

## Dutton, Davies, and Imaginative Virtual Worlds The Current State of Evolutionary Aesthetics

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### *Introduction*

Stephen Davies and the late Denis Dutton are both professional philosophers of aesthetics. They both have spent a good deal of time acquiring information about current research in the evolutionary social sciences. They both have read widely in Darwinian literary theory and are knowledgeable about the less voluminous work in evolutionary aesthetics. Their topics thus necessarily overlap, but their books have different purposes and a different feel. Davies's book is an academic exercise. He has no real arguments or claims of his own. He merely examines contributions by others, analyzes them with the purpose of poking holes in substantive formulations, and suspends himself comfortably in tepid skepticism. Dutton wishes to demonstrate that evolutionary psychology can provide a satisfying naturalistic explanation of aesthetic experience, rescue aesthetics from the preciosity of postmodernism, and allow aesthetic philosophers to affirm common experience while also integrating humanities with biology and the social sciences.

Neither Davies nor Dutton fully succeeds in his ambition. Davies extends his skepticism well beyond a sensible account of the state of current knowledge about human evolution, and his eagerness to reach no conclusions leads him into equivocations and self-contradictions that undermine his credibility. Dutton fails to recognize underlying theoretical differences in his three main sources of theoretical inspiration: (1) the «orthodox» or «narrow-school» evolutionary psychology founded by Tooby and Cosmides and popularized by Steven Pinker; (2) the sexual selectionist notions of Geoffrey Miller; and (3) the theory of imaginative virtual worlds propounded by Edward O. Wilson and the present author. Although Dutton's effort at synthesis is only partially successful, the feel of his book does not depend entirely on deep theoretical coherence. He lived a life of delighted absorption in the arts, and he had a strong intuitive sense for the natural-

istic, biological basis for artistic experience. As an expression of his own experience, his work conveys enthusiasm and conviction.

The limitations in these two works do not define the boundaries of current knowledge in evolutionary aesthetics. As I see it, the most advanced and adequate concept in the evolutionary humanities is the idea that humans evolved the capacity to create imaginative virtual worlds and use those worlds to guide human behavior. That one capacity is the most important species-specific adaptation in the human adaptive repertoire. Both books being considered in this essay approach the idea of imaginative virtual worlds and almost grasp it. Dutton comes closer than Davies. Dutton's near miss and Davies's evasions and equivocations on this idea will be my main topic. Before taking up that topic, though, I shall discuss two subsidiary issues: Dutton's effort to incorporate sexual selection, and Davies's skeptical negations about all evolutionary knowledge.

*Dutton's "Home-Entertainment Model of Mind"*

Sexual selection means selection working not on survival or even on mating and parenting effort but rather on sexual competition with other members of one's own species. Animals (usually but not always males) often evolve size, weaponry, or armor to compete with conspecifics of the same sex. They also often evolve ornamental features that attract conspecifics of the opposite sex (cf. Darwin [1871]). Animals select mates on grounds of general health and fitness and sometimes, in dual parenting species, on evidence of willingness to invest in long-term cooperative effort. Animals of some species select mates who display «costly signals» – features of anatomy or behavior that are metabolically expensive or put the animal at risk of predation and that consequently give indications that the animal has the capacity to bear the cost (cf. Zahavi [1975]). In discussions of costly signaling, the most common illustration is the peacock's tail.

Geoffrey Miller generalizes the idea of costly signaling as an explanation for the evolution of the human brain. Miller suggests that the brain has no primary adaptive value (cf. Miller [2000]: 17-19). Since the human brain is large, metabolically expensive, functionally complex, and clearly useful for accomplishing adaptively functional tasks like acquiring food, fending off predators, and negotiating social relationships, Miller's claim is patently absurd. It has nonetheless achieved a semi-canonical status in evolutionary psychology. This anomaly can be explained in part by the fact that Miller writes with a panache unusual among social scientists. But it is also the case that Miller's hypothesis helped fill a gaping hole in the model of human nature propounded by early evolutionary psychologists.

The evolutionists who adopted the model of the mind propounded in *The Adapted Mind*, and especially in *The Psychological Foundations of Culture* (cf. Tooby, Cosmides [1992]), could offer good explanations for behavior geared toward survival, mating, parenting, social life in a group, and interactions between groups, though only at the level of complexity displayed by contemporary hunter-gatherers, proxies for our Pleistocene forebears. They could not offer good explanations of civilization, the arts, or the life of the mind. Every aspect of human behavior since the advent of agriculture is, they felt, something of an accident, an instance of «mismatch», a superficial overlay on top of the basic set of adaptations suited for solving problems in the Pleistocene. Art precedes agriculture, but even art, in Pinker's formulation, is merely a «by-product» of cognitive adaptations that evolved to satisfy basic needs of survival, mating, parenting, and social life. Like rich foods, recreational drugs, or pornography, the arts, as Pinker conceives them, have no adaptive function; they only exploit sources of pleasure that evolved to subserve adaptive functions. They are, in that respect, functionally equivalent to masturbation.

