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ORIGINAL RESEARCH

Havelock Ellis, Sexology, and Sexual Selection in Post-Darwinian Evolutionary Biology

Rodolfo John Alaniz[1]

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Abstract

This study situates Henry Havelock Ellis's sexological research within the nineteenth-century evolutionary debates, especially the discussion over sexual selection's applicability to humanity. For example, Ellis's monograph on sexual behavior, *Sexual Inversion* (1897), treated inborn homosexuality as a natural variation of evolutionary mechanisms. This book was situated within a longer study of human sexuality in relation to evolutionary selection. His later works dealt even more directly with Charles Darwin's concept of selection, such as *Sexual Selection in Man* (1905). Through *Sexual Selection in Man*, Ellis asserted that sexual attraction stemmed from a physical cause rather than an innate aesthetic sense. I argue that Ellis's best-known historical publications, including his work on sexual inversion, were intended to intervene in the contemporary evolutionary debates. This analysis also identifies a specific point where evolutionary theory informed the foundation of sexology as a scientific discipline.

Keywords Havelock Ellis · Sexual selection · Darwinism · Evolution · Sexology · Sexual inversion

Henry Havelock Ellis (1859–1939), the English sexologist, should be ranked among the prominent, late-19th-century defenders of Darwinian evolution, a designation usually reserved for a small number of his contemporary naturalists. While historians of science have traditionally concentrated on those who defended *natural* selection at this time, Darwin's second proposed mechanism, *sexual* selection, deserves equal attention. This article situates Ellis's sexological scholarship within the larger history of evolutionary theories and provides an influential point of contact between evolution and sexology during the late 19th century. Specifically, Ellis deployed sexological research, such as his work on same-sex attraction, to strengthen Darwin's theory. Ellis did so by connecting sensory attraction to the physical act of reproduction,

✉ Rodolfo John Alaniz
rodolfo.alaniz@austin.utexas.edu

[1] Institute for Historical Studies, University of Texas at Austin, Austin, TX, USA

thereby providing both a mechanism for selection as well as evidence that sexual selection applied to human beings. I argue that Ellis's research, especially his work on sexual inversion, contributed to contemporary evolutionary debates. As a result, Ellis's sexological corpus represents an essential historical source for understanding the *fin de siècle* development of evolutionary theories.

I am most interested in identifying how evolutionary theories became a dominant, shaping force for 20th-century sexual psychology. There are multiple instances when evolutionary discussions and sexological theorizing collided, and some of these collisions were more direct or influential than others. Ellis's research stands out because of his clear intention to contribute to evolutionary studies his scientific and medical authority, and his subsequent influence among sexologists. For the purposes of this study, I want to know what biological questions drove Ellis and what *he believed* to be his contribution to those lines of inquiry, particularly in his work on sexual inversion. My analysis relies on Ellis's notes, publications, and self-reflections to describe the steps he took between his theorizing and the public presentation of his ideas. While his vast correspondence is mostly beyond the scope of this study, I have included some letters shared with his collaborators when they contribute to the analysis.

Historians have noted the connection between late-19th-century sexology and theories of evolution for some time, especially where Ellis is concerned (Bauer 2006; Rosario 1997, p. 10; Carter 1997; Hamblin 2009). Gender studies scholars have also noted the profound effect that Darwin's theory had on culture during the turn of the century (Tarzia 2015; Russett 1991). Historians of evolution, however, have taken a different approach to the relationship between the emergence of sexology and Darwin's work. This body of literature has paid especial attention to the connection between sexual selection, as a scientific idea, and Victorian conceptions of gender and race, though there are notable exceptions (Frankel 1994; Jann 1994). A resurgence of scholarship regarding the history of sexual selection has followed (Milam 2010). More recently, Evelleen Richards has provided a robust and contextualized history of Darwinian sexual selection. In it she has shown how dominant conceptions of race and gender influenced Darwin's theorizing and has provided a detailed history of how Darwin constructed his idea (Richards 2017). Subsequent scholars have since laid the foundation for greater historical precision on this topic (Milam and Seth 2021).

While late 19th century sexology and evolution may be historically connected, scholars must be cautious about casually associating these two influential subjects. The period after Darwin's *Descent of Man* to the early 20th century, often described as the "eclipse of Darwinism," was characterized by the rapid proliferation of evolutionary theories.[1] Darwin had proposed that natural and sexual selection were the primary mechanisms responsible for the production of new species. However, as Peter Bowler (1988) has long argued, the publication of *On the Origin of Species*

[1] The term "eclipse of Darwinism" was originally coined by the evolutionist Julian Huxley. For more on the periodization of the "eclipse," see Mayr and Provine (1998). Historian Peter Bowler has also written about this period, including a book (1983) and a follow-up article (2005). However, like many historians of evolution, Bowler does not address sexual selection to any significant degree. See recent articles, such as Milam's (2010), for more on sexual selection during this period.

persuaded a number of naturalists to believe in evolution, even if they did not believe in Darwin's proposed mechanism for species change. Different theories of evolution abounded at the time, and the terms each naturalist used became political elements in the adjudication of the great species question; while "recapitulation," "degeneration," and "social Darwinism" may all be associated with the theory today, they were highly contested among evolutionists during this period. Each theory of evolution implied divergent—often opposing—conceptions of human sexuality. Among evolutionists and sexologists, then, disagreements over even the minutest of details mattered a great deal, revealing both their theoretical allegiances and assumptions about human sexuality. Consequently, when a historian claims that early sexology was connected to the theory of evolution, we are faced with an inevitable question: to which version of evolution was it attached?

Of course, Ellis was also affected by his own social context, and his entrance into sexology was not entirely due to his interest in evolution. As historians have shown, Ellis's sexological work was an intervention in contemporary social and legal issues, such as the 1861 sodomy laws in England. His publications, such as *Sexual Inversion,* certainly touched upon major debates of the time and, therefore, were rightly read as attempts at political action. Historian Ivan Crozier (2008a, p. 11) has viewed Ellis's medical publications as a way to intervene in the trial of Oscar Wilde, an Irish literary figure who was prosecuted and imprisoned for homosexual gross indecency just prior to the release of *Sexual Inversion*. Crozier (2008b) has also explored Ellis's involvement in the eugenics movement as a social reformer and, ultimately, a person who treated humans as "objects of science." These discussions of Ellis synthesize his medical and scientific background to a greater extent than previous accounts, but their failure to contextualize Ellis within late 19th century evolutionary debates neglects the indebtedness that Ellis had to Darwinian thought. They ultimately fail to account for the majority of the scientific publications for which he was famous.

Historians have also further investigated the social context into which Ellis published his scientific ideas. Ross Brooks highlighted the scandalous initial publication of *Sexual Inversion*. In searching for a publisher, Ellis inadvertently allied himself with a controversial figure, leading to the seizure of *Sexual Inversion* alongside books that had been censured for their sexual topics (Brooks 2022; Crozier 2008a, pp. 60–61). Brooks and other historians have pointed to complications that biological specimens posed to traditional, 19th-century understandings of sex and sexuality (Campos 2010; Schaefer 2021; Brooks 2015). These—and other–works have led to a "queer turn" in the study of Darwinian biology, in which Ellis emerges as a central figure.[2]

I do not intend to portray Ellis's work as limited to Darwinian thought. Ellis's scholarship was multifaceted, and his publications touched upon many subjects. It may be tempting to distill Ellis down to one type of disciplinary thought in any historical account, but that distillation likely reflects historical bias more than Ellis's own life. He undoubtedly drew on literary sources, and many of his collaborators had pronounced historical or classical interests. Yet, many of these individuals—often admirers of Darwin in their own rights—sought Ellis for his scientific and

[2] For recent surveys of this literature, I recommend Brooks (2021) and Milam (2021).

evolutionary expertise. It was this confluence of Ellis's interest in sexuality, within the context of the evolutionary debates, that produced his concept of sexual inversion.[3] When taking into account the broader context of Ellis's Darwinian program, the evolutionary undergirding of his important book, *Sexual Inversion* (1897), becomes clear.

