks, whilst at the same time, having ownership of information and responsibility for its dissemination. Research suggests that more people are prepared to take on more environmental responsibility if the social contract with government and other institutions is secure⁴⁶. That government, businesses and NGOs should 'practice what they preach' is therefore more important than reliance on exhortation and factual information for promoting efficacy and legitimating governance.

This perspective suggests policies that address sustainable practices in the workplace together with those in the home, may prove more effective than either on their own. They suggest, too, that new 'social contracts' established through the involvement of facilitators or trainers in a social network, as in the case of the EcoTeam approach pioneered through the Global Action Plan (GAP), may also succeed where information on its own would fail⁴⁷. If new sustainable values and practices are to be both efficacious and legitimated, institutions and organisations will have to be increasingly reflexive about their practices and 'status' within the public sphere.

One emerging part of the research agenda is the rise in direct democracy initiatives and participatory approaches within various policy and national contexts⁴⁸. There is recognition that the public ownership of policy recommendations engendered through these processes is

important for innovation, legitimacy, trust and governance. The many forms this takes (from consensus conferences to focus groups) are increasingly part of a political vocabulary of individual empowerment. Some work with models of controversy and conflict premised on realist models of environmental information. Others promise to create new 'spaces' that recognise the cultural and social dimensions of what sustainable lifestyles might come to mean⁴⁹.

Sustainability raises issues about how individuals and governments can deliver inter- and intra- generational equity. Environmental action also requires individuals and institutions to make judgements on issues whose effects are distanced in space and time. Some of the barriers to engendering environmental action may result from the problems of incorporating these within current cultural discourses; the apparent disjunction between the time and space in which economic and political structures are perceived to operate; and the long spans required by environmental issues⁵⁰. Relations over space raise questions of intra-generational equity, addressing the equitable distribution of environmental goods and bads. Environmentalism also challenges conceptions of time, raising questions of inter-generational equity and the problems envisioning the future and planning for future generations.

Environmental issues are creating new kinds of 'spaces' from which people make decisions in relation to environmental goods and hazards. This has been best theorised through the uneven spatial distribution of risks in the, primarily, American environmental justice literature which understand people's defence of their local environment in the light of perceived bias and lack of transparency in the distribution of environmental risk⁵¹. Other kinds of spatial inequalities may also be created through the way people are empowered with different knowledges and choices at different scales because of their everyday experiences and their individual geographies. Attempts to create new inclusive spaces have to consider the implications of tensions between experiences in, for example, rural and urban spaces. Environmental issues are also creating new 'imagined spaces' and new forms of communities constructed through shared epistemologies of nature⁵². These imagined spaces look set to proliferate in the light of new regional and political structures. However, there is as yet limited evidence of the adoption of a new global notion of citizenship⁵³

Time is also key to understanding environmental issues, projecting a new temporality and the ability to envision alternative futures in society. The apparent speeding up of time under capitalism contradicts the need for a more 'glacial time'⁵⁴ to manage our lives and institutions for our descendants. Initiatives like commodity chains and life cycle analysis try to bridge these spatial and temporal disjunctions. Building action from the environmental concerns which surface periodically in people's public and private lives requires not only further

information on product history, but a new space to articulate new values and create possible futures⁵⁵.

6. New Research Opportunities

Through initiatives like Agenda 21 and Sustainable Development Indicators environmental policy is aspiring to become further integrated into new spheres of socio-economic activity and spaces of everyday life. The scale of cultural and political challenges that this implies is becoming ever-more evident, requiring extensive institutional and academic flexibility and reflexivity, as well as new ways of understanding the place of nature in lifestyle choices and the processes of envisioning the goals of environmental rhetoric. These difficulties are compounded by a series of parallel changes in societies like the UK, documented in growing political alienation; increasing ambivalence to science; a rise in households; further cultural pluralisation; and the changing relationship of the individuals to governance from the level of the local, the region, the state and global citizenship. The development and application of environmental policy implies a host of new intellectual, institutional and individual challenges. From our review of recent work, we have identified the following specific research agendas.

