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In Our Own Image: the Environment and Society as Global Discourse

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SUMMARY

The environment is clearly shaped by human hands, but it is also shaped by the human mind. The paper examines the way in which the environment is produced, as intellectual capital. It asks about the extent to which the environment can be understood by science and through science. It explores the way in which science, as a cultural form, enables us to construct an environment which is 'manageable', but prevents us from coming to terms with increased uncertainty.

Drawing on research about the Canadian frontier in the 1840s and current critiques of environmental economics, the paper concludes by suggesting that research on the global environment should recognise the existence of different, and divergent, understandings of what the global environment is, and how the problems associated with global environmental change can be addressed.

This paper is about how the environment is *produced*. It is about the physical landscape that results from human activities and ingenuity, and the mental landscape that shapes these activities and is shaped *by them*.

It asks whether our environment, any environment, can be understood by science or through science. It explores the way in which our science, as a cultural form, gives rise to our construction of the environment.

When I say that the environment is a social *construction*, what do I mean? Here are some examples: these are the discourses.

CASE ONE : BIOSPHERE RESERVES IN SCOTLAND

On 23 May 1990 I attended a meeting in Edinburgh organised by UK Man and the Biosphere (MAB) to discuss a Working Party Report on the designation of new Biosphere Reserves. Between 1977 and 1984 (when the UK left UNESCO) thirteen Biosphere Reserves were designated in the United Kingdom, and the meeting was convened to consider whether there should be new ones added.

This raised a series of issues for the UK Committee. Some members declared that we *did not have* Biosphere Reserves in Britain, only National Parks. Others argued that the term ‘Biosphere Reserve’ was not British anyway. It was foreign. ‘They’ had Biosphere Reserves, not us! Some participants decided, unilaterally, that if we *did* have ‘Biosphere Reserves’ we could dispense with ‘buffer zones’. We did not need them! Finally, there was strong support for the proposition that we should tell UNESCO to use *our* designations – National Parks, ESAs, SSSIs, AONBs etc.

The meeting in Edinburgh had problems with competing definitions of the environment. ‘Our’ designation was not ‘theirs’. And it mattered. It was as important to those attending the meeting as cricket or real beer or Maastricht. The objection was that ‘our’ protected areas were *not* ‘Biosphere Reserves’ and never would be.

CASE TWO : PUBLIC INQUIRY DISCOURSE

The second case is taken from the Inspector’s report of a public inquiry into a new road scheme (this is quoted from Burningham and O’Brien 1992). First, the Inspector presents the argument that an area of woodland is environmentally valuable, and should not be used as a site for lay-bys.

It is reluctantly accepted that the new road will have to pass through Devil’s Cope but not that lay-bys should be located in this attractive, natural, untouched woodland which is worth preserving. It would be a deplorable and needless extravagance to destroy a small proportion of a small cope used, with permission, by the British Trust for Ornithology and by members of the public, and believed to be rich in wildlife and flowers, simply to provide lay-bys which could be placed elsewhere on the A27 ...

The Department of Transport’s view was rather different:

Devil’s cope is an overgrown and neglected piece of woodland ... Most of the trees are not of a great age being up to around 80 years old and no coppicing has taken place for some 20 years. There is no public footpath running through the wood and footpath 251 passes along its south-western boundary. A survey of the cope concluded that its flora and fauna were unlikely to be rich and varied ... (Burningham and O’Brien 1992: 7)

Was the woodland bordering the A27 ‘... attractive, natural and untouched’ or ‘... overgrown and neglected’? The point is that assessments of ‘the environment’ are informed by a variety of social commitments, and these assessments are used to pursue specific social goals. We are not *simply* talking about a piece of woodland, we are talking about it in a social context. That context is provided by us.

CASE THREE : CANADA WEST IN THE 1840S

My third case concerns an early migrant to Canada, whose letters to his family in the 1840s formed part of a private research project (Redclift 1988, 1989). In this case the environment served to help create personal identity. By examining the way that nineteenth-century settlers forged new social relations, and created a civil society, we can explain current preoccupations, in Canada, with the environment.