Same-Sex Attraction in Late 19th Century Biology and Psychology

Ellis's research into human sexuality was also embedded within contemporary discourse regarding same-sex attraction. For example, the 1860s scholarship of Karl Heinrich Ulrichs on same-sex attraction played an important role in the history of sexology. Ellis openly praised Ulrichs as the scholar who brought attention to sexual inversion as a phenomenon (Leck 2016, p. 19). Through this connection, it is safe to say that Ulrichs helped introduce the concept of sexual inversion to the Anglo-American scientific community.[4] For Ulrichs, same-sex attraction was an inborn trait determined before the person had reached sexual maturity.[5] However, unlike some earlier descriptions of same-sex-attracted people, Ulrichs believed that these individuals were part of a third sex who inhabited a distinctly gendered body. He famously describes these individuals as "a female soul enclosed in a male body." In this instance, the "soul" of the person, not the body, transgressed gender norms (Hekma 1996, p. 219).

Ellis's concept of sexual inversion shared some similarities with Ulrichs's definition. For example, he concurred that an individual's innate sexual desire was congenital. Yet, it cannot be said that these two scholars shared an identical idea of same-sex attraction or that Ellis's concept was primarily gained from Ulrichs. As a Darwinist, Ellis would have found it necessarily true that some forms of sexual attraction would be rooted in a congenital and heritable trait. In addition, Ellis disagreed that attraction would be disarticulated from the physical body. Ellis synthesized the previous Continental ways of understanding same-sex attraction into his own version of "sexual inversion." Consider that, in the earlier 1896 German edition, Ellis used *Das konträre Geschlechtsgefühl*, or contrary sexual feeling, as his titular term. He later translated this into *Sexual Inversion* for the English edition the next year. The sexual inversion he portrayed in his 1897 publication was something that had grown beyond either the previous usages of "inversion sexuelle congénitale" or Ulrichs's "contrary sexual feeling."

The fundamental cause for same-sex attraction that Ellis proposed illustrates his break from previous theories. Physical sensations, such as feeling and sight,

[3] Ellis's interest in sex and evolution far predates his interest in homosexuality. He wrote about this explicitly: "Homosexuality was an aspect of sex which up to a few years before had interested me less than any, and I had known very little about it" (Ellis 1939, pp. 349–350).

[4] Compared to Continental sources, the British had produced relatively little medical work on same-sex attraction, though some studies did exist (Crozier 2008a, b, c).

[5] Ulrichs also made space for other same-sex attractions, such as what we would consider today as bisexuality and circumstantial homosexuality.

played a central role in Ellis's new conception of congenital same-sex attraction. Ellis's exploration of the sensual aspect of sexual behavior was conducted in an environment rife with scientific controversy over evolutionary theory. His early work on morphological secondary-sexual characteristics and sexual inversion, published in 1894 and 1897, respectively, highlighted the senses and their importance within the Darwinian debates. Consequently, Ellis's publications—especially *Sexual Selection in Man* and *Sexual Inversion*—must also be viewed in the context of prevalent debates over evolutionary mechanisms. For evolutionary theorizing, Ellis distinguished himself by positing sexual selection as a physiological phenomenon instead of a morphological one. In order to understand how his shift from morphological description to physiological phenomenon formed the foundation of his sexological writings, one must first understand the state of the Darwinian debate at the time Ellis made his scientific intervention into the literature.

Havelock Ellis and Darwinian Sexual Selection

Ellis and his contemporaries lived their lives steeped in the controversy regarding evolutionary theory. The following section provides a brief overview of the sexual selection debate within the context of Ellis's sexological meditations.[6] Though Darwin was not the first to propose the idea of species change over time (Secord 2003), his concepts of natural and sexual selection created a stir throughout Victorian England (Ellegard 1990). Ellis spent over 25 years of his life engaged in two prominent debates over Darwin's theory: whether or not human morality originated from animal instincts, and whether sexual selection was a valid evolutionary mechanism. He joined these two debates by proposing a physiological basis for sexual selection, one based on sexual excitation as a response to sensory stimulus.

Ellis was only 12 years old when Darwin published *The Descent of Man, and Selection in Relation to Sex* (Darwin 1871). The two-volume treatise clarified Darwin's position regarding humanity's animal ancestry—that humans had descended from ape-like ancestors by means of natural and sexual selection. Yet, even at Ellis's young age, he was already drawn to the controversy over Darwin's theories. Ellis's mother had enrolled him in a small private boarding school, The Poplars, which was run by a Mr. Albert Grover. Grover had the misfortune of bearing a physical resemblance to Darwin, while abhorring the evolutionary ideas put forward by the famous naturalist. Ellis (1939, p. 94) recalled that "[Grover] cherished much contempt for that great man's doctrines and even published a little anti-Darwinian pamphlet in doggerel verse which so nearly verged on the obscene that it could not be sold on railway bookstalls." And while Ellis's early formal education contained no natural

[6] It is my hope that this brief overview will contextualize the Darwinian debates for colleagues who do not specialize in this history of evolutionary theories, provide a little on Ellis's background for colleagues who do not study Ellis, and show how influential Darwin's work on sexual selection was to Ellis himself.

science, he learned the basics of biology from popular books and his instructor's criticism of natural selection (Ellis 1939, p. 59).[7]

Ellis continued his exploration of art, sexuality, and nature throughout his formative years. In many ways, these studies were intertwined for the young man, and this connection between physical beauty and attraction shaped his understanding of sexual selection later in life.[8] Ellis explored the beauty and art of nature; his artistic and philosophical dreaming was rooted in the natural world around him.[9] And it was during these philosophical meanderings that he decided to enter the medical profession. He had been reading the *Life and Letters of James Hinton*, a philosopher-naturalist with whom Ellis identified. Like Ellis, Hinton struggled over the question of what to do with his life as he approached his 20th birthday; the family physician had suggested that Hinton should become a doctor in order to accommodate his broad intellectual interests. That advice struck young Ellis, who decided that medicine was the perfect way to marry his practical concerns with his intellectual pursuits.[10]

Ellis was not especially attracted to the idea of treating patients. Rather, he pursued medicine as a portal to the study of biology.[11] The questions of sex, he realized, required a thorough initiation into the medical discipline: "I could not reach my own new conception of sex without studying the established conventions of medical science," he reasoned (Ellis 1939, p. 171). The benefit was threefold; a medical education provided Ellis the personal confidence to engage with questions of human sexuality, the intellectual background to reason through scientific problems, and the professional authority to publish his findings (Ellis 1939, p. 172). By 1880, he enrolled in St. Thomas's Hospital School in London, where he specialized in medicine, surgery, and midwifery (Brome 1979, p. 41).