- **The Nature and Purpose of Environmental Knowledges**

The *nature and purpose of environmental knowledge and communication* and how these affect the forms in which *environmental values can be enacted*, is emerging as an interesting and important area of research. The way environmental knowledges shape policy agendas for lifestyle change, the applicability of knowledges to different arenas, and the ability of environmental knowledges to envision alternative futures is slowly being addressed. However, research is dispersed; it can be intellectually inaccessible, and appears difficult to apply. There is scope for further studies to develop this agenda theoretically and methodologically, and extend it practically. There is a need for research with *institutions* to make these insights usable to policy, and to understand the scope and limitations of institutional reflexivity. Further research on the *forms* of environmental information in communication programmes could supplement work on the *content*: exploring the applicability of environmental audits, ecological footprints, forms of feedback and the importance of combining appropriate information with social support. *Ethnographic* research from the level of household or workplace is required to better understand how this information enmeshes with everyday understandings to enhance environmental sustainability.

- **Environmental conflict and consensus**

There is still only limited research addressing *the relationship between individual and collective forms of existence and their relation to environmental action*. Understanding changes in lifestyle choices involves addressing the terms and context in which these social dilemmas are negotiated, and their effect on outcomes for environmental sustainability, equity and justice. This agenda should look critically at the emerging interests in *participatory forms of decision making*, differentiating between the range of methods used and exploring their applicability and limitations for delivering more democratic forms of decision making. The scope of ethical *consumption practices* require further study: looking at how conflicts are framed by large interests (e.g. supermarkets) and how decisions about individual consumption involves rational, aesthetic as well as a range of ethical stances. There is a need to identify *further arenas* involved in the management of environmental consensus and conflict. There is also scope for improving our understanding of the ways people cope with the *conflicts and uncertainties* which challenge their individual and collective identities.

- **New spaces of environmental concern**

There is scope for further research which better *understands the different arenas of environmental action*, as well as identifying *new sites of environmental concern*. Such research could link existing studies of environmental action at the level of individual or community, explore the application of contemporary theorising, and identify new spaces around which sustainable practices can be initiated and supported. The spaces significant for understanding environmental lifestyle choices might range from the scale of the *body* as a new site of environmental concern, through the importance of the *household*, the *workplace*, *schools* as community resources, *consumer organisations*, *political institutions* as well as the role of *virtual spaces* and *imagined communities*.

- **The Relationship between Social and Ecological Processes**

Uniting all of the above is a *need to work creatively across disciplines* to explore the relationship between *social and ecological processes*, avoiding either the pitfalls of both the environmental realism or sociological reductionism which characterises much current work. Research on lifestyles and the environment reveals the necessity of working with both *quantitative and qualitative research*, to address both the *material and symbolic practices* of social life, and the potential to construct a future role for the social sciences in translating between *expert and citizen* understanding of environmental issues.

Notes

¹ Lowe, P. and Rudig, W. (1986) Review Article: Political Ecology and the Social Sciences - The State of the Art *British Journal of Political Science* 16 : 513-550

² Grove-White, R. (1995) Environment and society: Some reflections *Environmental Politics* 4 : 264-275

³ Journals such as *Environment and Behaviour*, *Futures*, *Journal of Applied Social Psychology*, *Journal of Environmental Economics and Management*, *Journal of Environmental Systems*, *Journal of Environmental Psychology*, *Journal of Social Issues*, *Risk Analysis* and *Society and Natural Resources* regularly provide space for this work from the US and UK.

⁴ Research critiquing the assumption that environmental problems exist in nature waiting to be read by evolving scientific knowledge and techniques have been developed particularly at CSEC in Lancaster. See for example Grove-White, R. and Szerszynski, B. (1992) Getting behind environmental ethics *Environmental Values* 1: 285-296; Wynne, B. (1987) *Risk Management and Hazardous Wastes: implementation and the dialectics of credibility* London: Springer; Wynne, B. (1992) Misunderstood misunderstandings: Social identities and the public uptake of science *Public Understanding of Science* 1: 281-304.

