



Models of reality derived from biological intelligence

By ROBERT G. BEDNARIK

Montelle perceives a paradox between the need of applying epistemology in an investigation of the origins of human models of reality, and the proposition that exploring these models is the ultimate purpose of palaeoart studies. Nevertheless, he does not define the paradox, even though he believes that because of it I am sending 'rock art research back into the dark ages of biased a priori and unscientific methods of investigation', by adopting 'traditional epistemology'. This lacuna is unfortunate, because a discussion of this 'paradox' seems crucial to his paper, and to appreciating the full profundity of the issues he broaches. I would like to address this subject.

I am amazed how Montelle could have formed the idea that I use or advocate an epistemology of the kind he defines as 'traditional'. Is he suggesting that Quine's 'naturalised epistemology' is concerned with something other than 'the origin, nature and limits of human knowledge'? So how did he form the idea that I subscribed to a historically outdated idea of epistemology? I think concerning the origin, nature and limits of human knowledge the published record

shows that I have for decades applied a naturalised form of epistemology — as Montelle indeed suggests my intention was (cf. his second footnote). Nor do I think that Quine invented the concept, though he may have coined the term, using it in the title of a chapter in his 1969 book ('Epistemology naturalized'). However, there were many precursors to this way of thinking. For instance the Vienna Circle, active from about 1907 until its diaspora with the rise of fascism, influenced Quine and others in the Anglophone world greatly (through Rudolf Carnap who went to the University of Chicago, Herbert Feigl to the University of Minnesota, Kurt Gödel to Princeton, Otto Neurath and Friedrich Waisman to Oxford). Then there were of course Tarski (Berkeley), Popper and Wittgenstein; without them there would have been no Quinean epistemology. Neurath, for instance, whose 'ship' sums up the basis of modern epistemology rather neatly, was an important inspiration of Quine, as was Carnap. In fact the general philosophy can be traced back to Hume, even to Plato himself. Do any contemporary epistemologists really subscribe to Montelle's outdated 'traditional epistemology'?

Perhaps epistemology could be seen as a battle between empiricism and scepticism, which are both somehow based on the same dictum that man is the measure of 'everything'. The difference is simply that the sceptic or naturalist, such as I, adds, 'which is precisely why our everything is a subjective construct'. Montelle agrees with this view, but somehow fails to see that I have long held it, even though he then tacitly accepts this in most of his think piece. His ambivalence on this point is of interest, it seems to somehow reflect the paradox that any ultimate analysis of epistemology leads to solipsism (after which we 'can throw away the ladder, having climbed it'; [Wittgenstein 1961: proposition 6.54]). Yet science has demonstrated unambiguously that windows into objective reality (should such a state exist) must be assumed accessible to us.

Suppose we wished to examine the truth-function of the elementary proposition (*sensu* Wittgenstein) that science analyses phenomena, *vis-à-vis* origins of human models of reality. Can Montelle provide a better, alternative proposition than mine? Suppose further that it is desired to explore these models through the surviving precipitate of human symbolisms and such. Would Montelle object to this? I think not, judging from the tenor of his recent work. Therefore his objection seems to concern not the two propositions, but the epistemological articulation between them. That is an entirely valid and very pertinent concern, but I need to point out that I have addressed on various occasions the apparent contradiction, or paradox. For instance I stated in one of the main papers Montelle reviews (and on various earlier occasions) that '[t]he deficiencies of a conceptual model of reality cannot be perceived from within such a model, by uncritical recourse to the biological intelligence that is its own

product' (Bednarik 2002). In other words, I seem to have defined the difficulty with which Montelle struggles. This is therefore a crucial statement and deserves closer attention. Not only does it express the problem in the greatest possible economy (but with precision, nevertheless), it also embodies the solution to it. The corollary is that the paradox is resolved 'by *critical* recourse to the biological intelligence that is its own product'.

