psychological characteristics (Mohr 1978, p. 428). Indeed, one prominent view has been that young children have only a "physicalistic" conception of the self (e.g., Montemayor & Eisen 1977; Selman 1980). Bering's results provide the antidote to this view. In Bering's experiments, children tend to say that Brown Mouse is still hungry and still thinking about Mr. Alligator, despite the fact that Brown Mouse's body has been destroyed. This provides new evidence that children have a concept of self that is not identified with physical, bodily features. For it's natural to interpret the children as claiming that Brown Mouse – *the same individual* – persists after the destruction of his body. This indicates that children don't regard bodily identity as required for personal identity. The children seem to think that the same self persists across destruction of the body.

A second central tenet of the soul view is that the self can't be identified with a set of memories, thoughts, or other psychological states. Thomas Reid expresses the point with characteristic directness: "Whatever this self may be, it is something which thinks, and deliberates, and resolves, and acts, and suffers. I am not thought, I am not action, I am not feeling; I am something that thinks, and acts, and suffers" (Reid 1785/1969, p. 341). Psychological states change constantly, and so they seem too fickle to be the basis for an enduring self. Rather, soul theorists maintain that the self is the thing that has the *capacity* for psychological states, regardless of the particular psychological states it happens to have. A soul theorist maintains that it is *because* the self endures that it is possible for the psychological states to persevere.

Bering's experiments do not tell us whether children's views of the self coincide with this second tenet of the soul view. For the experiments do not explore whether children would maintain that Brown Mouse can continue to exist even if he loses his distinctive psychological states. However, Bering has given us the most promising methodology to date for exploring this question. We can use his methodology to examine the extent to which children think that psychological similarity is required for personal identity. This might be done with two changes to Bering's design. First, one would need to ask exclusively about psychological *capacities* rather than psychological states. In Bering and Bjorklund (2004), some questions are about the specific psychological states that Brown Mouse had before he got eaten. For instance, children are asked of Brown Mouse, "Is he still thirsty?" and "Is he still *thinking* about Mr. Alligator?" To show that children's views cohere with the second tenet of the soul view, we would have to ask only about capacities, like, "Will Brown Mouse *ever think again?*" The second change is more challenging – we would need to specify that after Brown Mouse is eaten, there will no longer be anyone who has the particular psychological states that Brown Mouse had. For instance, we might explicitly state that no one will ever remember the things that Brown Mouse did. If children still tend to maintain that Brown Mouse will think and feel again, then this would provide evidence that children's notion of the self also follows the second tenet of the soul view.

There is yet a third tenet of the traditional soul view – that the soul is an immaterial substance. It is natural to think of this third tenet as providing a story about the metaphysical ground of the capacity to have psychological states. Bering's data do not show that this tenet is reflected in the child's view of the self, nor does he suggest otherwise. I think it unlikely that children naturally have opinions on such rarefied issues in metaphysics. Rather, the idea that there is an immaterial substance underlying our psychological states is most likely an intellectual innovation that has become part of the culture in major religious and philosophical traditions. But if children find it intuitive that the self can survive the death of the body and the radical disruption of psychological states, this would go some distance to explaining why the doctrine that the self is an immaterial substance has achieved such cultural prominence.

The Godfather of soul

Jesse Preston,[a] Kurt Gray,[b] and Daniel M. Wegner[b]

[a]*Department of Psychology, University of Western Ontario, London, Ontario N6A 5C2, Canada;* [b]*Department of Psychology, Harvard University, Cambridge, MA 02138.*

jpresto@uwo.ca **kurtgray@fas.harvard.edu**
http://www.wjh.harvard.edu/%7Ekurtgray/
wegner@wgh.harvard.edu **http://www.wjh.harvard.edu/~wegner/**

Abstract: An important component of souls is the capacity for free will, as the origin of agency within an individual. Belief in souls arises in part from the experience of conscious will, a compelling feeling of personal causation that accompanies almost every action we take, and suggests that an immaterial self is in charge of the physical body.

Why is it useful to think we have souls? Jesse Bering would have us believe that the concept of a soul is derived from evolutionary pressures of several kinds. In his view, the soul may arise because we are enamored of the idea of *agents*, and we overextend and embellish this idea to the point of perceiving people as having essences that persist after death – if not also existing prelife. From Bering's perspective, a soul is a construction we place on others. But what of the soul we know the best – our own? Bering's approach offers no special status to our own souls because it overlooks the *experience* of human agency. One key use of the idea of a soul is to explain the unfathomable source of our own ability to do things merely by wanting them. The soul is a way of understanding the experience of conscious will.