Rather than dismissing the arts and sciences as side-effects of Pleistocene adaptations, Miller argues that the arts, sciences, and other forms of intelligence (verbal fluency, for instance) are instances of traits that evolved as a result of sexual selection; they are functionally equivalent to the peacock's tail – flamboyant displays with purely ornamental purposes, costly signals designed to dazzle prospective mates. Pinker's by-product hypothesis is clever but not very compelling. Uneasy at failing to account for such a large and important part of human behavior as the arts and sciences, many evolutionary psychologists have been grateful for Miller's proposed explanation. Whenever anyone asks, «But what about the arts?» they can just wave airily at the peacock's tail and concern themselves no further about it (see for instance Kenrick [2011]).

Evolutionists in the humanities have criticized both Pinker's by-product hypothesis and Miller's sexual selection hypothesis (cf. Carroll [2004], [2011b], [2012a]; Disanayake [2000]). Dutton argues strongly and effectively against Pinker's hypothesis but at least partially accepts Miller's. He devotes separate chapters to the adaptive functions of the arts in general, to the adaptive functions of narrative fiction, and to the arts as products of sexual selection. The chapters on the arts in general and on narrative fiction develop a broad concept of the way the arts enter into human life by guiding behavior. In the chapter on sexual selection, Dutton seems to forget most of what he says in the two previous chapters and aligns himself enthusiastically with Miller's hypothesis. «As Miller so nicely puts it, the mind in sexual selection is best seen as a gaudy, over-

powered Pleistocene home-entertainment system, devised in order that our Stone-Age ancestors could attract, amuse, and bed each other» (Dutton [2009]: 151).

Inconsistency and equivocation are not, in general, intellectual virtues, but when a theorist is arguing for a bad idea, they can at least dilute the idea. Throughout his chapter on sexual selection, Dutton slips and slides in perpetual equivocation, sometimes suggesting that the arts and linguistic virtuosity are only forms of sexual display, and sometimes merging the idea of sexual display with the more general idea of «social selection», the selection for traits that are valued by other members of a social group because they benefit the group. Consider this passage:

Even while natural selection was refining the human species against a background of «nature red in tooth and claw», improving the function of the liver or instilling physical pleasures and phobias, sexual selection was building a more interesting human personality, one that we have come to know as convivial, imaginative, gossipy and gregarious, with a taste for the dramatic. Much of this mental and linguistic talent is directed to the human social group, but it is also a central area of interest in courtship contexts. (Dutton [2009]: 149)

There are two theses at work in this passage, one of which is correct, and one of which is not. The correct thesis is that in humans all sorts of adaptive features are also sexually attractive. The incorrect one is that most of the human mind and human personality serves merely as a hypertrophic ornament designed for costly signalling. The correct and incorrect theses blend and blur into one another, working both together as if they were one thesis. A similarly sophisticated blending of ideas is at work in this passage below:

Sexual selection is ubiquitous in the animal kingdom and throws light on curious features of animals that natural selection is powerless to explain. Not only striking plumage, but such characteristics as body symmetry, healthy skin, shiny fur, agility, tireless courtship dancing, intricate aerial maneuvers, musculature, and gross strength are in part or in whole products of sexual selection. The typical pattern is that some trait of an animal that evolved by a straightforward process of natural selection is commandeered by sexual selection and either greatly accentuated or completely transformed into a fitness signal. (Dutton [2009]: 138)

The second sentence in this passage contains a false implication: the idea that features like body symmetry, healthy skin, agility, musculature, and gross strength are costly signals and have no primary adaptive value. It is true that such features signal general health and fitness and are thus sexually attractive. Selection for sexual attractiveness often converges with selection for general fitness (health, strength, capacities for survival). And finally, it is true that sexual selection can exaggerate features in ways that degrade

general fitness and that thus serve as a costly signal. Caught up in the spirit of enthusiastic advocacy for sexual selection, Dutton misleadingly drives a wedge between the two forms of selection. He fails to give a clear and accurate account of where general fitness and sexual selection converge and diverge. Instead, we get a crude and false conception in which natural selection is taking care of our livers, and sexual selection is making us pretty and smart.

