

BEAUTY AS A TERMINISTIC SCREEN IN CHARLES DARWIN'S *THE DESCENT OF MAN*

Kate Holterhoff
(Carnegie Mellon University)

Abstract

This paper analyzes the term *beauty* in Charles Darwin's *The Descent of Man* (1871) using Kenneth Burke's rhetorical tool, the terministic screen. I argue that by establishing what meanings, ideologies and prejudices the term beauty alternately reveals and conceals in Darwin's prose, scholars can better understand how Darwin reinforced a number of racial, gender, and colonial stereotypes while subtly shifting Victorian British modernity away from anthropocentrism. Although *Descent* analyzes a variety of species to argue for the importance of sexual selection and its frequent instrument beauty, and argues that the principal function of beauty is sexual selection; a truth encompassing the animal kingdom and 'savage' races, yet innovatively stretched to include 'civilised' (*i.e.* European) human beings. Focusing on beauty exposes *Descent's* radical conclusion that while culture differentiates and ranks species, beauty connects and therefore humanity is neither separate from nor superior to the remainder of the animal kingdom.

I compare the definitions and roles of beauty formulated by nineteenth-century cultural critics John Ruskin, Edmund Burke, William Paley, and evolution critic George Campbell with those of Darwin to illustrate the complexity of this terministic screen. By using an aesthetic concept familiar in Victorian England, then shifting and adding to this convention, Darwin changed beauty into a term that both filters and mediates meaning, resulting in both the alteration and reinforcement of multiple issues in the accepted ontology of nineteenth-century Europeans. Analyzing the intersection between Darwin's rhetoric and his theories regarding aesthetics in evolution and sexual selection is essential because, far from a passive descriptor of physical objects, the aesthetic terminology in *Descent*, and beauty in particular is both a dynamic and fraught terministic screen.

Sometimes we can watch Darwin seeking to contain implications 1

What scientists do is interpret the empirical domain. What rhetors do is influence one another. What scientists do as rhetors is influence one another about interpretations of the empirical domain. 2

Darwinian aesthetics are generally discussed as the purview of biological specialists, not cultural critics. The cultural critic interested in tracing Charles Darwin's aesthetically charged rhetoric enters a wide field since much has been written about Charles Darwin as rhetorician (see Campbell Moore), while a mostly separate

1 Gillian Beer, *Darwin's Plots: Evolutionary Narrative in Darwin, George Eliot and Nineteenth-Century Fiction* (London: Routledge, 1983), p 55.

2 Allen R. Harris, 'Rhetoric of Science', *College English* 53.3 (Mar., 1991), p. 284.

catalogue surveys Darwinian aesthetics (see Hersey; Singh; Smith; Thornbill). This research remains inadequate because *On the Origin of Species by Means of Natural Selection* (1859) provides the primary text for most rhetorical exegesis, and, for the most part, contemporary critics fail to address two important issues. First, there has been little analysis of the relationship between aesthetics and Darwin's own language, and secondly there has been little critical study of how word choice functions in Darwin's exposition on sexual selection: *The Descent of Man, and Selection in Relation to Sex* (1871).

Aesthetic terminology in Darwin's writing is far from a one-dimensional descriptor of physical objects; as Gillian Beer reminds us, Darwin's evolutionism is 'rich in contradictory elements which can serve as a metaphorical basis for more than one reading of experience'.³ The discourse of sexual selection is laden with aesthetic terminology. Since aesthetics are often a sphere as accessible to lay audiences as to scientific ones, *Descent's* engagement with aesthetics was culturally important for his contemporary readers, meaning that we need to see what meanings, ideologies, and prejudices Darwinian aesthetics alternately reveal and conceal.

I propose using Kenneth Burke's theory of terministic screens to analyze Darwinian aesthetics in *The Descent of Man*, particularly the term *beauty*. Although less canonical than *Origin* both today and during the nineteenth century, *Descent* contains one of Darwin's most revolutionary theses. This landmark text, contending that in evolution sexual selection plays a role of equivalent importance to natural selection, deserves greater cultural and rhetorical recognition. Critical disregard for *Descent* likely stems from the milieu of unpopular propositions cursorily implied in 1859, yet stated with striking candour by 1871. These arguments include the assertion of humanity's ape ancestry: 'man is descended from a hairy, tailed quadruped, probably arboreal in its habits'; principles foreshadowing eugenics, counselling '[b]oth sexes...to refrain from marriage if they are in any marked degree inferior in body or mind' and the presciently addressed, yet authoritatively dismissed, Christian opposition to evolution: 'this work will be denounced by some as highly irreligious'.⁴ Contemporary rhetorical and cultural critics must analyze Darwin's polemical thesis in earnest since sexual selection transformed the way Victorians understood genealogy; moreover, *Descent's* aesthetic discourse often resembles anthropology and cultural criticism more than biology or natural history.

Kenneth Burke's earlier terministic screens, developed in *Language as Symbolic Action* (1966), are a useful tool in cultural studies for parsing rhetorical agendas and understanding the power structures behind seemingly innocuous terms. As such Burke resembles Raymond Williams's advocacy in *Keywords* (1976) of the cultural and semantic importance of words in order to understand 'social and

³ Beer, p. 9.

⁴ Charles Darwin, *The Descent of Man and Selection in Relation to Sex*, ed. by James Moore and Adrian Desmond (New York: Penguin, 1871; repr. 2004) pp. 678; 688; 683. Further page references will be given parenthetically in the text.

intellectual issues, including both gradual developments and the most explicit controversies and conflicts, [which] could not really be thought through...unless we are conscious of the words as elements of the problems'.⁵ Kenneth Burke explains that his '*terministic screen*... directs the attention in keeping with its nature', alternately privileging and suppressing data to further the rhetorician's agenda.⁶ Burke is useful in cultural criticism because he bridges the disciplinary gap between cultural studies and rhetoric. Like Williams, Burke recognizes that all terminology hinges on political and historical choices which cannot be ignored. In *Descent* beauty is often cited (there are approximately 170 instances), but is also an important term that informed the development of Victorian modernity, and therefore it has genealogical bearing on modern understandings of aesthetics.

'Definition itself is a symbolic act' according to Kenneth Burke, meaning that in interrogating aesthetic parlance critics must pay special attention to an intertextual and multiple, though necessarily inexhaustive representation, of Victorian definitions of beauty (p. 1340). For nineteenth-century Western readers, Darwin's usages of beauty are both normative, because he interpreted it as a homogenizing aesthetic principle, and transcendent, since art and evolution are intricate analytical tropes. Like Beer's groundbreaking project in *Darwin's Plots* (1983) interrogating 'the shared discourse' between the scientific community and non-scientists of 'not only ideas but metaphors, myths and narrative patterns', both scientific and literary writers engaged with the significance of beauty, sharing nineteenth-century aesthetic discourse.