Francis Codd qualified at the College of Surgeons in Lincoln's Inn Fields in 1844, when he was twenty-one years old. He must have had difficulty in finding a medical post in England, for his letters imply that he needed a patron before he could establish himself properly. This sounds plausible. Cowan, writing about British emigration to British North America, notes that:

Frequently the applicants were professional men who had been property holders. [After 1825] two new reasons for removal are evident : the desire to get away before all is lost, and the necessity for taking educated young people from a land in which professions and occupations are already crowded to a colony where openings for them may be found. (Cowan 1961: 187)

In Canada opportunities were very much better. He chose to settle in what was then virtually uncharted country, in the hamlet of Pembroke, to the north of what was then termed Canada West. Southern Ontario to the south had already been settled, it represented the 'civilised Canada' of small farms and flourishing towns such as Hamilton (Katz 1975). The Algonquins, where Francis tried to establish himself, was another country. Apparently it took his fancy 'because it was such a long way off'. Few settlers had penetrated the region, and the road to Pembroke was still used principally as a winter route by lumbermen. Not until 1860 was a road opened from Renfrew county to the north-west (Macdonald 1966: 18). On the night of 12 February 1847, Francis Codd arrived in Bytown (later Ottawa) from Montreal, in a covered sleigh drawn by two horses. He was swathed in buffalo skins to keep out the sub-zero temperatures. The journey from Montreal had taken a whole day and a night. Today it takes forty minutes by plane.

According to Francis, Bytown was already 'one of the best planned and most flourishing towns in Canada', with about seven thousand inhabitants, but in the late 1840s it was a very rough town indeed. It was 'the scene of frequent riots and head-breakings between rival Irish and *Canadian* lumbermen' (Careless 1967: 30). In the early 1840s the Irish had attempted to drive the French in Upper Canada out by force and had met reprisals in turn. The 'Irish', before the 1850s, were usually Ulstermen and the battles they fought with French Catholic settlers were looked upon as 'Holy Wars'. Francis Codd had become a Catholic and this fact was to influence his judgement of many things, notably the choice of a marriage partner. He observed wryly that 'Catholic Englishmen are regarded as

nondescript in Canada, where being English confers prestige on anyone, for an Englishman is regarded to be a man of honour till he proves himself to the contrary’.

First impressions of the area to the north of Bytown were mixed. He notes that the countryside was ‘not gloomy like the winter scenery in England, but quite entrancing’. This aesthetic delight was to continue unabated during the subsequent four years. The people were less attractive than the countryside, however: ‘there is no other part of Canada peopled by such savages ... and no law or civil power within a hundred miles to control them’. He soon found that his patients rarely paid their bills, were regularly drunk and expected him to save their lives or risk losing his own! By April 1847 he had found ‘great favour with all the people ... but the cares and duties of a doctor’s life are greater even than I expected’.

As Careless points out ‘Canada West ... was so full of recent immigrants and so much in the stage of extensive rather than intensive growth, that its social structure was naturally ill-defined’ (Careless 1967: 28). On the frontier a distinctive lumber community had developed, which combined logging in the winter with farming in the summer. During the 1840s more hired labour was used in the lumber industry, the shantymen whom Careless refers to as a ‘forest proletariat’ (Careless 1967: 30).

Francis Codd was to find many of his patients within this unruly fraternity. He was expected to distance himself from them: ‘I cannot farm and practice medicine, patients would not like it and I would not have the time’. Indeed, he is told by an admirer that he is ‘not half roughian enough for this place’. Nevertheless those who do succeed earn his admiration. Soon after arriving he meets a woman from Norfolk who tells him ‘Lawk, Sir, if the poor creatures at home only knew what a place Canada is, it would be good for ’em’. Eight months later he is writing that if he had the £200 with which he landed in Canada he would ‘go into the bush and become a farmer’ rather than a doctor. Typical of the ‘success stories’ he encounters is a man named Pinhey who lived near Bytown. Francis notes that although he was not a poor man when he migrated ... ‘now he is probably in ten times the living and independence he did in England ... had he stayed in England he would still have been a nobody ... now he is a member of Legislative Council ... is the founder perhaps of a noble Canadian family and owns the greater part of the township of March’.

