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Being Scientific About Our Selves

Abstract: *We cannot really understand other people unless we make some serious effort to understand ourselves as well. This is well known in ordinary life, but it sets a problem for any psychology which aims to be 'scientific' by the narrow standards which define that term today. Those standards have sharply narrowed the notion of 'science' to exclude reference to anything subjective. By contrast, the older, wider concept of it simply required disciplined, methodical thought, which could of course be shown in many kinds of enquiry (for instance history and language).*

The current narrowing is perfectly acceptable in the physical sciences but it cannot accommodate psychology. This has become clear from the dismal failure of behaviourism, which was carefully designed to implement it. It is that failure that has made room for the current upsurge of interest in consciousness. This upsurge gives us an enormous opportunity for better thinking. Yet we shall waste that opportunity if we remain so obsessed with a narrow notion of what constitutes 'science' that we merely go on devising thought-systems which look vaguely scientific (as behaviourism did) instead of ones that actually help us to understand human life. A striking example of such an etherial, quasi-scientific system may be seen in 'memetics'.

'Science', Old and New

Philosophers are well known to like talking about ambiguous words. But I shall not apologize for drawing attention here to two words, two ideas which are causing so much trouble at present that they are surely worrying most of us already. The first one is *scientific*, the second is *self-knowledge*.

To start with *scientific* — This word now has two distinct meanings contrasting it with two distinct sets of opposites. On the one hand it can be a quite general word of praise, meaning simply *thorough* and *methodical* as opposed to casual, vague or amateurish. In that sense historians or linguists or logicians can be called scientific — or unscientific — just as properly as astronomers. On the other hand, the word can also be a strictly factual one meaning 'concerned with the *natural* sciences' as opposed to other studies. In this sense (but not in the other) we can talk about *bad science*. In this sense, even a bad and casual book about astronomy counts as a scientific

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Journal of Consciousness Studies, 6, No. 4, 1999, pp. 85–98

book, but a good and thorough book about history is *not scientific*. This, of course, is the familiar principle on which bookshops and libraries organize their shelving.

This is not a trivial ambiguity. It is part of a general confusion about the kind of praise that is conveyed by the notion of science, a confusion which is causing a lot of trouble. When the two meanings get mixed, it becomes obvious by definition that the methods of the natural sciences are not just the best methods but the only ones that are intellectually respectable. They are therefore all that we need and can rightly be described as *omniscient*. Thus Peter Atkins (1995):

Although poets may aspire to understanding, their talents are more akin to entertaining self-deception. They may be able to emphasise delights in the world, but they are deluded if they and their admirers believe that their identification of the delights and their use of poignant language are enough for comprehension. Philosophers too, I am afraid, have contributed to the understanding of the universe little more than poets. . . . They have not contributed much that is novel until after novelty has been discovered by scientists. . . . While poetry titillates and theology obfuscates, science liberates (pp.123–4 and 129).

This idea that ‘scientific’ methods are quite simply the only good methods and should therefore be extended to cover every subject-matter, including our understanding of ourselves, was put forward early in the nineteenth century by Auguste Comte and others. It is still a powerful faith, devoutly preached by many people today. So far as it is true at all, it depends entirely on what you mean by ‘scientific’. Before considering this, however, I want to say a word first about the target area, the site to which it is now proposed to extend this empire — about my other troublesome concept, *self-knowledge*.

Knowing Ourselves

Self-knowledge is a notion that is not always fully examined when academics talk about ‘the self’ because that academic self is often taken to be pretty abstract, and so far as it is specified the discussion can often be treated as being about other people’s selves rather than one’s own. But in everyday life self-knowledge is rather an important topic, one that crops up often in our personal affairs and has a strong moral bearing. Like other reflexive words such as *self-deception* and *self-control*, self-knowledge raises puzzles (which do interest academics) about how subjects can somehow become their own objects — who is doing the knowing or controlling and who is being known or controlled? Such words make it clear how terribly complex the human subject is, how many questions are involved in trying to understand it.

