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The Evolution of Human Nature II

Portrait of the Artist as a Caveman

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In a letter to the botanist Asa Gray written in 1860, a year after the publication of *On the Origin of Species*, Charles Darwin wrote, "a feather in a peacock's tail, whenever I gaze at it, makes me sick!" His new theory of evolution by natural selection—or "the survival of the fittest," as biologist Herbert Spencer would later famously describe it—could hardly explain that beautiful but useless piece of avian ornamentation. Darwin would later come to terms with the beauty of the peacock's tail in *The Descent of Man*, realizing that the extravagantly colored feathers *did* in fact have a use: not to enhance the peacock's survival in the contest of natural selection, but to attract peahens in the contest of sexual selection.

So what of the beauty to be found in the human world? It seems to be of a quite different form from the peacock's tail, at once less and more magnificent: The human body lacks the spectacular natural ornamentation of the peacock, yet we almost always cover ourselves with adornments of our own creation. And we fashion and surround ourselves with myriad other works of beauty even more elaborate and varied. A similar problem to the peacock's tail, then, confronts the attempt to understand beauty in the human world in the form of art. It seems to be as extravagantly useless for survival as the peacock's beautiful tail—but cannot be nearly so easily explained through the mechanism of individual sexual selection. As one not-atypically earnest article on the subject notes, "Puzzlingly, humans in all cultures engage in a broad variety of aesthetically oriented activities that appear to have no obvious evolutionary utility, including immersion in those falsehoods called fiction."

But if the peacock's tail seems to pose a conundrum for understanding art through evolution, it also illustrates the versatility of evolutionary explanation. In recent years, evolutionary psychologists, who view the human mind as essentially a collection of adaptations crafted by natural selection over millions of years to cope with the problems faced by our ancestors, have been taking up the seeming promise of the peacock's tail.

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Attempting to subsume human art and literature within the realm of evolutionary mechanism, they have been joined by a segment of philosophers and art critics eager to find a definitive account of the universal features of human artistic creativity and aesthetic appreciation.

Instincts, Emotions, and the Origins of Art

The tale of the tail is recounted in one of the more prominent works seeking to explain art through evolution: the late Denis Dutton's 2009 book *The Art Instinct*. The American-born Dutton, who was perhaps most widely known as the founder of the popular website Arts & Letters Daily, was a professor of philosophy at the University of Canterbury in New Zealand. Among the aims of his book is to inject a dose of cold, hard science to fight the fever of cultural relativism that seems to have been clouding the judgment of the humanities and social sciences for much of the twentieth century.

This cultural relativism has been pervasive in the different schools of modernist art and art criticism, which, Dutton says, replaced the traditional artistic values of "beauty, skill, and pleasure" with "a determination to shock or puzzle" that "has sent much recent art down a wrong path." The infamous prototype of this art-world relativism is Marcel Duchamp's 1917 work *Fountain*, a urinal that the French artist purchased, signed with the name "R. Mutt," and submitted to an avant-garde art exhibition. Dutton notes that in a 2004 survey of five hundred of the art world's most important artists, critics, and curators, 64 percent selected *Fountain* as the most influential work of art of the twentieth century.

Dutton enumerates a list of twelve universal features of art that he argues are rooted in our evolved human nature, and uses them, among

The Art Instinct: Beauty, Pleasure, and Human Evolution
By Denis Dutton
Bloomsbury ~ 2009 ~ 288 pp.
$25 (cloth) $15 (paper)

On the Origin of Stories: Evolution, Cognition, and Fiction
By Brian Boyd
Belknap ~ 2010 ~ 560 pp.
$21 (paper)