⁵ The Theory of Reasoned Action was developed by Fishbein and Ajzen (1975) *Belief, attitude, intention and behaviour: an introduction to theory and research*. Reading MA: Addison-Wesley. Illustrations of this approach can be found in Fishbein, M. and Ajzen, I (1980) *Understanding attitudes and predicting social behaviour*. New York: Prentice Hall

⁶ This model of communication is routinely used in mass media campaigns and information-led approaches such as Going for Green announced by the UK Government in 1994. See Department of the Environment (1994) *Sustainable Development: the UK Strategy*, London: HMSO

⁷ Corral-Verdug, V. (1997) 'Dual realities of conservation behaviour: self reports vs observation of re-use and recycling behaviour. *Journal of Experimental Psychology* 17(2) 135-145. Noorman K.J.N. and Uiterkamp T.S. (1997) *Green Households? Domestic Consumers, Environment and Sustainability* London : Earthscan

⁸ Barbier, E. (1993) *Economics and Ecology: New Frontiers and Sustainable Development* London: Chapman and Hall. Pearce, D. Markandya, A. and Barbier E. (1991) *Blueprint 2: Greening the World Economy*. London: Earthscan

⁹ Worcester, R. (1993) 'Public and elite attitudes to environmental issues.' *International Journal of Public Opinion Research* 5, 313-334.

¹⁰ Worcester, R. (1994) 'The sustainable society: what we know about what people think and do'. *Values for a Sustainable Society, World Environment Day Symposium* 2. June. Witherspoon, S. and Martin, J. (1992) 'What do we mean by green?' p. 1-26 in Jowell, R., Brook, L. Prior, G. and Taylor, B (eds) *British Social Attitudes: the 9th Report*, Aldershot: Dartmouth.

¹¹ Whitherspoon, S. (1995) 'The Greening of Britain: Romance and rationality' pp. 107-139 in Jowell, R., Curtice, J. Brook, L. and D. Ahrendt (eds). *British Social Attitudes the 11th Report 1994/5*. Aldershot : Dartmouth.

¹² Eden, S. (1995) 'Individual environmental responsibility and its role in public environmentalism'. *Environment and Planning A*. 25: 1743-1758.

¹³ Bannister, D. (1997) Reducing the Need to Travel *Environment and Planning B: Planning and Design* 24: 437-449.

¹⁴ Wiegman, O. and Gutteling, J. M. (1995) 'Risk appraisal and risk communication: some empirical data from the Netherlands reviewed.' *Basic and Applied Psychology* 16: 227-249.

¹⁵ See for example controversies over Greenpeace and the sinking of the Brent Spar in Anderson, A. (1997) *Media, Culture and the Environment* London: UCL Press

¹⁶ Lowe, P. Clark, J. Seymour, S and N. Ward. (1997) *Moralising the Countryside* London: UCL Press.

¹⁷ Hajer, M (1995) *The Politics of Environmental Discourse: ecological modernisation and the policy processes* Oxford: Clarendon

¹⁸ This challenge is at the heart of the discursive, relational and social dilemmas approaches emerging from social psychology. For examples see Potter, J. and Wetherell, M. (1987) *Discourse and Social Psychology: beyond attitudes and behaviour* London: Sage; Shotter, J. (1993) *Conversational Realities: studies in social constructionism* London: Sage; Shotter, J. (1993) *The Cultural Politics of Everyday Life* Milton Keynes: Open University Press; Billig, M. (1991) *Ideology and Opinions: studies in rhetorical psychology* London: Sage. It also addresses enduring sociological debates over social structure and individual agency, for example Giddens, A. (1984) *The Constitution of Society* Cambridge: Polity

¹⁹ For applications of this relevant to lifestyles and environment see Farr, R.M. and Moscovici, S. (eds.) (1984) *Social representations*. Cambridge: Cambridge University Press.