Think for a minute of the magic of agency. You may not be able to create world peace just by willing it, but there are a remarkable number of things you can do nonetheless. You can open a soda can, lift it up, and toast Bering – all through some wildly supernatural procedure whereby the things you desire just go ahead and happen! And how do you know that *you* did this? True, there are a number of cues a person could use to sleuth out personal responsibility for action. But for the most part, conscious will is experienced as an authorship emotion rather than a reasoned deduction. We think we possess free will because it feels like we do. Feelings of personal causation are indicated by certain cues present around the time of an action, like visual feedback, and physical feedback from the body (Wegner & Sparrow 2004).

Perhaps most essential to the experience of will is the connection between thoughts and action. You find yourself thinking about eating lunch, then lo and behold you find yourself down at the diner ordering a cheeseburger. What else could have caused this, if not your own free will? According to the theory of apparent mental causation, the experience of will arises when we are aware of some thought about the action just before it happens, and the action cannot be readily connected to some other cause (Wegner 2004). Ordering the burger feels like a freely willed act if you were just thinking about cheeseburgers and their deliciousness, but less so if the cheeseburger option was just recommended by your pushy waiter.

Several studies conducted in our laboratory suggest that these three principles of priority, consistency, and exclusivity create the feeling of conscious will over actions, even if actions are not truly self-caused. In a study modelled after the Ouija board, people felt more control over the movements of the disk when given a preview where it was about to go, and if this preview occurred just before the action (Wegner & Wheatley 1999, see also Aarts et al. 2005). Feelings of conscious will are attenuated, however, when there are other competing forces or agents that might be responsible for the action. For example, people feel more responsibility if they are subliminally primed to think of the self just before an action, but when primed with the identity of other agents, feelings of responsibility decline (Dijksterhuis et al., under review). These cues are so persuasive that they can create feelings of conscious will over actions clearly beyond

https://doi.org/10.1017/S0140525X06449104 Published online by Cambridge University Press

personal control, including controlling the actions of others (Wegner et al. 2004) and the ability to enact actions at a distance (Pronin et al. 2006).

The feeling of conscious will is an inescapable part of life, and the experience is so compelling it is hard to imagine that it may be just an illusion. Conscious will is not only an essential component to the concept of souls, but the experience can also help explain why souls have their ethereal quality. As Bering points out, belief in souls stems in part from the inability to reconcile how mind arises from body (the *hard problem of consciousness*). Although we have a pretty good understanding of how the heart, lungs, stomach, and other organs function, when trying to comprehend how the brain thinks we are still left scratching our heads. The experience of will presents a particularly tricky question in this puzzle. Agents are seen as first causes, or uncaused causes – the origin and author of action. Discussions of the function of an authorship emotion for physical action point to the need for a controller of action, an internal operator who guides our decisions (e.g., see Wegner 2005). But if the brain is the source of cognition, then how does the thinker direct the thinking in one direction or another? Even if we thought we could pin down the location of the internal operator in the brain, we would still need to explain the controller itself. The popular solution to the search for free will is that the brain is not the ultimate source of thinking, but there is some nonmaterial self – the soul – that somehow operates to control the body.

The pervasive belief in an afterlife is possible because of this mind–body division. And wherever the soul goes, it brings free will with it. Indeed, the experience of free will is often included in the folk understanding of the moment of death: Death occurs when one is ready to die, loses the will to live, or chooses to go into the light. Bering suggests that belief in an afterlife results in part because we don't know what it is like to be dead. We may also be unable to fathom the absence of will. It is difficult to imagine that such a potent force could just dissolve into nothingness. After all its majesty and magic, surely conscious will cannot be just snuffed out of existence, at least not without its permission. James Brown, move over: Conscious will is the Godfather of soul.

No evidence of a specific adaptation

Ilkka Pyysiäinen

Academy of Finland/Helsinki Collegium for Advanced Studies, University of Helsinki, FIN-00014 Helsinki, Finland.

ilkka.pyysiainen@helsinki.fi **www.mv.helsinki.fi/home/ipyysiai/**

Abstract: Bering's findings about the mental representation of dead agents are important, although his opposition between "endemic" and "cultural" concepts is misleading. Endemic and cultural are overlapping, not exclusive categories. It is also difficult to see why reasoning about the dead would require a specific cognitive mechanism. Bering presents no clear evidence for the claim that the postulated mechanism is an adaptation.

