

Sex and Beauty for Birds, Frogs, and Humans

Arguments purportedly showing that we humans are not as different from non-human animals as some of us have thought appear to be increasingly popular of late. Thus, for example, Emory biologist Frans de Waal, presumably in significant part because of the research leading to the publication of *Are We Smart Enough to Know How Smart Animals Are?* (Norton, 2016) and *Mama's Last Hug. Animal Emotions and What They Tell Us About Ourselves* (Norton, 2019), “has been named one of *Time* magazine’s 100 Most Influential People.”¹

Although *Mama's Last Hug* focuses on emotionality, it says nothing about emotional responses to beauty. Beauty is, however, central to Yale biologist Richard O. Prum’s *The Evolution of Beauty* and Texas biologist Michael J. Ryan’s *A Taste for the Beautiful*. Prum’s book was, according to amazon.com, “named a best book of the year by *The New York Times Book Review*, *Smithsonian*, and *Wall Street Journal*.”² Prum focuses

¹ https://smile.amazon.com/Are-Smart-Enough-Know-Animals/dp/0393246183/ref=sr_1_fkmrnull_1?crid=1CFG17L6ZB8Y3&keywords=are+we+smart+enough+to+know+how+smart+animals+are+by+frans+de+waal&qid=1556636765&s=gateway&prefix=de+waal+are+we+s%2Caps%2C165&sr=8-1-fkmrnull, accessed 30 April 2019.

² https://smile.amazon.com/Evolution-Beauty-Darwins-Forgotten-Theory/dp/0345804570/ref=sr_1_1?ie=UTF8&qid=1549385170&sr=8-1&keywords=prum+evolution+of+beauty, accessed 5 February 2019.

primarily on birds, Ryan, on the Panamanian túngara frog. Both argue that the animals they focus on, along with various others, (a) exhibit evolutionarily selected features that are maladaptive, (b) share the human appreciation of beauty, and (c) include males that are artists. This essay argues that although they appear to be correct about (a), they are wrong about (b) and (c).

1. Darwin's Legacy

Darwin first introduces and defends natural selection in his 1859 *On the Origin of the Species*. There, he writes the following:

If [variations useful in some way to each being in the great and complex battle of life] do occur, can we doubt (remembering that many more individuals are born that can possibly survive) that individuals having any advantage, however slight, over others, would have the best chance of surviving and of procreating their kind?

On the other hand, we may feel sure that any variation in the least injurious would be rigidly destroyed. *This preservation of favourable variations and the rejection of injurious variations, I call Natural Selection.* Variations neither useful nor injurious would not be affected by natural selection.³

It may be said that natural selection is daily and hourly scrutinizing, throughout the world, every variation, even the slightest; *rejecting that which is bad, preserving and adding up all that is good*; silently and insensibly working,

³ Pp. 77-78; emphasis added.

whenever and wherever opportunity offers, at *the improvement of each organic being in relation to its organic and inorganic conditions of life*.⁴

On the Origin of the Species also recognizes sexual selection, but sees it as an aspect of, rather than a competitor with, natural selection:

Sexual selection ... depends, not on a struggle for existence, but on a struggle between the males for possession of the females; the result is not death to the unsuccessful competitor, but few or no offspring. Sexual selection is, therefore, less rigorous than natural selection. Generally, *the most vigorous males, those which are best fitted for their places in nature, will leave the most progeny*.⁵

Natural selection, on the principle of qualities being inherited at corresponding ages, can modify the egg, seed, or young, as easily as the adult. Amongst many animals, *sexual selection will give its aid to ordinary selection, by assuring to the most vigorous and best adapted males the greatest number of offspring*.⁶

Even at the time of the publication of *On the Origin of the Species*, however, Darwin was aware that not all features preferred in mates by females are exhibited by “the most vigorous and best adapted males,” but at that time he had no explanation for this phenomenon. An indication of this is his comment, in an 1860 letter to Asa Gray, “The sight of a feather in a peacock’s tail, whenever I gaze at it, makes me sick!”

⁴ P. 80; emphases added.

⁵ P. 83; emphasis added.

⁶ P. 117; emphasis added.