I. Beauty and Species

In *Modern Painters* (1843) John Ruskin defines beauty as 'Any material object which can give us pleasure in the simple contemplation of its outward qualities without any direct and definite exertion of the intellect'.⁷ But it is also critical for Ruskin that 'Consummate beauty...is not to be found on earth' because all cases of beauty are 'Divine in their nature, they are addressed to the immortal part of men' (II, pp. 283-84). Ruskin's layered characterization identifies beauty as intimately related to God's physical manifestation, but its divine ideal form is extra-sensory and cannot be found on earth. He also depicts beauty as simultaneously intellectual and simple, an intriguing proposition when contrasted with earlier aesthetic theories of Edmund Burke's *A Philosophical Inquiry into the Origin of Our Ideas of the Sublime and Beautiful* (1757). Burke had defined beauty as far less divine and cerebral, calling it 'that quality or those qualities in bodies by which they cause love, or some passion

⁵ Raymond Williams, *Keywords: A Vocabulary of Culture and Society* (New York: Oxford University Press, 1976), p. 16.

⁶ Kenneth Burke, "'Terministic Screens" From *Language as Symbolic Action*', *The Rhetorical Tradition: Readings from Classical Times to the Present*, ed. by Patricia Bizzell, Bruce Herzberg, 2nd edn (Boston: Bedford/St. Martin's, 1966; repr. 2000), pp. 1340-1347 (p. 1343).

⁷ John Ruskin, *Modern Painters*, 2 vols (Whitefish: Kessinger, 1843; repr. 2005), I, p. 24.

similar to it.⁸ Unlike Edmund Burke, Ruskin does not incorporate love into his aesthetics in any serious way until *Love's Meinie* (1873), a text dealing exclusively with birds which must be read as a response to Darwin and sexual selection.⁹ Burke establishes a number of situations causing man to experience pleasure from visual stimulus (with smoothness, gradual variation, and proportion according to species being among its causes), but like Ruskin, Edmund Burke also seems to consider beauty to be God-ordained, and without an empirical scientific function.

It is uncertain how much, if at all, Darwin consciously accepted or appropriated either Edmund Burke's or Ruskin's characterizations of beauty.¹⁰ More important for analyzing Darwin's understanding of beauty is William Paley, author of the *Natural Theology: or, Evidences of the Existence and Attributes of the Deity* (1802). As a fellow natural scientist, though of a decidedly less materialist persuasion, Paley's definition of beauty has a greater claim on Darwin's disciplinary sphere than those of Burke and Ruskin. Paley asserts that beauty is '[a] third general property of animal forms', establishing immediately the bearing of aesthetics on all animals, then going on to complicate this idea: 'I do not mean relative beauty, or that of one individual above another of the same species, or of one species compared with another species; but I mean, generally, the provision which is made in the body of almost every animal, to adapt its appearance to the perception of the animals with which it converses'.¹¹ This definition indicates the relative nature of beauty for

8 Edmund Burke, 'A Philosophical Inquiry into the Origin of Our Ideas of the Sublime and Beautiful', *A Philosophical Inquiry into the Origin of Our Ideas of the Sublime and Beautiful and other Pre-Revolutionary Writings*, ed. David Womersley (New York: Penguin, 1757; repr. 1998) pp. 49-200 (p. 128).

9 See Jonathan Smith's *Charles Darwin and Victorian Visual Culture* (New York: Cambridge, 2006). Smith claims 'Beauty for Darwin was neither a Divine gift to brighten our days nor a sign of moral and spiritual health, as it was for natural theologians and Ruskin' (p. 3), suggesting that Darwin aligned religiously minded individuals into two groups which formerly had little to do with one another: traditional aesthetes like Ruskin, and natural theologians like Campbell.

10 We do know that Darwin was familiar with Edmund Burke's *Philosophical Enquiry* based on his 1836-1844 notebook entry: 'The extreme pleasure children show in the naughtiness of bothering children shows that sympathy is based as Burke maintains on pleasure in beholding the misfortunes of others' (Darwin, *Notebooks* p. 274). See *Charles Darwin's Notebooks, 1836-1844: Geology, transmutation of species, metaphysical enquiries*, ed. by Paul H Barrett (Cambridge: Cambridge University Press, 1987). Darwin and Ruskin had a more intimate, if antagonistic relationship, recorded in a humorous anecdote by Darwin's daughter Henrietta Litchfield: 'His manner to my Father was rather elaborately courteous & by some odd blunder he knighted him in his imagination & constantly said "Sir Charles" ' (3C). She also recalls: 'I do not think my Father got any pleasure out of Ruskin's Turners. He said "they are beyond me" ': an intriguing aside as the Romantic painter Turner was championed endlessly in Ruskin's criticism, and it is easy to see how the hazy, modern quality of these works flummoxed the biologist (Litchfield 3D). See Henrietta Litchfield, 'Sketches for a biography', *The Complete Works of Charles Darwin Online: University of Cambridge*, dir. Dr John van Wyhe, 2 April 2008 <darwin-online.org.uk/> [accessed 15 May 2008].

11 William Paley, *Natural Theology: or, Evidences of the Existence and Attributes of the Deity*, ed. by Matthew Eddy and David M. Knight (Oxford: Oxford University Press, 1802; repr. 2006) p. 115. According to his autobiography, Darwin was intimately familiar with Paley's work from an early age, reading his texts at Cambridge in the late 1820s. Darwin remembers:

In order to pass the B.A. examination [and after reading Euclid], it was, also, necessary to get up Paley's *Evidences of Christianity*, and his *Moral Philosophy*. This was done in a thorough manner, and I am convinced that I could have written out the whole of the *Evidences* with perfect correctness, but not of course in the clear language of Paley. The logic of this book and as I may add of his *Natural Theology* gave me as

species; animals find that other members of their species with which they converse possess varying degrees of attractiveness. Therefore, according to Paley, interspecies evaluations of beauty are scientifically impossible because without an insider perspective (or unique psychology and physiology of the species being assessed), determining the level of beauty possessed by another is impossible. Similarly, since the term 'converses' is likely a euphemism for intercourse, Paley's categorization of beauty also points to its reproductive function, a connection more material than Burke's love, and absolutely crucial to Darwin's sexual selection.