²⁰ S. Lash, B. Szerszynski and B. Wynne (eds) 1996 *Risk, Environment and Modernity* London: Sage

²¹ Stirling, A. (1997) 'Multi-criteria mapping: mitigating the problems of environmental valuation?'. p. 186-210 in *Valuing Nature?* Foster, J. (Ed) London: Routledge

²² The range of theoretical studies which address the relationship between environment, identity and society is extensive. Recent work includes: Beck, U. (1992) *Risk Society: Towards a new modernity*. London: Sage; Castells, M. (1997) *The Power of Identity* Oxford: Blackwells; Giddens, A. (1990) *The Consequences of Modernity* Cambridge: Polity; Giddens, A. (1991) *Modernity and Self Identity* Cambridge: Polity; Harvey, D. (1996) *Justice, Nature and the Geography of Difference* Oxford: Blackwells; Lash, S. and Urry, J. (1994) *Economies of Signs and Space* London: Sage; Lash, S. Szerszynski, B. and Wynne, B. (1996) *Risk, Environment and Modernity* London: Sage; Macnaghten, P. and Urry, J. (1998) *Contested Natures* London: Sage; Yearly, S. (1996) *Sociology, Environmentalism, Globalization* London: Sage.

²³ Chaney, D. (1996) *Lifestyles* London: Routledge.

²⁴ Bedford, T. UCL Geography Department PhD (in progress)

²⁵ Routledge, P. (1997) 'The imagineering of resistance: Pollock Free State and the practice of postmodern politics. *Trans. Inst. Br. Geogr.* NS 22(3) 359-376

²⁶ Barry, J. and Proops, J. (1998) 'Local employment and tradings systems: linking citizenship and sustainability?' *Global Environmental Change Programme Briefings* 18. Brighton: University of Sussex.

²⁷ Bauman suggests that "in present society, consumer conduct (consumer freedom geared to the consumer market) moves steadily into the position of simultaneously, the cognitive and moral focus of life, the integrative bond of the society... In other words, it moves into the self same position which in the past during the 'modernist' phase of capitalist society was occupied by work" (1992: 49) *Intimations of Modernity* London: Routledge

²⁸ See for example Urry, J. (1995) *Consuming Places*. London: Sage

²⁹ Lowe et al 1997 *ibid*.