As Ryan notes,⁷ “A short-feathered peacock that cannot convince females to mate will not pass his genes along to any offspring, even if he is fast enough to outrun any fox and lives to a ripe old age.” By 1871, with the publication of *The Descent of Man and Selection in Relationship to Sex*, Darwin had come to recognize that features such as the peacock’s tail are evolutionarily (and, more specifically, sexually) selected, because they are preferred by females, despite the fact that they are maladaptive.

2. Sexual Attractiveness and Beauty

Prum writes:⁸

Although doing research in evolutionary biology has been a real joy for me, the community of science is not without diversity of opinion, disagreement, and intellectual conflict. And as it turns out, my ideas about aesthetic evolution run counter to the main flow of ideas in evolutionary biology—not just for the last few decades, but for nearly a century and a half, indeed, since the time of Darwin himself. Most evolutionary biologists, then and now, think that sexual ornaments and displays—they generally avoid using the word “beauty”—evolve because such ornaments provide specific, honest information about the quality and condition of potential mates.

This passage introduces two distinct issues. One is an issue for biology: are “sexual ornaments and displays” *always* adaptive rather than maladaptive because they “provide specific, honest information about the quality and condition of potential mates,” or are at

⁷ P. 8.

⁸ Prum 2017, p. 10.

least some of them—presumably including the peacock’s tail—maladaptive because they do not provide such information? The second issue at least can be philosophical: should we use the term “beauty” to characterize sexual ornaments and displays, whether adaptive, maladaptive, or neutral?

What good reasons might we have for using “beauty” in this manner? One might be that at least many human beings appreciate as beautiful the sexual ornaments and displays of some animals—including the peacock’s display of his tail—even if not as sexually attractive. But at least two considerations suggest that this is a poor reason. The first is that few if any human beings appreciate *all* the sexual ornaments and displays of *all* animals as beautiful. The male chimpanzee is sexually attracted by the displayed genitalia of *any* female chimpanzee that is in estrus, whereas humans typically do not experience such displays as beautiful, and particularly the olfactory displays of many insects are undetectable to us, hence not candidates for our appreciating them as beautiful. The second is that most of the items whose beauty human beings do appreciate are not sexual ornaments or displays of animals; they are instead such natural phenomena as sunsets or rainbows, or works of art produced by human beings.

According to Prum,⁹ “Scientifically speaking, sexual beauty encompasses all of the observable features that are desirable in a mate.” These features may be either adaptive or maladaptive. If we recognize sexual beauty as a species of beauty, then clarity will require

⁹ P. 7.

that we distinguish it from other kinds of beauty, and introduce commonalities and differences. This would be, at best, a difficult task.

A better alternative, therefore, is to speak of *sexual* attraction as a species of *biological* attraction.¹⁰ When hungry or thirsty, animals are biologically attracted to food or water, and, when concerned with mating, they are biologically—and, more specifically, sexually—attracted to potential mates. It is then easy to say, following Ryan, that whereas female túngara frogs are *sexually* attracted by the calls of potential mates, frog-eating bats are *gustatorially* attracted *by the very same calls*: the female frogs seek mates, the frog-eating bats seek meals, but both modes of attraction are biological, in that both involve biological needs or urges.

The fascinating evidence presented in the books by Prum and Ryan appears adequate to settle the *biological* issue introduced above: sexual selection can indeed lead to the propagation of maladaptive features. But that does not resolve the philosophical or terminological issue: how should we use the word “beauty”?

3. Sex and Beauty

¹⁰ Prum reports (12), “I have decided to embrace beauty as a scientific concept because, like Darwin, I think it captures in ordinary language exactly what is involved in biological attraction.” This passage ignores the obvious fact that, as clarified in the remainder of the paragraph to which this note is appended, biological attraction is not limited to sexual attraction.

Prum five times¹¹ quotes, in whole or in part, the following passage from Darwin's *The Descent of Man and Selection in Relationship to Sex*:¹² "On the whole, birds appear to be the most aesthetic of all animals, excepting of course man, and they have nearly the same taste for the beautiful as we have."¹³ The first time, Prum also quotes,¹⁴ but does not comment on, the following passage that Darwin added to the second edition of the book:¹⁵ "With the great majority of animals ... the taste for the beautiful is confined to the attractions of the opposite sex." According to both Darwin and Prum, birds are included within this "great majority." Given that human beings are *not* included within this "great majority"—and indeed may well be the *only* animals not so included—the contention that "birds ... have nearly the same taste for the beautiful as we have" is clearly false.