Darwin defines beauty in several ways. In the 'Introduction' to *The Expression of the Emotions in Man and Animals* (1872) Darwin declares beauty is inextricable from art claiming 'in works of art, beauty is the chief object'.¹² But this statement serves more to define art than beauty. Interestingly, art points towards intentionality and a creator, a theory Darwin abandoned in his earlier definition in *Descent*, Chapter 3, which details a 'Comparison of the Mental Powers of Man and the Lower Animals'. In this section Darwin defines the phrase 'Sense of Beauty', as follows:

This sense has been declared to be peculiar to man. I refer here only to the pleasure given by certain colours, forms, and sounds, and which may fairly be called a sense of the beautiful; with cultivated men such sensations are, however, intimately associated with complex ideas and trains of thought. (p. 114)

By describing beauty as a sensory experience which includes pleasurable visual and auditory stimuli, Darwin divorces it from Burke's and Ruskin's divinity.¹³ Darwin contends that in man these pleasurable senses are set apart by 'complex ideas', likely in reference to the criticism of both his contemporaries and predecessors including Edmund Burke, Ruskin and Paley. To illustrate and hone his definition of beauty, Darwin describes the continuity between men and animals:

When we behold a male bird elaborately displaying his graceful plumes or splendid colours before the female, whilst other birds, not thus

much delight as did Euclid. The careful study of these works, without attempting to learn any part by rote, was the only part of the Academical Course which, as I then felt and as I still believe, was of the least use to me in the education of my mind. (p. 59)

See Charles Darwin, *The Autobiography of Charles Darwin 1809-1882*, ed. by Nora Barlow (London: Collins, 1958)

¹² Charles Darwin, 'Introduction', in *The Expression of the Emotions in Man and Animals* (London: John Murray, 1872), p. 15.

¹³ It was just this sensory, materialist basis for beauty that Ruskin rejected out of hand because, 'for Ruskin nature is the creation of God', meaning that art must move beyond offering mere sensual pleasure to the viewer; Ruskin argues 'that to characterize the perception of beauty solely according to pleasure is "degrading it to a mere operation of sense"' (Smith, pp. 25-26).

decorated, make no such display, it is impossible to doubt that she admires the beauty of her male partner. As women everywhere deck themselves with these plumes, the beauty of such ornaments cannot be disputed. (pp. 114-115)

Here, Darwin defines beauty and the beautiful as a link connecting animals and white European men.¹⁴ This dual definition mutually pairs and differentiates man and animals: a deft rhetorical move illustrating interspecies similarity via the unilateral attraction to bird feathers. Instead of separating these organisms into opposed categories showcasing the tastes of man versus not-man, Darwin shows that human females (presumably attempting to attract male humans) favour physical objects deemed attractive by birds, thereby insinuating that animal and human tastes in fact converge. Of course, Darwin never makes this fact explicit, allowing his readers to make all necessary but unsettling connections. He compares two kinds of aesthetic choices: one regarding the sexual preferences of birds and the other recounting female fashion trends. An afterthought tellingly resembling a disclaimer concludes his definition of beauty: 'With the great majority of animals, however, the taste for the beautiful is confined, as far as we can judge, to the attractions of the opposite sex' (p. 115). Darwin once again positions animals as other than humans in their specific, arguably low treatment of beauty.¹⁵ Always the shrewd rhetorician, Darwin claims that birds (here indicative of 'the great majority of animals') do not associate beauty with 'complex ideas and trains of thought', but merely with bestial sexual attraction (p. 115). Yet the careful reader need not extrapolate many layers from Darwin's phrasing to see the undeniable connection between man and animal forged by his definition of beauty: not merely birds, but humans also value plumage to enhance their sexual desirability. Despite his adroit rhetorical manoeuvres and politic phrasing, Darwin could not avoid the wrath of anthropocentric readers opposed to his inclusive, multi-species definition of beauty.

Ruskin, an indispensable player in Victorian aesthetic debates, was extremely anxious about Darwin's engagement in the aesthetic sphere. Jonathan Smith contends that after *Descent*, 'the Victorian aesthetic battlefield [was] largely divided into two camps': the Darwinian materialists and the Ruskinian ethicists. ¹⁶ Smith's argument that 'Darwin's work provided a direct and fundamental challenge to Ruskinian aesthetics, and that Ruskin understood this and sought to counter it' suggests the

¹⁴ Although Darwin's Eurocentric perspective is historically conventional and will later be discussed in greater detail, allow me now to disambiguate his masculine pronouns by stating that Darwin aligns his rhetoric with the male gaze; women are conspicuously absent as beauty determiners.

¹⁵ Darwin uses a number of offensive terms in *Descent* in reference to his own delineations of culture and taste including 'low', 'high', 'race', 'barbarian', 'savage', and 'civilised' (pp. 301; 687; 46; 116; 408). Like his predilection for sexist rhetoric, I want to draw attention to Darwin's racist and polarizing choice of words as an element of his rhetorical process which must be addressed. Be aware that all usage of these aggressive terms is a necessary and direct reference to Darwin's own lexicon.

¹⁶ Smith, p. 164.

subversiveness of *Descent* (pp. 2-3). Clearly, Darwin's intervention into the aesthetic sphere was not accidental, but it also does not comprise the entirety of his project: aesthetics were often a terministic screen behind which to criticize or express anxiety about greater issues and modernity in general.

Indeed, nineteenth-century aesthetic critics were not the only ones who opposed Darwin's re-envisioning of beauty on religious grounds. One of Darwin's most antagonistic detractors among natural theologians was the Duke of Argyll, George Campbell. Author of *The Reign of Law* (1867), Campbell critiques evolution and its premise that beauty is not God's gift to man, but merely a useful implement in the animal kingdom for sexual selection:

although the laws which determine both form and colouring are...seen to be subservient to use, we shall never understand the phenomena of Nature unless we admit that *mere ornament or beauty is in itself a purpose, an object, and an end*. Mr Darwin denies this; but he denies it under the strange impression, that to admit it would be absolutely fatal to his own theory on the Origin of Species. So much the worse for his theory, if this incompatibility be true. 17

According to Campbell, the truth of God insists on beauty being an end in and of itself, not a means for propagating the species. Like Edmund Burke and Ruskin in many respects, Campbell holds the anthropocentric notion that beauty is the work of Providence, allowing man to transcend this mortal coil and contemplate the Almighty. Yet Campbell travels a step further, allowing evolution and God to reside alongside one another via the teleological argument of intelligent design.¹⁸ By appropriating Darwin's theses and scolding him for not seeing that God is behind the mechanism of evolution, Campbell shifts, if ever so slightly, the expectations of nineteenth-century Christians, asking 'Is it likely that this universal aim and purpose of the mind of Man should be wholly without relation to the aims and purposes of his Creator?' (p. 201). Because Darwin has generated a rift in the traditions of Victorian Christianity, this theistic complaint, which T.H. Huxley, "Darwin's Bulldog", called 'ecclesiasticism' is not surprising. 19

Although reluctant to backpedal for his religiously motivated detractors, in *Descent* Darwin admits that it is only with 'great difficulty' that humans feel comfortable 'admitting that female mammals, birds, reptiles, and fish, could have

17 George Campbell, *The Reign of Law* (London: Alexander Strahan, 1867), pp. 197-198 (emphasis mine).

18 Both George Combe, in *The Constitution of Man* (1828), and Robert Chambers, in *Vestiges of the Natural History of Creation* (1844), also use this teleological approach to natural history. Interestingly, William Paley, recipient of Darwin's youthful admiration, also utilized the watchmaker analogy his pupil would later attempt to discredit, stating 'suppose I had found a *watch* upon the ground, and it should be inquired how the watch happened to be in that place;...the watch might have always been there. Yet...when we come to inspect the watch, we perceive...that its several parts are framed and put together for a purpose' (p. 7).