This complexity is something that we all know by hard experience because, of course, we often find it very hard to understand both other people’s behaviour and our own. But in everyday life we usually accept that we still have to attempt this difficult kind of understanding. Self-knowledge isn’t an optional subject like Russian or trigonometry which we can drop if we find it hard. Failure to know ourselves can be a serious moral fault. And one reason why it is a fault is that it blocks our understanding of other people. The sort of basic sympathy and empathy that we need in order to understand others does not work unless we are attentive to our own motives and reactions too. Without that self-critical attitude about how we are behaving to them, we can’t hope to understand how they are behaving to us. So, surprisingly enough, in the enterprise of understanding other people, *cognitive success depends on moral attitude*. To

get far in this study, you need fairness, honesty, maturity and indeed generosity. This means that there are facts which we cannot reach unless we first get the values right. From the view of facts and values that has been widely accepted for much of this century, that is rather surprising

This surprising fact also applies, however, to more general views about ourselves, views about the kind of entity that we and all other human beings are. What methods do we need for this study? I'd like to quote here a poem by the seventeenth-century poet Sir John Davies because I find the way he uses the word 'know' in it particularly interesting:

I know my soul hath power to know all things,
Yet she is blind and ignorant in all.
I know I'm one of nature's little kings,
Yet to the least and vilest things am thrall.
I know my life's a pain and but a span,
I know my sense is mocked in everything,
And, to conclude, I know myself a man,
Which is a proud and yet a wretched thing.

(‘Man’, from the *Oxford Book of English Verse*)

The Importance of Importance

Should we be sceptical about Davies' claim to knowledge? Should we doubt whether he really does know these things and ask for further research? Ought we to say 'but this is only folk-psychology; it remains provisional till more work has been done about the cell-biology and the neurones?' This would surely not be very sensible. The facts that Davies mentions are indeed well enough attested to count as 'known'. They are tacit knowledge. Further detailed evidence for them would not enrich what he is saying and the issue he raises does not concern the details of the facts but how we should respond to them. He is puzzled about the appropriate attitude to this curious self, an attitude which of course is not just a state of emotion but a considered, thoughtful response. He points out that there is good ground, not just for believing that human life is mixed and confusing in this way, but for taking a realistic, non-evasive attitude to its mixedness as a step to dealing with it better.

This involves a moral judgement about how we should proceed, a judgement about what is important, what we should attend to. That kind of judgement is always to be found at the root of metaphysics, including the apparently sceptical kinds of metaphysics (like materialism and determinism) which are sometimes inclined to deny that they are metaphysical at all. It is a judgement about what matters and what does not. Value-judgements of that kind are needed for selection. Without them, we could not form any general view about the human condition, because we could not decide which of a thousand patterns to pick out and study from the welter of experience.

These value-judgements about importance determine, among other things, what limits we set to the self itself, how far we think it extends and how sharply we separate it from what is around it. A self is not a given distinct object like an egg. For instance, the extreme individualistic model of selfhood — the social atomism which underlies Social Contract thinking — treats each self as independent, radically split off from its fellows. But it does not do this on factual grounds. It is not a scientific discovery that

selves are in fact separate and egg-shaped. It arises chiefly out of moral indignation at the oppression which has often resulted from a more organic, hierarchical view of people's relations. Social atomism flows from deciding that the bad consequences of hierarchical systems are so important that the conceptual scheme underlying them must be ditched and replaced by a more separatist one.

At the other extreme, the Buddhist view that all separateness is an illusion — that individual selves are more or less arbitrary divisions across the continuum of life — also arises, not out of factual observation, but out of a sense of the harm we do by our tendency to split ourselves off from one another. The different value-judgements that underlie these metaphysical systems are essential to each of them, and besides deciding what counts as part of ourselves, these judgements also decide how we conceive the rest of the surrounding world. The independent self of the social contract lives in a world modelled on that of seventeenth-century cosmology. It is a solitary atom gyrating in a social void, a radically solitary rational entity moving among a crowd of others with whom it has no real connection. This is a world, incidentally, which does not easily find room for non-rational humans such as babies and one which can scarcely accommodate non-human nature at all. The Buddhist self, by contrast, lives in a world without frontiers and must recognize a great range of others, human and otherwise, as literally continuous with itself.

These general ways of conceiving the world obviously make an enormous difference, not just to our notions about how we ought to act but also to our views about which facts we ought to attend to and what methods we should use in thinking about them. By affecting our selection of topics they alter our factual view of the world as well as our moral view about how we must deal with it. But neither of them is more scientific than the other, in the sense in which scientific is a term of praise. In that sense, either of them can be scientifically or unscientifically developed. We cannot use the idea of science as a criterion for judging between them.

What Kind of Objectivity?

I have spent some time on this entanglement of fact with value because I want to make clear at once how impossible it is to apply to these topics the kind of objectivity which we associate with physical science. That objectivity requires that all observers should stand at the same point of view and abstract from their individual differences. But this kind of abstraction simply cannot be used when we are talking about human affairs. There is no way in which we can collect facts about any significant aspect of human life without looking at them from some particular angle. We have to guide our selection by means of some value-judgement about what matters in it and what does not. And these judgements inevitably arise out of each enquirer's moral position. When they raise difficulties, they need to be justified by explaining that position, not by ignoring it.