Ellis's medical training took seven years in total. At first, Ellis trained with the assumption that he would earn his living as a practicing physician, so he paid close attention to his coursework and his qualifications (Ellis 1939, p. 185). His favored subjects were comparative anatomy, physiology, and practical chemistry, where he proved to be an excellent student (Ellis 1939, p. 186). However, while he succeeded

[7] Ellis read a number of popular books that captured his interest, including *Nature Displayed*, *Harry and Lucy*, and various manuals on "natural philosophy, chemistry, and geology; [and chiefly] botany..." (Ellis 1939, p. 59). Also, like Darwin himself, young Ellis voyaged around the world, where he was introduced to natural history by the ship's well-educated, German steward (Ellis 1939, p. 99).

[8] Ellis was not alone in this melding of science and aesthetics during this period. Of note, the novelist—and fellow evolutionist—Grant Allen preceded Ellis in the combination of art and science, especially through his 1877 book, *Physiological aesthetics*. Ellis's marginalia demonstrate the extent to which Grant's influenced Ellis's work. Like Ellis, Grant also published on eugenics and sexual selection, among a diverse number of scientific topics, around this time.

[9] Ellis (1939, p. 153) eloquently communicated this sentiment: "I am not a poet, but a dreamer who is also a naturalist and a realist [...] however vast the bounds I delight in, I can only achieve them by planting my feet firmly upon the solid earth."

[10] Whether or not Ellis decided to become a doctor immediately after reading this passage about Hinton, he marks this occasion as one of the only times he did not hesitate or compulsively weigh his options and instead instantly resolved to become a physician (Ellis 1939, p. 169).

[11] Medicine often allowed a student to study natural history and biology. For example, Darwin's closest associates, T.H. Huxley and Joseph Hooker, were medically trained evolutionists.

in most of his assessments, he failed to pass the final surgical exam for the London Colleges of Physicians. His broad interests had kept him from the close attention needed for the highest medical qualifications. He was nevertheless content to gain a license from the Society of Apothecaries, which allowed him to practice, but did not carry the prestige he would have otherwise gained from the Colleges of Physicians (Ellis 1939, p. 185).[12]

The next few years of Ellis's life were rather intellectually active. Literary pursuits—writing and editing—dominated Ellis's life during the 1880s, though his medical studies existed as an ever-present backdrop to his writing. However, Ellis was not particularly successful with his early literary projects. The first series he edited, a collection of reprints of classic plays called the Mermaid Series, was beset with problems after a period of initial success. His publisher was sent to prison, where he died, for obscenity in a translation of Zola's *La Terre*. Ellis's name was erased from the series by the new publisher. "So much for literature," he wrote in his autobiography (Ellis 1939, p. 211). With his literary career on temporary hold, he redoubled his focus on medical work. He had become a fellow of the British and German Anthropological Institutes in 1889 out of his growing interest in psychology (Ellis 1939, pp. 209–211). With some editorial experience under his belt, he began a period of great productivity in medical and scientific literature, one that would consume the next 25 years of his life.

This interest took root through his cultivation of a project called the Contemporary Science Series. He wanted to explore his interest in biology and sex, so he sent a proposal to reignite a series on the topic to Walter Scott publishers. The publisher's manager replied favorably, so he found himself playing the role of editor again despite having his medical examinations looming in the near future. The first book he chose for the series was *The Evolution of Sex* (1889), by Patrick Geddes, a former student of T. H. Huxley, and J. Arthur Thompson, a specialist in marine corals. The book focused on sexual dimorphism—the morphological traits that distinguished one sex from the other—and sexual selection. Most importantly, Geddes and Thompson jumped directly into a debate between Darwin and Alfred Russel Wallace, natural selection's co-discoverer, over sexual characteristics.

Geddes and Thompson engaged with Darwin's use of sexual selection to explain sexually dimorphic traits.[13] Darwin had argued that natural selection explained the divergence of characteristics due to predation and the struggle to endure environmental pressures, but that natural selection did not account for traits that failed to increase an individual's chance of survival, such as the brilliant plumage of the peacock's tail. The long peacock tail might hinder escape and its bright colors might even attract predators. Darwin needed some mechanism to explain how this plumage could be beneficial. He proposed that sexual selection produced these

[12] It is my opinion that Ellis's shyness and his duties as editor of a scientific series—rather than any artistic temperament or disinterest—contributed to his failure to secure a qualification in the London Colleges.

[13] The disagreement between Darwin and Wallace regarding sexual selection is nicely elaborated in Richard's monograph (2017).

otherwise-detrimental traits because they helped to secure reproductive mates. A male that was able to secure more mates left more offspring, thereby passing along its traits more effectively. Yet, Darwin needed some explanation as to why sexual selection produced ornamentation, such as colorful plumage or brilliant song, instead of some other type of morphology. Beauty filled the key role of attracting mates during courtship. While some traits, such as antlers, could be used in physical confrontation with competitors, Darwin believed that males of the species possessed aesthetic lures for the opposite sex. He speculated that the female member of every species had an inherent aesthetic sense and would select the most beautiful male during courtship, and morphological characteristics played a key role in this process for Darwin since its inception.[14]

Alternatively, Wallace did not believe that sexual selection was necessary to explain the phenomenon of sex-specific traits, such as coloration. He presented a study about selective coloration in butterflies. Often, a more-colorful, polygamous male would out-compete other males in reproduction, thereby passing along the victorious trait to the next generation (Wallace 1865). However, why did coloration vary between the male and female versions of butterflies? Ultimately, Wallace claimed that some coloration allowed butterflies to blend in with their surroundings and be better protected from predators. In other instances, coloration mimicked poisonous species, which usually caused predators to avoid the more brilliant-colored individuals. For example, the female *Papilio* mimicked the abundant and poisonous *Drusilla,* offering a fascinating example of sexual dimorphism (Wallace 1865, p. 21).

While Darwin viewed sexual selection as a necessary factor in coloration, Wallace believed that natural selection was sufficient to explain female coloration differences; females required more protection when engaged in the birth and care of their offspring, so selection would act more aggressively upon the females of the population.[15] Further, these colorations differed between species that remained hidden while nesting and those that remained exposed to potential predators. Sexual selection, according to Wallace, was not necessary to explain sexual dimorphic coloration. Wallace gravitated away from aesthetic choice in sexual selection as an explanatory mechanism for species change.[16] To Wallace, sexual selection was simply a type of natural selection where coloration had some benefit for survival or

[14] Evelleen Richards (2017, pp. 355–359) has pointed out the embryological and ornithological (*i.e.* plumage) evidence that Darwin used to establish sexual selection in *On the Origin of Species*.

[15] Richards (2017, pp. 372–376) has contextualized this disagreement within the social tensions between the "ungentlemanly" Anthropological Society and the Ethnological Society, which was controlled by Darwin and his cohort, and the difference of social positions between Darwin and Wallace.

[16] Darwin and Wallace often focused on different aspects of sexual selection and the causes of sexual dimorphism, especially where female protective coloration was concerned. Though their views did not exactly conflict, they often caused friction with one another. See Richards (2017, pp. 410–416), especially p. 414, for more about the differences between Darwin's and Wallace's conceptions and concerns regarding sexual selection. Thierry Hoquet and Michael Levandowsky (2015) also investigate the divergence between Darwin's aesthetic view of sexual selection and Wallace's utilitarian view of beauty.

reproduction. Darwin, on the other hand, chose to push sexual selection as an independent mechanism even more directly than before.[17]

Geddes and Thompson, the authors of *The Evolution of Sex*, believed that Darwin's theory could explain the perfection of a sex-specific trait, but it could not account for the trait's origin.[18] They called for an investigation into the physiological basis for sexual dimorphism and, consequently, explored the morphological differences between male and female organisms (Geddes and Thompson 1889, p. 14). This critique also extended to their psychology colleagues and their obsession with the human mind. Geddes and Thompson mused over sexual attraction and criticized the field of comparative psychology for focusing too much on human intellect—a focus that went so far as to ignore the emotional and physical side of sexual excitation. The two authors lamented the fact that there was no way to measure "that glow of organic emotion which so manifestly flushes the organism with colour and floods the world with song" (Geddes and Thompson 1889, p. 267). Ellis, as a careful and thoughtful editor, found his future subject in these passages. Indeed, he wrote that it "was characteristic, as well as indicative of my main work in life, that [my first scientific] book was *The Evolution of Sex*" (Ellis 1939, p. 213). He would later spend the greater portion of his scholarly efforts on the intersection of Darwinian evolution and human sexuality.