So the answer to Montelle's concern is this: unless we comprehend the severe limitations of the intelligence of our species, unless we understand that we are in no cognitive position to access reality, any scientific endeavour is misguided, and that includes the search for how our cognition arose. This conceptual epiphany is called humility, something often lacking in academia. I would like to illustrate the point with the concept of 'human awareness' or 'consciousness', which is also crucial to the quest for the basis of our subjective constructs of reality. There is a belief that we humans possess this thing 'awareness'. This seems to refer to various different phenomena, such as proprioception, the ability of an organism to monitor the proprioceptors located in muscles, tendons and joints. Introspection could be cited (Lyons 1986), but is epistemologically controversial. 'Self-awareness' is sometimes cited as a distinguishing characteristic of humans, which is a glib nonsense, often intended to denote a humanist demarcation between humans and other animals. Self-awareness can reasonably be assumed to exist or have existed in at least a dozen species (all known and unknown hominins, for instance, as well as in chimps and bonobos), but more importantly, the level of self-awareness in a modern human is quite shallow. Some might call it pathetic, most contemporary humans are probably unaware their 'awareness' is largely the result of unjustifiable *a priori*s (e.g. religious, ideological, ontological, academic). Defining their mental state as 'self-awareness' could be a misuse of the term. The issue can only be resolved by recourse to neuroscience and the cognitive sciences, which effectively renders humanistic definitions superfluous.

Be that as it may, I would question Montelle's pronouncements concerning human autonomy: how autonomous modern human 'consciousness' really is needs to be decided by neuroscience, and certain levels of autonomous consciousness do exist in animals other than us. Therefore the terms 'autonomous', 'consciousness' and 'self-awareness' are all defined either by the *a priori* that humans differ qualitatively from all other animals (which I reject, as surely every biologist does), or their definition is so rubbery that they need to be regarded as undefined variables. It seems to me that a so-called Neanderthal, as he painted in Chauvet Cave, probably possessed more intellectual autonomy than members of our pompous subspecies do today, so we may be on rather thin ice here.



Seen from that perspective any confidence in the ability of *H. sapiens sapiens*, at this point in its cognitive evolution, to have access to a significant level of self-awareness would be misplaced. As an 'intelligent' species we remain in a quagmire of contingent metaphysical shortcomings, and it should be self-evident that our only hope is the promise of epistemologically sound science, which derives more from the musings of the Vienna Circle and associated central European thinkers than from any American philosopher. And I say that not because I was born in Vienna, but because it is historically inescapable. It is equally inescapable that I bear the mental imprint of that school of scientific scepticism, of 'naturalised epistemology', because this is abundantly evident from my published work. Naturalism has had its opponents, mostly from the humanistic or 'social scientists', who are *not* scientists and who see what they call 'reductionism' as a threat to their very existence. But as already T. H. Huxley, 'Darwin's bulldog', observed, 'the struggle for existence holds as much in the intellectual as in the physical [biological, I assume he meant] world'. And all those who have opposed a natural epistemology over the course of the 20th century have already lost that struggle, *but have yet to learn this*. In the 1990s, that form of epistemology re-emerged with a new-found dynamism (so well summarised by Plotkin 2002, who identifies the causes painstakingly), which is what I referred to in various of my publications on epistemology in the 1990s, when I called for a renaissance of epistemology in palaeoart research. And I had nothing in mind other than naturalised epistemology — naturally!

Language sets everyone the same traps; it is an immense network of easily accessible wrong turnings. And so we watch one man after another walking down the same paths and we know in advance where he will branch off, where walk straight on without noticing the side turning (Wittgenstein 1963).

Incidentally, I would question Montelle's formulation that we 'mentally project constructed images onto naturally occurring shapes'. I think it works the other way round: we 'discover' in a naturally occurring shape a visual resemblance with a neurally established pattern of an object that features prominently in our perception, most frequently an animal (Bednarik 1986, and see 2003b concerning visual ambiguity issues; also Hodgson 2003). This does not, however, impact on the complete validity of what Montelle says about the effects of separating motif from context, which has been a major obstacle in practically all rock art research. Indeed, most of what Montelle presents here has my complete support, in spite of the minor points I have raised above — and in particular I welcome his academic courage in advocating a paradigmatic shift that all of archaeology seems to simply abhor. It is writing of the quality Montelle presents that makes the production of this journal a particularly worthwhile effort, and I thank him for raising the level of RAR

debates to such new heights.

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