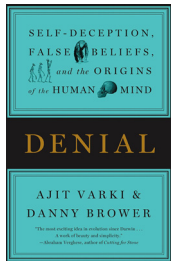


The role of death denial in human affairs

Denial: Self-Deception, False Beliefs, and the Origins of the Human Mind by Ajit Varki and Danny Brower, Twelve, 2013. US\$27.00, hbk (384 pp.) ISBN 978-1-455-51191-4

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‘...culture and history and religion and science...[are] different from anything else we know of in the universe. That is a fact. It is as if all life evolved to a certain point, and then in ourselves turned at a right angle and simply exploded in a different direction.’ Julian Jaynes [1] (p. 9)

Denial: Self-Deception, False Beliefs, and the Origins of the Human Mind by medical researcher Ajit Varki and (the late) geneticist Danny Brower is an account of the evolutionary origin of the unique aspects of human mentation. The book is the outcome of a single encounter between Varki and Brower in 2005 at which Brower proposed that humankind’s complex mental capacities are best understood by asking why such proclivities appear only in humans rather than other intelligent species with rudimentary self-awareness such as chimpanzees, dolphins, and elephants. The book’s basic argument is as follows.

- (i) Sophisticated and uniquely human cognitive facilities require a ‘full’ theory of mind (TOM) (i.e., the understanding that other individuals are self-aware, act intentionally, and can harbor false beliefs) and an extended theory of mind (i.e., the capacity for two individuals to attribute mental states to each other while simultaneously making inferences about a third individual’s state of mind).
- (ii) TOM makes individuals aware that others die and this results in the realization of one’s own inevitable death. According to Varki and Brower (pp. 16–17), ‘even an animal with complete self-awareness cannot truly understand death until it becomes fully aware that others of its kind are also self-aware individuals... This higher level of awareness is called a “full theory of mind,” or the ability to fully “attribute mental states” to others, and with it comes an awareness of the deaths of others and thus the realization of one’s own mortality.’
- (iii) The awareness of personal mortality engenders potentially debilitating terror that would undermine the reproductive fitness of individuals with TOM in

the absence a simultaneous evolutionary adaptation to deny death. Humans deny death literally by subscribing to religious beliefs in heavens and afterlives or scientific efforts to overcome death (e.g., cryogenics). Death denial is also manifested symbolically by legacy concerns (e.g., that one will be remembered for noteworthy accomplishments, amassing great fortunes, having children, or being part of an enduring tribe or nation). Engaging in risky behaviors such as imprudent financial decisions, unprotected sex, smoking, or driving recklessly also serve to deny death by conferring a sense of personal invulnerability.

Denial is a timely and erudite book that provides convergent support for Ernest Becker’s assertion in *The Denial of Death* [2] (p. ix) that ‘the idea of death, the fear of it, haunts the human animal like nothing else; it is a mainspring of human activity – activity designed largely to avoid the fatality of death, to overcome it by denying in some way that it is the final destiny of man’ framed in the context of contemporary evolutionary and cognitive psychological discourse.

However, Varki and Brower perhaps place too much emphasis on the role of awareness of the personhood of others in provoking awareness of one’s own death. Others have argued that self-awareness in conjunction with the capacity to reflect on the past and (more importantly) consider the future is sufficient to realize that one is also mortal. For example, Scott Atran, in *In Gods We Trust: The Evolutionary Landscape of Religion* [3] (p. 66), posited that ‘existential anxieties are by-products of evolved emotions, such as fear and the will to stay alive, and of evolved cognitive capacities, such as episodic memory and the ability to track the self and others over time. For example, once you can track even the seasons – and nuts – you cannot avoid the overwhelming inductive evidence favoring your own death and that of those you are emotionally bonded to.’

Moreover, although the main ideas in *Denial* are likely to be novel to evolutionary and cognitive psychologists, they are not unprecedented in existential psychodynamic thought, where theorists (e.g., [4,5]) have proposed that the complex cognitive faculties that are defining characteristics of humankind have not arisen despite death denial; rather, they exist because of death denial.

There is also considerably more empirical evidence for Varki and Brower’s (p. 179) claim that ‘denial of reality is a fundamental human characteristic’ than is presented throughout the book. For example, research (e.g., reviewed

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in [6]) demonstrates that reminders of death increase imprudent financial decisions, desire for unprotected sex, smoking, drinking, and reckless driving. Varki and Brower's (p. 155) hypothesis that 'anxiety attacks represent a sudden episodic failure of the human reality denial system, transiently unmasking the fear of death' has been proposed and empirically verified [7].

Regardless of antecedent theory and research, *Denial* makes a strong case that death denial is central to human affairs and serves as a fine counterpoint to arguments that death awareness is not particularly troubling for humans [8] and that cultural and psychological mechanisms to deny death are unlikely to be evolutionary adaptations [9]. In this regard, Varki and Brower forcefully contend that the knowledge of personal mortality is singularly problematic for human beings, different and more terrifying than other physical ailments or psychological predicaments. Moreover, they insist that the idea that death denial is an evolutionary adaptation is consistent with Darwin's original conception of evolution by natural selection (and more-contemporary renderings thereof). Specifically, early humans who were able to deny the prospect of their inevitable demise would be more successful in terms of survival and reproduction than self-aware creatures encumbered with the unvarnished truth about their inevitable fate.

This important book will hopefully disseminate these ideas to a broader audience, and foster theory and research on interesting questions. Does the awareness of personal mortality arise from a sophisticated theory of mind, or from

self-awareness combined with the uniquely human capacity for symbolization and ability to anticipate the future [10]? Is the problem of personal mortality a constraint that limits intelligence for all creatures or is this a conundrum unique to upright, bipedal, stereoscopic-binocular-envisioning, opposable-thumbed, gregarious, long-lived, terrestrial, symbolizing, mental time-traveling primates?

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