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Uncaged Angels: Ecofeminist Literary Ornithology as Citizen Science in the Nineteenth Century

Clara Contreras Ameduri
Universidad de Extremadura
claraca@unex.es

This article examines how women's ornithological literature facilitated their participation in scientific research and political activism in the nineteenth century. Despite the many confining associations between women and birdcage imagery in Victorian culture, female involvement in the observation of birds was instrumental in the period's transferring of women's activity from the private to the public sphere in Britain, the United States and colonial South Africa. By focusing on birdwatching as an early form of what Alan Irwin defines as citizen science (1995), it is possible to explore how women's ornithological nature writing encouraged environmental advocacy, thus fomenting female autonomous expression in the male-dominated field of natural history. The texts analysed here therefore anticipated ecofeminist approaches to avifauna, allowing for women's subversive excursions into nature which dissolved the restrictions of the normative 'angel in the house'.
Keywords: birds; ecofeminism; citizen science; Victorian ornithology; nature writing

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Ángeles liberados: la literatura ornitológica ecofeminista como ciencia ciudadana en el siglo diecinueve

Este artículo examina cómo la literatura ornitológica femenina facilitó la participación de las mujeres en la investigación científica y el activismo político en el siglo diecinueve. A pesar de las muchas asociaciones restrictivas entre las mujeres y la simbología del pájaro enjaulado en la cultura victoriana, el compromiso femenino con la observación de aves supuso un elemento esencial en el paso de la actividad de las mujeres de la esfera privada a la pública en Gran Bretaña, Estados Unidos y la Sudáfrica colonial. Prestando atención a la ornitología

como una forma temprana de lo que Alan Irwin define como ciencia ciudadana (1995), es posible explorar cómo la escritura de naturaleza escrita por mujeres estimuló el activismo medioambiental, facilitando así su expresión autónoma en el campo patriarcal de la historia natural. Por lo tanto, los textos analizados aquí anticiparon visiones ecofeministas de la avifauna, permitiendo incursiones subversivas en la naturaleza que disolvían las restricciones del normativo ideal del 'ángel del hogar'.

Palabras clave: aves; ecofeminismo; ciencia ciudadana; ornitología victoriana; escritura de naturaleza

1. Introduction

In 2021, a collection of rare documents from the Brontë household returned to public view after nearly a century (Flood 2021). Among them was a much-annotated copy of Thomas Bewick's *A History of British Birds* (1804), a favourite text whose impact on the famous literary family is made apparent in the first pages of *Jane Eyre* (Brontë [1847] 1992, 5). Besides granting an insight into the Brontës' sharing of the contemporary enthusiasm for natural history, this ornithological study is only one of the many appearances of avian imagery in the abovementioned novel, whose heroine is often attributed bird-like traits (Marchbanks 2006, 119). Her memorable declaration of independence, "I am no bird; and no net ensnares me" (Brontë [1847] 1992, 223), not only rejects constrictive associations between women and birds in Victorian iconography,[1] but also echoes other winged metaphors of freedom and mobility in nineteenth-century women's writing.

The purpose of this article is to explore women's reconfiguration of avian imagery through nature writing in the transnational nineteenth century, noting how their involvement in birdwatching facilitated female participation in the public sphere. Through what may be read as ecofeminist ornithological literature, pioneering authors inverted the birdcage trope by stepping outside the home to engage in animal welfare advocacy and produce accessible science to raise environmental awareness. As I hope to prove, ornithological imagery in Victorian women's writing extends beyond the much-scrutinized affinity between the feminine condition and the imprisoned bird (Danahay 2007a, 109), including less inspected approaches to non-human perspectives through scientific research and social reform. Following Peter Adkins and Wendy Parkins' invitation to decipher nineteenth-century culture through the period's original definition of the term 'ecology', that is, as "an explanation of the world through relationality, continuity" and a "sense of life as entanglement" (2018, 1), I intend to examine the intersections between the first animal protection campaigns and

[1] Following Anne C. Rose's arguments on the applicability of the label 'Victorian' for the mid-nineteenth-century United States due to similarities in socio-cultural contexts on both sides of the Atlantic (1992, 7), I am extending the term to include both British and American texts.

the development of female-led natural science, paying attention to the multifaceted meanings of birds in literary responses to ecological destruction.

