

THOUGHTS AS TOOLS: THE MEME IN DANIEL DENNETT'S WORK

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Most people interested in memes know of Daniel Dennett, at least by name; he seems to be the resident philosopher-mascot and is often mentioned in the context of memetics. It is therefore worthwhile to examine more closely his work in philosophy, to see how it relates to his memetics. Originally, I was going to discuss some of the objections to memetics raised by orthodox biologists, and how Dennett's ontology might deal with them. This proved to be beyond the scope of this paper, however, and instead I have chosen to focus specifically on the claim that memetics is reductionistic. I shall examine first Dennett's naturalism, then how this interacts with the alleged reductionism. Next I discuss the apparent threat of memetics to humanity's self-image, and finally some genuine problems posed by Dennett's treatment of memetics.

THREE NATURALIST SLOGANS

Daniel Dennett loves stories, metaphors and thought-experiments, and so it is suitably Dennettian to start this essay with a cartoon. In *Consciousness Explained* Dennett reproduces an illustration from *American Scientist*: two men stand before a complicated mathematical proof on a blackboard. At either end of the proof are the cartoonist's idea of arcane mathematical symbols, but in the middle the words "Then a Miracle Occurs". One of the two gentlemen suggests to the other, "I think you should be more explicit here in step two".

A little further on in the same book, the very first ground rule for Dennett's explanation of consciousness is "No Wonder Tissue allowed"; and a third slogan is provided in *Darwin's Dangerous Idea*: Skyhooks or Cranes? Skyhooks are miraculous forces postulated simply because of a failure to imagine how natural, material forces could produce the object of study. Cranes, on the other hand, are just such natural forces, and thus thoroughly respectable when used in explanation.

The three are equivalent: No Wonder Tissue Allowed, No Miracles, and No Skyhooks. In short, to co-opt a more familiar and less cute slogan, *Natura saltus non facit*; and therefore *nobis saltus facere non licet* in our explanations. Dennett's world-view is explicitly naturalistic; everything, including human consciousness, is to be explained in natural, not supernatural, terms. It may well turn out that science (or, if you prefer, Science) cannot explain everything. Until this is actually *shown* to be the case, however, Dennett will keep working away at his scientific edifice, forgoing miracles and skyhooks for slower yet more reliable cranes.

It is this "Standard Scientific Epistemology and Metaphysics" that Dennett believes to have led to his views on consciousness, intentionality and free will [2]. He supposes that he is simply working out the implications of "everyday science", what any materialist is led to believe. More importantly for present purposes, these implications include the *memetic* stance, as the best non-miraculous explanation of consciousness and culture.

It is also this "scientism" (better called naturalism) that has raised strong opposition to his whole enterprise. Dennett himself puts it well:

Those who see themselves as outside the gates of the scientific culture (which of course includes not just scientists, but all the science-literate, science-friendly people) see it as approximately as threatening to their own sense of power as Martians with advanced technology beyond our ken would seem to us. [9]

Or, as Bo Dahlbom says,

When peddled second-hand...Dennett comes off as something of a villain: a science-crazed mechanist, with a bleak and inhumane world-view, a rather superficial engineer compared to deep and serious thinkers like Thomas Nagel and John Searle" [2]

Indeed Dennett has concocted some disturbing descriptions of the memetic picture. The brain, he says, is "a sort of dung heap in which the larvae of other people's ideas renew themselves" [5]. Now of course the brain is not *really* a dung heap (at least *Dan's* isn't), but the image remains. If Dennett himself, memophile as he is, finds memetics at first "unsettling, even appalling" (*ibid.*), how will memephobes react?