Social and psychological theorists who claim to be operating in a value-free vacuum outside morality are notoriously deceiving themselves. They simply haven't noticed their own biases. I think it has now become clear that this was the situation of the behaviourist psychologists who were so influential during much of the last century. Watson and Skinner claimed that, in order to be scientific, psychologists should study

people *objectively* in the sense of viewing them solely as physical objects, that is, by simply ignoring their subjective point of view.

This was not just a proposal for a new scientific method. It was a demand for a new and very peculiar moral attitude to human life. In his last book, *Beyond Freedom and Dignity*, B.F. Skinner eventually made that moral attitude explicit, disclaiming all esteem for the active, creative aspect of human nature and openly asserting the right of psychological experts to engineer it as they thought best. The exposure of these views probably played a large part in the subsequent discrediting of his methods. Until then, however, the idea that a 'scientific' approach demanded this quite impossible abstraction from all views on what mattered in human life was widely accepted. It did not only allow psychologists to consider themselves scientists. It had the further and deeper advantage for them of exempting them, as professionals, from the painful efforts at sympathy and self-knowledge which — as I'm suggesting — normally form a crucial part of our attempts to understand other people. It allowed them a kind of detachment in which they could make a positive merit of not knowing how the people whom they studied felt.

This strange affectation of detachment and ignorance about human experience was a good deal more extreme than what Comte and the other pioneers had in mind when they called for the founding of 'social sciences' in the nineteenth century. They simply wanted to use experimental and statistical methods drawn from physical science in the study of social affairs so as to make it more systematic. But they took it for granted that these methods could be added to existing ways of thought which were already useful there. For them, the term *scientific* mainly had the general meaning that it had held throughout the Enlightenment. Primarily it meant thinking out problems afresh for oneself rather than relying on authority or tradition. They never envisaged throwing out all existing historical and philosophical methods and replacing them by ones drawn from physical science. Notoriously, Comte himself, when he talked of throwing out religion and metaphysics, only meant throwing out other people's religion and metaphysics and replacing them by better ones of his own invention.

In general, then, these pioneers wanted to combine all useful methods. Thus the new social sciences started life as *sciences* in the old general sense — methodical forms of thought, parallel to history or logic, which would use whatever kinds of reasoning seemed helpful in handling their subject-matter. For instance, social scientists who discuss the scope of their own study, or its history, obviously cannot carry on that discussion by using the methods of physical science. What they are then doing is history or philosophy, whether they notice it or not. Thus Comte himself was not (in the modern sense) a scientist but a philosopher, though not a very good one. Similarly, people today who still echo Comte's philosophical manifestos, as Peter Atkins does, are not doing physical science but are themselves philosophizing, even if not very well.

Popper's Guillotine and the Destiny of Ideologies

What, then, finally broke up this hospitable, inclusive idea of 'science'? The fatal factor seems to have been the steadily growing prestige of the physical sciences themselves. That growth resulted in these sciences acquiring the name of 'science' (par excellence) instead of the former awkward name 'natural philosophy'. And since this

prestige accrued chiefly to physics itself — to the enormously popular Newtonian, mechanistic model which dominated the eighteenth-century imagination — physics in turn was seen as the standard model of a science. This notion seemed sensible enough before the great variety of methods that were needed for other studies were noticed. It has persisted, however, without much examination, long after that variety became known and ought to have put it out of business. Thus Rutherford confidently dismissed all studies other than physics as ‘stamp-collecting’ and Crick (with still less excuse because much later) dismissed them as ‘social work’.

What is this really supposed to mean? Physics is a highly abstract and specialized study. It owes its whole success to having deliberately withdrawn from general discourse in the time of Galileo. Obviously, most of the questions that we have to deal with arise outside its province. They cannot be stated in physical terms. For instance, if they are biological questions they need concepts like organism, organ and function, plant and animal, flower and fruit. So how could physics be expected to answer them? Biology is not just a station on a railway-line leading to physics; it is a country on its own on the wider map of explanation. Lewis Wolpert lights up this impasse strikingly in a recent book:

How can we distinguish between science and non-science? . . . There is a question as to whether the social sciences are really science. . . . The peculiarity of the social sciences is the complexity of the subject-matter. . . . There is little possibility, for instance, of doing experiments equivalent to those of physics, say, in which it is characteristic to try to vary just one variable at a time, keeping others constant. . . . [Yet] in a sense, all science aspires to be like physics and *physics aspires to be like mathematics* (Wolpert, 1992, pp.124–5 and 121; emphasis mine).