Why Lyrics Last: Evolution, Cognition, and Shakespeare's Sonnets
By Brian Boyd
Harvard ~ 2012 ~ 240 pp.
$25.95 (cloth)

other things, to attempt to make sense of Duchamp's controversial example. These features are: the direct sense of pleasure a work of art provides; the skill and virtuosity involved in its creation; the presence of a recognizable style in which the artwork is made; its novelty and originality; its ability to generate critical judgment and appreciation; its representation or imitation of real or imaginary experiences; the way works of art are set apart from ordinary life and given special attention; its expression of the individual personality of the artist; its "emotional saturation," or the ability of the work to incite emotions in its audience; the intellectual challenge that it can provide for an audience; the significance that the work has in an artistic tradition; and finally, the imaginative experience that the work represents for its producer and evokes in its audience. In the end, Dutton admits that, even though Duchamp's "art-theoretical gesture" lacked "the emotion, the individuality, the skill, [and] the beauty" that through evolution we have come to enjoy in art, its creativity and originality, along with its undeniable influence, make it a work of art in some sense.

While his position on this controversial piece of art is less than decisive, his analysis of the difficult aesthetic problem that a work like *Fountain* presents is fruitful and clarifying. Equally admirable is his spirited but open-minded defense of aesthetic common sense against art critics and theorists who approach ironic or transgressive modern art, like *Fountain*, with a paradoxical air of high-minded seriousness.

Perhaps most laudable is that in articulating a "naturalistic" account of aesthetics, Dutton's book, unlike so many others on evolution and art, avoids illustrating "the high-order adaptations involved in the human art instinct" with anecdotes of animal "art." To some extent, Dutton's work follows in the footsteps of anthropologist Ellen Dissanayake, who attempted to explain the development of the arts in the broadest sense by focusing on its cultural functions in pre-modern societies. Dutton too recognizes that while art may be based on instinct, it is based on a uniquely *human* instinct. He notes that while our closest living relatives, the chimpanzees, do sometimes produce paintings in captivity, this "art" exists "only because trainers remove the paper at the right point; otherwise, the chimp will continue to apply paint till there is nothing to see but a muddy blob." Moreover, chimpanzees show no interest in their own creations, and still less in the creations of other chimps, suggesting that they lack the sense of aesthetic appreciation of art that is so central in human culture.

Even the animal that Dutton argues comes closest to human beings in the deliberate creation of aesthetic harmony—the male bowerbird,

which creates detailed and carefully constructed nests—fails to have any enduring sense of aesthetic appreciation for its work. Female bowerbirds evaluate the appearance of these nests, but only for the purpose of mate selection, and "are not part of an artistic culture, to be preserved, discussed, and appreciated outside a pattern of animal mating." Moreover, the bowerbird is only very remotely related to human beings, so whatever art-inclining genes it might have are unlikely to be shared by humans.

The bowerbird, in providing a clear example of an art instinct that can be easily explained through sexual selection, shows how inadequate that same process is to explaining the quite different nature of human art. Unlike the bowerbird nest, human art is "complex and diverse"—no two works are the same, and often they are "among the most gaudy and flamboyant of human creations." And "at the rarefied level of the most profound and enduring masterpieces," Dutton continues, "they can reveal an elevated spirituality unparalleled in human experience." Rather than comparing us to our close evolutionary relatives, or offering analogies between our behavior and that of other relatively intelligent animals like elephants or dolphins, Dutton begins with our "firsthand experience" of art and works backward, adding in ethnographies of "preliterate hunter-gatherer tribes" when appropriate. From such evidence, Dutton seeks to portray his view of the human instinct for art.

The first feature of our inclination toward art is that we seem to have a universal love of landscape paintings—and not just any landscape, but landscapes similar to those our ancestors would have encountered on the African savanna. A central pillar of evidence for his argument is a 1993 study commissioned by Russian painters Vitaly Komar and Alexander Melamid that surveyed people from ten diverse countries and found a surprising number of consistent aesthetic preferences. Dutton writes:

> People in almost all nations disliked abstract designs, especially jagged shapes created with a thick impasto in the commonly despised colors of gold, orange, yellow, and teal. This cross-cultural similarity of negative opinion was matched on the positive side by another remarkable uniformity of sentiment: almost without exception, the most-wanted painting was a landscape with water, people, and animals.