The frontier seems to have been distinguished by property-owning anarchy as much as a ‘forest proletariat’. Land was cheap and easily available, especially since the land grant system had been abandoned. Cowan notes that ‘the government [in England] began to appeal to man’s purely selfish instincts by making his reward depend solely upon his own efforts’ (Cowan 1961: 113). The land market developed in competition with that of the United States: ‘... between 1844 and 1848 purchases of land to the amount of almost one million dollars were made [through scrip] ... the greater part of it for speculative purposes’

(Macdonald 1966: 13). However, it was the revenue to be derived from lumbering which attracted government interest in the region and necessitated a road-building programme. For the colonising population cheap land was an important accompaniment to lumbering. Francis notes that 'all farming produce meets with a ready market here from the timber merchants and yet a hundred acre lot, half cleared, sells for about £50'. Farther from the settlements one could buy 'a farm of 500 acres for £40, but only thirty acres of it cleared'.

The essence of succeeding on the frontier was efficient self-provisioning. The people made maple sugar and molasses, and picked strawberries and blueberries in the summer. The 'main art of living in Canada is to do with as little *cash* as possible and if a man has a farm he can raise his own flour, pork, butter and cheese'. Fish and venison were bought from the Indians. In other words, it was as important to save money as to make it. The life of a frontier farmer was rewarding but it was also hard.

Farming 'does very well for a man who has a family and who is willing to lead a *stationary*, moneyless life and be considered as an equal by all his clodhopping neighbours and labourers'.

In 1850, after his return to Canada, following a brief visit to England, Francis builds a house and employs a housekeeper, which proves more economical than renting rooms. He is still constantly in debt – with the compensation that it means his credit is always good – but his income has improved. It is still difficult for him to make social comparisons with England. His friend, Mr Donnell, 'a civilised lumberman ... lives as a man would in England worth £400 or £500 a year, though in fact he is a very quiet man in this part of Canada'. In December 1849 he writes: 'I begin to think that £100 *in* England is worth £200 *out of it* as far as comfort is concerned'.

Creditworthiness came to assume more importance the longer he lived in Canada. Since few people arrived with much capital and the flow of cash was so irregular, what mattered most was personal credit. In January 1852 he calculates that he has earned £130 from his practice in the previous year. Of this sum £92 is still due to him and he has accumulated debts of £77. He asks his father rhetorically whether '... if I had been in the same situation in England I should have met with as much help in the shape of credit as I have had in Canada? I love old England very much but I should not like to try it I must confess'.

What did it mean to be a professional man in a speculative economy marked by transient labour and the complete absence of social bench-marks? The letters provide many clues. Not surprisingly few frontierspeople were concerned with social etiquette. Francis notes innumerable instances where social habits were made to serve utilitarian ends. In December 1849 he records meeting 'an uncivilised Scotsman who took the soup ladle for a spoon and held it above his head while he drank from it saying 'Eh, mon, but this is the awful spun?' On another occasion an old woman who kept a tavern 'could not find the carving fork so she took hold of one end of the joint of beef with her hand and the other with

her teeth and carved from it with the carving knife, talking all the while'. His companion, a Mr Harper, 'was nearly killed with laughing', but the unabashed tavernkeeper only thought he was laughing at her jokes!

Professional status had to be earned in a society where nobody's family counted for so much. Francis Codd earned respect for shooting the rapids in a bark canoe that he bought off an Indian, and after shooting a deer, writes 'I consider myself a great hunter now and am the envy of the other sporting white men in the village – don't laugh!' This was in December 1850. His earlier attempts at hunting game had proved disastrous, culminating in a confrontation with a grizzly bear.