Evidently, the aim of that last aspiration is to have no subject-matter at all. In that kind of purity, mathematics is certainly king. But how could purity of this sort really be the aim of science as a whole? If it were, the claim of science to be explaining the real world would have to be abandoned, and it would certainly be in no position to criticize other methods which did provide such explanations.

Actually, however, this talk of aspiration seems to have a rather interesting aesthetic origin. The familiar claim that ‘all the sciences aspire to the condition of physics’ is modelled on Walter Pater’s remark that ‘all the arts aspire to the condition of music’. In both cases, the point seems to rest on abstractness, freedom from the limitations imposed by a particular subject-matter. Whether or no this puts music above the other arts, it is totally mysterious how it should be supposed to put physics above other enquiries. However, the popularity of the Newtonian model did invest physics with a kind of glamour which, during the nineteenth century, led a growing number of prophets to jump onto its bandwagon by claiming that their ideologies were *scientific* — not just in the old sense of being methodical but in the new one of being founded in some way on the physical sciences. Comte himself did this and he had many influential followers, notably Herbert Spencer, who claimed scientific backing for Social Darwinism. Marx also notoriously thought of his world-view as science-based and Engels strongly developed this claim, making the connection with physical science a central plank of later Marxist thought. Freud too relied heavily on claiming scientific status. All these prophets conceived ‘science’ primarily in general terms as Enlightenment thinking, the opposite of blind tradition and superstition. But

they also believed, more specifically, that modern biology and physics directly underpinned their own social and psychological theories.

This proliferation of rival 'scientific' world-views was bound to bring its nemesis. Readers could not go on for ever adjusting themselves, like chameleons, to match all the different colours on this intellectual Turkey carpet and still call the result 'science'. Indeed it is rather surprising now to see how long the plurality was tolerated. Throughout the first half of the twentieth century intelligent people worked amazingly hard to combine obviously incompatible ideas together provided that they were all labelled 'scientific'.

After the second world war, however the guillotine finally came down. Karl Popper then pointed out that the Marxist and Freudian ideologies were not actually constructed by the methods of the physical sciences and could not therefore be described in modern terms as *scientific*. What was unfortunate was that, at this point, there did not follow any proper investigation of what world-views of this kind were if they were not branches of science and what other standards they ought to be judged by. People seem to have been extraordinarily blind to the fact that Marxism and Freudianism were not primarily scientific theories but ideologies, comprehensive attitudes to life, with a strong moral component as well as their factual claims — and that there were many other such attitudes available between which we needed to choose. Discussion of such rival attitudes to life is not a vice nor a waste of time. It is an intellectual necessity, particularly in times of violent change. Popper's work, however, seemed to outlaw all such argument from the province of thought, ruling that, since it was not science, it was *metaphysics* — a word which he used vaguely and which many of his audience took to mean simply nonsense.

There followed a jubilant spasm of unrepentant scientism, not just in the sense that people put too high a value on science in comparison with other branches of learning or culture, but in the wider sense they often forgot that those other branches existed at all. This narrow vision now became explicit. Its prophets tend still to assume, as Atkins does in the recent article I have quoted, that the only available forms of thought other than 'science' are religion and parapsychology. They make no mention of history, law, language or logic and if they mention the social sciences at all they speak of them as dubious entities on the borders of science proper, becoming respectable only when they manage to imitate real science closely. Thus the strange composite intellectual entity called Science now turns out to be not just omniscient but unrivalled, the sole representative of rational thinking.

Now of course this crude view is not universally held nor even often defended explicitly today. Many scientists hate it. Atkins' open triumphalism is somewhat unusual. Yet I think he does us a service in making this idea explicit because as a myth, an imaginative pattern underlying more moderate thought, it still is very influential. Irrelevant notions about how to make thought 'hard' and scientific by imitating physical science have repeatedly distorted the social sciences and many other areas of our thought, notably psychiatry. Behaviourist psychology itself was clearly one such imitative project. It has now been discredited because of its inefficiency, and so have many of its fellows. In fact, the enterprise of making all our thought on human affairs conform to physical patterns has proved dauntingly hard. Yet the idea that we must somehow do this difficult thing still haunts us. Many people find the prospect of abandoning that attempt unbearable.