Predictably enough, not well. Consider, for instance, the following from Richard Braddock:

The meme theory is yet another attack on human subjectivity. Our complex social development is first simplified into technological progress, then reduced to culture, and finally explained away through the biology of memes. Our creativity and imagination as humans is once again denied. [1]

We can take Braddock as spokesman of a type of opponent not just to memes, but to any materialist account of humanity. Dennett, following Owen Flanagan, calls them "the New Mysterians" [5] because they are effectively arguing that some of the universe (specifically, the bit called "us") will *always* be inexplicable by science. The aforementioned Searle and Nagel are themselves leading advocates of this anti-materialism; and both are long-time foes of Dennett.

As shown by Braddock, the new mysterians generally have two concerns about memetics. The first is epistemological: memetics "explains away" culture and consciousness, and thus is not really an adequate theory. The second is moral/aesthetic: even if memetics were right, it would have such terrible consequences for our sense of creativity and freedom that we are better off leaving that Pandora's Box closed. Both concerns can be evaluated by with reference to Dennett's work.

WHAT'S WRONG WITH REDUCTIONISM, ANYWAY?

Every field has its own peculiar four-letter words that are substituted for genuine argument; once applied to an opponent, they leave no apparent need for further dispute. The list of dirty words in biology includes Lamarckism, vitalism, essentialism and, increasingly, reductionism. Dawkins remarks [4] that "a kind of Æholistier than thou' self-righteousness has become fashionable" in evolutionary theory. Dawkins should know, having been called a reductionist more often than anyone except perhaps Skinner, and Dennett himself.

In *Darwin's Dangerous Idea*, Dennett introduces a distinction between "good" and "greedy" reductionism. Good reductionism is basically materialism, a belief that material causes are necessary and sufficient for any phenomena. This sort of ontological reductionism does not, however, entail a commitment to theory reduction, the view that we should replace biology by physics. The difference between the two is well documented in philosophy of science.

Greedy reductionism, on the other hand, is when explaining is replaced by explaining away, "when overzealousness leads to falsification of the phenomena" and a denial of "the existence of real levels, real complexities, real phenomena" [7]. The explanatory paradigm is *too* simple and, accordingly, the data have to be squeezed and mangled beyond recognition to fit. This is the marrow of Dennett's earlier criticism of Skinner [6], that he mistakes good reductionism for

greedy, and reductionism *qua* materialism for theory reduction.

In a sense, the real sin of greedy reductionism is against what Dahlbom calls "Dennett's very modern, very American, belief in hard work" [2]. The greedy reductionist is just lazy, glossing over complications and inconsistencies for the sake of her one simple, better yet simplistic, idea. With these important distinctions in mind, then, we can now ask what is meant by calling memetics reductionistic.

It is fairly clear what is meant by those other biological insults, all of them conjuring up the bad old pre-Darwinian days. Reductionism cannot, however, be such an insult, for while neo-Darwinism is definitely opposed to Lamarckism, vitalism and essentialism, it is by no means so obviously opposed to "reductionism". Neo-Darwinism itself could easily be labelled reductionist, insofar as it "explains away" complex adaptations by "mere" changes of gene frequencies in populations; and Dennett calls "Darwin's dangerous idea reductionism incarnate".

It cannot be therefore that when memetics is called "reductionist", what is meant is simply that it is materialist. We are all, I hope, materialists here, and if anyone wants to argue that we are begging the question by supposing that *some* materialist explanation of culture and mind is possible, then I agree. *Nolo contendere*: just as Dennett begs the question by calling good reductionism *good*, let us beg the question of materialism.

What is interesting is not the extreme claim that materialism itself can never explain mind/culture but the milder claim that *memetics* is not an adequate materialist explanation, that it is *greedy* reductionism. This is at the heart of Braddock's criticism, for he sees memetics as explaining away culture as the result of biology. If this were the case, then we should expect memetic papers such as "The Reproductive Advantages of Sonnet XVIII".

Yet memetics is not that sort of "biological reductionism", and must not be confused with socio-biology in the style of Edward O. Wilson. Rather, it seeks to explain human behaviour largely as the product of a new evolutionary domain which is not biological, although it builds on the biological. Precisely because it involves memes, it does not explain everything as due to biological foundations. Behaviour is explained by its relation, not as in socio-biology to genetic reproduction, but to memetic reproduction; a crucial message of memetics is that the interests of these new replicators do not always coincide with those of the old.

