A continuum of mindfulness

Daniel Dennett and Ryan McKay

Center for Cognitive Studies, Tufts University, Medford, MA 02155.

Daniel.Dennett@tufts.edu **ryantmckay@mac.com**

http://ase.tufts.edu/cogstud/incbios/dennettd/dennettd.htm

http://homepage.mac.com/ryantmckay/

Abstract: Mesoudi et al. overlook an illuminating parallel between cultural and biological evolution, namely, the existence in each realm of a continuum from intelligent, *mindful* evolution through to oblivious, *mindless* evolution. In addition, they underplay the independence of cultural fitness from biological fitness. The assumption that successful cultural traits enhance genetic fitness must be sidelined, as must the assumption that such traits will at least be considered worth having.

Mesoudi et al. provide a valuable survey of the parallels between biological and cultural evolution, but they ignore or underestimate several other parallels that go some way to explaining the intensity of the distaste with which many researchers in the humanities and social sciences view *any* attempt to introduce Darwinian thinking into their domains. When Darwin first proposed sexual selection as a significant factor in biological evolution, it was greeted with both dismay and delight: To some it was an ominous backslide from the mindless purity of natural selection, whereas to others it was a welcome relief, restoring cherished elements of "mind" into evolution (Cronin 1991; Dennett 1995). But Darwin had already shown us the continuum from foresighted attempts to redesign nature through to utter mindlessness in his trio of *methodological* selection (in deliberate

breeding and crossing), *unconscious* selection (in early domestication – which we might call domestication *without intent*), and *natural* selection proper, which invokes no minds or cognitive discriminations at all. It is important to avoid the common misconstrual that views methodical and unconscious selection as *alternatives* to natural selection, rather than as special *varieties* of natural selection, in which the selection pressure is focused through events in the nervous systems of the domesticating species. There is nothing counter-Darwinian, of course, in either phenomenon; intelligence *did* evolve by natural selection "proper" and thereupon became a potent selective force in the environment. Early domestication was thus an interspecific variation on sexual selection, in which the (cognitive) eye of the selector plays a crucial – but, of course, non-miraculous – role (Miller 2000). Neither the choosy females nor the early keepers of animals needed to understand their role in the "improvement of the breed." To these selective phenomena we can add the more recent and still more mind-requiring tinkerings of genetic engineering. The processes of generate-and-test that yield the would-be replicators come in all varieties of intelligence, but in the end, as Crick reminds us, Orgel's Second Rule applies: Evolution is cleverer than you are (Dennett 1995).

What many thinkers in the humanities and social sciences find abhorrent in evolutionary perspectives is the imagined implication that any such model will replace the traditional freedom of will, rational authorship, and artistic genius imputed in their disciplines with mindless random mutation and mechanical selection. And indeed, in cultural evolution, as Mesoudi et al. make abundantly clear, there are undeniable cases of cultural features that evolve by Darwinian processes without any need to invoke authors, designers, or other intelligent creators. Most obviously, languages – words and pronunciations and grammatical features – evolve without any *need* for grammarians, deliberate coiners, or other foresighted guardians of these cultural items. But what Mesoudi et al. never properly acknowledge is that the traditional perspective of the humanities, in which intelligent authorship, foresighted, purposeful reasoning, and artistic judgment occupy center stage, also has a place in the evolutionary picture, so the dread of the humanists is misplaced. Again, there is a continuum, with many different levels of mindfulness or rational engagement to be discerned. There is unconscious selection (as Darwin would say) of musical styles, for instance, methodical selection (with much planning and debate) of political arrangements and elements of religious dogma, for example, and attempts at *memetic* engineering by advertisers and even scientists seeking the best – most vivid and unforgettable – acronym for their novel theory or investigative method. And here, as before, Orgel's Second Rule applies. No matter how intelligent, foresighted, and purposeful the local process may be, most of the brainchildren of human cultural vectors fail to found long-lived lineages.

Another point that is underplayed in the target article is the extent to which cultural traits can flourish or perish independently of their effects on our genetic fitness. Because cultural evolution can occur in orders of magnitude faster than genetic evolution, many of its prominent patterns must be stabilized by forces that are only weakly related, at best, to the reproductive success of their vectors. The default presumption that all cultural traits that do evolve will be fitness-enhancing needs to be firmly set aside. Mesoudi et al. are right that this assumption is not uniformly made, but it is often tacitly implied or suggested by the way people write about cultural evolution. For example, the fact that some form of religion is found in every human group that has ever been studied leads many to conclude that religion *must* be enhancing to either individual or group fitness, but this is a serious non sequitur; the common cold also is found wherever there are people, but presumably it is not fitness-enhancing at all. It has evolved because it could evolve.

One may, of course, treat these shifting features of human culture as mere "noisy" variation around the few cultural traits

that do have a clear and measurable positive impact on genetic fitness, but this squanders the opportunity to see them as having their own fitness, as symbionts competing for rehearsal space and for opportunities to leap from host to host. The arms races that are conducted within each of us between our immune systems and our pathogens are themselves evolutionary phenomena, on a fast timescale, and they, too, have their parallels in cultural evolution. We certainly do not evaluate our ideas on the basis of their contribution to our *genetic fitness* – most of us do not care much about that goal – and the standards we *do* adopt are themselves products of cultural evolution. Even the presumption that any cultural item that spreads widely will at least be *deemed* (rightly or wrongly) to be worth having must be set aside, as it may instead be an unappreciated or even detested item that is just too well entrenched for the local coalition of cultural antibodies to remove. Advertising jingles are good examples.

We are largely in agreement with Mesoudi et al. about the parallels they describe, but think they have overlooked these further points that may prove equally fruitful in the project of studying culture with a unifying evolutionary framework.