19 Smith, p. 19.

acquired the high taste implied by the beauty of the males, and which generally coincides with our own standard' (p. 687). Until *Descent*, aesthetic taste had been considered the purview of European white human beings alone, not the majority of the animal kingdom. Although their opinions on intelligent design remain discordant, Darwin and Campbell's viewpoints do converge on the matter of humility. Unwilling to abandon anthropocentrism entirely, Campbell concedes that 'although Man was intended to admire beauty, beauty was not intended only for Man's admiration' 20—arguably less than a step away from Darwin's phrase 'Man, like every other animal' (p. 688). Humility plays a central part in Darwin's complex program to decenter Victorian notions of anthropocentrism as they relate to beauty.

Darwin's restructuring of Victorian aesthetics illuminates the stakes surrounding the re-evaluation of nineteenth-century definitions of beauty in terms of species-exclusivity: man was no longer entirely separate or higher than the animal kingdom. Darwin analyzes a variety of species including invertebrates, birds, monkeys, and humans to justify the link between sexual selection and beauty. In his writing Darwin defines sexual selection as 'the advantage which certain individuals have over others of the same sex and species solely in respect of reproduction' (p. 243). Following up this definition with two addenda, Darwin explains: first, not all traits obtained via sexual selection are beneficial since 'various unimportant characters' marking the 'unexplained residuum of change must be left to the assumed uniform action of those unknown agencies,' second, it 'appears to have acted powerfully on man, as on many other animals' (pp. 83; 229). In other words, adaptations caused by or related to sexual selection are not always beneficial to an organism, and, secondly, sexual selection is present in all animals: humans being no exception. Because *Descent* is Darwin's first extended treatment of aesthetics, and since he pairs sexual selection with this theory, Darwin cautions readers that 'several of my conclusions will hereafter be found erroneous': a fitting apology for the cautious rhetorician ploughing high-stakes and controversial fields furrowed by prior intellects in several disciplines (p. 4). I argue that in *Descent* the concept which ultimately destabilizes Darwin's egalitarian characterization of beauty is culture.

II. Beauty and Culture

Though sexual selection promotes a move towards species egalitarianism, *Descent* remains problematic along the lines of race, anthropocentrism, and gender—difficulties illuminated by a cultural studies reading of beauty by way of the focusing-mirror of a terministic screen. Consider Darwin's discussion of primates. Darwin devotes the last part of his chapter on 'Beauty of the Quadrumana' to monkeys deemed beautiful by human standards. Making this descriptive aim immediately

20 George Campbell, *The Reign of Law* (London: Alexander Strahan, 1867), p. 199.

explicit, Darwin claims 'Although many kinds of monkeys are far from beautiful according to our taste, other species are universally admired for their elegant appearance and bright colours' (p. 616). This use of the term *universal* is exclusive, homogenizing and therefore unsettling as it issues from a member of the scientific community: ostensibly the stronghold of objectivity and empiricism. Darwin's subjective assertion of taste above is one iteration of homogenizing aesthetics among countless others, and suggests that the impossibility of scientific neutrality became increasingly evident after *Descent* because he had included *Homo sapiens* into evolutionary discourse.

Assertions leaning more towards singular anecdote than scientifically reproducible fact also demonstrate *Descent's* essentializing discourse. For instance, Darwin cites his visits to the London Zoological Society's Gardens, where he records having 'often overheard visitors admiring the beauty of another monkey, deservedly called *Cercopithecus diana*' (pp. 616-17). While this conversational tone makes for a less dry and more engaging read, it sidesteps the standards of objectivity. But Darwin never attempts to veil the subjectivity of his argument, witnessed in the adverb 'deservedly' signifying that in addition to several other patrons of the Zoological Society's Gardens, he approves the Latinate species appellation *Cercopithecus diana* (commonly known as the Diana monkey), which associates the unwitting primate with a classical allusion to the Roman goddess of the moon, the hunt and virginity. Though the *Cercopithecus diana's* native habitat is Western Africa, instead of using local nomenclature or indigenous folklore to classify the species, Western biologists dubbed the primate using a decidedly if not deservedly Western allusion. In this revealing, but by no means singular, instance of the Western gaze, Darwin contends that the appellation of this primate signals Classical beauty, while screening the implicit Western colonial agenda of the namer.

Another opportunity in *Descent* for interrogating beauty as an occidental construction projected onto the natural world is Darwin's use of art to define aesthetics. For Darwin, the artist is the connoisseur of female beauty *par excellence*. To illustrate the relative nature of beauty, and the taken-for-granted quality of one individual's beauty surpassing another, he claims 'Even man, excepting perhaps an artist, does not analyse the slight differences in the features of the woman whom he may admire, on which her beauty depends' (p. 693). Darwin assumes along with the reader that in the animal kingdom, discrimination and attention to the minutiae of fellow creatures, even possible mates, is unlikely. However, Darwin goes on to assert that, apart from the artist, human males too often shirk the careful observation of females, implying that they are no more observant than lower organisms. But the artist is not observing to obtain a mate; he is interested in replicating a visage in plastic form. The artist here is a sterile representative of the male gaze, having enhanced selective, but circumvented sexual, potency.

Beyond the gaze of artists themselves, Darwin uses the art object to demarcate

between Western, male conceptions of beauty and those attributed to 'savage races' (p. 46). He demonstrates the variety of tastes amongst the human races by arguing 'it is well to compare in our mind the Jupiter or Apollo of the Greeks with the Egyptian or Assyrian statues; and these with the hideous bas-reliefs on the ruined buildings of Central America' (p. 649). Outlining a qualitative difference between the art forms of these nations, Darwin seeks to exemplify through art the disparate tastes of various hierarchically arranged human races as delimited by Western, nineteenth-century criteria. Because Darwin considered a society's art an indication of its aesthetic ('in works of art, beauty is the chief object') he does not consider the possibility that art objects possess functions beyond beauty. 21 Darwin's conflation of essentialized beauty with an anthropological assessment of art undermines his message of species equality. Consider Darwin's handling of descriptive adjectives. The derogatory term 'ruined' is applied solely to the structures of Central America, while those in Greece, Egypt, and Assyria, often subject to an equal state of disrepair, are spared this word. Similarly, the subjective descriptor 'hideous' illustrates not only Darwin's xenophobic, yet unfortunately conventional, distaste for Central American art and personal intolerance for non-classical work, but also the rejection of objective scientific description.