Memes and other Unusual Life-Forms

For breaking this dilemma, two methods are currently being favoured. The first is to do research on some actual, existing, certified branch of physical science such as neurobiology or genetics, and to declare that, in the end, if it is pursued long enough, its results will somehow throw a useful light on human affairs. This path is, of course, only open to trained physical scientists. The second path — which is also open to people in the humanities — is to devise a scheme which *looks* rather like physical science and to claim that it is going to provide, at last, a truly scientific explanation of human life. This is the path that has been followed by a great deal of research on Artificial Intelligence and it is also the one taken by Richard Dawkins in his doctrine of Memes. I think this is an instructive example of the kind of wish-fulfilment that flows from current confusions about what it means to be scientific, so I shall say a bit more about it now.

In the last chapter of *The Selfish Gene*, Dawkins (1976) introduced the notion of memes as ‘units of cultural transmission’ which were comparable to genes and this idea has been taken up by a number of other sages, most recently by Edward O. Wilson in his book *Consilience*. Wilson hopes that, by dividing culture into these units, he can provide a means of reconciling the humanities and social sciences with physical science. Memes, he says, will form ‘the conceptual keystone of the bridge between science and the humanities’ (Wilson, 1998, p.136).

But is culture the sort of thing that can be understood by dividing it up into ultimate units? It must be, says Wilson, because atomizing is the way in which we naturally think. ‘The descent to *minutissima*, the search for ultimate smallness in entities such as electrons, is a driving impulse of Western natural science. It is a kind of instinct’ (p. 50). We need, says Wilson,

to search for the basic unit of culture. . . . Such a focus may seem at first contrived and artificial, but it has many worthy precedents. The great success of the natural sciences has been achieved substantially by the reduction of each physical phenomenon to its constituents, followed by the use of the elements to reconstitute the holistic properties of the phenomenon (p.134).

In fact (he says) it has succeeded in science so it is bound to succeed in the humanities. How does this actually work out in practice? The various memeticists use it in rather different ways. Wilson himself at first keeps quite close to the pattern set by the discovery of atoms and electrons. He wants *minutissima* — ultimate units of thought comparable to fundamental particles in physics — and he claims that these units can eventually be linked to particular brain states in a way that will provide a kind of alphabet for a universal brain-language underlying all thought. This is a startlingly ambitious project. But most of the time Wilson seems to forget it completely and describes his particles as units of *culture* — plainly a quite different concept.

The examples which other memeticists give are closer to this model of culture-units. Dawkins himself calls them ‘units of cultural transmission’, giving as examples ‘tunes, ideas, catch-phrases, clothes-fashions, ways of making pots or building arches’ to which he later adds popular songs, stiletto heels, Darwinism and the idea of God (Dawkins, 1976, pp. 206–7). None of these very varied things looks much like a Wilsonian ultimate unit of thought. Dawkins, however, is insistent that his items are not mere conventional divisions either. Like electrons they are natural units, fixed,

distinct and lasting. On this point Daniel Dennett is still more emphatic. Dennett's long list — even more ostentatiously mixed than the one Dawkins gives — includes *deconstructionism*, *the Odyssey* and *wearing clothes*. He too insists that these are not just arbitrary divisions:

Intuitively we see these as more or less identifiable cultural units, but we can say something more precise about how we draw the boundaries . . . the units are *the smallest elements that replicate themselves with reliability and fecundity*. We can compare them, in this regard, to genes and their components (Dennett, 1995, p. 344; emphasis mine).

It seems strange, then, that the *Odyssey* (for instance) contains within it several stories which are well-known in their own right, such as the stories of Scylla and Charybdis and of the Cyclops. *Wearing clothes* is a general term covering a vast range of customs. *Deconstructionism* is a loose name used to describe an indefinite jumble of theories, and *the idea of God* is also a very wide and ambiguous one. None of these items looks in the least like a fixed 'smallest element' that could function as a replicator. But besides this, as Dennett himself points out, none of them is static and immutable, as genes are supposed to be. Customs and traditions of this kind change and develop constantly unless we deliberately fix them, as we do the *Odyssey*, by devices such as printing. The way in which cultural items behave is quite like that of whole organisms but completely unlike the behaviour of genes.