That Darwin at least suspected that it might be false is suggested by at least two changes he made to the second edition of *The Descent of Man*. One is the addition of the sentence quoted in the preceding paragraph about the great majority of animals. A

¹¹ Pp. 24, 175, 179 (twice), 224.

¹² P. 39.

¹³ In the first (1871) edition, this sentence is on page 38 of volume II; in the second (1882) edition, it is on p. 359. This change in location is not mentioned in the second edition's "Table of the Principle Additions and Corrections to the Present Edition" (pp. vii-ix).

¹⁴ P. 23.

¹⁵ Darwin (1882a, p. 92).

second¹⁶ clarifies “a sense of the beautiful” as “the pleasure given by certain colours, forms, and sounds,” and adds that “with cultivated men such sensations are, however, intimately associated with complex ideas and trains of thought.”

According to Ryan,¹⁷ “Both we and female canaries find the male canary’s song enchanting, but we can be sure that robins and turkeys and certainly crickets and frogs find nothing sexy about these voices.” We can also be sure (1) that robins, turkeys, crickets, and frogs are not enchanted by the male canary’s song, (2) that we humans do not find male canaries or their songs sexy, and (3) that the female canaries find them—if either—sexy rather than enchanting.

Ryan grants,¹⁸ “Of course, beauty is not restricted to sexual beauty.” But this points us back to the question why we should not speak simply of sexual attractiveness without adding the word “beauty.” One reason to add that word could be that in ordinary language, “beauty” can be used in place of “sexually attractive,” but developing theories often requires changes to ordinary language in order to increase clarity and precision.

Non-Sexual Beauty

¹⁶ Ibid., p. 92.

¹⁷ P. 81.

¹⁸ P. 170.

The human experience of beauty is in some ways quite simple, in others, quite complex.¹⁹ It is simple in that human beings are often simply struck by the beauty of various phenomena, such as rainbows, sunsets, and flowers. Human beings who are so struck are delighted simply upon becoming aware of the phenomena, without expecting any benefits beyond the delight. For this reason, such experiences of beauty can often be accurately described as disinterested.²⁰

¹⁹ The philosophical understanding of beauty relied on by this article is sketched in White (2014, Chapter 7), which draws heavily on Kovach (1974). According to this understanding, there is beauty in the world—beauty is not merely “in the eye of the beholder.” Thus (in one terminology) beauty is objective rather than subjective. Kovach’s extraordinary erudition enabled him to make what I accept as compelling arguments for the superiority of his objectivism to the wide range of subjectivisms that had been presented by the time that he wrote, but those arguments have been almost entirely ignored, and subjectivisms continue to predominate in contemporary philosophical aesthetics. If this article draws greater attention to Kovach’s book, or to mine, I will welcome that consequence.

²⁰ Kovach (1974, 75) describes this disinterestedness, wholly accurately in my view, as “widely-known” and “empirically well-founded.” In contemporary aesthetics it is most often linked to Kant’s *Critique of Judgment*, and Kovach (1974, 281) credits that work for having “made this popular,” but takes Kant to have found it in works by Frances Hutcheson, Lord Kames, Edmund Burke, and Moses Mendelssohn. Kovach notes in

Ways in which the human experience of beauty are complex include (1) that not all human beings, at all times, are equally delighted by the beauty of the same phenomena, and (2) that phenomena that *can* disinterestedly delight human beings can also delight them in various interested ways. Thus, for example, a painting that disinterestedly delights some who see it can also financially delight the investor whose evaluation indicates that it can be bought for far less than it can later be sold.

The previous paragraph relies on a distinction between the *experience* of beauty, which can be simply the experience of being disinterestedly delighted by an item, and the *evaluation* of beauty, which is a matter of determining *how* beautiful some item is, often by comparing it with other items. Such experience and such evaluation can be completely separate. The issue of how to invest money is utterly irrelevant to the human experience of the beauty of a rainbow or a sunset, because neither can be owned. To be sure, evaluation remains possible: one can consider how the beauty of a given rainbow or sunset compares to the beauty of previously experienced rainbows or sunsets, but one need not do so in order to experience its beauty, and one's engagement in such evaluation presumably detracts from one's delight: if the delight is sufficiently intense, one simply won't think of previous experiences.

addition that versions of this notion are found in pre-modern works by Plato, Aristotle, Cicero, Philo, Plotinus, Augustine, John Scotus Erigena, William of Auvergne, Alexander of Hales, Bonaventure, Albert, and Thomas Aquinas.

