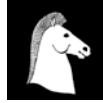




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The Origin and Construction of Knowledge

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In essence the core of these five papers is the question of the origins and ‘construction’ of knowledge. Each paper seeks to question the ‘originality’ of George Perkins Marsh in his *Man and Nature*, and more specifically David Lowenthal’s assessment of Marsh’s ideas on the environment in his magnificent new (and second) biography of Marsh.¹ Does Lowenthal claim too much for Marsh, or, put another way, minimise Marsh’s debt to others by ignoring the earlier writing on the environment? For example, the work of John Evelyn on tree cutting and smoke pollution in the seventeenth century, or the observations of Grove’s late eighteenth/early nineteenth-century colonial explorers and wayfarers, or those of Richard Judd’s ‘common-folk’, or Graham Wynn’s Titus Smith in this collection. Possibly even more important still, were the evolving ‘moral ecologies’ of many settler societies confronting new and strange environments in North America, Australia, New Zealand and Southern Africa during the late eighteenth and early nineteenth century overlooked?

The arguments for and against need little rehearsal here as the case for Marsh’s precursors is amply stated in this issue and also hinted at in Greg Barton’s recent book *Empire Forestry and the Origins of Environmentalism*, which links implicitly ‘imperialism’ and ‘environmentalism’.² Equally clear and forthright has been Lowenthal’s robust reply that these assertions beg the question as to Marsh’s originality and contribution to environmental thinking. The final chapter of his biography (pp. 404–31 and more especially pp. 419–37) and his more extended treatment in ‘Nature and Morality from George Perkins Marsh to the Millennium’³ leave one in no doubt that he believes that Marsh made a unique contribution not only as early as the 1840s through direct observation in his native Vermont, but particularly in *Man and Nature* by synthesising a wide spectrum of existing knowledge and evolving new concepts and categories of human modification and restoration, a view held widely by others.

As all academics and writers should know, the search for the origins of ideas and intellectual insights is about as frustrating as it is fascinating. Were there ever any ‘firsts’ in any field? Where does one stop in the quest for origins? As Clarence Glacken’s *Traces on the Rhodian Shore*⁴ reminds us, we can stand humbled by the antiquity of the hints, references and ideas about the place of humans in the natural world that stretch back to at least Classical times, if not before. Nor could it be otherwise, for we constantly forget in this increasingly

secular age that any quest to understand the place and purpose of humans in the world at large is basically a religious question, and next to the search for the next morsel of food – probably the oldest quest of human existence.

The origin of ideas is always a problem. As individual scholars, how often have we pondered our own originality or insight or been aware that we have stood on the shoulders of others in order to see something more clearly? I am not talking here about the unacknowledged borrowing of the work of others and passing it off as one's own – plagiarism, no less – but the inexorable (and some would say, inevitable) building of knowledge on the experience and work of others either through reference or even subconscious absorption. That after all is what (re)search is all about. In addition, with hindsight it frequently seems that 'our' idea was an idea that was contemporaneous with many others. As the phrase goes, it was an idea 'whose time had come', and several people were working towards similar aims at roughly the same time, all contributing to a cultural climate that swirls around one.

Even if we have not experienced it personally we have read about it often enough. For example, Darwin explicitly acknowledges his intellectual debt to Malthus; natural selection was based on the struggle for existence which was 'the doctrine of Malthus applied with manifold force to the whole animal and vegetable kingdoms'.⁵ This conscious use of Malthus's is paralleled by his less known and largely unacknowledged debt to Herbert Spencer, Lamarck, Diderot and his grandfather Erasmus Darwin, who could all be later quoted at him. When confronted with clear competition and anxiety at being 'pipped at the post' by Alfred Russel Wallace he rushed to get his ideas out, but he also acknowledged his debt to Wallace. In a remarkable act of intellectual generosity Wallace then voluntarily chose to let Darwin have the whole credit for one of the most revolutionary advances in scientific thought by playing moon to Darwin's sun.⁶