Put to Dutton a straightforward question, demanding that he affirm or deny that the human personality and the human mind are adaptively useless ornaments, and he would be compelled, a little reluctantly, to say «No, I don't believe that». But his rhetoric strongly suggests that he does believe it. Rhetoric that suggests what an author would not positively affirm is a self-indulgence, an intellectual vice.

#### *Davies's willful ignorance*

Davies declares that he wishes «to reserve judgment» on all questions in which one or another hypothesis is not already «clearly established» (Davies [2012]: 43). Now, «clearly established» is a relative term, stretching from one side to *beyond a reasonable doubt*, the standard necessary to convict someone of a criminal offense, and on the other side to *absolutely certain, scientifically established in a way that admits of no rational reservation whatsoever*. On most important questions, Davies's implicit standard of judgment is that of absolute certainty. Hence, on most important questions, he reserves judgment. For instance, the most discussed topic in evolutionary aesthetics is whether the arts have an adaptive function. On the one hand, Davies declares that «adaptationist claims about art are not firmly established», and on the other he declares that claims for art as an evolutionary by-product «are not more strongly supported» (Davies [2012]: 6). What's a philosopher to do? Reserve judgment. On unimportant questions, Davies is less reserved. Much of his book is devoted to giving precise and detailed analytic attention to ideas so commonplace and obvious that they do not merit discussion.

Between these two poles – reserving judgment on important issues and dwelling expansively on unimportant issues – there is a missing middle ground: the ground in which one takes up important but unsettled issues, assesses evidence, weighs relative probabilities, and identifies forms of research that could produce evidence that would help decide among competing hypotheses. My own touchstone for a book that exemplifies that missing middle ground is Darwin's *Origin of Species* (1859). But any number of more recent evolutionary books could also be cited. In this regard, I would mention *Demonic Males: Apes and the Origins of Human Violence* (Wrangham, Peterson [1996]), *Hierarchy*

*in the Forest: The Evolution of Egalitarian Behavior* (Boehm [1999]), *War in Human Civilization* (Gat [2006]), *Before the Dawn: Recovering the Lost History of Our Ancestors* (Wade [2006]), *Catching Fire: How Cooking Made Us Human* (Wrangham [2009]), *The 10,000 Year Explosion: How Civilization Accelerated Human Evolution* (Cochran, Harpending [2009]), *The Origins of Political Order: From Prehuman Times to the French Revolution* (Fukuyama [2011]), *Lone Survivors: How We Came to Be the Only Humans on Earth* (Stringer [2012]), *The Righteous Mind: Why Good People Are Divided by Politics and Religion* (Haidt [2012]), and *Moral Origins: The Evolution of Virtue, Altruism, and Shame* (Boehm [2012]).

Davies is so intent on suspending judgment that he is not content merely to set an impossible standard of certainty; he also actively misrepresents the actual condition of knowledge in evolutionary studies. He says that «we are largely ignorant» of group sizes and group structure among our ancestors, the number of their children, their mating practices, religious beliefs, patterns of resource distribution, attitudes to the sick and injured, life expectancy, home range, and general mobility (Davies [2012]: 97). Fearing perhaps to have gone too far in energetic affirmations of ignorance, he turns about and acknowledges that «we can make shrewd guesses» (Davies [2012]: 98) about such topics. Nonetheless, despite this gesture toward protecting all flanks, he concludes that we cannot «be confident about the plausibility of any account of the overall pattern». The books cited in the previous paragraph stand as a refutation of this sort of determined know-nothingism. Every aspect of ancestral life mentioned by Davies has been investigated through multiple intersecting lines of evidence from paleontology, paleoclimatology and paleogeography, ecology, hunter-gatherer ethnography, primatology, and anatomical and physiological inference. The «overall pattern» is best discerned in the systemic interactions that are the subject of «human life history theory», which adduces all these forms of evidence (Carroll [2011a]; Flinn [2006]; Flinn, Geary, Ward [2005]; Flinn, Ward [2005]; Geary, Flinn [2001]; Hill, Kaplan [1999]; Hill *et al.* [2011]; Kaplan, Gurven, Winking [2009]; Kaplan, Lancaster, Robson [2003]; Kaplan, Gangestad [2005]; Kaplan, Hooper, Gurven [2009]; Low [2000]; Lummaa [2007]; MacDonald [1997]; Muehlenbein, Flinn [2011]).