Dutton suggests that this seemingly universal preference for paintings depicting open spaces, trees, water, and animals is related to our ancestors' search for food and safety. Such landscapes would have presented opportunities for cultivation; and the presence of water and climbable clusters of trees—which could have served as lodgings for game and provided safety

from predators—would have been preferred by hunter-gatherers to either a dark forest or desolate plains. The emotional response to landscapes, the sense of peace, Dutton suggests, developed from the habitat choice of "people (and proto-people) in the Pleistocene."

Of course, not all artistic preferences are as universally held as our love of landscapes. Yet the appreciation of art is itself a human universal, and while "we might not receive a pleasurable, or even immediately intelligible, experience from art of other cultures," Dutton writes, the similarities are far greater than the differences. Moreover, the similarities might help explain why some of the differences—like Dadaism and Duchamp—are of little interest to the great unironic masses. After exploring the reasons within art history why Duchamp's work fulfilled some of the features of art, and so deserves some respect (grudging or otherwise) for its innovative audacity, Dutton ultimately seems to side with a more conventional view of what makes for *good* art, and argues that this tradition is more enduring and universal because art is natural and not merely cultural. What the book's title calls an "instinct" for art is literally in our genes.

Some scientists, such as the late paleontologist Stephen Jay Gould, have criticized the attempt to explain through the principles of natural selection the uniquely human aspects of the human mind, including our inclinations toward creating and appreciating art. In a 1997 essay in the *New York Review of Books*, Gould argued that most of the specific features of human psychology—such as our aesthetic preferences—are byproducts of our oversized brains, rather than specific adaptations shaped by our evolutionary history. But Dutton claims, on the contrary, that something as deeply seated in human nature as art is best understood as an adaptation—"an inherited physiological, affective, or behavioral characteristic that reliably develops in an organism, increasing its chances of survival and reproduction"—in other words, as a product of natural and sexual selection in our human ancestors.

The Moral Dimension of Art

The limitations of Dutton's evolutionary approach start becoming clear when he turns to explaining the adaptive characteristics of fiction. Inventing and listening to stories, he argues, might have increased our ancestors' chances of survival and reproduction in three ways. First, storytelling may have provided a "low-cost, low-risk" way of considering possible scenarios in response to real "problems, threats, and opportunities." Fiction is functional: stories "are preparations for life and its

surprises." Second, stories may have provided "a vivid and memorable way of communicating information," such as, one supposes, don't feed the saber-toothed tiger. Third, stories allow us to exercise empathy for other humans, which may have been beneficial in increasing "interpersonal and social capacities."

Dutton notes that some caution ought to be taken in this approach. He rightly ribs the psychologist Steven Pinker for arguing that fiction aids us by supplying hypothetical situations "we might face someday and the outcomes of strategies we could deploy in them. What are the options if I were to suspect that my uncle killed my father, took his position, and married my mother?" Hardly a helpful contribution to our understanding of *Hamlet*. Still, Dutton cannot avoid the flaws inherent in suggesting that literature confers evolutionary advantages, and he begins to run into obvious trouble when he provides a number of anecdotes and thought experiments to illustrate the adaptive benefits of stories, and claims that these merely need to be "plausible" to be sound. Plausibility is a very weak standard for argumentative success in philosophy, and especially in science, which rightfully prides itself on distinguishing the plausible from the experimentally tested and sound. Indeed, the history of science is filled with examples of plausible theories touted as scientific truth that later give way to more complex realities.

Dutton's argument that fiction might serve to improve our interpersonal and social capacities is undercut by his assertion that the moral benefits fiction provides "are so obscure, so diffuse and self-contradictory, that they are very poor evidence for the claim that moral edification is the main achievement of literature." Even if we accept the dubious claim that art directly improves survival and reproduction, is it really a "low-cost" and "low-risk" way to do so? The obsessive commitment that many artists have to their craft testifies to the costliness of art—not only in terms of the financial resources of the people who create it, but the mental demands, opportunity costs, and even self-destructive behavior that often results. It seems a stretch to suggest that such a mechanism would have been more of an aid than a waste of time in our ancestors' struggles to find food, avoid death, and raise families.