Ellis eased into the debate. He had waited until his 30th birthday to publish any major piece of literature lest he produce something he regretted later in life. In 1890, Ellis produced his first two books, *The New Spirit* and *The Criminal*, both of which featured science as a central topic. *The New Spirit* was a meditation on Diderot, Heine, Whitman, Ibsen, Tolstoy, and the effects of science, women's equality, and democracy on contemporary life (Ellis 1890a). *The Criminal*, however, addressed Ellis's scientific thought much more directly; it summarized the field of criminal anthropology for British readers (Ellis 1890b). Ellis's literary and medical writing careers began at the same time, both of which placed science as the dominant element of his intellectual world.

While a full discussion of *The Criminal* is beyond the scope of this article, the publication is important as an entry point for Ellis into the debates over the application of evolutionary mechanisms to human behavior. Darwin and Wallace—in addition to their disagreement over aesthetic choice as a valid mechanism for evolution—also disagreed whether evolutionary mechanisms could explain seemingly unique traits such as human intellect and morality. For example, in 1864 Wallace

[17] Darwin's argument about the inherent aesthetic senses of females also served multiple purposes, including connecting human moral and aesthetic abilities to primitive versions exhibited by lower animals. For some, this argument ran against religious sentiment, since it implied that God had not imbued humans with unique, distinguishing qualities that set them apart from other animals. See Jonathan Smith (2006) for more on this topic. However, I focus on an aspect of this debate that did not actively concern itself with this implication, since it did not seem particularly troublesome for Ellis and his theories.

[18] Simon Frankel has pointed to a number of critiques related to sexual selection in animals before the turn of the century, especially the work of Edward Poulton. See Frankel (1994, pp. 162–164) for an assessment of contemporary critiques against sexual selection before 1900. While this article will focus primarily on the application of sexual selection to humanity, Frankel's chapter provides a useful context for the "eclipse of sexual selection" around 1900.

published a paper in the *Anthropological Review*, "The Origin of Human Races and the Antiquity of Man Deduced from the Theory of 'Natural Selection'" where he addressed the question of human evolution and racial diversity; or, stated in another way, he asked whether humans were subject to evolutionary selection like any other animal (Wallace 1864).[19]

Wallace argued that humanity was a "social and sympathetic" organism; humans do not let the less fortunate die and, thereby, human charity keeps disadvantageous traits from being selected out of its population. Humanity's moral sense superseded the effect of natural selection in most cases, according to Wallace's reasoning. Here, the element of choice—the choice to act in a moral way—worked against natural selection regarding human social behaviors.[20] Though the primitive human form had certainly been subjected to selective pressures in the past, moral choice released humanity from natural selection in Wallace's opinion, which pitted him directly against Darwin's belief that human behaviors could be explained through selection.

The Criminal examined the origins of human moral behavior and, thereby, connected Ellis's writing to the Darwinian contemplation of moral instinct. Ellis classified criminals into various categories based on the origin of their behavior. For example, a person who witnessed a violent crime and retaliated in a moment of righteous passion acted from a well-developed sense of morality. The action may still be illegal, as retaliation circumvents legal justice, but the person's instincts were essentially good and well-socialized (Ellis 1890b, p. 2). The criminal of passion—as Ellis called the person seeking immediate justice—was biologically different than, say, a murderous child whose inborn impulse was to kill with dispassionate ease. Like the criminal of passion, the child in question was intelligent and understood the ramifications of her actions. The key difference between these two subjects was the orientation of their biological instincts. Referring to the young murderess, Ellis concluded that "she would very generally be described as an example of 'moral insanity.' It is still necessary to take a further step, although a very slight one, to reach what every one would be willing to accept as an instinctive criminal" (Ellis 1890b, pp. 7–13). Here, Ellis stepped into the Darwinian issue of humankind's biological source of moral behaviors in response to Geddes and Thomspson's calls to search for a physiological basis for evolutionary phenomena.

The Politics of Physical Sensation and the Medical Profession

Ellis's experience as a physician and Darwinian influenced his subsequent writings, *Man and Woman* (1894) and *Sexual Inversion* (1897), more explicitly than his other publications. The divergence between males and females of the same species remained unclear in the evolutionary literature. What caused the two sexes of the

[19] Wallace increased his resistance to Darwin's conception of sexual selection by 1865 (Richards 2017, pp. 390–399).

[20] For more on the division between Wallace and Darwin's views regarding human evolution, leading up to the *Descent of Man*, see Schwartz (1984).

human species to be different? This question seemed to be essential to understanding the question of human sexual behavior. Ellis's reading of *The Evolution of Sex* prompted him to study sexual dimorphism in much greater depth. As with *The Criminal*, he decided to write a thorough summary of the work conducted on the subject to date. However, several simultaneous events occurred that provided context for his interrogation of sexual behavior.[21]

In 1892, Ellis received an invitation to temporarily take over a medical position in Cornwall. He left at the beginning of July to relieve his friend from the post.[22] The duties did not last long; he was in Cornwall just under a month. However, two important intellectual developments occurred right after he began this medical practice. He had already begun his survey of secondary sex characteristics, and his writing reflected his fascination with sexual behaviors. At this point, John Addington Symonds, a historian of Classical Rome, contacted him. Symonds wanted to know if Ellis was willing to write about people who were attracted to members of the same sex.

Same-sex attraction interested Ellis for both personal and political reasons. He cared for a number of people who happened to be "sexual inverts," and laws controlling homosexuality were becoming more severe.[23] However, Ellis's primary goal was to dig deeper into the Darwinian question of the selection of sexual characteristics. A focus on the Darwinian debate not only served to provide intellectual rigor to any study of sexual attraction; it also provided professional justification for publishing on such a salacious topic.[24] If he could bring clarity to the political debates over sexuality with his scholarship, all the better. However, before he could contribute to either social or intellectual debates, he needed to have a firm grasp of male and female physiological difference. He wrote to Symonds, his potential collaborator, "I am now at work on a study of the present state of knowledge on the secondary sexual characteristics in man and woman. When that is done I shall feel free to attack primary sex questions." Ellis had stalled publishing on same-sex attraction for professional reasons, too. It would be a "mistake to begin by identifying oneself with these questions," he replied.[25] His impending trip to Cornwall—to inhabit his friend's medical post—reminded him of the professional concerns faced by his medical colleagues.

The Darwinian debate over sexual characteristics acted as a framework for both *Man and Woman* in 1894, and *Sexual Inversion*, which he co-authored with Symonds in 1897. His 12-year study of secondary sexual characteristics culminated

[21] As a third important event, Ellis had recently married Edith Lees the previous year.