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- ³⁰ Miller, D. (1998) *A Theory of Shopping* Cambridge: Polity
- ³¹ Shilling, C. (1993) *The Body and Social Theory* London: Sage
- ³² Rodaway, P. (1994) *Sensuous Geographies: body, sense and place*. London: Routledge; KrollSmith, S. and Floyd, H. (1997) *Bodies in protest: Environmental illness and the struggle over medical knowledge*
- ³³ Routledge, P. *ibid.*
- ³⁴ Macnaghten, P., Grove-White, R., Jacobs, M. and Wynne, B. (1995) *Public perceptions and sustainability: indicators, institutions, participation*. Preston: Lancashire County Council; Myers, G. and Macnaghten, P. (1998) Rhetorics of environmental sustainability: commonplaces and places *Environment and Planning A* 30(2): 333-353
- ³⁵ Billig, M. (1993) Studying the thinking society: social representation, rhetoric and attitudes, in G. Breakwell and D. Cantor (eds) *Empirical Approaches to Social Representations* Oxford: Blackwells
- ³⁶ Ungar, S. (1994) Apples and Oranges - Probing the attitude-behaviour relationship for the environment *Canadian Review of Sociology and Anthropology* 31(3): 288-304; Grob, A. (1995) A structural model of environmental attitudes and behaviour *Journal of Environmental Psychology* 15(3): 209-220; Staats, H., Wit, A., and Midden, C. (1996) Communicating the greenhouse effect to the public evaluation of a mass media campaign from a social dilemma perspective *Journal of Environmental Management* 46(2): 189-203.
- ³⁷ For example Harrison, C. and Burgess, J. (1994) Social Constructions of Nature: a case study of the conflicts over Rainham Marshes SSSI *Trans. Inst. Br. Geogr.* 19: 291-310; Wynne, B. (1996) May the sheep safely graze? in Lash, S. B. Szerszynski and B. Wynne (eds) *Risk, Environment and Modernity* London: Sage
- ³⁸ There is extensive research on the production of an environmental agenda in the media, less on the consumption and negotiation of this by lay publics within context. See for example Anderson, A. (1997) *Media, Culture and Environment*. London: UCL Press, Hansen, A. ed. (1993) *The Mass Media and Environmental Issues*. Leicester: Leicester University Press, Harrison, C., Burgess, J. and Filius, P. (1996) Rationalising environmental responsibilities: a comparison of lay publics in the UK and Netherlands *Global Environmental Change* 6(3) 215-234.
- ³⁹ Hilgartner, S. (1990) 'The dominant view of popularization: conceptual problems, political uses', *Social Studies of Science* 20: 519-39
- ⁴⁰ The work of Wynne and Shackley has explored the relationship between the use of General Circulation Models (GCM) in predicting climate change and their policy corollaries. They conclude that encoding of indeterminacies inherent in current GCMs as solvable scientific uncertainties focuses funding toward better computer modelling, allows governments to wait for further certainty and actually restricts the opportunity for wider more inclusive dialogue about nature and society relations. See Shackley, S. and Wynne, B. (1995) Integrating Knowledges for Climate Change: Pyramids, nets and uncertainties *Global Environmental Change* 5(2) 113-126
- ⁴¹ Van der Pligt, J. Eiser, J. and Spears, R. (1986) Attitudes towards nuclear energy: familiarity and salience *Environment and Behaviour* 18: 75-93. Wynne, B., Waterman, C. and Grove-White, R. (1993) *Public Perceptions and the nuclear industry in West Cumbria* Centre for the Study of Environmental Change, Lancaster
- ⁴² These figures are reported in the 1993 Eurobarometer surveys. See also Irwin, A., Dale, A. and Smith, D. (1996) Science and Hell's kitchen: the local understanding of hazard issues in Irwin, A. and Wynne, B. (ed) *Misunderstanding Science* Cambridge: CUP. Limoges, C. (1993) Expert knowledge and decision-making in controversy contexts *Public Understanding of Science* 2: 417-426

⁴³ For an account of these developments see Fishhoff, B. (1995) Risk Perception and Communication Unplugged - 20 years of process *Risk Analysis* 15(2) 137-145. For their application - Frewer, L.J. and Shepherd, R. (1994) Attributing information to different sources: effects of perceived qualities of information on the perceived relevance of information and on attitude formation *Public Understanding of Science* 3: 385-402.

⁴⁴ Evans, G. and Durant, J. (1995) The relationship between knowledge and attitudes in the public understanding of science in Britain *Public Understanding of Science* 4: 57-74

⁴⁵ Going for Green (1995) *The Harris Final Report* Richmond: Harris. See also Centre for Sustainable Development - Volume 1: Report on Going for Green Household Survey of Cornforth Village and Sedgefield Village March-April 1997.

⁴⁶ This insight is emerging from cognitive approaches applied to the context in the Netherlands, for example Wilke (1991) Greed, efficiency and fairness in resource management situations *European Review of Social Psychology* 2: 165-187. It is also central to theories about reflexive modernity and risk society see Beck, U. Giddens, A. and Lash, S. (1994) *Reflexive Modernization* Cambridge: Polity

⁴⁷ Harland, P. and Staats, H. (1997) *Long term effects of the EcoTeam program in the Netherlands* Centre for Energy and Environmental Research Netherlands; Staats, H. and Herenius, S. (1995) *The EcoTeam Program in the Netherlands Study 3: The effects of written information about the EcoTeam Program on the attitude and intention towards participation*, Centre for Energy and Environment Research, Netherlands.

⁴⁸ There are a range of initiatives using focus groups, discussion groups, citizen panels and consensus conferences to try and incorporate the public within decision making processes following the emergence of participation as a core concept in environmental policy making. For environmental initiatives see Jacobs, M. (1997) Environmental Valuation, Deliberative Democracy and Public Decision Making Institutions in Foster, J. (ed) *Valuing Nature* London: Routledge. For an account of the European Experience with consensus conferencing see Joss, S. and Durant, J. (eds) (1995) *Public Participation in Science* London: Science Museum.