Sometimes, indeed, it does seem that memeticists are comparing their cultural items to whole organisms — to phenotypes — and are positing the memes as hidden entities, unseen 'replicators', occult causes that send these phenotypes leaping from mind to mind. Memetics is then supposed to be parallel to genetics, instructing us in the way that these hidden entities conduct their reproductive business. But it can't do so because there are no such entities. Dennett says that 'These new replicators are, roughly, ideas' (p. 344). But many of the things supposedly replicated, such as Darwinism, are themselves ideas. They cannot need a meta-idea to cause them. The case is not like that of genes which are physical items, sections of DNA observable in the laboratory. In order for human beings to think, feel and communicate, no entities have to be present in them except those human beings themselves. If we want to understand their thoughts and feelings it is the people themselves that we need to understand — a process, as I have been suggesting, which is direct, painful and difficult because it is inseparable from understanding ourselves, but which is thoroughly familiar. Pseudo-genetic occult causes will not help with this nor act as substitutes for it. Memes serve no function and should be cut off with Occam's Razor.

The cultural items which Dennett and Dawkins list are not, then, ultimate, immutable fundamental particles. Nor are they objects made up of such particles, nor phenotypes transmitted by mysterious genes. What they are is aspects of culture, patterns in people's thought and behaviour. Understanding them is not a matter of splitting culture into its ultimate particles because culture is not a substance, a solid stuff of the kind that might be expected to consist of particles. Instead it is a complex of patterns. And *patterns are not the sort of thing that breaks down into ultimate units*.

When we actually want to understand some aspect of culture, such as deconstructionism or the idea of God, we do indeed often analyse it into distinct elements, distinguishing sub-patterns within it. But we do this in accordance with our particular interests at the time, not in the mistaken search for a single basic structure. And before we can make this kind of analysis at all we usually need to look outward for the con-

ceptual background, the wider context of ideas out of which these sub-patterns arise. In the end, *explaining* such things means grasping the motives of the people involved. But this usually cannot be done without a prior outward movement of placing them on a wider map of other ideas and habits, so as to relate the patterns within them to the larger patterns outside. That is what we do in ordinary life when we want to understand such things. And dedicated people who want to understand them more precisely — people such as historians, anthropologists, philosophers, social psychologists, novelists, poets and literary critics — have developed, over time, many subtle ways in which to carry this process further.

That kind of cultural mapping is, in fact, the main business of the humanities, which has been carried on for many centuries and in many cultures. The idea of introducing memetics as the proper way to understand culture is not — as Wilson wants it to be — a useful bridge between this wide range of methods and the physical sciences because it takes no account of these existing methods at all. It simply ignores them and offers a meaningless story about atomic entities as a substitute.

Memetics, in fact, is phlogiston and, what's more, it isn't even useful phlogiston. The idea of phlogiston did have a use, because it marked a blank place on the map, a spot which needed to be filled by a proper theory of combustion. But there is no such blank place on the humanistic map waiting to be filled by this new, quite general proposal about how to start understanding culture. Of course the methods that we now use are grossly imperfect, often terribly faulty. Of course we need constantly to work on them. But they are faulty because of particular faults which require further work to correct them, not because nobody has yet discovered how to start work on this topic at all.

Atomism and Self-Knowledge

These, of course, are alarming words. Can it (you may ask) really be true that very intelligent, high-minded and highly-qualified people are trying to sell us phlogiston? Can it be true that they themselves have bought it? I must certainly explain why I think that so strange a thing is possible. The explanation lies, as I have been trying to suggest throughout this article, first in the deep unwillingness of psychologists to understand people by means of the painful, difficult, direct sympathy which is the only effective means of doing so, and second in the huge imaginative force of a certain narrow vision of what it is to be *scientific*, which has been embraced as a substitute for that kind of insight. As Wilson says, this vision centres on the fascination of division into *minutissima*, the ruling obsession with the microscope, an obsession which excludes the use of wider maps and fixes our attention firmly on abstract entities outside the world of our own experience — even when that experience itself is what we are supposed to be studying. At the dawn of modern science in the seventeenth century, this atomistic approach did of course pay tremendous dividends and it has repeatedly proved of huge value since, for instance in the discovery of cells. But never, in any branch of science, has it been the only approach that was needed.