[22] Havelock Ellis to J. A Symonds, 1 July 1892. In MSS 6.8: Letters, Havelock Ellis Collection 1875–1955. Harry Ransom Center, Austin, Texas (hereafter, HRC).

[23] Havelock Ellis to J. A. Symonds, 18 June 1892. In MSS 6.8: Letters, Havelock Ellis Collection 1875–1955, HRC. It should be noted that Ellis gained his case studies of homosexuality from his friends and loved ones, not from a psychiatric institution (Crozier 2000).

[24] Ellis also had to navigate obscenity laws that affected his publications. For more on this, see Bristow (1998).

[25] Havelock Ellis to J. A. Symonds, 1 July 1892. In MSS 6.8: Letters, Havelock Ellis Collection 1875–1955, HRC.

in a publication on sexual dimorphism in humans, *Man and Woman*. Here, Ellis explored the psychological and behavioral differences between men and women. Ellis attempted to refine the categories used by morphologists to describe male and female characteristics, and he used the book to explore the degree to which the division between the sexes was natural and how much was the product of social tradition.

The first half of *Man and Woman* focused on both the physiological and morphological differences between the sexes. However, Ellis took a short detour through race to establish perspective on his subject. He used the history of the various races and civilizations as simplified case studies for the role of women throughout time. He then turned his narrative toward the physical, morphological differences. Many assumed that primary sexual characteristics, such as the penis and vagina, were those parts that were necessary for sexual reproduction. However, where did one draw the line between primary and secondary traits, especially if secondary traits were essential for eliciting sexual arousal? After all, sexual selection depended on these characteristics. Did the peacock's brilliant tail count as necessary for sexual reproduction? Ellis pointed out the need for better categories of these sexual characteristics before the question of sexual division—and therefore sexual selection—could be satisfactorily studied:

> Darwin, also, who wrote one of his most important books, *The Descent of Man, and Selection in Relation to Sex*, chiefly on this subject, refrains from defining very precisely what is to be included under the term 'secondary sexual characters,' only remarking that they graduate into the primary sexual organs, and that 'unless indeed we confine the term 'primary' to the reproductive glands, it is scarcely possible to decide which ought to be called primary and which secondary'. (Ellis 1894, p. 18)

Ellis did not explicitly argue for a specific categorization for sexual characteristics. However, he suggested that the category of secondary characteristics should consist of traits that benefited the organism through sexual selection, such as facial hair and a larynx that produced a deeper voice in men. Tertiary sexual characteristics, then, consisted of traits that were not directly related to the reproductive act but demonstrated significant differences between the sexes, such as blood-cell counts (Ellis 1894, p. 20).

Most importantly, Ellis ventured into generalizing about the difference between male and female mental traits. A number of contemporary arguments against women's education and suffrage depended on the assumption that women were biologically inferior to men and, therefore, were incapable of shouldering significant intellectual burdens.[26] Geddes and Thompson, in *The Evolution of Sex*, had acknowledged the weight of biological theories in political debate. Regarding

[26] The predominant assumption of female biological inferiority, especially without scientific evidence, chafed Ellis. His analysis of sexual differences between men and women has a definite political undertone. For more on the prevalent use of biological assumptions to justify female inferiority, see Cynthia Eagle Russett (1991).

the intellectual and emotional differences between the sexes, they wrote that "[w]hat was decided among the prehistoric Protozoa cannot be annulled by Act of Parliament" (Geddes and Thompson 1889, p. 267). However, where Geddes and Thompson avoided a longer analysis of women's intellectual capabilities, Ellis struck directly at the heart of this debate. And—like the categories of secondary sexual characteristics themselves—the debate was integrally tied to Darwin's conception of sexual selection.

This study began with a section on the senses. Secondary sexual characteristics required corresponding physical senses to be effective; a peacock's tail must be seen before it can benefit the bearer in sexual competition. Ellis reported the research that had been conducted on the subject. For example, Edward L Nichols, an American physicist, had conducted surveys of color sense and color blindness in men and women. His findings suggested that, according to Ellis, "in range of sensation women are inferior to men, but that within the limits of ordinary range common to both sexes women have perhaps slightly greater power of discrimination" (Ellis 1894, p. 140). Men were also much more susceptible to color blindness than women, leaving a definite difference between the sexes when related to sensation. Even more curious, color blindness was much less frequent among the "savage races." No definite conclusions could be drawn from these data, but the topic's importance was later noted in relation to artistic ability. Here, men dominated the history of painting, and music, "[t]here is no art to which women have been more widely attracted, and there is certainly no art in which they have shown themselves more helpless" (Ellis 1894, p. 321). Perhaps in aesthetic appreciation more than any other realm, Ellis envisioned the songbird within the woman—drawn by instinct to the musical beauty of her mate.

As Ellis himself noted in his letter to Symonds, his later work on sexual inversion must be seen within the context of the sexual selection debates. People who found themselves attracted to members of the same sex had the sexual instinct that was normally possessed by the opposite sex. An understanding of "normal" sexual attraction—a response that operated within the framework of Darwinian sexual selection—acted as the prerequisite for an analysis of any inversion of that instinct. Ellis opened the preface of *Sexual Inversion* with a comment to this effect: "It was not my intention to publish a study of an abnormal manifestation of the sexual instinct before discussing its normal manifestations" (Ellis 1901, p. v). He had proposed this step to his co-author, Symonds, as they discussed the possibility of the project, although Symonds died in 1893 before publication. By establishing "normal" sexual instinct first, Ellis's analysis of same-sex attraction would gain scientific legitimacy; it made sense to describe a typical trait before exploring its variations according to Ellis's evolutionary framework.

However, Ellis's insistence in researching opposite-sex attraction before same-sex attraction served a second purpose; it helped Ellis to navigate the professional politics of medicine. His exchange with Symonds indicates that he understood—to be taken seriously by his medical and scientific colleagues—that a discussion of same-sex attraction would need to both be presented as scientifically sound while also adhering to proper scientific methodology.

Ellis's Evolutionary Aesthetics and Sexual Selection

From *Man and Woman* (1894), Ellis's major contribution to the field of sexology was to connect the study of human reproduction to the prevalent Darwinian framework. As Crozier (2008c) has aptly pointed out, sexological writings existed before Ellis's intervention, but sexual psychology was a new and relatively obscure field. The evolutionary debates—on the other hand—had been well-established by the end of the 19th century. Ellis actively situated his study of sex and sexual attraction within the debates over the biological sources of human moral behavior.

This section will focus on Ellis's analysis of biological aesthetics that formed the foundation of his evolutionary publications. As discussed above, the issue of sexual dimorphism and coloration had catalyzed a major disagreement between Darwin and Wallace. Geddes and Thompson had implied that some physical mechanism would supplant Darwin's proposed superficial account of females simply choosing the most beautiful male traits. Scholars were searching for a physiological mechanism that supported sexual selection. It was into this disagreement over aesthetic beauty, sensations, and reproduction that Ellis inserted his works on sexual instincts.

Aesthetic choice was insufficient to explain sexual selection; beauty and attraction alone were not enough to facilitate sexual reproduction, even when both parties were willing to engage in sex. Ellis was keenly aware of the missing physiological process from personal experience.[27] First, Ellis had edited Geddes and Thompson's publication that directed biologists to search for that missing physiological process. However, for Ellis there was a much more personal impetus for this research. He did not have the ability to become physically aroused despite his deep affinity for both aesthetic beauty and beautiful women. When young, Ellis feared that he was impotent, a possibility that he neither confirmed nor denied (Ellis 1939, p. 163). Ellis was physically capable of orgasm, but his first orgasm was almost entirely removed from the physical act of sex. He achieved it spontaneously from reading a particularly stimulating and beautiful book, the *Dames galantes* of Brantôme. And despite his immense desire for emotional love, he seemed to be devoid of a desire for physical, sexual contact from either sex (Ellis 1939, pp. 157–158). This led Ellis to focus on the mechanism by which beauty caused sexual excitement in humans.

