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Explaining Culture: a naturalistic approach
by DAN SPERBER
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Sperber's aim in this fascinating, controversial, and admirably written book is to present some aspects of the "epidemiology of ideas", which concerns the ways that beliefs, concepts, and other cognitive items spread from one person to another. Secondary but essential purposes are to argue for the importance, perhaps centrality, of the epidemiology of ideas in understanding culture, and in the method of the social sciences generally, and to distinguish between different kinds of cognition which are found under the label of 'belief'. The result deserves to be extremely influential.

One warning though. The book is a collection of previously published or delivered papers, which overlap on many points, and which are each meant to be self-sufficient. This has advantages for the reader - you don't have to remember chapter one when reading chapter six. But it does mean that the basic ideas and motivation are repeated in almost every chapter. And it means that some kinds of reflection and development, that would have been required if the different points of each chapter had had to be knitted together into a single line of exposition, are missing. In the rest of the review I shall ignore this fact about the book, and discuss it as if the papers were chapters in a linearly-argued monograph.

There are two main strands of argument running through the book. The first concerns epidemiology. Ideas are transmitted from one person to another, or rather are copied from one person to another, in the process usually changing. These changes are not random; they are affected by the character of the idea and the structure of the culture, and a significant part of the study of a culture is the study of how ideas are transmitted in it. When we interpret the beliefs of people in another society our interpretations should not be taken as exact reports of the content of their ideas.

(And in particular when we report the beliefs of two cultures using the same concept this should not
suggest that the two source ideas are similar.) Rather, the interpretations indicate that some ideas
are being transmitted, and we can then study the patterns and regularities of the transmission. Some
patterns are universal. For example cognitive factors about the way people consider evidence for
beliefs can explain how ideas about how to prevent mishaps can persist in spite of their inefficacy.
And 'mysterious' beliefs can be expected to be widely distributed because of their memorability.
We can expect there to be different kinds of belief in any culture corresponding to the different ways
in which the transmission of ideas can minimise their transformation. Thus in a non-literate society
we can expect easily memorable beliefs to be current, and in all societies we should expect to find
beliefs which represent universal features of the environment which mesh with universal perceptual
capacities. There will always be some ideas whose content and mode of transmission ensures their
stability: "Culture is the precipitate of cognition and communication in a human population." And
there will be ideas which influence the transmission and distribution of other ideas. As a result some
ideas can achieve a stability which is central to the functioning of the society. "An institution is the
distribution of a set of representations which is governed by representations belonging to the set
itself."

Sperber's ideas or representations look like Dawkins' memes {FOOTNOTE 1}, so their
epidemiology might be an application of meme theory to social science. (And epidemiology looks
rather like epistemology, as discussed by authors such as Welbourne and Craig {FOOTNOTE 2}.)
But, Sperber argues, there are basic differences between his account and Dawkins. Memes are
transmitted like genes, by copying, whereas ideas are transmitted by non-deterministic influence.
That is, the ideas a person produces or passes on result from the interaction of the totality of ideas
the person has received, as combined by the person's cognitive processing. The reason that this
does not result in a chaos of infinitely varied idea-tokens is that human cognitive universals produce

"attractors", ideas to which the reproduction of ideas gravitate. Typical attractors are representations of obvious aspects of the world as perceived, and memorable myths. Sperber stresses that attractors are not traps: a person receiving an idea that is near to an attractor can reproduce it as one that is further away. But ideas that resemble attractors are more likely to be produced, so that globally and over a period of time the appearance is one of movement of representations towards attractors. "On a modular view of conceptual processes, these beliefs, which are stable across a population, are those which play a central role in the modular organization and processing of knowledge. Thus information that either enriches or contradicts these basic modular beliefs stands a greater chance of cultural success." Though Sperber does not mention it, the presence of one attractor is likely to influence the location and strength of others systematically, and this ought to be of importance in tracing culture to epidemiology.

The other strand of argument concerns modularity. Sperber wants to take over from Fodor a conception of mentality as the interaction of a number of relatively self-contained modules, while rejecting Fodor's postulation of a central plastic over-arching capacity to reason. His picture is more modular than Fodor's: reasoning too is the interaction of discrete modules. Sperber goes some way to explaining how modules with originally very specific functions could co-evolve so that their eventual inputs and outputs interacted coherently to give an effect that might be misunderstood as that of a central reasoning and integrating capacity. This is brave and suggestive stuff. In fact it is not quite as radical as it seems at first, for on Sperber's account there is something much like a central coordinator. It has two parts, whose relations he does not explore. One is a conjectured buffer memory which takes inputs from conceptual modules and holds them so they can function as inputs to other modules {FOOTNOTE 3}. The other is the capacity to form metarepresentations, which Sperber conjectures may lie within a theory of mind module. Metarepresentation allows a common syntax-based format for beliefs arising from any module, so they can be used together in

action or to deduce beliefs relevant to those or other modules. ('Syntax-based', 'theory of mind'?
Sperber is simply very inexplicit about the relation between syntactical capacity, theory of mind in
the general sense of the ability to think about others, and the coordination of different modules. A
set of linked problems here for further theory.) So the eventual picture is Fodorian with an extra
layer: at the bottom or outside input modules, then first order conceptual modules, and then the
complex of an all-purpose information buffer and a metarepresentational capacity.