Colonising the frontier was fraught with problems, many of them of human invention. The drinking could reach epidemic proportions. Francis records one wedding which he attended where 'twenty men drank seven or eight gallons of rum and whisky ... I dare say there is as much grog drunk in this township as in the city of Toronto, although the population is not a tenth of it.' On another occasion he attended a ball where 'an Indian came in and danced in the style of a great bear, yelling every now and then like a banshee. In the end he got drunk and tore Mr Lyle's shirt off his back and was kicked out, he was a savage old fellow and is said to have murdered a white man'. Without a system of JPs, district courts or lawyers, it was hardly surprising that violent reputations served to deter potential aggressors more effectively than anything else.

However, by December 1849 a Division Court had been established in Renfrew for small debts. Francis came to take a very positive view of the efforts that were made to build a network of local magistrates with a high degree of legitimacy. He was attracted to the makeshift democracy of frontier Canada. By January 1852 he was writing :

A magistrate in this country is, however, a very different animal from the same in England – he need not spend a dollar a year the more for being a magistrate – many of our magistrates are plain farmers who can just read and write decently but their authority seems to be just as much respected as in England. One of the two magistrates in this village is an old pensioner-sergeant who was quartered in Holt [Norfolk] in the Artillery in 1806.

Civil disturbances were still common, of course, but there were signs that support existed for genuine community-based efforts at law enforcement. In the same letter, in 1852, Francis refers to a concert performed by a local music club – '... mostly young ladies taught and led by Mr Thompson, the blacksmith' – which succeeded, despite barracking from the audience, in raising money for a Renfrew Mechanics' Institute Library. He notes that 'if the township can raise £25 the government is bound to give £50'.

Between 1847 and 1852 Francis Codd's view of Canada changed dramatically. At the beginning he sought to survive, and to establish himself professionally. He was in no doubt as to the drawbacks of living on the frontier. 'There are

no emigrants up here', he complains in June 1847, 'they stay in the more popular parts of Canada where land is more expensive and everything else cheaper'. He toys with the thought of returning to Montreal, where he could earn a regular salary as a doctor in the Government employ.

The longer Francis stays in Canada the more he likes the frontier. He assures his parents that although he was returning to see them he intends 'leaving old England perhaps for ever'. His complaints are directed at individual misconduct rather than at Canada.

Before returning to England, briefly, in 1848, he writes to urge his brother Henry to come to Canada to qualify as a lawyer. Half the members of the Canadian Parliament are 'lawyers or doctors, chiefly lawyers'. He says he 'prefers Canada to England under any circumstances', and fears that already he would feel more like a stranger in England than in Canada.

The second phase of Francis Codd's correspondence after his return to Canada in 1849 is punctuated with repeated pleas for his family to join him there. Although he returned to the same part of the country, he regrets that he had not settled further west 'for the farmers can always get cash there for their wheat and here [in Renfrew] the markets are very uncertain because everything depends on the lumber trade'. In 1849 he was twenty-six years old: '... where shall I be next birthday? *Here* I hope, although of course I should like to see you all'.

His attachment to the frontier grows with familiarity. Local 'society' begins to develop. In nearby Pakenham village there are 'two doctors, four clergymen, a lawyer, several storekeepers and lots of civilised girls'. This was in January 1850. Soon he is established in his own house with a housekeeper who 'is clean and honest but apt to get drunk occasionally'. He reviews the prospect of his parents emigrating to Canada, and decides that they are too old to uproot themselves. Anybody intending to emigrate should spend between two months and a year having a look at the country first.

But an extraordinary coincidence occurs: as his own fortunes improve so, apparently, do those of his adopted country! Increasingly Francis refers to the advantages that Canada has over England. He is critical of Lord John Russell's proposals on Catholic emancipation (this is in March 1851). In Canada the government does not try to interfere with the Catholic Church: '... Canada is freer'. When his brother Henry complains about the Canadian winter Francis retorts that 'there can be no worse climate than that of England'. Canadian wheat is so good 'it was even sold in New York last year!' Canada 'is flourishing and all parties feel that it is getting strong enough to defy any attempt at tyrannising either by Great Britain or United States'. His first obligation, as a Canadian, is to learn French. Three years earlier he had bemoaned his inability to talk to the French women in a shanty on the Madawasha river. Now he has 'commenced learning French again and means to stick to it until I can talk fluently'.