The connection between sexual reproduction and attraction was not straightforward, and same-sex attraction offered a second, personal example of that for Ellis. His wife, Edith Lees, elicited no physical sexual excitation from him, similarly to other women, though they were emotionally devoted to each other. Edith, on the other hand, was sexually attracted to—and openly pursued sexual relationships with—other women.[28] Beauty was not enough to elicit the

[27] Alternatively, Margaret Jackson (1994, p. 110) has argued that Ellis's primary reason for focusing on evolution and tumescence in his study of the sexual impulse was to provide biological justification for patriarchal control of women and their bodies. This argument was subsequently countered by Chiara Beccalossi (2012).

[28] For a short, biographical treatment on Edith Lees and her sexuality in relation to Havelock Ellis, see the chapter "Marriage to Edith" in Brome (1979).

reproductive response from a person. Historians may never know if Ellis's lack of sexual experience was due to conditional asexuality, impotence, or extreme sexual anxiety. Nonetheless, he was certainly aware that something more than aesthetic beauty was required for successful copulation.

According to Ellis, Darwin's account of sexual selection failed to connect sensory excitation and aesthetics to physical sexual excitation, or tumescence. Here is where Ellis's research into the distinction between male and female characteristics became essential to his argument. Secondary sexual characteristics relied upon the senses in order to function properly. For example, Ellis noted the sexual dimorphism of the larynx, the organ of sound, as far back as *Man and Woman*:

> The difference in voice is one of the most obvious of the human secondary sexual characters [...]. This sexual vocal difference is by no means peculiar to Man [...]. Darwin, discussing the loud voices of male animals at the breeding-season, came to the conclusion that the most probable view is that "the frequent use of the voice, under the strong excitement of love, jealousy, and rage, continued during many generations, may at last have produced an inherited effect on the vocal organs". (Ellis 1894, p. 238)

While some naturalists disputed Darwin's account of this characteristic, Ellis had made his position clear through his very definition of secondary sexual traits; dimorphic sounds, colors, and scents acted to attract members of the opposite sex. The larynx was a clear example that connected secondary sexual traits to sensation. He claimed that "the deeper voice of a man and the gentler but higher-pitched voice in woman, have their effect in heightening the pleasure of the sexes in each other's person is a well recognisable fact" (Ellis 1894, p. 238). This was, of course, not true for the sexual invert.

Ellis's intervention in the sexual selection debates was never clearer than in his 1905 book *Sexual Selection in Man*, where he connected sexual sensation to tumescence. He began his book with a meditation on sexual excitation and its causes. He concluded that animals did not possess an inherent sense of aesthetic beauty, but rather that sensory input created a *physiological* response that prepared them for successful intercourse: "The chief stimuli which influence tumescence and thus direct sexual choice come chiefly—indeed, exclusively—through the four senses of touch, smell, hearing, and sight. All the phenomena of sexual selection, so far as they are based externally, act through these four senses" (Ellis 1905, p. 1). With this statement, Ellis threw in his lot with Darwin; because humans still reacted to their senses, humans were subjected to "and are still being shaped" by evolutionary forces (Ellis 1905, p. 2). Wallace had been wrong in placing humanity above the effects of natural and sexual selection.

Ellis proceeded through each of the four senses and the ways they facilitated sexual excitation. Touch seemed to be the most primitive of the senses and, consequently, the most important in the sexual encounter. The skin registered the least intellectual of stimuli. It was sensitive and directly related to pleasure. However, Ellis cautioned against an undisciplined definition of pleasure regarding sexual acts. The goal with this statement was two-fold: he wished to align his concept of aesthetics with what occurred in sexual selection, and he wished to

convince the reader to consider certain "perverse" acts as being within the bounds of normal sexual behavior. If it promoted healthy sexual excitation, then it was natural: "A broad consideration of the phenomena among civilized and uncivilized peoples amply suffices to show the fallacy of the tendency, so common among unscientific writers on these subjects, to introduce normal aesthetic standards into the sexual sphere" (Ellis 1905, p. 20). Indeed, Ellis noted, the whole physical act of sex was not exactly pretty from a contemporary British aesthetic perspective. Normal aesthetic standards were liable to muddy our biological understanding with subjective, cultural biases. Another metric of beauty—one that avoided the limitations faced in *The Descent of Man*—was necessary to reason through sexual selection.

Ellis redefined aesthetics in line with Darwinism to accomplish his analysis of human sexual instinct. He shifted away from the purely anatomical focus of his evolutionist predecessors. The brilliance of the peacock's tail or melody of the songbird's tune, as described by Darwin, was not enough to account for the transmission of traits. The mutually attracted pair had to go through the messy, indirect process of successful copulation. Ellis offered tumescence, physical sexual excitation, as the physiological response that connected the colorful, reproductive display to coitus. If the morphological display elicited sexual arousal on the part of a mate, then it benefited the displaying organism's chance of reproduction. This reconstrual of sexual selection sidestepped the need to posit an inherent aesthetic sense in either member of the species. Sexual selection became dependent on a physiological reaction to sensory stimulation. This way of defining the phenomenon also freed the biologist from problematic, unscientific cultural biases, according to Ellis. If the stimulation aided in tumescence, then someone found the sensation to be pleasing as a matter of instinct.

Ellis obviously had the acts of fellatio and cunnilingus in mind when he drew the connection between touch and tumescence. He compared biologically disparate comments regarding fellatio made by naturalists. For example, while Dr. Andrew Bowles Holder, physician at the Crow (Apsaalooke) Reservation in Montana, remarked that of "all the many varieties of sexual perversion [fellatio], it seems to me, is the most debased that could be conceived of," another, unnamed intellectual made the opposite assessment: "I affirm that, of all sexual acts, fellatio is most an affair of imagination and sympathy" (Ellis 1905, p. 22). Pleasure, like beauty, as Ellis might have commented, is in the eye of the beholder. His focus on tumescence relieved the naturalist from a biased account of what was morally natural or unnatural: "So long as they constitute a part of the phase of tumescence, the utilization of the sexual excitations obtainable through these channels must be considered within the normal range of variation, as we may observe, indeed, along with animals" (Ellis 1905, p. 20).

Despite touch's primacy in the sexual encounter, humanity's most important sexual sense in *Sexual Selection in Man* was vision. In animals, sight mediated the most salient sexual characteristics, such as the peacock's tail and the *Papilio* butterfly's wing. Humans, given their reduced sensory capacity, rely on their sense of sight more often than touch or smell: "Vision is the main channel by which man receives his impressions [...] from the point of view of sexual selection vision should be the supreme sense, and [...] the love-thoughts of men have always been

a perpetual meditation of beauty" (Ellis 1905, p. 136). Again, Ellis avoided the question of the origins of our ideas of beauty. That was a concern for aesthetics and not sexual psychology. Sexual beauty, as distinct from aesthetic beauty, elicited a physiological reproductive response. However, despite his redefining some types of beauty as a physiological matter, aesthetic beauty shared many commonalities with sexual beauty. Like sweet perfume mixing with the pleasing smell of sexual excitement, so did aesthetic beauty mingle with sexually pleasing visual displays.