One central reason not to use the term “beauty” for sexual attractiveness is that sexual attraction is *not* disinterested: sexual attraction involves the desire for a mate or for orgasm or in some cases for both.

To take a specific example: we humans can be disinterestedly delighted by the beauty of the bowers created by male bowerbirds, but it is not clear that female bowerbirds can be so delighted. At the very least, there are the following centrally important differences: (1) the female bowerbird’s attraction is not disinterested in that she seeks a mate; (2) whereas bowers are among enormously many kinds of items whose beauty we can appreciate, the only items we classify as beautiful that can attract female bowerbirds are bowers and perhaps their inhabitants;²¹ (3) whereas our appreciation of bowers is not linked to sexual arousal—or is perhaps negatively linked, in that heightened sexual arousal presumably decreases the likelihood that we will be delighted by the beauty of the bowers—the female bowerbird is interested in bowers *only* when she is seeking a mate.

Moreover, the evidence shows that male bowerbirds are not disinterestedly delighted by bowers. Whereas immature male bowerbirds appear to attend to bowers *only* to learn how better to make them, mature male bowerbirds attend to the bowers of

²¹ I include the “perhaps” because I am not aware of any descriptions of male bowerbirds as beautiful. According to Aristotle, however, “we should venture on the study of every kind of animal without distaste; for each and all will reveal to us something natural and something beautiful” (*Parts of Animals*, Part 5).

their competitors only in order to destroy them and/or to pilfer items from them to add them to their own bowers. There is no evidence that any male bowerbirds are ever disinterestedly delighted by any bowers.

Even if bowerbirds do not *experience* beauty, perhaps they can *evaluate* beauty. It seems fully clear that as the male constructs his bower, he makes changes he takes to improve it until it gets to a point at which he deems it good enough. But good enough for what? Good enough to provide the setting within which his performance will attract a mate. But this can be accurately expressed by saying that he aims to make it sufficiently sexually attractive.

What of the female? Concerning the female Argus Pheasant, Prum reports²² that “Observers are unanimous in describing the female’s response [to the male’s display of his fantastically elaborate plumage] as completely underwhelming, or even undetectable.” Prum quotes William Beebe’s report that “There is no question in my mind that the wonderful colouring, the elaborate ball-and-socket illusion of the ocelli, the rhythmical shivering of the feathers which makes these balls revolve—all are lost, as aesthetic phenomena, upon the nonchalant little hen.” Prum then asserts²³ that “a calm, under-impressed female Argus is actually acting as we should expect—more like an experienced, well-educated connoisseur evaluating one of the many extraordinary works available to her scrutiny than an excited naturalist having a once-in-a-lifetime encounter. ... The

²² P. 63.

²³ Pp. 63-64.

female Argus may appear dispassionate as she watches the male's efforts, but it's her coolheaded mating decisions over the course of millions of years that have provided the coevolutionary engine that has culminated in the male Argus's display of hundreds of golden balls shimmering and gyrating in the air."

It is surprising that Prum says that the female "may appear dispassionate" given that he then describes her as making "coolheaded mating decisions"—being coolheaded, she presumably *is* dispassionate. But be that as it may, it is centrally important that she is trying to decide which male to mate with; she is rating her prospects not as more or less beautiful, but as more or less sexually attractive, or as more or less promising mates.

Similarly for the female bowerbird:²⁴ "the bower serves no physical purpose other than as a location where courtship takes place." Prum continues:²⁵

From the female's point of view, we can think of the [available males and bowers] as being like a brothel, but in reverse because it caters to females instead of males. Each male candidate for her sexual favor puts on an elaborate performance to woo her into choosing him. Even better, unlike the transactions that occur in a real brothel, the customer doesn't have to pay. Any male she wants is hers for the asking, free of charge.

Here, too, we see two key differences from humans: first, seeking disinterested, delightful experiences of beauty, humans go to art museums, concerts, national parks,

²⁴ Ibid., p. 195.