Another major global thinker was Karl Marx. His work teems with concepts like appropriation, praxis, creative labour, value, poverty, exploitation, that he had inherited from earlier philosophers and economists, particularly Hegel, Johann Fichte, Adam Smith, Ricardo and John Stuart Mill. Moreover, Marx had barely written a word on 'marxism' before Engels had completed *The Condition of the Working Class in England*,⁷ which provided him with much practical and intellectual ammunition. In more recent times Crick and Watson's much heralded breakthrough on DNA in Cambridge is revealed as having rested largely on being shown photographs of the work carried out by Rosalind Franklin in King's College London some years before, which showed that DNA was a double helix. Later they solved the ultimate puzzle that the two strands of the helix ran in opposite directions and were so accorded 'discovery' status. In another age Franklin's discoveries might well have gone unrecognised but modern feminist writers have sought, not only to correct the record, but also to point up how gender was an impediment to advancement in the male-dominated world of science in early 1950s Britain.⁸

Perhaps, rather than trying to attribute ‘firsts’ in environmental thinking it is more instructive to think about the ‘archaeology’ of the concept. As far as environmental impact was concerned new discussions, or ‘discourses’ in a Foucauldian sense, arose during the late eighteenth and early part of the nineteenth century. Parallel, adjacent and seemingly different, but closely related, events, facts, and ideas, were defined, redefined and transformed. They were combined to give new meaning and significance to the revolutionary idea of how humans affected nature, rather than the prevailing dominant determinist approach that posited that nature affected humans.⁹ In short, the knowledge of the degree of human change to the environment was being socially ‘produced’.

The supreme achievement of Marsh was to understand how these particular social constructions evolved, and how their diverse aspects became woven together, to produce a humanly modified earth. To understand that, we need the answer to at least three questions:

- 1) What are the reasons for the belief that human modification was an important feature of nature?
- 2) How and why was the concept conceived?,
and finally, and pertinently here,
- 3) How did it become linked indissolubly with the name of Marsh?

Undoubtedly, the germ of the idea had been about for a long time. Cicero had talked about the creation of ‘a second world within the world of nature’ – second nature, no less.¹⁰ Buffon, in volume 5 of his monumental 44-volume *Histoire Naturelle Générale et Particulière* written between 1749 and 1804, examined what he called the epochs of creation and change.¹¹ The seventh of these epochs was characterised by modifications caused by the growth and migration of population, the expansion of cultivation and the domestication of plants and animals. Buffon had no romantic illusions about nature, or for that matter about primitive societies. Nature had the power to be immense, living, inexhaustible, and even hostile. Humans brought order to nature by controlling it – by draining, clearing, dyking, domesticating and otherwise altering it. ‘Wild nature is hideous and dying; it is I, I alone who can make it agreeable and living’, he wrote. Man was ‘king on earth’ and master of nature, and by these activities brought order out of chaos and ‘improved’ nature by turning forests, thickets, and swamps into meadows and arable fields. In this way the processes of nature were improved and it was brought to its current state of magnificence.¹² He called this ‘The Epoch of Man’ and thus unwittingly had written the epitaph of the coming age.

But environmental impact is an *imprecise* ‘umbrella’ or pseudo-cognate concept which had multiple meanings that create confusion because many users assume that everyone shares the same intuitive definition. For example, it could mean acres of forest cleared, or inches of top soil washed away, or tons

of carbon emitted. At another level it could mean the integrity of nature. Thus it is both a *descriptive* term that explains a change which is structurally visible and measurable, and an *abstract* term to describe a concept of great complexity. It amounts, no less, to the 'irreducible complexity of the totality of life.' Thus, several new and interdependent discourses have arisen, of which the conservation discourse is only one and is paralleled by an 'economic discourse' on the economic value of the environment, an 'ecological discourse' on how nature works, a 'management discourse' on the methods and means of maintaining the integrity of the environments, and an 'ethical discourse' on the relevance of the human relationship to nature.