Ellis pulled from a wide range of aesthetic philosophy, poetry, and anthropology to prove his point. He recalled the works of Cornish physician John Davy's 1821 *An Account of the Interior of Ceylon*, on the beauty ideals of Singalese (today, Sinhalese, of Sri Lanka) women—"[h]er hair should be voluminous, like the tail of a peacock"—and Jewish ideals of feminine beauty in the *Song of Songs*: "How beautiful are thy feet in sandals, O prince's daughter! Thy rounded thighs are like jewels" (Ellis 1905, p. 142; Davy 1821). The poetic and the scientific flowed insensibly into one overarching conception of beauty for Ellis. In the end, the boundary between artistic and scientific beauty was difficult to discern. And, like Darwin, Ellis turned to the non-white, "savage" races to explore humanity's past development (Darwin 1871, p. 18). Beauty preferences might be able to explain the differences between the various races. However, there seemed to be a universality to beauty that all humanity shared:

> The fact that the modern European, whose culture may be supposed to have made him especially sensitive to aesthetic beauty, is yet able to find beauty among even the women of savage races serves to illustrate the statement already made that, whatever modifying influences may have to be admitted, beauty is to a large extent an objective matter. (Ellis 1905, p. 126)

Equally, men of non-white races seemed to also appreciate the beauty of white women. The ability to find commonalities in human beauty supported Ellis's belief that sexual selection acted as a universal principle, not only for humankind but also throughout the whole animated world. Perhaps this common aesthetic sense is what allowed humans to admire the plumage of the peacock, as a device meant to attract mates, even though it did not arouse sexual excitement.

This conception of universal beauty—sensations that elicited aesthetic excitement instead of sexual excitement—permeated Ellis's literary work as much as his scientific writing.[29] I argue that Ellis's conception of beauty was also an extension of his Darwinian framework.[30] *The Colour-Sense in Literature* best illustrates the connection between Ellis's scientific conception of coloration and his concept of

[29] Ellis (1939, p. 162) admitted that his medical training seeped into his writing style, choice of words, and his thoughts on beauty itself, "I supplemented my already acquired tendency—doubtless the outcome of my medical training—to use technical and precise words by a complementary tendency to use also simple and figurative words from vulgar speech, and my imagery became more homely."

[30] Ellis applied this principle of aesthetic universality to both his scientific and literary work. Other scholars have noted Ellis's use of sensation in literature. For example, Hugh Davis (2004) noted the assimilation of Ellis' work on scents as secondary sexual characteristics into James Joyce's depiction of the Ulysses character Nausicaa.

universal aesthetics. This small pamphlet was originally published in volume 69 of the *Contemporary Review*, May 1896. Ellis addressed the question of whether humans have possessed the capacity to distinguish blue and green for more than a few centuries. By extension, he wondered what beauty the colors had to classical and modern artists. He drew his literary conclusion from a number of poetry and prose sources. He created tables of the instances that certain colors were used in literary sources.[31] To Ellis, people who lived in nature, such as members of the non-European races, had little need to write of vegetation or oceans. The verdant trees and clear, blue sky were commonplace for them and, therefore, not of literary interest to them.

At first glance, the aesthetic value of the color blue throughout history may not appear to be a Darwinian concern. However, if this application was not clear from the scientific language he deployed, then one may turn to the notes Ellis bound to his personal copy of *The Colour-Sense in Literature*, where he framed his analysis:

> [*The Colour-Sense in Literature*] may have been the first attempt to put on an impersonal and objective foundation the study of the reactions experienced by poets to the colour of the world in which they lived. But the way for such a study has been prepared. Darwin in 1871 in his *Descent of Man* had suggested how colour may have had an influence of immense importance in the evolution of the species [...]. The way had been made smooth for entering the psychological field and seeking to show how widely poets vary in their reactions to the colour world.[32]

Ellis saw his literary analyses as a continuation of Darwin's legacy as much as he saw his sexological writings connected to sensation and sexual selection. Like Darwin, Ellis searched for humanity's higher faculties—in this case, aesthetic senses—spread throughout the animal kingdom, from lower animals up to the most celebrated poets and artists.

Understanding Ellis's Darwinian Framework

The study of human sexual instinct consumed most of Ellis's intellectual life. But that examination of human sexuality was embedded within his larger interest in Darwinian evolution. The subject of same-sex attraction had its own merits for Ellis, but they could not be separated from the questions of sexual selection. Moreover, when he published on sexual attraction, Ellis did so with the explicit goal of contributing to the late 19th century debates over sexual selection. The 1897 publication of *Sexual Inversion*, and therefore Ellis's analysis of same-sex

[31] From these tables, he was able to group colors by their representative literary subjects. For example, if blue and green were the predominant color, the poet was most likely writing about nature since these were the colors of vegetation, the sky, and the ocean. He also attempted to draw general conclusions about the likely disuse of blue and green in some cultures.

[32] "The Colour-Sense in Literature," MSS 1.6: Havelock Ellis Collection 1875–1955, HRC.

attraction, must be read as part of a sequence of studies that includes his other evolutionary works, *The Criminal* (1890), *Man and Woman* (1894), and *Sexual Selection in Man* (1905). Ellis recognized that a biological study of secondary sexual characteristics must precede a study of "abnormal" sexual attraction, both because that is how he conducted his research and because that chronology maintained his medical authority.

This repositioning of *Sexual Inversion* reveals some nuances for the history of evolutionary thought. Ellis's case studies become a medical argument in support of Darwinian sexual selection when read in this light. He argued that sexual instinct was a congenital trait in the case of same-sex attraction; the invert responded to the secondary sexual characteristics of the same sex instead of those that normally led to reproduction. By providing these case studies, Ellis attempted to resolve a long-standing disagreement among Darwinians, giving physical legitimacy to sexual selection and its application to humanity. He acknowledged this intent in *Analysis of the Sexual Impulse* (1903), where he defined sexual instinct as "the whole of the neuropsychic phenomena of reproduction which man shares with the lower animals," which explicitly linked his scholarship to existing Darwinian debates over humanity's animal origin. And, according to Ellis, "[i]t may be said that the whole of the task undertaken in these *Studies* [*in the Psychology of Sex*] is really an attempt to analyze what is commonly called the sexual instinct." (Ellis 1903, pp. 1–2)

Ellis's joining of sexual instinct to evolution is clearest in his theory of sexual inversion. After he presented case studies of same-sex attraction, he explicitly asked "[w]hat is sexual inversion?" (Ellis and Symonds 1987, p. 199). He rejected the idea that inversion should be seen primarily as a crime or a disease. Rather, Ellis argued that the sexual invert should be viewed within the framework of Darwinian biology. He did so by invoking both Darwinian language and the concept of natural variation in species: "Thus in sexual inversion we have what may fairly be called a 'sport' or natural variation, one of those organic aberrations which we see throughout living nature, in plants and animals" (Ellis and Symonds 1987, p. 203). Darwin had used the term "sport" to describe a sudden, heritable variation that appeared in a species. Most importantly, for Darwinians, sports represented natural variation that caused a deviation in an organism's development, possibly due to environmental factors (Darwin 1859, pp. 9–10). Likewise, Ellis believed that sexual inversion itself was not necessarily *inborn*, but that the sexual invert had a *congenital predisposition* to develop attraction for the same sex (Ellis and Symonds 1897, 201).