A rigorous evolutionary account would also need to explain how our artistic faculties developed: which neurological adaptations came first, and how were they produced by a heritable genetic variation? Why did we evolve the capacities for fiction, narrative, and rhyme that we now possess, rather than some other methods of categorization and communication that could have solved the same adaptive problems? Above all, how did

some genetic or neurological difference cause the categorical leap from the mere use of signs to the human use of symbols, and why was this mutation favored in the evolutionary struggle for existence? The book does not ask these questions, perhaps because the methodology of this kind of science is ill-suited to addressing them.

Worse still, although Dutton refuses to reduce human art to animal art, he attempts to diminish its distinctiveness in other ways, particularly when it comes to art's moral significance. In his examination of landscape paintings, he remarks that they create a feeling of *longing*—both for "prospect" and "refuge." These emotional reactions, he argues, were adaptive for our ancestors as they searched for food and safety in their primordial struggle for survival. Yet many landscape paintings depict much more than scenery that offers apparent prospect and refuge. Our response to these works is, on a deeper level, related to what we understand to be the inherent beauty of order and peace—a sense of rightness that cannot be reduced to an emotional longing for personal safety without dismissing something of what we really experience in such a viewing.

Consider two radically different landscapes, both of which depict the French countryside: Claude Monet's *Haystacks* series (1890–91) and Paul Nash's *We Are Making a New World* (1918). Our natural, evolved satisfaction with the sight of stockpiled resources might explain the painting of haystacks; but how can we make sense of Monet's obsession with painting the same subject again and again and again—and how can we explain why we find each painting uniquely beautiful in subtle ways? As for Nash's desolate and despairing landscape, one could say that a depiction of a wasteland evokes disgust and revulsion for its barrenness and unsuitability for human habitation. But far more is at stake: this painting depicts the Western Front at the end of the First World War, and the desolation is, as the title of the work indicates, of our own making. Our responses to these paintings are not only emotional but, properly speaking, moral, inviting the consideration of, on the one hand, an ordered life lived on the land, and on the other, the horrors of mankind's capacity for war and destruction.

This moral dimension is one of the distinctive characteristics of human art. The feelings it produces are reactions not merely to what we find desirable or undesirable but to *ideas* that make certain claims about what is right or wrong, good or evil, beautiful or grotesque. Put another way, great works of art not only show accomplished technical skill and "emotional saturation" but provide nuanced embodiments of universal human truths, such as our preference for love over hate, or justice over

injustice. Explaining art in terms of evolved reactions rather than inspired creations—contrary to Dutton's claim that it will "spoil none of the fun"—does undermine the meaning and significance of human art.

Dutton, indeed, denies that art has inherent moral significance because, while the arts "are suffused with emotion and value, they will… never quite fit with the moral demands on which any functioning society depends." But morality is not simply identical with the reigning opinions that facilitate the smooth functioning of society. Even if the fixation of contemporary art on transgressing social norms is often immature and reckless, works of art can reflect a genuine and considered moral disagreement with the norms of society.

Almost every philosopher and critic from Aristotle to René Wellek has suggested that art makes moral claims. Dutton dismisses this idea by arguing that art does not "improve us morally," scoffing at Martha Nussbaum's argument that literature "has the capacity to broaden the imagination, expose us fictionally to exemplary moral conduct, condition emotions, and provide us with moral guidance." But the idea that art improves us morally is quite different from the idea that art makes moral claims. That works of art present conflicting moral claims or that they are "full of moral atrocities" in no way proves that art is essentially amoral. In fact, it shows exactly the opposite—that works of art make some sort of statement regarding the characteristics of good and evil, or the nature of the universe.

Neurons and Narratives

The literary scholar Brian Boyd, like Dutton, emigrated to New Zealand, where he is a professor at the University of Auckland. Like Dutton, he has devoted much of his career to applying the findings of evolutionary biology to the arts. And like Dutton, Boyd promises to provide an evolutionary approach to fiction and poetry that would not only explain the origin of these art forms but also offer an account that is richer and more "expansive" than other approaches. Paralleling Dutton's critique of modern art, Boyd condemns so-called "critical" approaches to literature, such as deconstruction, that consider texts and literary traditions to be mere social constructs and ignore or deny any universal characteristics that might be rooted in human nature. And, similar to Dutton, Boyd's commitment to an evolutionary approach still leads him to mischaracterize and distort certain key features of the art forms that he seeks to understand and explain.