#### *Davies's account of imaginative virtual worlds*

Davies discusses general theories about the adaptive function of all the arts in chapter eight. There, though, he leaves out the most important and comprehensive theory, the idea that the arts create imaginative virtual worlds. He says that in addition to the theo-

ries discussed in chapter eight there are other theories about the adaptive function of the arts but that these other theories are specific to individual art forms – especially to music and narrative fiction. When he discusses narrative fiction, in chapter eleven, he finally introduces the concept of imaginative virtual worlds and provides endnote references to some of the main proponents of this theory.

Presenting this theory as exclusively oriented to narrative fiction is at best disingenuous. The seminal theoretical works that propound this concept are not oriented only to narrative fiction. E.O. Wilson and I explicitly present our ideas as theories about the arts in general (Carroll [2008], [2012a], [2012b]; Wilson [1998]). Ellen Dissanayake's discussion of art and meaning in her book *Art and Intimacy* intermingles cosmological myths with the arts that are integrated into tribal life. Jon Gottschall's ideas in *the Storytelling Animal* overlap with those of Wilson and Carroll and can be very easily subsumed by theories about the adaptive function of the arts in general. Dutton's arguments on adaptive function come close enough to Dissanayake's so that they can be reasonably included in any list of references to the idea that the arts help regulate the behavior of individuals and groups by giving vivid imaginative form to values and beliefs.

Even within the artificially constricted scope within which Davies discusses the idea of imaginative virtual worlds, he gives a misleadingly narrowed account of the idea. He suggests that virtual worlds provide information about human psychology and impart practical moral lessons. In reality, imaginative virtual worlds involve music and the visual arts as much as narrative; they also include ideologies and religions and multi-media systems of ritual. All such media are emotionally charged and aesthetically modulated. Human beings create and inhabit imaginative virtual worlds in order to orient themselves within the actual world, physical and social. For most people, virtual worlds also include an imagined – and to my mind, imaginary – spiritual dimension that is populated by supernatural agencies. By informing our values, desires, and fears, imagined worlds influence our behavior. The capacity for creating and living in imagined worlds co-evolved with the creativity and flexibility that distinguish *Homo sapiens* as a species.

In his conclusion, Davies says that the arts help generate «our sense of ourselves, both as individuals and as members of communities» (Davies [2012]: 188). They «transform and add meaning to our lives». That sounds very much like a claim that art has an adaptive function. Just a few lines before, though, Davies had suggested that «art is a spandrel that survives because it does not limit or undermine the comparative fitness of those who display it» (Davies [2012]: 187). That equivocation seems to reflect a dualistic vision in which «adaptations» and «evolution» reduce themselves to survival and pro-

creation. All the other, more mental and imaginative aspects of human behavior are, in supposed contrast, part of our «humanity».

The dualistic vision that closes Davies's book also introduces it. In his opening statements, Davies declares that «some, but not all, aesthetic interests and responses have biological underpinnings» (Davies [2012]: 6). In reality, nothing in human life does not have a biological underpinning. As soon as someone is dead, all their interests and responses stop. Until they are dead, all their interests and responses depend on their central nervous system, which is part of their biology. T.H. Huxley delivered his lecture *On the Physical Basis of Life* in 1868. Nearly a century and a half later, one should no longer have to remind philosophers that human responses depend on the nervous system, and that the nervous system is biological.

#### *Dutton's account of imaginative virtual worlds*

Dutton's chapter on sexual selection is the Mr. Hyde part of his book. The chapters on adaptive function and narrative fiction are the Mr. Jekyll part. Like Stevenson's character, Dutton's identity is neatly split between the two. There is no blending in which Jekyll and Hyde occupy the same body and intermingle their genetic programs – the condition that afflicts Jeff Goldblum in Cronenberg's remake of *The Fly*. But the Jekyll side of Dutton is not a fully realized entity. Dutton has strong glimpses of the full concept of imaginative virtual worlds, but like Davies he tends also toward reducing that world to psychological information and moral lessons.