Atomism itself — which of course came originally from Greek philosophers — has an enormous appeal because of its seductive finality. Descartes, describing his search for certainty, laid great stress on the need 'to divide each problem into as many parts as was feasible', aiming to imitate 'those long chains of perfectly simple and easy reasonings by means of which geometers are accustomed to carry out their most difficult

demonstrations . . . I knew already that I must start with the simplest objects, those most apt to be known' (*Discourse on Method*, Part Two). He therefore modelled his metaphysical thinking as closely as possible on mathematics, expecting to arrive at a final set of concepts as clear, distinct and separate from each other as those employed in mathematics. Of course this approach made modern physics possible. But it also landed it, for a couple of centuries, with a belief in ultimate, hard, impenetrable and all-explaining atoms, which were viewed as necessary to produce the reductive clarity that scientists aimed at. This hygienic atomism charmed the Enlightenment because it seemed to provide ultimate simplicity and completeness and even a kind of stability, since the atoms last for ever even if we don't. And that charm remains potent today, even though the physical theories that expressed it are now abandoned. The idea of simplifying the shifting chaos of human affairs in this way is hugely attractive, especially to people who have grown up thinking of the atomic pattern as the archetype of all scientific method.

From the seventeenth to the nineteenth century most scientists did think in this way. Since then the original owners of atomism — the physicists — have dropped that seductive vision, recognizing that the world is actually much more complex and much more interconnected. Of course microscopes are still an essential tool for physics, but their usefulness lies just as much in revealing the connections between things as in dividing them into parts. Physicists today, like Buddhists, think in terms of interdependent origination. Many biologists and social scientists, however, still cling to the atomic model and hope to extend its civilizing empire over the tangled rain-forest of human society. But that hope really is mistaken. The atomic vision is just one possible interpretative pattern among many. There are many problems on which it is no help to us, and the understanding of human culture is one of them.

Putting Memes to Work: The Witch-Craze

To show that I am not being arbitrary about this, I will end by looking briefly at how the memetic model would work if we actually did try to use it on a real problem. Dennett, who considers its function more fully than Dawkins, firmly enforces the parallel with 'selfish' genes. It is quite wrong, he says, to try to explain cultural traits by asking what they do for the people who adopt them. Instead, we should recognize that 'a cultural trait may have evolved in the way it has simply because it is advantageous to itself' (Dennett, 1995, p. 362). A human mind is then 'an artefact created when memes restructure a human brain so as to make it a better habitat for memes. . . . Like a mindless virus, a meme's prospects depend on its design — not its internal design, whatever that may be, but the design it shows the world, its phenotype, the way in which it affects things in its environment [namely] minds and other memes' (p. 349). We therefore need memetics to help us grasp the strategies by which memes contrive to infest us even when they are not useful to us, for example: 'the meme for faith, which discourages the exercise of the sort of critical judgement that might decide that the idea of faith was, all things considered, a dangerous idea' (p. 349).

Accordingly, if we want to understand why certain people have faith in something or somebody — for example, why Western people today tend to believe the declarations of scientists — we should not waste our time asking what reasons they might have for putting their trust in that particular thing or person. Instead, we should sim-

ply note that an entity called *faith* tends to be successful at parasitizing human brains. The next question, however, is surely: how would this approach give us anything that could be called an explanation of people's actions? Of course it is true that it is often hard to find the kind of explanation that we normally look for — namely, one in terms of reasons and motives. We often cannot find the reasons why people do what they do, and when we do find them they are often bad ones. But if we cannot find those reasons at all there is no way in which we can make sense of their actions.

To enforce his point, Dennett uses examples where the reasons are indeed mysterious, such as having a popular song on the brain when one doesn't even like it. Now these examples are obviously rather rare, which is why we notice them. Most of the time we do have some idea both about why we ourselves do what we do and about why other people do what *they* do. Fashion and custom are, after all, themselves genuine intelligible reasons, even if not specially good ones. They are reasons which relate to peer pressure and to simplifying life by not having to think it out again constantly from scratch. And when we are surprised at being obsessed by some topic which seems unimportant, it is usually worth our while to look for some reason for this in our own feelings rather than just swatting at it like a wasp and saying 'bother — another meme'.

However, it is certainly true that there are plenty of cases where we are ignorant or mistaken both about both our own motives and other people's. This ignorance is probably what gives the meme idea its only faint plausibility. So I shall end by pointing out how very badly that idea works even in these cases where human motivation really is mysterious.

The example I shall mention is the witch-craze which prevailed in Europe from the fifteenth to the seventeenth centuries. That craze was not, as is often supposed, simply a survival of ancient superstition caused by ignorance, something finally cured by the rise of science. To the contrary, in the Middle Ages prosecutions for witchcraft were rare. The church authorities did not think witchcraft was common and they discouraged witch-hunting because they saw the danger of false accusation. There was therefore a church canon that set strict limits to it. It was in the Renaissance that things changed. At that time, as a recent historian puts it:

The Europeans did three things which set them apart from most other peoples at most times and places. Between 1500 and 1700 they set sail in tall ships and colonised most quarters of the globe. They made stunning strides forward in the sciences. And they executed tens of thousands of people, mainly women, as witches (Green & Bigelow, 1998).

