David Martel Johnson
Three Prehistoric Inventions that Shaped Us.
Frankfurt & New York: Peter Lang 2011.
209 pages
US$76.95 (cloth ISBN 978-1-4331-1090-0)

The 'inventions' of Johnson's title are religious thinking, the domestication of animals, and language. He argues that they must have come in just that order, each resting on the one before, in the course of the Upper Paleolithic Revolution some thirty to sixty thousand years ago.

According to Johnson, most thinkers have underestimated both the contribution of human culture to our evolution, and the role of free choice in cultural change. In that vein, he spends much of his second chapter complaining that natural selection is not really a form of selection at all, since true selection implies conscious choice, whereas natural selection is 'automatic, mindless, and value free' (25). Anticipating that some readers will regard this as 'unreasonably pedantic', Johnson draws a comparison with 'ant slavery': that expression seems harmless, but it can be misleading if it is used to ground inferences from ants to people. But surely, the targeted reader may protest, no one thinks ants have *institutions*, yet the analogy between ants and humans can be instructive. Insect eyes and mammalian eyes evolved separately and are structured quite differently, but the principles of optics apply equally to both. Similarly, principles governing the dynamics of cooperation might apply regardless of the proximate mechanisms that sustain them.

Johnson rightly insists that 'culture is real' (33). But on what this means he can be somewhat confusing. He professes to depart from John Searle's conception of the construction of social reality by observing that gold owes its role as currency not to stipulation alone, but to the natural fact that it resists physical decay. True, no social convention could bring paper money into existence if all paper had the texture of Kleenex. But that hardly refutes Searle's view that social reality depends on 'function status declarations'. Johnson rightly denies that 'a word that some person arbitrarily and perhaps even accidentally proposes as a name is some new element, process, or organism that he or she has discovered' (45). But that formula bears no resemblance to Searle's view of social construction.

Johnson worries excessively that people might take metaphors too seriously. After quoting a rather charming paragraph from Terry Deacon describing the human world as 'full of abstractions, impossibilities, and paradoxes', Johnson upbraids him for provoking 'strange, embarrassing, and seemingly unanswerable questions' such as 'What does it mean to suppose that impossibilities exist' (34). I would have thought it obvious that to say that our world is full of impossibilities is to allude to our capacity for intentional thought, including the capacity to represent things that don't exist—one of the very things that Johnson regards as so important about the human world.

According to Johnson, the domestication of animals is likely to have preceded language, and itself required the prior invention of religious thinking. Among the conditions necessary for domestication, Johnson notes that the animals involved must have had a hierarchical social structure that humans were able to exploit. If wolves recognize the authority of an alpha individual, taming them involves becoming that alpha animal. Johnson argues that we also need to posit different *attitudes* on the part of the humans who by manifesting 'curiosity and compassion' encouraged the wolves to modify their attitudes to humans (67).

A related feature of the human difference is the role of planning and the intelligent manipulation of our environment, which requires us to be able to imagine counterfactual states of affairs. This makes a lot of sense: as Karl Popper is often quoted as saying, with counterfactuals we get our ideas to die in our stead. Unlike most people, however, Johnson does not believe that counterfactual thinking requires language. By way of argument for inverting that order, he tells a Just So story about how early humans might have overcome their inherited fear of wolves. On the face of it, language seems to have little to do with domestication one way or the other, but Johnson's suggestion is intriguing: the hierarchical structure of lupine society provided the necessary model for the hierarchical organization of syntactically complex language (75). This is ingenious.

In further addressing the challenge of the origin of language, Johnson argues that the pre-existing elements and capacities that made syntactically complex speech possible arose gradually, as an effect of culture, before language could return the favor by contributing to the further elaboration of culture. In a sort of inversion of the Whorf hypothesis, Johnson enlists the Amazonian Pirahã tribe's inability to count, or even to learn to recognize clusters of more than two or three objects: their culture has no need to count, so their language has no numbers (84ff). Despite their humanity, the Pirahã are worse at counting than ravens. More surprisingly they appear unable to learn, and actively resist attempts to teach them concepts and practices that would make counting useful. Johnson infers that speech is independent of counting: the Pirahã speak but can't count, while crows can (up to a point) count without speech. Johnson thinks this undermines Chomsky's claim that language presupposes recursion; but whether the Pirahã grammar involves recursion has been contested. (One can read more about the controversy in *Language*, vol. 85/2, 2009.) It could be that the Pirahã are capable of recursion, but haven't extended it from syntax to counting. So Johnson's conclusion that there is no essence of language, and that 'it is more realistic to conceive of each language as a constantly evolving expression of the particular cultural tradition with which it is associated' (93) may be premature. Still, Johnson is surely right in urging that we should pay close attention to culture if we want to understand individual languages.

The third of Johnson's crucial inventions is religious thinking. His several characterizations of it are loose and implausibly high-minded. In one place he claims it empowered our ancestors 'to contemplate all the various things around them in ways that were comparatively free from self-interest' (133). To me it seems highly unlikely that any such capacity should have preceded superstitious ascriptions of agency to natural forces. Yet Johnson thinks religion facilitated—or perhaps consisted in—people's ability to

become aware of their separateness 'from God and from the rest of nature' (132). Thus religious thinking generated a 'psychic distance', underlying the capacity for abstract thought that is essential to linguistic representation. That makes language a 'byproduct of the religious principle of separating oneself from the world' (155).

I confess I find all this implausible. The realization of the true separateness of humans, gods and nature came only when humans ceased to attribute every natural event to one or more *agents*. That alone made science possible, and it came late. Religious thinking, on the contrary, typically insists that 'everything happens for a reason', making natural events into acts of supernatural agents.

Johnson knows a great deal more about paleoanthropology than I do, so I'm not equipped to debate his intriguing hypothesis about the extinction of the Neanderthals. He argues that their failure to adopt religious thinking precluded their discovery of 'psychic distance', which limited their capacity for planning, and thereby exposed them to genocide at the hands of our own ancestors. (The Neanderthals ended with Abel, we might say, while we descend from Cain.) My prejudices incline me to look favorably on the idea that the first consequence of religion was to encourage 'murderous hate' and trophy killing (144). But I find it difficult to reconcile this with some of Johnson's other descriptions of the 'new direction of thought' represented by religious thinking. This one, for example, borrowed from Thomas Merton: the capacity for consciousness to reach 'a point of nothingness…inaccessible to…the brutalities of our will', sits uneasily with triumphal genocide (128).

Johnson's book is readable and entertaining; it is ornamented with sometimes puzzling but often amusing digressions about such things as his infant daughters' superiority to Henry Kissinger in the acquisition of a foreign language; variations on a mother Goose rhyme; the number of chickens consumed in the world by human beings every second, and other pleasant diversions. It's a quirky book, but fun, bold, adventurous and thought-provoking.

Ronald de Sousa
University of Toronto

EDITOR'S NOTE: Earlier in this issue of *Philosophy in Review*, David Martel Johnson, author of the book reviewed above by Ronnie de Sousa, reviews Ronnie de Sousa's book, *Emotional Truth* (Oxford & New York: Oxford University Press 2011).