Boyd begins *On the Origin of Stories* (2010), his book on the evolution of fiction, by describing the universality of play with patterned language across human cultures. The origin of art, Boyd suggests, may have been as a form of cognitive play—a set of activities "designed to engage human *attention* through their appeal to our preference for inferentially rich and therefore *patterned* information." Play for our proto-human ancestors, as for other animal species, was a way of practicing and training for important activities, like hunting or fighting. But our ancestors played to train not only the body but also the mind, enabling us to interact skillfully with other human beings. Boyd suggests that over time this play modified "key human perceptual, cognitive, and expressive systems," giving birth to self-awareness and language. It was these important capacities that made our narrative ability possible, rather than any specific adaptive benefits of narrative itself.

Our ability to tell stories did directly benefit our ancestors, however, by increasing their memory capacities, by developing their abilities for imaginative speculation, by aiding decision-making, and by increasing a tribe's social cohesion through forcing them to attend to the lives of others. And the competition for an audience, Boyd suggests, led storytellers to alter their tales to increase their emotional impact. It is this competition for the attention of others that led to the birth of fictional narratives.

For evidence of his theory that narrative emerged out of playfulness, Boyd looks both to forms of play in intelligent animals—dolphins and chimpanzees—and to recent neurobiological research. For example, he notes that play "stimulates the release of the neurotransmitter dopamine…which encourages further play." Mirror neurons, which "fire when we see others act or express emotion as if we were making the same action," suggest that humans have an "automatic inner imitation" by which we understand the intentions of others and "attune ourselves to their feelings." He notes, furthermore, that imitation and imaginative play are natural in children, occurring before language acquisition and the ability to correctly attribute the mental states of others.

In his latest book, *Why Lyrics Last* (2012), Boyd also attempts to explain lyric poetry in evolutionary terms, arguing that it is an aspect of language play, even though "language play probably does not constitute an adaptation of its own." But as with narratives, this qualification does not mean that the language play that led to poetry had no survival benefit. Boyd argues that poetry also developed out of mechanisms to attract and maintain the attention of others. The poetic line, he suggests, through trial and error came to fit "the human auditory present, or the capacity of working memory." The competition for audience members, furthermore,

led poets to innovate in order to "maximize the attention-earning power of the line," which, in turn, led to poems without narrative.

While Boyd provides seven benefits of the lyric, they can essentially be condensed to two. First, because the lyric is a more complex language game than fiction, it demands more of its audience in terms of attention and reasoning. Second, the emotions communicated in lyric poetry are not mediated by characters but, through the illusion of the lyric mode itself, seem to be the thoughts and feelings of another person at his "least constrained"—which allows the lyric to produce what Boyd somewhat nebulously calls "an expansively resonating response." While lyrics may not have emerged as distinct adaptations, the claim is that they nonetheless offered our ancestors considerable biological and social benefits.

Stories about Stories

Just as Dutton argued that the human instinct for art was universal, Boyd too notes that the creation of stories and play with patterned language is a universal feature of human nature. This point has wide-ranging implications for how we understand narrative fiction and poetry. In Boyd's view, if something is a human universal, it "needs a biocultural explanation," one that involves our evolutionary history and biology. Yet he glosses over two human universals that would seem to be inextricably intertwined with the origins of art and fiction: the birth of self-awareness and of the symbolic use of signs (exemplified by but not limited to language). Until these and other changes necessary for art can be explained in strictly biological terms, all evolutionary efforts to account for the development of the higher-level processes of the brain—language, consciousness, and moral values—will remain themselves simply stories.