²⁵ P. 212.

and so forth. Second, they go to brothels seeking sexual gratification, not (typically) co-progenitors of their children, and not disinterested experiences of beauty.

5. Non-human Artists?

Prum describes²⁶ male bowerbirds as “animal artists who vie for the attentions of their aesthetic patrons”; their patrons are female bowerbirds from their populations seeking mates. But these patrons are more accurately described as “sexual” than as “aesthetic.” Furthermore, the males would be better described as “artisans” or “technicians,” because their products aim to trigger *interested* responses in these patrons. We do not rate human artists on the basis of their success, or lack thereof, in attracting mates.

6. Beauty and Human Sexual Attraction

Physical beauty does not appear to be of central importance to human sexual attraction. Relying on “a series of experiments and meta-analyses [of psychologist Paul] Eastwick and colleagues” and on “something that we all know from experience,” Prum emphasizes²⁷ that

our perceptions of sexual attractiveness change as we get to know each other. Prior to any social interactions, people tend to agree on their initial (that is, superficial) judgments of the sexual attractiveness of others. But once they have opportunities to interact socially, they begin to diverge in their judgments and to notice features

²⁶ P. 195.

²⁷ P. 241.

in other people's personalities that are specifically attractive to them. Ultimately, these subjective social perceptions have a much stronger effect on what they find attractive than does physical appearance. ... [T]here is no difference between men and women in the degree to which social relationships influence their evaluation of attractiveness.

This reveals the silliness of the following claims by Roger Scruton:²⁸

It is possible that a bust of Helen might one day be dug from the soil of Troy and authenticated as a true likeness,^[29] even though you and I are struck by the ugliness of the woman depicted, and appalled to think of a war being fought for so charmless a cause.^[30] I have been half in love with the woman portrayed in Janáček's second quartet, and half in love with the one immortalized in *Tristan and Isolde*. Those works bear unimpeachable witness to the beauty that inspired them. Yet, to my chagrin, photographs of Kamila Stösslová and Mathilde Wesendonck show a pair of ungainly frumps.

Perhaps Janáček and Wagner, apparently unlike Scruton, were able to appreciate beauty, and attractiveness, that were more than skin deep.

7. Types of Beauty

²⁸ Scruton 2009, pp. 8-9.

²⁹ That such authentication would indeed be possible is far from clear.

³⁰ It is not clear that we should be less appalled by the horrendous war's having been fought for a Helen whose sexual attractiveness Scruton would have appreciated.

Prum writes,³¹ “[T]he dawn bird song chorus, the cooperative group displays of the blue *Chiroxiphia* manakins, the spectacular plumage of the male Great Argus Pheasant, and many other wondrous sights and sounds of the natural world are not merely delightful to us; they are products of a long history of subjective evaluations made by the animals themselves.” Out of place here is only the “merely”: at least as remarkable as the fact, if it is a fact, that many of the “wondrous sights and sounds of the natural world ... are products of a long history of subjective evaluations made by ... animals” is the incontestable fact that they are “delightful to us.”

Nevertheless, in his article “Coevolutionary Aesthetics in Human and Biotic Artworlds,” Prum contends³² that

The most fundamental, aesthetically relevant ontological category in nature is the distinction between the abiotic and the biotic. It is essential to recognize that a starry night sky and the song of a Wood Thrush (*Hylocichla mustelina*) are profoundly different phenomena whose properties arise by entirely different mechanisms—i.e. abiotic optical physics alone, or functional organismal physiology resulting from millions of years of genetic and cultural evolution, respectively. This fundamental fact appears to have been previously unrecognized in aesthetics.

³¹ P. 323.

³² Prum (2013, p. 815).