Why does Darwin choose repeatedly to insert his judgments of beauty in this purportedly scientific document? I argue that in *Descent* this move was consciously motivated by a combination of political manipulation and philosophical and rhetorical conventions, not, as James Krasner argues, the use of the 'human, physiologically limited eye' to describe the natural world.²² Darwin illustrates with deprecating adjectives his thesis that aesthetic tastes differ among the human races, thereby personalizing taste fluctuation (what Central American savages deem beautiful, he does not). Additionally, this familiar tone and use of 'our' ingratiates Darwin with his cultured but sceptical audience (see Caudill), attempting to posit himself, to use Joseph Conrad's phrase, as 'one of us'. For someone arguing one of the most radical premises of the nineteenth century, this rhetorical ingratiation is invaluable for aligning readers with his viewpoint. Although Darwin does not mind differentiating his taste from those of savages, he desperately wants to show readers that because we are all of one mind on the topic of beauty, it is not such a leap to retain that single mindedness in embracing evolutionary sexual selection.

Indeed, emphasizing the variation of tastes among human races is a primary concern for Darwin because 'The taste for the beautiful, at least as far as female beauty is concerned, is not of a special nature in the human mind; for it differs widely in the different races of man' (pp. 687; 115). In differentiating between a 'civilised

21 Darwin, *Expression of the Emotions*, p. 15.

22 James Krasner, *The Entangled Eye* (New York: Oxford University Press, 1992), p. 5. Krasner argues that Darwin and later authors influenced by natural selection deliberately used a 'limited eye' because 'evolutionary nature can only be seen through the product of evolution—the human eye' meaning that 'scientists must always be aware of the physical limitations of their own acts of perception' (p. 5).

and savage' sense of beauty, Darwin continues his campaign against what he considers the hideous taste of savages, disclosing that 'Judging from the hideous ornaments, and the equally hideous music admired by most savages, it might be urged that their aesthetic faculty was not so highly developed as in certain animals, for instance, as in birds' (pp. 408; 116). Like *Descent's* racist and essentializing dénouement, Darwin uses beauty in relation to animal versus savage taste to suggest the therapeutic value of including animals into the hierarchical continuum stretching from lower organisms, through higher species, until ultimately reaching the apex: European man.

The elevation of animals at the expense of savages prepares readers for the infamous conclusion to *Descent* (see Brantlinger; Deutscher; Sideris). Because the prospect of humanity's evolution from savages is scandalous if not horrific, Darwin argues 'He who has seen a savage in his native land will not feel much shame, if forced to acknowledge that the blood of some more humble creature flows in his veins. For my own part I would as soon be descended from that heroic little monkey... or from that old baboon...as from a savage' (p. 689). Tempering Darwin's radical claim that beyond equalizing man and animals as appreciators of beauty, some animals possess a greater understanding of beauty than some humans, but refusing to renege completely, that birds possess a greater understanding of auditory beauty than some savage races, Darwin assures his audience 'Obviously no animal would be capable of admiring such scenes as the heavens at night, a beautiful landscape, or refined music; but such high tastes are acquired through culture, and depend on complex associations; they are not enjoyed by barbarians or by uneducated persons' (p. 116).

Ostensibly, the great divide between humans and animals, then, is *culture*— a slippery term at best during the nineteenth-century (and one which remains unlikely to stabilize even today). Matthew Arnold had recently called culture 'a study of perfection' manifested by 'the best that can be known' in *Culture and Anarchy* (1869), while ethnographer Edward Tylor conflates civilization with culture in *Primitive Culture* (1871) as 'that complex whole which includes knowledge, belief, art, morals, law, custom, and any other capabilities and habits acquired by man as a member of society'.²³ Tylor's project of merging evolutionary science with sociology and Arnold's promotion of divine perfection as a national English project dovetail with culture according to *Descent*. However, because Darwin applies culture only to white, occidental iterations of civilization, Tylor might well criticize Darwin for being too exclusive, if equally paternalistic, citing scholars who do ascribe some 'half-incredulous appreciation of the beauty and simplicity' of the culture and mythologies in 'classic, barbarian, and medieval Europe'.²⁴ Like Darwin, Tylor renders non-

²³ Matthew Arnold, *Culture and Anarchy*, ed. by J. Dover Wilson (Cambridge: Cambridge University Press, 1869; repr. 1961), pp. 45; 179; Edward B. Tylor, 'The Science of Culture', *Primitive Culture*, 2 vols (London: John Murray, 1871), I, 1-22 (p. 1).

²⁴ Edward B. Tylor, 'Mythology', *Primitive Culture*, 2 vols (London: John Murray, 1871), I, 285-332 (pp. 286; 326).

Western barbarians as evolutionarily more primitive in the visual arts across the board, citing only their mythological narratives as possessing beauty, however 'simple'.²⁵ But Darwin is largely uninterested in the anthropological beauty of a culture's mythology, concerning himself with grander narratives concerning all species.

Darwin's Arnoldian 'high taste' achieved only through culture complicates the role of beauty in *Descent*. Because culture is inextricably linked to art, and Darwin saw beauty and art as coupled, he is essentially asserting that 'barbarians' and 'uneducated persons' incapable of making 'complex associations' have only a primitive, animal-like appreciation of beauty (p. 116). In other words, in *Descent* beauty connects, while culture differentiates and ranks. Should we then interpret Darwin's conception of beauty by means of culture to argue that savages, like higher animals, use beauty for mate selection alone since neither possess the cognitive resources necessary to achieve a cultured high taste? Textual evidence in *Descent* points to the affirmative, but it is important to realize that Darwin judged humans on a sliding scale of development, claiming that man's 'progressive advancement' is in fact due to 'the powers of the imagination, wonder, curiosity, an undefined sense of beauty, a tendency to imitation, and the love of excitement or novelty' (p. 116). What is most striking about Darwin's division of savage and civilised is his reliance on intellectual development.

Like Arnold's sweetness and light, Darwin also holds that the sweetness of beauty must be joined with the light of intellect to sustain high culture. But by conflating cognitive development with beauty, arts, and culture, in conjunction with universal evolutionary 'progressive advancement', Darwin is implicitly opening the floodgates to assimilate all genders, races, and species into Western culture. Tracing beauty as a terministic screen implicates Darwin's *Descent* as the text which began the move within Western culture, with all its conflicting and messy implications, from exclusionary elitism, to a modernized, assimilative hegemony—a paradigm shift evidenced by the fast approaching scramble for Africa (1880-1920) whose major tool was cultural imperialism, today subsumed into globalization. The year 1871 saw not only the publication of *Descent* and *Primitive Culture*; it also marks the year that Stanley greeted Livingstone along the banks of the Ujiji in 'Darkest Africa'.²⁶ The success of Victorian Britain's imperial project stands in large part due to its adherence to Livingstone's "'3 Cs": Commerce, Christianity and Civilization" which combined the social project of Western cultural imperialism, with the necessarily modern embrace of capitalism and industrialization.²⁷

The hierarchy breakdown implicit in evolution admitted ambiguous organisms,

²⁵ Consider the 'myth of the Four Winds ...developed among the native races of America' which, according to Tylor, possesses 'a range and vigour and beauty scarcely rivalled elsewhere in the mythology of the world' (p. 326).