He begins to take delight in the company of others during his frequent trips into the bush. In January 1852 Francis accompanies the new Presbyterian

Minister – ‘none of the evangelical humbug about him that most of the Scotch have’ – ‘to an Indian camp, seven miles up the ice’. They feast on venison and he notes how delighted Mr Thomson, the Minister, is : ‘he likes Canada very much, he says, and his wife and eight children are coming out next Spring’.

The last letters are full of advice on how to manage to survive with limited financial resources in an alien environment. He notes that : ‘it takes a man several years to open his eyes to what may be done with a little capital in Canada, and by that time an emigrant has generally fooled away all he brought . . .’ His expenses increase as his practice begins to flourish, but he is evidently in demand not only as a doctor. He is asked to give a lecture in aid of the Mechanics’ Institute Library fund, and is called as a key witness in a murder case held in Perth.

Francis Codd’s experiences illustrate my point about the way *we construct the environment out of human ingenuity and then go on to impart normative value to it*. Francis invested Canada with his own aspirations, and constructed a view of the environment that could be defended solidly, that was part of himself.

The people were rough – but they were often courageous. They had no money – but they were worth a lot more than they had been in England. ‘Civilisation’ was spreading – but not at the expense of the wilderness, which left him awestruck and admiring. This, of course, is the stuff of movies and novels, of Canadian consciousness. Perhaps it helps explain why Canada, despite failing to resolve its ethnic differences internally, has taken the ‘environment’ so much to its heart? The Canadian Green Plan is supposed to inform research in the universities and in the sciences. It is the inspiration behind the Canadian Global Change Programme. The representations of nature and the environment contained in letters like those of Francis Codd tell us much about the societies from which they sprang – and about the societies they produced.

ECOLOGICAL IMPERATIVES : GLOBAL NEMESIS

We have seen how the environment is constructed intellectually and morally in the treatment it receives from our culture : the ‘discourses’ that we employ. My final example comes to the heart of the issue : is ‘science’ adequate to the task before us, to equip human societies to manage the environment more sustainably? By the same token, does the acknowledgement that our view of the environment is socially constructed weaken our capacity to get on top of ‘real’ problems in the ‘real’ world?

At the leading edge of these issues is the ‘new’ discipline of environmental economics, particularly the work of David Pearce (1989). The difficulty in fully incorporating social goals within the analysis of environmental economics is, paradoxically, demonstrated by the principle which is used to defend it. Pearce declares that *we know natural capital is valuable because people are willing to pay to preserve it*. It is clear that environmental economists like Pearce have

proved able to push back the boundaries of the neo-classical paradigm, and to accommodate environmental concerns in their analysis. However, this accommodation has come at a price. Essentially, the analysis has widened the bounds of consumer choice, enabling the individual's preferences to be expressed; but basically it leaves the neo-classical paradigm intact. Market values, or imputed market values, can be used to provide a fuller account of natural capital, and the benefits of sustainability. In seeking sustainable development, Pearce notes that '*... what constitutes development, and the time horizon to be adopted, are both ethically and practically determined*' (Pearce 1989 : 3). This observation should lead us to consider not only the political context in which decisions are taken about the environment, but also the circumstances under which environmental economics is used to help facilitate decisions. If 'development' is subject to value judgements, and lies outside the compass of objective science, why is environmental economics not subject to the same value judgements?

The first problem with the neo-classical paradigm is that it fails to recognise that monetary values are *always* exchange values, not use values. When Pearce refers to 'use benefits' and 'use values' he is referring to exploitation values. Use values do not attract monetary values because they exist outside the framework of market pricing. As Francis Codd noted, they were the currency of the Canadian frontier. Environmental economists will argue that this is no impediment to using monetary values for them, and that the way that we arrive at these prices is a matter of methodological refinement, but this is to miss the point. *Economists cannot value what the environment is worth; merely its value in monetary terms.* Monetary valuations do not capture the worth of the environment to different groups of people.