It is not necessary, however, to confound memetics with socio-biology, to claim that it is greedy reductionism. One still might maintain that the mechanism of natural selection of memes is not powerful enough to explain mind/culture. How *could* memes possibly explain all the diversity of culture, as well as the subjectivity of consciousness?

Dennett sees this sort of argument as simply intellectually bankrupt. It is something he has long fought in philosophy; he calls it "Philosopher's Syndrome: mistaking a failure of imagination into an insight into necessity" [5]. To those who cannot understand how complexity can emerge from a simple process, Dennett replies: "Try harder". His work in philosophy of mind is largely devoted to showing that we can imagine such things, if only we try hard enough. Similarly, in much of *Darwin's Dangerous Idea*, Dennett tries to show that evolution by natural selection can explain natural history, without appealing for divine design.

Dennett likes to compare the mind to a computer, even calling it a "serial virtual machine implemented on the parallel hardware of the brain" [5]. Such comparisons are widespread in cognitive science, and John Searle parodies them by reminding us that similar comparisons

were made to hydraulic systems and telephone switchboards when those technologies were new and fashionable [12]. Yet Searle has missed an important point: in all cases, the comparisons have not arisen because the Artificial Intelligentsia see everyone around them as zombie-like robots. Rather, it is precisely because they appreciate just how complex and impressive that technology can be, while having a thoroughly material basis.

Similarly, Dennett does not describe the mind as a meme complex because of a dehumanised view of humanity, but because he recognises the potential of the memetic stance to explain seemingly non-adaptive human behaviour. More importantly, he has learnt from Darwin that simple algorithms can create complex results, or in his own terms, that enough Cranes can simulate a Skyhook. Anyone suggesting that *au contraire* a memetic approach "reduces" or "explains away" mind/culture obviously has both an impoverished sense for the richness of biology and evolutionary theory, and a poor imagination.

IS MEMETICS AN ANTI-HUMANISM?

All this should suffice to show that memetics is not *a priori* greedy reductionism. Whether or not a workable science of memetics is possible is something only to be determined by the efforts of pioneer memeticists. This still leaves unresolved the other concern for the mysterians, that we should be worse off if memetics were successful. They argue that the more our "manifest image" of ourselves, as experiencing and effective agents, is affected by scientific investigation, the more our "creativity and imagination" is denied.

Now this sort of concern was widely voiced against Dawkins' *Selfish Gene*, and prompted a detailed response in Chapter 2 of *The Extended Phenotype*. There Dawkins criticises the "belief that genes are somehow super-deterministic". Even without considering this response, we can see that both Dawkins and Dennett identify with their memes, not their genes. Dawkins says

"We are built as gene machines and cultured as meme machines, but we have the power to turn against our creators. We, alone on earth, can rebel against the tyranny of the selfish replicators." [3]

and Dennett

there is, in the basement, a persisting tension between the biological imperative of the genes and the imperatives of the memes, but we would be foolish to 'side with' our genes [5]

If we are more closely related to our memes than our genes, then, we might ask with Dennett "Have we broken the tyranny of the selfish genes, only to be taken over by the selfish memes?" [7]

The problem with this question is that it misplaces our selves, where the "we" apparently controlled by our memes is supposed to be. For according to Dennett, "our selves have been created out of the interplay of memes" and

it cannot be "memes versus us," because earlier infestations of memes have already played a major role in determining who or what we are. The "independent" mind struggling to protect itself from alien and dangerous memes is a myth.