²⁶ Henry Stanley, *How I Found Livingstone: travels, adventures, and discoveries in Central Africa* (London: Sampson Low, Marston, Low, and Searle, 1872), p. 412.

²⁷ Thomas Pakenham, *The Scramble for Africa* (London: Abacus, 2009), p. xxiv.

neither savage nor civilized, and underlined the import of hybrids. We must not forget that *Descent*, not *Origin*, was directly responsible for the anthropocentric search for missing-links which occupied naturalists well into the twentieth century (see Gould). Hybridity is imperative to Darwinian modernity; and yet segmented terminology seems to counter his prescription for 'progressive advancement' by consistently defining animals as either low or high, and humans as savage or civilized.²⁸ Shirking the complexities of a non-dualistic ontology, while indicating that advancement is possible if not evolutionally inevitable, Darwin only simplified his denominations for the benefit of his mixed audience. However, knowing Darwin's affinity for our common ancestor, it is not implausible that he would include the savage races and also, perhaps over great stretches of time, higher members of the animal kingdom (such as the aforementioned song bird) in his homogenizing upward movement towards the cultural standards of Western civilization (p. 116).²⁹

Although Darwin shows through multiple examples the similarities between man and bird in *Descent*, he cannot affirm interspecies similarities without a nearby disclaimer: 'In man, however, when cultivated, the sense of beauty is manifestly a far more complex feeling, and is associated with various intellectual ideas' (p. 408). Therefore, although birds and humans share similar taste, it is the accompanying significance of beauty that differs. For birds, beautiful plumage is a tool of sexual selection, illustrating the male's fitness within the species. Among birds especially, males often possess grand, flashy feathers to impress the females, whose own plumage is understated. For Darwin, the peacock is an apt example of this biological trend, as well as a recognizable species for illustrating sexual selection to a European audience. Perhaps because the peacock is so familiar Darwin cautions his reader 'not to accuse birds of conscious vanity', while confessing 'when we see a peacock strutting about, with expanded and quivering tailfeathers, he seems the very emblem of pride and vanity' (p. 453). The projection of human characteristics onto animals is a conventional Victorian practice of which Darwin is notoriously guilty. Interpreting human traits such as vanity onto the mannerisms of animals is only a step away from reading Providence into the natural world, not to mention an important facet of anthropocentrism. Instead of asserting empirically that male birds display their plumage, Darwin claims, 'males take delight in displaying their beauty': a vague contention likely misrepresenting the actual thought process of these animals (p.

²⁸ Darwin continually draws distinctions between what he interprets as low and high creatures: an assessment embedded in his hierarchical mindset. As one of the more problematic distinctions made by Darwin, this orientational mode of describing the evolutionary positioning of animals utilizes prejudicial rhetoric verging on the language of Social Darwinism and eugenics. One disturbing example of this positioning is the section description of Chapter Three: 'The difference in mental power between the highest ape and the lowest savage' (p. 11).

²⁹ I say this despite Darwin's argument 'I do not wish to maintain that any strictly social animal, if its intellectual faculties were to become as active and as highly developed as in man, would acquire exactly the same moral sense as ours', which seems to go against any inclusive thesis of cultural 'progressive advancement', but because Darwin objects on moral grounds I contend his argument is restricted more by ethical decorum than an actual abhorrence of the idea (p. 122).

444). Assuming that birds 'delight' in something that may well be an instinct towards which they are emotionally indifferent once again betrays Darwin's subjective perception of animals, showing that although Darwin initiated one of the first steps away from a hierarchical, teleological and anthropocentric understanding of the world and towards one of postmodern inclusivity, the terministic screen beauty illuminates the problematic quality of his theses.

Yet, *Descent's* notable kink is the fact that the causal relationship between sexual selection and beauty often applies only to animals Darwin deems of the higher variety. This makes the array of invertebrates, which are either hermaphroditic or breed via non-selective spawning in which the female and male sex cells are released into the water/air thereby uniting without the consent or discrimination of partners, either a red herring or serious conflict in Darwin's hypothesis of sexual selection. By human standards, invertebrates are often very beautiful, with Darwin citing various jelly fish, sea anemones, coral, molluscs and star fishes, some of which even feature different colour schemas for males and females (ostensibly the hallmark of sexual selection alone) 'ornamented with the most brilliant tints, or...shaded and striped in an elegant manner' (p. 301). Yet, because these species do not undergo sexual selection, Darwin concludes that 'it is almost certain that these animals have too imperfect senses and much too low mental powers to appreciate each other's beauty or other attractions, or to feel rivalry' (p. 301). So what use is beauty to these low species incapable of sexual selection? None, as far as Darwin can tell, a fact that seemingly confounds his causal theory that beauty functions instinctually in sexual selection. Reasoning that these bright colours likely are not camouflage, but may, in fact, indicate to predators that the organism tastes bad or possesses some protective weapon, the conclusive cause of these pleasing colourations remains humbly limited by the scientific community's 'ignorance of most of the lowest animals' (p. 302). But Darwin deems some loose conjecturing is warranted, deducing that 'bright tints result either from the chemical nature or the minute structure of their tissues, independently of any benefit thus derived' (p. 302). In other words, natural selection, not sexual selection, led to the coloration schemes of both hermaphroditic and low organisms that breed non-selectively, meaning their beauty is probably the product of natural survival processes. To better illustrate his theory, Darwin draws a suggestive parallel between human processes and those of beautiful invertebrates:

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...chiefly due to the biliary glands being seen through the translucent integuments—this beauty being probably of no service to these animals. (p. 302)

Like his definition of beauty, Darwin here demonstrates the mechanism of attractive colorations in both human and animal terms. Why does Darwin persist in illustrating his theses using human and animal traits concurrently? Rhetorically, it serves to bring a concept closer to the readers' sphere of understanding since, in human terms, the blush is a conventional, accidental, but attractive event. However, this specific human subject clarifies a deeper significance. Darwin singles out the maiden as a beautiful blusher, not an extraordinary assertion since blushing virgins are a stereotype still extant today, yet comparing the beauty of maidens to invertebrates is a telling position because women are defined as beautiful, not men, making the blush gendered.