Pinker allows for one way in which one of the arts might have some adaptive function; he allows that narrative fictions might provide practical game-plan scenarios that people can use the way chess players use practice chess games to sharpen their skills for the real thing. Dutton follows Pinker in this idea and supplements it with two other ideas: Michelle Scalise Sugiyama's idea that stories provide useful practical information, and Lisa Zunshine's idea that stories help us exercise our powers of seeing into the minds of other people (Dutton [2009]: 110). Dutton's claims for the adaptive functions of the arts hover somewhere in between these three ideas and the wider, deeper idea that the arts produce emotionally modulated imaginative virtual worlds. The idea that the arts provide practically useful information and moral instruction is mostly what Dutton has in mind when he affirms that stories help «individuals and groups develop and deepen their own grasp of human social and emotional experience» (Dutton [2009]: 118). The idea that the arts create imaginative virtual worlds influences the claim that «the arts intensify experience, enhance it, extend it in time, and make it coherent» (Dut-



ton [2009]: 102). That idea influences also the claim that stories help us «make sense of new situations» and «interpret past experience» (Dutton [2009]: 113).

*My own account of imaginative virtual worlds*

Imaginative virtual worlds are all around us, in myths, religions, jokes, anecdotes, oral and written stories, fantasies, movies, television, popular songs and grand opera. We can't not inhabit such worlds. We live in the imagination. Our cognitive apparatus does not register the world as merely an influx of stimuli that release stereotyped responses. Our highly developed brain compels us to take account of contingent circumstances, complex causal processes, and intentional states in other minds. All present action for us is located in a temporal continuum that includes memories of the past and anticipations of the future. All action is located in an awareness of connections with other people, both living and dead, near and distant. All action is tinged with an awareness of norms, values, beliefs, and goals. All action reflects on and intermingles with our sense of personal identity and our imaginative vision of the world we inhabit. All action assumes a definite value and meaning only within some given imaginative structure – some order of symbols that are vividly present to the imagination. Those symbols derive from myths and artistic traditions, stories, songs, paintings, photographs, and moving pictures.

Imagination can radically modify or even stifle the expression of the most basic human impulses. It can influence child-rearing, mating, social interactions within or between groups, and even the instinct for survival. It can lead some people to choose lives of celibacy, silence, and prayer, drive others to kill themselves or others, prompt people to affirm universal humanity or to glorify their own sect or tribe at the expense of others. Every form of human behavior is prompted by some biologically grounded impulse, but those impulses are always bound up in reciprocal influence with imaginative structures, and they combine in ways vastly more complex than the behavioral variations of any other species.

The theory of imaginative virtual worlds subsumes other ideas about the adaptive function of the arts, for instance, the ideas that that the arts enhance pattern recognition (Boyd [2009]), provide means of shared social identity (Dissanayake [2000]; Wilson [2007]), provide adaptively relevant information (Scalise Sugiyama [2001], [2005]), identify adaptively functional forms of behavior (Salmon, Symons [2004]; Tooby, Cosmides [2001]), and practice game plans off-line (Pinker [1997]; Tooby, Cosmides [2001]). Like all other adaptively functional traits, the arts can of course also be used for sexual display.

Davies declares that the various theories about the adaptive function of the arts are «widely discrepant» (Davies [2012]: 126). Actually, all the theories mentioned in the previous paragraph work variations on a common theme. They all probe ways in which the arts develop the mind, enrich its powers, and make it more capable of dealing effectively with its physical and social environment. As both Dutton and Davies suggest, the arts broaden our minds, deepen our emotional understanding, and give us new insight into human experience. In all cultures – those of hunter-gatherers, agriculturalists, and advanced civilizations – the arts are necessary parts of normal childhood development; they connect individuals to their culture; and they help people get oriented to the world, emotionally, morally, and conceptually.

Dutton tries to synthesize ideas that are not wholly compatible, and Davies exaggerates the level of theoretical divergence in evolutionary aesthetics. Nonetheless, we have been making steady progress toward reasoned consensus. The two founders of the narrowest and most rigid form of evolutionary psychology later revised their own view that the arts are an evolutionary byproduct (Tooby & Cosmides [2001]). Like Dutton and Davies, Tooby and Cosmides have made a close approach to the idea that the arts build imaginative virtual worlds. As this idea gradually crystallizes in the minds of other theorists, and as other theorists realize that it subsumes partial theories of the adaptive function of the arts, it is likely that the most broad-minded and curious evolutionary psychologists will respond in an affirmative way to the prospect of building a more adequate and complete model of our specifically human nature.

Our knowledge and theoretical grasp have steadily improved. The gap between the evolutionary social sciences and the evolutionary humanities is steadily being reduced. There is a certain inevitability to this process. E.O. Wilson's idea of «consilience» is that nature itself forms a unified causal structure and that knowledge follows the structure of nature (Wilson [1998]). Wilson argues that bridging the gap between the humanities and the social sciences, both brought under the umbrella of evolutionary biology, offers the single most important remaining disciplinary challenge to the unification of knowledge. That goal is visible, and within reach.

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