Finally, "what makes a person the person he or she is are the coalitions of memes that govern--that play the long-term roles in determining which decisions are made along the way". [7]

Thus to think that in memetics we hand over our self-control to our memes instead, who then act as the Sinister Puppet Master, is to create an independent self that never has existed. It is as if we were to say "Who is responsible for what I do, is it my *Îself*? How, then, can *I* also be responsible for my actions, when my *Îself* is?" We *are* our memes, and the memes are running the show; therefore, so are we.

Moreover, the memetic stance is just another aspect of Dennett's broader strategy. In *Elbow Room* Dennett describes how as a student he had intended to be a sculptor and that he has "never abandoned the methods [he] developed in the studio, but simply changed media". He is making a different point, but this is also exactly how he sees ideas, as something to work at and something to work *with*. Ideas are tools and material for those tools. In fact, that whole book deals with the question of free will by studying our intuitions and how they mislead us, or rather how philosophers mislead us and each other by their "intuition pumps".

Dennett is in a general sense pursuing the Wittgensteinian project, revealing how we are trapped by "word games": the title of one chapter in *Consciousness Explained* is "How Words Do Things With Us". Dennett is trying to gain an understanding of ourselves, and to dissolve constructed mysteries. His is also similar to the Freudian project: "our therapeutic aim...[is] to restore the ego...to give it back the command over the id which it has lost" [11].

Far from crippling us with a sense of our own impotence, then, memetics should empower us. For it is not just as a science of thought that Dennett is interested in it, but also as a *technology* of thought. This conception of thoughts is one that encourages us to take control of them, and use them to their full advantage: if we can now get a science (in the form of memetics) of the ideas that rule us then, according to Dennett, we will have that much more power over ourselves and our environment.

TWO DEBATABLE ISMS

Before concluding, I should like to say a few words on the possible limitations of Dennett's work, or at least indicate the underlying biases that colour his discussion of memes. For in spite of his claims, mentioned above, to be just a believer in traditional science, Dennett holds some unorthodox views on evolution. There is, for instance, what he himself admits to be a "shocking view", that we must apply the intentional stance to evolution in order to understand it; in other words, we need a personified Mother Nature.

Those of us particularly who are not biologists, and thus learn their evolutionary theory second-hand, should be careful not to take Dennett's orthodox credentials at face value. My questioning the two following aspects of Dennett's approach to memetics should not be interpreted as disagreement, but merely as a note of caution. Dennett does not *necessarily* have the right framework, and we need not only to decide for ourselves, but also to realise that there is a decision to be made in the first place.

I. Adaptationism This is neither the time nor place for a dissertation on the pros and cons of adaptationism. It suffices to point out that the debate over it is still a live one. Dennett's book is called Darwin's Dangerous Idea, not evolution's dangerous idea. He has correctly identified the central tenet of Darwinism as natural selection; but we must recognise that natural selection is not all there is to evolution. There may be other important mechanisms of memetic evolution, memetic drift, epimemetic constraints; or perhaps all memetic explanations will be just-so

stories. Acknowledging the possibility of the former, however, does not mean abandoning materialism; the recognition of *other* Cranes does not equate to holding out for Skyhooks.

II. Atomism Similarly, gene selectionism is by no means universally accepted in biology. We need not therefore expect that the only fruitful research strategy in memetics will be an equally atomistic one, that focuses on individual units of memes. Organism-centred selection worked for a long time in evolutionary biology; by analogy, a memetics centred on meme-complexes rather than single memes might be equally successful, not to mention easier to manage.

There is much that the memeticist can better understand from a familiarity with Dennett's work. In the first place, the firm situation of memetics within the naturalist tradition. Secondly, exactly how memetics is "reductionistic", what this entails, and what it does not. Memetics need not "explain away" anything, or threaten our moral ideas of self-control. While there may also be dangers in reading Dennett as gospel, these are not insuperable and may be overcome. Dahlbom calls Dennett an optimist [2] and ultimately his memetics too is optimistic. Via the technology of memetics, we should be even more able to take control of our selves, the encouragement of which has been Dennett's project all along.

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