The modular aspect of the story is relevant to questions which any philosopher reading the
early chapters will have asked: what is an idea and what makes one idea resemble another? Are
ideas individuated by their representational roles or their cognitive functions? Ideas and
representations are aspects of the cognition of individual humans, for Sperber. As such there would
be no intrinsic resemblances between the ideas of different people (and probably no public meaning)
were it not for the presence of universal modules, whose similar functioning means that many
patterns of representation will be human universals. The likelihood, for example, that there are
universal predispositions to classify animal species in specific ways, recurs in several places in the
book. And in the discussion of attractor ideas it is clear that attractors are driven by the presence of
modules which are more willing to function in some ways than in others. (So the attractor picture is
really very subtle: attractors are the results of the tendency of ideas to be replicated more in some
directions than others, but this notion of directionality is based on similarity measures that are based
on the functioning of the modules which underlie the attractors.) Moreover Sperber defends a
picture of the formation of concepts, according to which they are typically formed on templates
arising from the functioning of modules. An interesting discussion of children's tendency towards
racial stereotypes conjectures that templates used in animal classification get generalised to generate
a template which is then applied to human differences.

The link between the modular theme and the epidemiological theme does most work in the

discussion of kinds of belief. Some beliefs, Sperber calls them "intuitive beliefs", employ concepts
shaped by perceptual and first order conceptual modules. Many such beliefs are widespread among
human beings, and are transmitted easily from one person to another. Other, more abstract beliefs
which are not specifically fitted to any modules are sustained by metarepresentation. In the most
basic form these are beliefs supported by ascriptions to others: Mother thinks that God made the
world. These will vary much more from culture to culture, account for some of the glories of science
and philosophy, and have an intrinsic tendency to attractive mysteriousness whose effects only the
science of the past few centuries has managed to resist.

Modules process some information more readily than others, and this is crucial to the
explanation of why some ideas spread more readily than others. Sperber wants to see this as an
application of the principles of linguistic understanding worked out in Sperber and Wilson's
Relevance {FOOTNOTE 4}. According to Sperber and Wilson an utterance by a speaker is
interpreted by a hearer in such a way as to strike the optimum balance between informativeness and
ease of processing. A hearer tries to simultaneously maximise the relevance of the words-as-
interpreted (to the conversation or business at hand) and minimise the cognitive effort required. One
can see in a general way how this applies to the concerns of the present book: a person will interpret
words or other public objects so that they fit her immediate concerns while also making a best fit
with the cognitive modules that she can bring to bear. But when one looks for a more precise
connection questions and doubts arise. In particular, there is a tension between two ways of
understanding ease of interpretation: minimization of inferential and other higher-order resources, and
ease of digestion by particular modules. One way of sharpening this worry is to ask whether the
trade-off between effort and relevance is to be thought of as maximizing or satisficing: is the
preferred interpretation the one that has the absolutely highest ratio of relevance to processing effort,
or the one for which this ratio is above some threshold? A maximizing strategy does not actually

seem to offer efficiency, since often a hearer will not know that an interpretation is optimal until she has considered other interpretations 'beyond' it. But a satisficing strategy is not fully determinate, since a threshold has to be fixed in advance. The difference between maximizing and satisficing becomes more acute in the context of the present book, where we are concerned not with relevance in a particular conversational context but relevance across the range of contexts relevant to the transmission of an idea {FOOTNOTE 5}. Suppose we have a representation which is easily processed by a conceptual module and which can be processed with greater difficulty via metarepresentation and explicit reasoning. Suppose that the result of the modular processing is less relevant than that of the metarepresentational, even taking into account the cognitive effort required.

Which should we expect to be the preferred interpretation? The answer depends on where the threshold of relevance/effort is set: and I think it is clear that there is no general answer. Some people can be expected to go for the easy immediate answer (an intuitive belief) and some for the slower, harder, and more valuable one (an abstract belief). It will depend on the practical and conversational context, and also quite clearly on the character of the surrounding culture. A crucial question for Sperber's project is whether the factors affecting the relevance/effort threshold can be expressed in terms from within his theory.

Many issues connect at this point. Some of them concern the unity of a culture. On Sperber's view a large number of ideas will float around the members of any culture, largely independent of one another. Sperber will want to explain the characteristic beliefs and practices of a culture as much as possible in terms of distribution-affecting rather than content-affecting factors.

Factors such as the relevance/effort threshold make it even more clear that the content of some important ideas in a culture may be crucial in determining the pattern of distribution of other ideas. If this is so then there may be less use for the pattern of explanation described in the first chapter of the book, in which an interpretation basically provides labels for ideas, whose mode of distribution is

then the primary object of concern. For in explaining the distribution the content of the ideas may play a crucial role. (Thus in addition to the memorable mysteriousness to which Sperber, following Boyer {FOOTNOTE 6}, attributes the power of religious ideas, it may be essential to consider the place in religious doctrines of ideas of love, power, and guilt, and trace them to middle-level cognitive and social capacities.) If content is more important so may interpretation be.

It is not clear what the answers to these questions are, or even how they are best formulated. It is clear that we are dealing with fundamental issues about the relations between cognition, belief, and culture, and about the nature of social science. This profound and stimulating book opens up a new way of thinking about human cultures. It is a way of thinking which will probably answer very few of the questions we have long been asking. Instead it may give us beginnings of answers to quite different questions.

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{FOOTNOTES}

1. Dawkins, Richard The Selfish Gene (Oxford University Press 1976), and Climbing Mount Improbable (Viking, 1996.)
2. Craig, Edward Knowledge and the State of Nature, (Oxford University Press, 1990.)
Welbourne, Michael The Transmission of Knowledge, (Aberdeen University Press, 1980.)
3. Peter Carruthers has argued for a similar structure, in Language, Thought, and Consciousness (Cambridge University Press, 1996.)
4. Sperber, Dan and Wilson, Deirdre Relevance (Blackwell Publishers 1986.)
5. But the tension is found in the earlier work too. See Relevance p 148 , where the 'Presumption of optimal relevance' simultaneously appeals to 'relevant enough' and 'the most relevant one'. It is possible that there is a very subtle combination of satisficing and optimising here.
6. The Naturalness of Religious Ideas (University of California Press, 1994.)