Let us use women's labour in the forest communities of the developing world as an example. Many of the environmental goods that women collect, and that poor rural households use, are 'free goods' in nature but vitally important for survival. Elson and Redclift (1992) note that one tribal community in Andhra Pradesh could identify one hundred and sixty nine different items of consumption, drawn from forest and bush land. Environmental accounting is ill-equipped to measure the real value of the environment to women, when these use values are part of direct household provisioning.

The second problem with the paradigm is that it claims 'value neutrality', when environmental economics itself expresses the preferences and biases of the society in which it was developed. The values we place on nature, not surprisingly, reflect our priorities, *not the value of nature itself.* Nature is a mirror to our system of values, and in seeking monetary values for environmental goods and services we are attempting to 'naturalise' the environment. The point would not have been lost on Francis Codd.

Environmental economics provides a good illustration of the way we seek to construct the environment socially, through the mechanism of monetary valuation. Progress within the discipline aims to extend the paradigm, rather than to

place it within its political and social context. Development projects, for example, such as large dams or irrigation schemes, are said to have ‘environmental consequences’, which environmental economics is well-placed to address. This is to ignore the fact that development projects are socially created and socially implemented. They already internalise a view of nature, in their methodology and practices. They also seek to acquire legitimacy for the idea of projects - another instance of the way they are socially constructed.

There is a third area in which the neo-classical model can be faulted. It is that this model fails to recognise that *conventional economic analysis rests on a particular view of human nature and social relations*. It sees social interaction as instrumental. That is, it is designed to maximise the individual’s utility. As Hodgson writes ‘... the tastes and preferences of individuals are considered a given’ (Hodgson 1992 : 54). Related to this, environmental economics does not see social interaction as constituting value in its own right. It is this failure to recognise human behaviour as culturally determined, and capable of a very wide range of variability, which cannot be easily married with the reductionism of economics.

Concepts like that of ‘willingness to pay’, used by environmental economists, presuppose a set of cultural and ideological assumptions. Although economists might look upon the North Sea as a ‘waste sink resource’, fishing communities in the area would view it otherwise, as would holidaymakers, or artists, or any individual or group of individuals. Similar observations could be made today about the Algonquins, which Francis Codd helped to ‘civilise’. Is this beautiful area a resource for tourists, a wilderness, a historical ‘heritage’ or a potential area for development?

The problem for modern environmental economics is compounded by a fourth set of issues, which concern the degree to which the ‘individual, rational calculator’ is fully apprised of the situation in which he is being asked to make choices. As Gleick puts it:

Modern economics relies heavily on the efficient market theory. Knowledge is assumed to flow freely from place to place. The people making important decisions are supposed to have access to more or less the same body of information ... (Gleick 1987: 181)

These objections to the paradigm on which environmental economics is founded suggest that environmental economics has real technical competence, in attaching monetary values to environmental benefits and losses, but that this competence does not constitute an adequate basis for environmental valuation. Indeed, we need to look at environmental economics within a wider context, in which we consider it as a product of society itself. Before considering where this leaves our discussion of the environment and society, we should examine the wider policy context from another perspective, which builds on the points above.

THE ENVIRONMENT AND THE SOCIAL CONSTRUCTION OF SCIENCE

It is clear that the view we take of the environment is closely bound up with the view we take of science. Increasingly environmental problems are looked upon as scientific problems, amenable to scientific 'answers'. An example is the current policy prescriptions surrounding global environmental changes, particularly global warming. Since global warming is a 'scientific' problem, it is assumed that it must have a scientific solution. The 'greenhouse effect' is viewed as carrying social and economic implications, but scarcely as an 'effect', in that the human behaviour which underlies global warming is rarely considered. More attention is paid to ways of mitigating the effects of global warming, than to its causes in human behaviour and choices, the underlying social commitments which make up our daily lives.

Part of the problem with this approach is that the modes of inquiry in the natural sciences are themselves *social processes. into which crucial assumptions, choices, conventions and risks, are necessarily built.* Once we regard science as outside ourselves it becomes impossible to take responsibility for its consequences. And so it is with global warming: when it is relegated to the sphere of 'consequences' we are able to avoid the environmental implications of our own behaviour, and that of our societies.