Boyd's failure to take seriously the moral meaning and significance of literature is apparent in his reading of the *Odyssey*. He reduces the wide range of literary devices and themes in the poem to mere strategies for gaining the attention of an audience. For instance, Boyd points out that, rather than recounting mere incidents, Homer organizes his narrative around episodes that give the work its coherence and unity: Odysseus' pursuit of a clear goal, which is obstructed along the way by obstacles and challenges, increases the emotional impact of the narrative. We are told that the story also features themes of "reciprocal altruism" and "open-endedness," and employs an economy of diction. Through these features, Boyd argues, Homer was able to successfully gain and maintain the attention of his audience—the defining feature of art.

Not only is this a rather boring reading of Homer's poem, but it claims that those supposedly altruistic feelings are illusory—produced by our genes to help us survive, rather than being true convictions about the innate worth of individual persons. But this claim undercuts itself: the very usefulness of these feelings for preserving the species attests to their reality as well as their truth.

Boyd's analysis of Shakespeare similarly reduces complex and meaningful works of art to a handful of techniques and evolutionarily significant themes. In his reading, all of Shakespeare's sonnets turn out to be about increasing opportunities for procreation, avoiding death, and providing verbal puzzles to stimulate the mind. The fact that Shakespeare's sonnets often advocate entirely the opposite—the immortality of art at the expense of physical relation—does not entirely escape Boyd, but he sees sonnets in which Shakespeare chooses art over procreation as a choice of status over servitude, an expression of "our deep-rooted desire to resist the dominance of others." Of course, status has no value in evolutionary terms if one rejects procreation. And the fact is that we *do* have a sense of eternity that is distinct from, even opposed to, our procreative desires—a reality that Boyd ignores in his interpretation of Shakespeare, despite the centrality of this theme in the Bard's sonnets.

What Evolutionary Explanations Miss

The accounts offered by both Dutton and Boyd center on offering evolutionary explanations for observed traits. But while evolutionary biology in other species relies heavily on the study of the fossil record along with comparisons of extinct and living organisms, there is a relative dearth of evidence in the fossil record of recent human evolution, especially when it comes to detailed structures of the brain, making it difficult to produce explanations for highly specific human behaviors. And while human artifacts might be thought of as fossils of the mind—enduring traces of our ancestors' artistic practices—the archaeological record of such artifacts is similarly incomplete. The oldest of human artifacts, like the Venus of Hohle Fels, are only some forty thousand years old, making it difficult to draw conclusions about the role of art in the evolution of modern humans hundreds of thousands of years ago.

The ultimate problem, however, is more categorical than evidential. The reductive form of inquiry in the natural sciences will always have a limited ability to account for the symbolic, moral, and religious significance of art. Brain scans and other cognitive experiments on human

beings alive today can tell us something about the neurological correlates of aesthetic experience, but they cannot tell us how, when, why, or whether our aesthetic preferences evolved.

Every time evolutionary explanations attempt to cross from the antecedent causes of art to an understanding of its highest expressions and deepest nature, they stumble. In this, Dutton's arguments about the instinctive basis for aesthetic preferences and artistic creativity are more plausible than Boyd's attempts to account for the specific features of great works like the *Odyssey* in terms of a set of evolved capacities—although Dutton does veer into this territory too. While evolutionary biology can offer some tantalizing if not provable hints and theories as to the origins of art, and can even provide some understanding of the universal features of artistic behavior, it is ill suited to asking the more important questions of the meaning and significance of art now that it is here.

As others have pointed out, stories about how art might have helped our ancestors to survive and reproduce are most successful when they are merely repeating common sense. Certainly, sexual selection is a reason for many efforts at inventiveness—a fact that we have known since time immemorial. As Shakespeare wrote, "that man that hath a tongue, I say is no man / If with his tongue he cannot win a woman." But focusing on these apparent evolutionary origins of art may cause us to miss what matters most. Homer, the blind poet, surely had more and other motivation than a simple desire to gain the attention of his audience and teach them the theme of "reciprocal altruism." The same can be said of his artistic successors. The sense of the sublime in Caspar David Friedrich; the losing of oneself in the ecstasy of Byrd's Masses; the humanity yet transcendence in Dostoevsky—to attempt to explain such things solely in terms of the bare forces of evolutionary survival risks altogether explaining them away.