As always it is the synthesis of the many cases that produces a new analysis. Just as Marx did not simply make abstract affirmations about a whole group of problems like humans, labour, knowledge, matter and nature but examined each in its dynamic relation to the others, and above all related them to historical, social and political and economical realities, so Marsh took individual observations about human changes and examined them in dynamic relationship to the others and in specific contexts – such as woods and deserts. In a sense, *Man and Nature* was a philosophical treatise documented with technical details as the findings of emerging science, technology and direct observation were converging with the seventeenth-century conception of nature as divinely designed harmony. Marsh's expertise in linguistics and his knowledge of literature was an amazing *tour de force* in one human being, and he patiently excavated the foundations laid by his many predecessors – Buffon, Lorrain, Volney, Boussingault and Becquerel, in particular. Above all, it is his ability to absorb and synthesise that gives *Man and Nature* a significance over and above being 'first'. In that sense, the papers in this collection can be seen as simply more clues in the important quest of uncovering the archaeology of the idea of environmental impact or change.

Finally, Goethe was well aware of the excitement of finding 'firsts' and antecedents, but also of the dangers of claiming discovery in a world of ever-accumulating knowledge. At the beginning of the nineteenth century he put it well when he said:

No one can take from us the joy of first becoming aware of something, the so-called discovery. But if we also demand the honour, it can be spoiled ... for we are usually not the first. What does discovery mean, and who can say that he has discovered this or that?

NOTES

¹ David Lowenthal, *George Perkins Marsh: Prophet of Conservation* (Seattle and London: Washington University Press, 2000).

² Greg Barton, *Empire Forestry and the Origins of Environmentalism* (Cambridge: Cambridge University Press, 2002).

³ David Lowenthal, 'Nature, and Morality from George Perkins Marsh to the Millennium', *Journal of Historical Geography*, 26 (2000): 3–27.

⁴ Clarence Glacken, *Traces on the Rhodian Shore: Nature and Culture in Western Thought from Ancient Times to the End of the Eighteenth Century* (Berkeley and Los Angeles: University of California Press, 1967).

⁵ Charles Darwin, *The Origin of Species by Means of Natural Selection* (Harmondsworth: Penguin Books, 1968), p. 117.

⁶ Amabel Williams-Ellis, *Darwin's Moon: A Biography of Alfred Russel Wallace* (London: Blackie, 1966).

⁷ Frederick Engels, *The Condition of the Working Class in England: From Personal Observation and Authentic Sources* (1845).

⁸ Brenda Maddox, *Rosalind Franklin: The Dark Lady of DNA* (New York: HarperCollins, 2002). For a more wide-ranging enquiry into the attribution of 'discoveries' see R. C. Lewontin, 'Science and Simplicity', *New York Review of Books*, 1 May 2003, 39–42.

⁹ Michel Foucault, *Archaeology of Knowledge* (London: Tavistock Publications, 1972), pp. 136–40, 189–95. See also Paul A. Bové, 'Discourse', in *Critical Terms for Literary Theory*, ed. Frank Lentricchia and Thomas McLaughlin (Chicago: University of Chicago Press, 1990), pp. 5–65, for the nature of 'discourse', and Joseph Rouse, 'Interpretations in Natural and Human Science', in *The Interpretive Turn: Philosophy, Science, and Culture*, ed. David R. Hiley, James Bohman and Richard Schusterman (Ithaca, N.Y.: Cornell University Press, 1991), pp. 42–56, for the philosophical context. Foucault, *The Archaeology of Knowledge*, pp. 136–40, 189–95.

¹⁰ Marcus Tullius Cicero, *De Natura Deorum Academica*, translated from the Latin by H. Rackham, Loeb Classical Library (London: William Heinemann, 1933), II.61.154.

¹¹ George-Louis Leclerc Buffon, *Histoire Naturelle, Générale et Particulière*, 44 vols (Paris, 1749–1804). Another edition: W. Wood, ed., *Comte de Buffon, Natural History, General and Particular: The History of Man and the Quadrupeds*, translated with notes and observations by William Smellie, 10 vols (London: T. Cadell and W. Davis, 1812).

¹² Quotations from Buffon, *Histoire Naturelle, Générale et Particulière*, Vol. 12, 'De la nature, première vue', p. xiii.