This attack of frenzy coincided, then, with the increase of knowledge rather than being cured by it. And, as these authors show, when it finally subsided it did not do so because science had shown that witchcraft was impossible but because people gradually began to find it psychologically incredible that there was such an organized host of demon-worshippers. Writers of various kinds greatly helped to nourish this incredulity, but scientific arguments do not seem to have contributed anything particular to it.

Here, surely, is something which needs explaining. And I cite this case because it is one where explanation by memes would look so easy. We need only posit a new meme which successfully invades a population that has no immunity to it, a meme which then declines later as that immunity develops. The meme's success is due to its own strategy — presumably produced by a mutation — not to any fact about the people it infects. We don't need to look at these people, except perhaps to consider the

general strength of their immune systems. We don't need to relate this meme to any other cultural viruses or parasites currently infesting the population nor to that population's earlier or later history. We certainly don't need to think about human psychology generally or to look into our own hearts to see what we might learn there about such conduct. We simply place the whole causation outside human choice.

But, placed there, the meme story simply gives us no explanation at all. What we actually need, when we are trying to understand such a case, is to grasp how people could begin to think and act in this way in spite of the beliefs, customs, laws and ideals which had stopped them doing so earlier. We need, in fact, to understand the psychology of persecution and to understand it (so to speak) from inside. We need to penetrate paranoia. And we need this, not just in relation to witch-hunting, but for understanding human conduct in other times and places too, not least in our own lives.

Understanding here does not mean discovering, by research, new facts about its causation by an imaginary alien life-form. When human beings act, no entities need be involved in their action except those human beings themselves. Understanding means essentially self-knowledge, an exploration of what de Tocqueville called 'the habits of the heart'. Examining the evolutionary strategies of mythical culture-units could not possibly save us the trouble of this painful form of enquiry. What in fact goes on in such investigations — and what has actually gone on over this topic of the witch-craze — is that historians look sympathetically for people's reasons, exploring the expression of those reasons in the documents left by the age. They notice things like the various fears raised by an epoch of violent change, especially fear of the rising status of women at the time — the disintegration of earlier belief-systems — the distraction caused by civil wars — the rising interest in the idea of a devil, and (of course) the particular political interests that could be served by scapegoating a group without power.

All these explanations have some force, all of them do something to make this story more intelligible. None of them explains it completely. This, however, does not mean that historians have failed. These partial explanations can and do still throw light on parallel cases, phenomena such as anti-Semitism and xenophobia. When they are well and seriously worked out, they shed light on the general habits of the human heart. Whether we call that light-shedding scientific is not, perhaps, particularly important.

Conclusion

The reason why I have spent some time putting weed-killer on memetics really is not just wanton destructiveness. I have done so because I believe it is distracting us at a moment when psychology stands a chance of growing in much more useful and realistic directions. The lifting of the behaviourist tabu on serious discussion of our inner life has released a remarkable flood of interest, a fertile crop of new suggestions which surely needs to be cherished and developed as widely as possible. (This journal is, of course, the scene where much of this new life appears).

What now seems possible is that we can reverse the irrational change which took place a century back, when behaviourism was allowed to drive out a wide range of psychological enquiries of the kind pursued by Dewey and William James, on the quite mistaken ground that it was more 'scientific' than they were. As we now know, it wasn't. It had only managed to master the art of pretending to be scientific by

imposing a bogus simplicity, by imitating the externals of physical science. It offered a short cut past the really difficult issue of combining enquiries about the inner and outer aspects of our lives by ruling the inner one out of consideration entirely.

This is no way to run an enquiry. We do not need to make that mistake again. But if we continue to be hypnotized by an uncritical use of the term 'scientific' we shall be in danger of doing so. The dead hand of behaviourism will still control us, leading us always to prefer tidy thought-systems that have a vaguely 'scientific' appearance to ones that don't, regardless of whether they are actually capable of telling us anything of the slightest interest about human life. Our natural resistance to self-knowledge — our chronic unwillingness to look into our own lives in the way that is necessary for real understanding of other people — always inclines us to accept schemes of this sort because they offer to distract us from these disturbing considerations. They make possible the neatly divided academic life whereby 'science' alone is pursued in the university, while all topics of real interest are left at home. This arrangement is, of course, always an option, even indeed a grant-attracting one. But do we really want to be stuck with it? If not, I think there is no substitute for self-knowledge.

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