At the same time environmental policy is nothing more than the formulation of one set of social and political choices, governing environmental uses, over another set of choices. It is hardly surprising that the discussion and practice of sustainable development is intimately linked to the social authority of our science and technology. In the North this authority is increasingly contested, especially by environmental groups and interested citizens. In the South it is frequently ignored, notably by development institutions whose model of 'development' often acknowledges no social authority but that of science, of 'progress'. As I have argued, that is why development in the South is, ultimately, not socially and politically sustainable.

Where does this leave our discussion of the environment and development? It soon becomes clear that we cannot achieve more ecologically sustainable development without ensuring that it is also socially sustainable. We need to recognise, in fact, that our definition of what is *ecologically* sustainable answers to *human purposes* and needs as well as ecological parameters.

By the same token, we cannot achieve more socially sustainable development in a way that effectively excludes ecological factors from consideration. If the model for better environmental policy merely 'adds on' environmental considerations to existing models it is not equipped to provide a long-term view. The strong sense of 'sustainable development' emphasises the sustainability of the interrelationship between biological, economic and social systems, rather

than that of the component parts. Each system involves elements – social ‘needs’, levels of production, biodiversity – which are subject to modification. It follows that social science is ill-equipped to address environmental problems if it does not rethink the ‘development’ agenda.

I have argued that much of the writing on the environment and development takes its message from the natural sciences. A more critical perspective regards science as part of the problem, as well as the solution. It suggests that environmental management, as a strategy to cope with the externalities of the development model, is found wanting. Modern economics has played a major role in the ‘success’ of economic growth together with the *unsustainable* development that characterises North and South. For the pursuit of growth, and neglect of its ecological consequences, has its roots in the classical paradigm which informed both market economies and state socialist ones. As the discussion of the Canadian frontier makes clear, environmental management is a *cultural* process through which not only ‘nature’ is transformed, but our understanding of it.

If we are to meet the problems presented by unsustainable development on a global scale, we need of course to go beyond the assertion that such problems are themselves socially-constructed. We need to embrace a stance for which we are ill-prepared in many ways, and one at odds with the way we formulated economic and social problems in the past. We can only assume full responsibility for our actions towards the environment by examining the underlying social commitments which govern our lives : the way we use energy and scarce natural resources, the way we value goods and services. Environmental economics at least represents one attempt to grapple with these problems, but it was created ‘in our own image’, to reflect human concerns and the preoccupations we have inherited from a world economic system that is in disarray.

The problem with our discourse about the environment and development is that it meets the criteria of yesterday. The Earth Summit in Brazil in 1992 demonstrated, as few events have, that the ‘global’ discourse about the fate of the planet was initiated in the North and, ultimately, dependent on northern goodwill. It is a ‘one-sided’ global discourse from which we are trying to wrench benefits without examining the processes which require global agreement. Sustainable development is a ‘global’ project, but our ability to find solutions is influenced, critically, by our inability to admit mistakes. The global project is being developed through parsimonious negotiations, in ignorance of the intellectual history which contributed to global problems in the first place, and makes us poorly equipped to deal with them.

The universe that Francis Codd was entering, the Canadian frontier of the 1840s, was one of confidence, inspired by the promethean spirit. As Roland Barthes has reminded us ‘myth has the task of giving a historical intention a natural justification, and making contingency appear external ... A conjuring trick has taken place; it has turned reality inside out, it has emptied it of history and filled it with nature’ (Barthes 1973 : 142-143).

IN OUR OWN IMAGE

In dealing with the environment we are dealing with myth. The burden of my argument is that acting responsibly towards nature means reclaiming that history. Latter-day Canadians view the environment through their construction of the 'frontier' and 'wilderness'; environmental economists through the lens of neo-classical economics; conservationists and developers through their own interests and social commitments. Before we can really address the problems of the environment we need to look in the mirror, to discover *why* we created nature – in our own image – in the first place.

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