It is at this point that Ellis referred to his publications that explored sexual selection in humans. Specifically, he argued that sexual inversion could be compared to color blindness, a topic related to *The Colour-Sense in Literature*, and to instinctive criminality, a trait discussed in *The Criminal*. The mentioning of color blindness is especially clear since Ellis had published *The Colour-Sense in Literature* only one year before *Sexual Inversion*, and his own notes stated that his investigation into color sense was inspired by Darwin's *Descent of Man*. In both comparisons, humans had been born with a congenital, naturally varying physiological response to sensory input. For the color-blind individual, the person was born "insensitive to those red-green rays which are precisely the most impressive to the normal eye" (Ellis and Symonds 1897, p. 204). For the sexual invert, the person was born with a

tumescent response to the sights, sounds, and smells normally reserved for the other sex.

This evolutionary backdrop helps us to read Ellis's work in a way that would make sense to his scientific contemporaries. Other Darwinians would likely have understood Ellis's argument—and his conception of same-sex attraction—within their shared context of the late-19th-century evolutionary debates. I have argued that Ellis envisioned congenital homosexuality as a reversal of sensory attraction in sexual selection. This reveals what was "inverted" about the sexual invert: the physiological mechanism by which sexual selection operates.

This understanding of sexual inversion offers a fertile connection between Ellis's evolutionary scholarship and his role in the history of sexuality. Most importantly, Ellis's argument regarding sexual inversion ran countercurrent to the emasculation of homosexuals posed by previous medical scholars.[33] The medical publications before Ellis depicted most homosexual men as being a physically feminized male, whether through anatomy, clothing, or mannerisms. Ellis acknowledged that sexual inverts possessed at least some traits of the opposite sex, whether physically or mentally, in addition to an inverted sexual response (Ellis and Symonds 1897; pp. 192, 206).[34] However, the invert was able to retain personal, bodily masculinity and femininity in Ellis's theory of inversion. The invert essentially kept the secondary sex characteristics and behaviors that marked his or her sex. Those traits allowed for other inverts to find them attractive. Instead of assuming an essentially misplaced, gendered role that defined previous depictions of homosexuals, Ellis asserted that a physiological response to sensory stimuli had been transposed.[35] Ellis's argument also agreed with a prevalent evolutionary assumption at the time, ancient hermaphroditism, the belief that modern species had evolved from simpler organisms that lacked distinct sexually dimorphic traits (Brook 2015).

The implications for Ellis's proposed mechanism for sexual selection, when taken in context, also provide a surprising countercurrent to late 19th century conceptions of sex. Specifically, his transposition of sexual responses was not completely binary. While Ellis seemed to accept the biological categories of "male" and "female" as natural, this binarism applied to traits rather than individuals. To Ellis, attraction was always a matter of degree and not of kind. There could be no perfect human specimen who possessed all-encompassing "male characteristics" or

[33] Hekma (1996, p. 234) has argued that the creation of a third-sex identity by Ulrichs and Magnus Hirschfeld emasculated most same-sex-attracted individuals. The new identity did not threaten the virility of "normal" men and, therefore, third-sex identity gained popularity. Crozier (2008c) confirms that this was the case in England before Ellis.

[34] Ellis here refers to a blending of male and female traits reminiscent of Darwin's blending of gemmules, or hereditary particles that determine an organism's traits: "In other words, inversion is bound up with a modification of the secondary sexual characters."

[35] Please note that Ellis's focus on physiological mechanisms for evolution is distinct from the physical actions that altered a species's morphological traits as proposed by Jean-Baptiste Lamarck and the neo-Lamarckians at the time. In Ellis's case, he proposed that sexual selection was dependent on the physiological process of sexual tumescence. Morphological traits are still important here, of course, but they are not the site for selection itself, which has been relocated to the physiology of sexual excitation instead.

"female characteristics" given natural, evolutionary variation. Instead, an individual possessed only one variant of the human sexual response in relation to equally variable sexual traits. The interplay between morphological secondary sexual characteristics and the physiological response to this stimulus necessitated the acceptance of variation. Darwinian sexual selection could not operate otherwise.

Darwin—and Ellis—considered each individual as a collection of varying traits. But according to Ellis, the variation of "male" and "female" secondary sex characteristics blended within the individual, and that unique blending rarely created a perfect masculine or feminine type. A man may be very masculine yet have a high, lilting voice normally reserved for the female of the species.[36] A woman may be almost entirely feminine except for visible musculature assumed to be more natural to males. By extrapolation, each person existed along a spectrum of maleness and femaleness according to Ellis's model. Ellis implied that the delineation between male and female characteristics was not completely clear. While some characteristics were deemed more beautiful in some races and cultures, Ellis also believed in a universal aesthetic for beauty that was determined by humanity's ability to perceive color. This portrayal of sexual attraction as a universal collection of natural human variations blurred the division between the sexes. In essence, every person who possessed a sexual response was a little bit queer, both by being a variant and through being aroused by the *mélange* of male and female sexual characteristics. This implication may or may not have been perceived by Ellis's contemporaries, although this subtle normalizing of same-sex attraction may explain why his work was popular among scholars who found themselves attracted to members of the same sex.

Despite this countercurrent concept of sexual traits, Ellis still saw the existence of the invert through an evolutionary lens. He also speculated on the possible evolutionary reason why sexual inversion existed. Ellis noted that sexual inverts often came from neurotic families. Likely, these quirks were signs of hereditary degradation. Perhaps inversion kept these neurotic tendencies from spreading to the next generation; it may be "[n]ature's merciful method of winding up a concern which, from her point of view, has ceased to be profitable" (Ellis and Symonds 1897, p. 213).

Ultimately, it is impossible to deny that Ellis's theorizing occurred within a deeply Darwinian context, and I would argue that the influence of Darwinian evolution on Ellis's work runs deeper than depicted in previous historical research. He spent much of his life engaged in philosophical, literary, and sexological pursuits, and these subjects were joined together through his study of Darwinian sexual selection. Ellis also spent many of his productive years engaged in evolutionary debates. His contribution to Darwin's theory was to develop the mechanisms for sexual selection;

[36] Ellis here provides multiple case studies of inverts with predominantly "masculine" traits, such as Case I, "a manual worker, and also of exceptionally fine physique." This case shows how an individual who predominantly possesses secondary sexual characteristics of their sex (*i.e.*, a fine physique, *etc.*) may still be sexually inverted. It is not the fundamentally feminine quality of the individual that makes them a sexual invert, simply the blending of one sex with the opposite sex's selective impulse.

he connected a peacock's coloration to the physical reproductive act. By doing so, he defended Darwin's theory exactly when it was so uncertain that evolutionary mechanisms applied to humanity, placing him alongside other contemporary Darwinians. Even Ellis's aesthetic philosophy was connected to his evolutionary arguments, as disclosed in his copy of *The Colour-Sense in Literature*. However, perhaps the most important and enduring of these evolutionary links was to his work on same-sex attraction.

Given Ellis's continued authority on sexual matters among the Anglo-American scientific elite, I suggest that the link between his work and sexual selection is an excellent starting point for future historical investigations. Recent scholarship has explored the phenomenal translation of Ellis's work into different languages and cultures during the 20th century.[37] Ellis's reimagining of human sexuality—embedded within his wider evolutionary argument—likely influenced a range of subsequent sexologists, though the degree to which specific elements of Ellis's arguments diffused into various sexological and intellectual communities has yet to be fully established.

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[37] See for example, *Global History of Sexual Science* (Fuechtner 2018).

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