But this will not do in part because, as Darwin emphasized, many biotic features whose beauty humans appreciate are not plausibly products of what Prum terms aesthetic coevolution. Some examples:

Hardly any colour is finer than that of arterial blood; but there is no reason to suppose that the colour of the blood is in itself any advantage; and though it adds to the beauty of the maiden's cheek, no one will pretend that it has been acquired for this purpose. So again with many animals, especially the lower ones, the bile is richly coloured; thus the extreme beauty of the Eolidæ (naked sea-slugs) is chiefly due, as I am informed by Mr. Hancock, to the biliary glands seen through the translucent integuments; this beauty being probably of no service to these animals. The tints of the decaying leaves in an American forest are described by every one as gorgeous; yet no one supposes that these tints are of the least advantage to the trees.³³

Prum would presumably say of such instances that they are incidentally rather than aesthetically beautiful. He writes,³⁴ “We may ultimately require new terms to refer to coevolved beauty and ugliness, etc. to distinguish these proper aesthetic properties from those incidental sensory experiences that can elicit similar sensory evaluations—*aesthetic projections if you will*—which have not coevolved with these stimuli.” He adds,³⁵ “Within

³³ Darwin 1871, p. 323; Darwin provides additional examples on pp. 326 and 415–16.

³⁴ Prum (2013, 828n9).

³⁵ *Ibid.*, n10.

their biotic artworlds, these negative aesthetic values may share something in common with the negative aesthetic value that humans experience in revolting art, horror movies, or art forms of extreme suffering, including tragedy. Although these human art forms can engage human observers, this engagement requires the coevolution of preferences for the maintenance of engagement with explicitly repulsive or disturbing content.”

This too is inadequate. What of importance could features that repel non-human animals have in common with features that attract humans? To be sure, it is fascinating that we humans can choose to view horror films *hoping* to be horrified, or tragedies *hoping* to be saddened, although both horror and sadness are emotions we otherwise generally prefer to avoid. But when we decide to view horror films or tragedies, we are *attracted* rather than *repelled* by these anticipated responses.

We have, then, reasons to question Prum’s thesis that the most fundamental distinction, with respect to beauty, is that between the biotic and the abiotic.³⁶ This thesis is connected with a second, which asserts the primacy of the artworld. According to this thesis, an artworld emerges whenever there is a coevolutionary process within which beauty emerges. This is as true for human artistic beauty as it is for animalian sexual beauty:³⁷

³⁶ Prum does, in the passage quoted above, link this distinction to nature. Perhaps he means thereby to exclude humans, but it seems safer to assume that, as a biologist, he takes humans to have emerged naturally, within the course of evolution.

³⁷ Prum 2017, 335.

coevolutionary change is the fundamental feature underlying all aesthetic phenomena, including the *human arts*. ... Mozart, for example, composed symphonies and operas that transformed his audiences' capacity to imagine what music could be and do. These new musical preferences then fed back upon future composers and performers to advance the classical style in Western music.

We may at least wonder how adequate this explanation is with respect to the origin of human artworks. It is not clear how the move could have been made from the coevolved emergence of sexually relevant features or displays to the appreciation of the beauty of sunsets or rainbows.

An alternative theory would be that human beings developed, no matter just how, the capacity to delight in the beauty of various phenomena, only some of which coevolved. One possible evolutionary explanation of this capacity is that those of our predecessors who could be delighted by beauty worked harder to stay alive and to propagate. Peter K. Forrest suggests³⁸ that “a sense of the beauty of creation acts as a counterweight to the emotional impact of suffering and malice.” On this view, the appreciation of beauty precedes the development of artworlds. Thus, for example, humans' appreciation of the beauty of various natural phenomena perhaps led them to produce beautiful paintings of these phenomena, as for example in the caves of Lascaux, in France. The most fundamental distinction, with respect to beauty, would then be between beauty that arises independently of intentional human production—which

³⁸ Forrest (1996, 39).

would include not only that of rainbows, sunsets, and peacocks' tails, but also that of mathematical structures—and the beauty that is produced by human artists.

8. Conclusion

As indicated above, Prum's *The Evolution of Beauty* and Ryan's *A Taste for the Beautiful* are fascinating books, packed with intriguing information about non-human animals. But, as I hope to have shown, their failure to distinguish adequately between beauty and sexual attractiveness, and their identification of animals' productions of sexual attractants as works of art, are at best seriously misleading. I deeply appreciate the features of non-human animals, and of their artifacts, whose beauty I can appreciate, but yet more deeply, I appreciate my capacity to be delighted by that beauty in ways that, to the best of our current knowledge, no non-human animals can be.³⁹

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³⁹ My thanks for helpful comments to Nick Branstator, Pamela Mishkin, Jane Nicholls, Ana Sofia Roldan, and Niko White.

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