III. Beauty and Gender

The white, male gaze alluded to above, and implicit in the majority of Darwin's depictions of beauty, like his occidental leanings, further biased the empirical nature of his theories. Although Darwin was doubtless aware of women reading his texts, the strictures of decorum mandated addressing a specifically male readership.³⁰ Yet this decision, in tandem with Darwin's aesthetic terministic screen, is complicated by the role of women in nineteenth-century Western society. Kay Harel criticizes the role of beauty in human sexual selection, noting beauty's 'differential value for women and men', since women need the attractions of beauty, while men get by with only social and economic appeal.³¹ Even before the Married Women's Property Act (1882), women's economic dependence on men made their opinions regarding beauty in the opposite sex largely irrelevant for practical matrimonial purposes. Harel complains: 'Darwin does not explore such disparities from a woman's point of view, nor from that of a feminist', making his assessment of beauty inherently chauvinistic (p. 38).³² Disregard for the perspective of women is conventional to the era, meaning it should not be separated from the general social bigotry characteristic of nineteenth-century Europe, and George Levine is right to chide ideological critiques of sexual selection for having 'no purchase on the theory itself', but because ideology is precisely what has biases the term beauty, it must not go ignored and unaddressed when

30 While a female readership for *Origin* and *Descent* may readily be taken for granted, an example of this demographic is telling. In an 1865 letter from Charles Lyell to Charles Darwin, the former explains 'I had...an animated conversation on Darwinism with the Princess Royal, who is a worthy daughter of her father, in the reading of good books, and thinking of what she reads. She was very much au fait at the "Origin"...She said after twice reading you she could not see her way as to the origin of four things; namely the world, species, man, or the black and white races', indicating that at least aristocratic female response was deemed intellectually pertinent to contemporary discourse regarding Victorian natural history (Lyell p. 385-86).

31 Kay Harel, 'When Darwin Flopped: The Rejection of Sexual Selection', *Sexuality and Culture* 5.4 (2001), 29-42 (p. 38).

32 In England women were excluded from comprehensive social involvement even late into the nineteenth century. See Dorothy Stetson's *A Woman's Issue: The Politics of Family Law Reform in England* (1982) for analysis of the Married Women's Property Act.

interrogating beauty as a terministic screen.³³

As with most issues addressed in *Descent*, Darwin's reading of gender is hardly uni-directional. Because among the majority of higher species excepting humans, males alone are concerned with wooing females, females ultimately control sexual selection. This thesis had serious consequences upon the Victorian psyche, since 'Sexual selection...challenged Man's longstanding hegemony over women'.³⁴ Darwin himself contends in *Descent* 'I fully admit that it is astonishing that the females of many birds and some mammals should be endowed with sufficient taste to appreciate ornaments, which we have reason to attribute to sexual selection' (p. 686). Although his class of mammals includes *Homo sapiens*, Darwin leaves this assertion conspicuously unstated; perhaps because it points to the unnatural condition of women who are, for the most part, denied the natural right of mate selection. As is often the case when Darwin alludes to human sexuality, propriety eclipses offensive candour, however scientific its intent. The rhetorical decision to mitigate between humans and animals on this point, when measured in conjunction with the prominence of the male gaze, expertly softens the ontological disruption implied by a female's right to mate selection. If human females were given the choice, or at least the economic wherewithal, to select mates on the basis of beauty and ability to weather competition, as is the norm in the animal kingdom, they would usurp the role of men as sole determiners of aesthetics and even definers of beauty.

While loss of control over the aesthetic sphere is reason enough for white male anxiety, sexual selection's implicit argument suggesting the naturalness of an ascendant female taste logically destabilizes the reigning hierarchy placing women below men in terms of intellect. Beer notes Darwin's skewed loyalties respecting the role of intellect for sexual selection, observing that 'though he pays homage to the "mental charms" of women, he gives primacy to beauty'.³⁵ Although Beer reads *Descent* as wholly intolerant of female intellectual dominance or even equality, paraphrasing Darwin's opinion as claiming 'that women are parallel on the scale of development with a less developed race, inevitably lagging behind European manhood' (p. 221), I argue Darwin's implicit message is more subversive.

While Darwin indeed relegates women to second-class status as objects of the male gaze, there is evidence that his inclusive project left room for female inclusion in ways inconceivable prior to *Descent's* publication, even if, for the sake of his hypersensitive audience, Darwin suppressed the correctness of female taste. While after *Descent* adherents to aesthetic theories like those propounded by Edmund Burke and Ruskin had little cause to fear the rejection of their philosophies by a matriarchal sea change in European aesthetics, Darwin established first that women are naturally

33 George Levine, "'And if it be a Pretty Woman All the Better"— Darwin and Sexual Selection', *Literature, Science, Psychoanalysis, 1830-1970: Essays in Honor of Gillian Beer*, ed. by Helen Small and Trudi Tate (Oxford: Oxford University Press, 2003), pp. 37-51 (p. 37).

34 Harel, p. 33.

35 Beer, p. 211.

more aesthetically minded, and second the right to judge beauty as a demarcation of power.

Darwin realized that beauty is a source of power and can be psychologically terrifying for the male hegemony because it forecasts the loss of patriarchal control. Even without an apocalyptic rise of female cultural autocracy, feminine ability to manipulate male passions caused alarm within the misogynistic Victorian psyche (see Deutscher; Richardson). Harel sums up this anxiety explaining 'On the one hand, Man was insulted to think that women were selecting him for his beauty or his vigor. But equally bad was for Man to think of himself as the victim of women who decorate themselves, make themselves "intentionally beautiful"'.³⁶ After *Descent* men may have felt backed into a corner and compelled to concede some sexual agency to women. Yielding power to females, ideally the models of passivity, invoked a paradox of control in which letting go of one bad thing enables another. Further, recognizing man's susceptibility to female beauty in *Descent* illustrates an added psychologically disturbing facet of beauty: male sexual yearning is centered more on base desire than appreciating woman's possession of civilized 'mental charms and virtues' (p. 653).

If beauty brings out the sordid side of Western man, how is he essentially more civilized than savages and animals? How can Western science contain the collapsing continuum which naturalists had once parsed into the hygienic species and varieties Darwin initially undermined in *Origin*? It was questions like these which came to disturb degenerationists, *fin de siècle* imperial gothic authors, and later modernists for decades to come, and few terms allow readers insight into the part *Descent* played in the build-up of nineteenth-century Western atavism anxiety better than beauty. Inferences drawn in *Descent* using beauty as a terministic screen undermine Western man's hierarchal understanding of gender, species and delineations of civilized versus savage. Beauty forces humility less through what is addressed than is left implied, meaning culture is the last bastion of differentiation and hierarchy. Beauty is a conduit by which to assess the austere purity of species, and the white European race particularly, since by including savages, animals and women into an intellectually robust occidental culture, Darwin simultaneously contributes to and destabilizes the greater project of modernity.

Why should contemporary critics track Darwin's rhetoric? As Darwin's contemporary G.H. Lewes reminds us, *Origin's* concept of evolution provided 'articulate expression to the thought which had been inarticulate in many minds', suggesting that twelve years later Darwin's reputation for articulation made the word choices in *Descent* far from peripheral concerns.³⁷ Analyzing beauty in *Descent* as a terministic screen suggests two conclusions: firstly, Darwin wrote to an audience consisting of European males attuned to a homogenous cultural notion of beauty, and

³⁶ Harel, p. 37.

³⁷ G.H. Lewes, 'Mr. Darwin's Hypothesis', *Fortnightly Review* 16 (1868) p. 353.

secondly, humans must reject the false opinion that they alone appreciate beauty. Darwin took the notion of beauty away from its formerly anthropocentric location, reinventing it as a sense common throughout much of the organic world, yet elevated by culture.