⁴⁹ This distinction has been asserted by research at CSEC on the models of environmental evaluation brought into the decision making process. See for example Wynne, B. (1996) SSK's identity parade: Signing-Up, Off-and-On *Social Studies of Science* 26: 357-391. Also Eden, S. (1996) Public participation in environmental policy: considering scientific, counter scientific and non scientific contributions *Public Understanding of Science* 5: 183-204

⁵⁰ See Castells, M. (1997) *The Power of Identity* Oxford: Blackwells on the relationship between global networks of communication and commerce and negotiating environmental identities.

⁵¹ This literature is extensive. For recent examples see Boer, J., Pastor, M., Sadd, J., Snyder, L. (1997) Is there environmental racism? The demographics of hazardous waste in Los Angeles County *Social Science Quarterly* 78(4): 793-810; Steinberg, P. (1997) Political geography and the environment *Journal of Geography* 96(2): 113-118. For the history of this research see McGurty, E. (1997) From NIMBY to civil rights - The origins of the environmental justice movement *Environmental History* 2(3): 301-323.

⁵² This is best developed in hazard research Irwin, A. (1995) *Citizen Science* London: Routledge; but see also research on new epistemic communities - Wynne, B. (1992) Misunderstood misunderstandings: social identities and the public uptake of science *Public Understanding of Science* 1:281-304; work on international relations and environmental issues - Hasenclever, A., Mayer, P. and Rittberger, V. (1996) Interests, power, knowledge - the study of international regimes *International Studies Quarterly* 40(S2): 177-228; and new forms of environmental protest - Routledge, P. (1997) 'The imagineering of resistance: Pollock Free State and the practice of postmodern politics. *Trans. Inst. Br. Geogr.* NS 22(3) 359-376.

⁵³ Despite the enduring rhetoric of 'think global act local' global issues are rarely identified as being the cause of environmental actions (See Centre for Sustainable Development - Volume 1: *Report on Going*

for Green Household survey of Cornforth Village and Sedgfield Village March- April 1997). Additionally there is mounting theoretical concern and empirical evidence that the dominance of global icons may reduce feelings of efficacy. Theoretically see Cosgrove, D. (1994) *Contested Global Visions: One world, whole earth and the Apollo space photographs* *Annals of the Association of American Geographers* 84(2): 270-294. Empirical evidence is provided in Burgess, J. and Harrison, C. (1997) *Climate Change and Changing Lifestyles* in ESRC Report *After Kyoto: Making Climate Policy Work*.

⁵⁴ In Lash and Urry's original formulation, the notion of glacial time implies that 'the relation between humans and nature is very long term and evolutionary. It moves back out of immediate human history and towards a wholly unspecifiable future' p. 243 Lash, S. and Urry, J. *Economies of Signs and Space* London: Sage

⁵⁵ The development of work on lifecycle analysis, ecological footprints and commodity chains addresses one side of this. See for example Anderberg, S. (1998) *The industrial metabolism and the linkages between economics, ethics and the environment* *Ecological Economics* 24(2-3): 311-320; Buck, D. Getz, C. and Guthman (1997) *From farm to table: The organic vegetable commodity chain of northern California* *Sociologica Ruralis* 37(1); Rees, W. and Wackernagel, M (1996) *Urban ecological footprints: Why cities cannot be sustainable and why they are a key to sustainability* *Environmental Impact Assessment* 16(4-6): 223-248. Less well developed is work on the potential for different forms of knowledge, communication strategies and institutional contexts for envisioning alternative futures. For some developments in this direction Simpson, I., Parsisson, D., Hanley, N. and Bullock, C. (1997) *Envisioning future landscapes in the Environmentally Sensitive Areas of Scotland* *Trans. Inst. Br. Geogr.* 22(3):307-320; Carroll, J. (1995) *Envisioning Ecological Sustainability - the need and a method* *Environmental Values* 4(2): 167-168.