Bering argues that his theoretical framework is in some respect more plausible than the "standard model" (Boyer 2005) in the cognitive science of religion (e.g., Bering 2002a; 2003a). He claims that the "cultural epidemiologists" regard religious concepts as entirely explicit in nature and as "socially acquired" or being "generated by culture" (Bering 2002a, p. 293). Bering (2002a; 2003a), however, thinks that ghost concepts are "endemic" or "innate," not something learned from others. The "central thesis" of the target article is that an organized cognitive system, dedicated to form illusory representations of psychological immortality and symbolic meaning, evolved in response to the unique selective pressures of the human social environment.

Bering raises an important question about religion and adaptation, although his nativist claim is somewhat problematic. He argues that *specific* afterlife beliefs are *not* "direct products" of natural selection; what has been selected for is "an intuitive pattern of reasoning" that does not hinge on the presence of explicit religious concepts. Bering thus makes a distinction between explicit religious concepts learned from culture and innate patterns of reasoning. He has previously argued that "the very concept [of a ghost] itself, has natural foundations in the human mind," asking whether it might be possible that "the general idea of an afterlife is not so much implanted in people's heads by way of 'exposure' to counterintuitive tales, as it is *already present*" in human cognitive structures (Bering 2002a, p. 269).

This line of reasoning is also present in the target article. Bering argues that Boyer (2001), Pyysiäinen (2001), Atran (2002), and Sperber and Hirschfeld (2004) approach religion as a (fuzzy) set of ideas that survive in cultural transmission because they effectively parasitize evolved cognitive structures. These "epidemiologists" are not interested in how "a representational bias for envisioning personal immortality" has "impacted the net genetic fitness of individual humans in ancestral environments."

There is, however, a conceptual confusion involved in Bering's way of distinguishing his approach from the standard model. Barrett (2003), Boyer (2003a), and myself (Pyysiäinen 2003) pointed out three years ago that Bering's dichotomy between endemic and cultural concepts is misconceived; epidemiologists do not regard culture as a set of "entirely explicit" concepts that are simply learned, irrespective of implicit biases. Concepts cannot be divided into two mutually exclusive classes: those we are born with and those we learn from others. There are only concepts represented in mind; some of them are communicated to others and thus may become widespread. A representation is cultural to the extent that it is represented by many persons and is preserved in various versions over time, no matter what its origins are.

According to Barrett (2003), nativists such as Bering focus on how the cognitive machinery of individuals "produces" intuitive ideas and behaviors that may then receive augmentation from explicit ideas learned from culture. The epidemiologists, in turn, are not necessarily interested in the origins of concepts and beliefs; instead, they try to explain the distribution of representations in populations. Widespread ideas are typically such that they are easily adopted because it is possible to enrich them by one's intuitions. Thus, there need not be a contradiction between nativism and epidemiology.

The actual difference between Bering and the standard model is in that Bering presupposes a pattern of reasoning dedicated *specifically* to making inferences about afterlife. Whereas Boyer thinks that beliefs about dead agents are mediated by psychological adaptations that enable us to reason about agents in general, Bering holds that reasoning about dead agents is based on a task-specific adaptation (Boyer & Barrett 2005; cf. Stone & Gerrans 2006).

By the same token, Bering is committed to an adaptationist view of religion, whereas in the standard model religion is an evolutionary by-product (see Atran 2002; Bulbulia 2004). All ideas of counterintuitive agents, such as ghosts, gods, and ancestors are represented using the normal mechanisms of agent representation, adding one minor modification or "tweak" to an intuitive representation (Boyer 2003b). No specific mechanisms are needed to mediate different types of agent representations.

Surprisingly, Bering also suggests that interactions with imagined dead agents might be cases of "off-line" social cognition in the sense that the dead are represented as absent but existing persons. This, however, implies that there is no *specific* mechanism for reasoning about dead agents. The specificity of the "intuitive pattern" has to be only in its domain of application, not in the mechanism itself.

If this is so, then we also have to look for adaptations in agent detection and theory of mind in general, not in special concepts

https://doi.org/10.1017/S0140525X06449104 Published online by Cambridge University Press