Bibliography

- Arnold, Matthew, *Culture and Anarchy*, ed. by J. Dover Wilson (Cambridge: Cambridge University Press, 1869; repr. 1961)
- Beer, Gillian, *Darwin's Plots: Evolutionary Narrative in Darwin, George Eliot and Nineteenth-Century Fiction* (London: Routledge, 1983)
- Brantlinger, Patrick, 'Victorians and Africans: The Genealogy of the Myth of the Dark Continent', *Critical Inquiry* 12.1 (Autumn, 1985), 166-203
- Burke, Edmund, 'A Philosophical Inquiry into the Origin of Our Ideas of the Sublime and Beautiful', *A Philosophical Inquiry into the Origin of Our Ideas of the Sublime and Beautiful and other Pre-Revolutionary Writings*, ed. by David Womersley (New York: Penguin, 1757; repr. 1998), pp. 49-200
- Burke, Kenneth, "'Terministic Screens" From *Language as Symbolic Action*', *The Rhetorical Tradition: Readings from Classical Times to the Present*, ed. by Patricia Bizzell and Bruce Herzberg, 2nd edn (Boston: Bedford/St. Martin's, 1966; repr. 2000), pp. 1340-1347
- Campbell, George, *The Reign of Law* (London: Alexander Strahan, 1867)
- Campbell, John A., 'Charles Darwin: Rhetorician of Science', *Landmark Essays on Rhetoric of Science: Case Studies*, ed. by Randy A Harris (Mahwah: Hermagoras, 1986; repr. 1997)
- Caudill, Edward, 'The Bishop-Eaters: The Publicity Campaign for Darwin and on the Origin of Species', *Journal of the History of Ideas* 55.3 (Jul., 1994), 441-460
- 'The Polemical Mr. Darwin', *Quarterly Journal of Speech* 61.4 (1975), 375-390
- Darwin, Charles, *The Autobiography of Charles Darwin 1809-1882*, ed. by Nora Barlow (London: Collins, 1958)
- *Charles Darwin's Notebooks, 1836-1844: Geology, transmutation of species, metaphysical enquiries*, ed. by Paul H Barrett (Cambridge: Cambridge

- University Press, 1987)
- *The Descent of Man and Selection in Relation to Sex*, ed. by James Moore and Adrian Desmond (New York: Penguin, 1871; repr. 2004)
- 'Introduction', *The Expression of the Emotions in Man and Animals* (London: John Murray, 1872)
- *On the Origin of Species by Means of Natural Selection*, ed. by Joseph Carroll (Ontario: Broadview, 1859; repr. 2003)
- Deutscher, Penelope, 'The Descent of Man and the Evolution of Women', *Hypatia* 19.2 (Spring 2004), 35-55
- Gould, Stephen Jay, *Hen's Teeth and Horse's Toes* (New York: Norton, 1984)
- Harel, Kay, 'When Darwin Flopped: The Rejection of Sexual Selection', *Sexuality and Culture* 5.4 (2001), 29-42
- Harris, R. Allen, 'Rhetoric of Science', *College English* 53.3 (Mar., 1991), 282-307
- Hersey, George, *The Evolution of Allure: Art and Sexual Selection from Aphrodite to the Incredible Hulk* (Cambridge: MIT, 1996)
- Krasner, James, *The Entangled Eye* (New York: Oxford University Press, 1992)
- Levine, George, *Darwin and the Novelists: Patterns of Science in Victorian Fiction* (Cambridge: Harvard University Press, 1988)
- ' "And if it be a Pretty Woman All the Better"— Darwin and Sexual Selection', *Literature, Science, Psychoanalysis, 1830-1970: Essays in Honor of Gillian Beer*, ed. by Helen Small and Trudi Tate (Oxford: Oxford University Press, 2003), pp. 37-51
- Lewes, G.H., 'Mr. Darwin's Hypothesis', *Fortnightly Review* 16 (1868)
- Litchfield, Henrietta, 'Sketches for a biography', *The Complete Works of Charles Darwin Online: University of Cambridge*, dir. Dr John van Wyhe, 2 April 2008 <darwin-online.org.uk/> [accessed 15 May 2008]
- Lyell, Charles, 'To Charles Darwin Esq. January 16, 1865', *Life: Letters and Journals of Sir Charles Lyell*, 2 vols (London: John Murray, 1881) II
- Moore, Randy, 'The Persuasive Mr. Darwin', *BioScience* 47.2 (Feb., 1997), 107-114

- Pakenham, Thomas, *The Scramble for Africa* (London: Abacus, 2009)
- Paley, William, *Natural Theology: or, Evidences of the Existence and Attributes of the Deity*, ed. by Matthew Eddy and David M. Knight (Oxford: Oxford University Press, 1802; repr. 2006)
- Richardson, Angelique, 'Some Science Underlies All Art: The Dramatization of Sexual Selection and Racial Biology in Thomas Hardy's *A Pair of Blue Eyes* and *The Well Beloved*', *Journal of Victorian Culture* 3.2 (1998), 302-338
- Ritvo, Harriet, 'Science as Literature, Science as Text', *Journal of Victorian Culture* 5.1 (2000), 136 -141
- Ruskin, John, *Modern Painters*, 2 vols. (Whitefish: Kessinger, 1843; repr. 2005)
- *Love's Meinie: Lectures On Greek And English Birds Given Before The University Of Oxford* (Whitefish: Kessinger, 1873; repr. 2006)
- Sideris, Lisa, 'One Step Up, Two Steps Back: Aesthetics, Ethics and Savagery in Darwin's Theory of Evolution', *Soundings* 84.3 (2001), 365-388
- Singh, Devendra, 'Adaptive significance of female physical attractiveness: Role of waist-to-hip ratio', *Journal of Personality and Social Psychology* 65 (1993), 293-307
- Smith, Jonathan, *Charles Darwin and Victorian Visual Culture* (New York: Cambridge, 2006)
- Stanley, Henry, *How I Found Livingstone: travels, adventures, and discoveries in Central Africa* (London: Sampson Low, Marston, Low, and Searle, 1872)
- Stetson, Dorothy, *A Woman's Issue: The Politics of Family Law Reform in England* (New York: Greenwood Press, 1982)
- Thornhill, Randy, 'Darwinian Aesthetics', *The Handbook of Evolutionary Psychology: Ideas Issues, Applications* ed. Charles Crawford and Dennis Krebs (New Jersey: Lawrence Erlbaum, 1998)
- Tylor, Edward B, 'The Science of Culture', *Primitive Culture*, 2 vols (London: John Murray, 1871), I, 1-22
- 'Mythology', *Primitive Culture*, 2 vols (London: John Murray, 1871), I, 285-332

Williams, Raymond, *Keywords: A Vocabulary of Culture and Society* (New York: Oxford University Press, 1976)