Taking into account ecocritical approaches to Victorian studies and their potential to shed light on current environmental issues (Adkins and Parkins 2018, 2), this article considers texts which reveal and denounce the origins of ongoing disasters such as institutionalized animal abuse and the massive loss of biodiversity. Most notably, contrary to David Allen's denial of women's ornithological achievements in the nineteenth century (1976, 167), female ornithological writing reflects the relevance of women's participation in the study of avifauna. In order to provide a comprehensive analysis of the, to date, unexplored relationship between citizen science and ornithological ecofeminist visions in nineteenth-century culture, this article begins with an overview of women's role in the reform of public opinions on bird annihilation within the context of wavering attitudes to nature in the Victorian period. Next, I shall comment on female birders' advocacy for avian welfare through nature writing, concentrating on how such texts challenge traditional androcentric approaches to birdlife and emphasizing the empowering aspects of women's actions against the plumage trade, which have remained largely overlooked (Hammel 2015, 109). Lastly, these achievements will be contemplated within the context of citizen science, a term coined by Alan Irwin to allude to alternative scientific methods based on public involvement and engaging individuals outside academic fields of expertise in different approaches to environmental challenges (1995, 10).

Bearing in mind Ann Elisabeth Laksfoss Cardozo's interpretation of birdwatching as an early form of citizen science that "existed long before this term was invented" (2021, 29), it is possible to appreciate how historical records of bird observations by women present marginalized contributions to natural history which affected the development of subsequent ecological resistance organizations. Furthermore, the works examined in this article resonate with ongoing scholarly debates on the possibility of ecofeminist epistemologies in science (Schiebinger 1987, 331) since they demonstrate the influence of gendered factors in contrasting approaches to nature. Such differences call for a broadening of conventional definitions of science, which have long relied on the male standard, so as to incorporate, as Londa Schiebinger argues, more holistic and responsible methods (1987, 332). This implies a reinterpretation of the boundaries of research and the role of citizens as generators of knowledge (Jørgensen 2021, 1345), a useful notion with which to decode the transnational work of women who remained excluded from official scientific societies.

2. Ruffling Feathers: Women's Leadership in Bird Conservation

The nineteenth century was a period of transformations in all spheres of life, including the relationship between the human and the non-human world. It constituted a turning point in terms of ecological awareness, marked by the dawn of conservation movements

(Murphy 2019, 23) and the well-known passion for natural science which took the era by storm (Gates 2007, 539). This popularization of natural history mirrored a socio-cultural context where the collective imagination was responding to changing ideas about interspecies relations, particularly as a reaction to Charles Darwin's seminal *On the Origin of Species* (1859). The struggle to come to terms with the notion of human-as-animal implied a destabilization of boundaries, and was paired with a growing interest in non-human subjectivities which was manifested in literature and art (Denenholz and Danahay 2007a, 2). Jeremy Bentham's famous pronouncement "The question is not, can they reason? Nor, can they talk? But, can they suffer?" (1838, 143) encouraged lines of thought that conceived animals as "sensitive beings" which "may be the objects of benevolence" (Bentham 1838, 18). Under this scenario, then, "[t]he animal becomes newly defined as a being possessing 'wants', 'desires', and even rights," explains Ivan Kreilkamp, "and the suffering or torture of animals become privileged occasions for the display of powerful affect [...] within narrative" (2005, 94). Compassionate works of fiction such as Anna Sewell's *Black Beauty* (1877) were also informed by scientific studies like Darwin's *The Expression of Emotions in Man and Animals* (1872) (Denenholz and Danahay 2007a, 3), which inspired texts that foregrounded the suffering of animals and their inability to express it (Bending 2000, 116). Such writings entailed significant political implications, especially for women.

The pursuit to voice animal subjectivities was directly linked to the rise of animal protection activism, a movement founded and led mostly by female reformers (Adams and Donovan 1995a, 5). This involvement generated new positions for ladies who challenged the constraints of the normative 'angel in the house' ideal by becoming agents of change in the public sphere (Donald 2020, 56-57). Such advances were particularly notable in women's militancy against the plumage trade, which caused the annual slaughter of millions of birds for feather fashion between 1870 and 1920 (Boase 2018, 8). Troubled by the increasing use of feathers on women's hats and by male scientists' refusal to take action (60), activists such as Emily Williamson in Britain and Harriet Hemenway in the United States decided to start female groups for the protection of avifauna, founding, respectively, the Society for the Protection of Birds in 1889 (60-61) and the first Audubon Society in 1896 (Breton 1998, 256).

As argued by Coral Lansbury, female leadership in animal protection frequently demonstrated similarities between violence against animals and women's suffering (1985, 84). Through this sense of shared victimhood, women recognized their own hardships in the treatment of non-human creatures, perceiving their abuse as a symbol of androcentric supremacy (Adams [1994] 2018, 26).[2] As highlighted by Josephine Donovan, Victorian women reformers paved the way for contemporary ecofeminist

[2] The equation of nature and women as secondary to culture and men is, as Carol Adams and Josephine Donovan clarify, at the core of androcentric systems of domination (1995, 3). This configuration, which, according to ecofeminist readings, has been employed to justify the exploitation of both (Scholtmeijer 1995, 232), was deeply embedded in Victorian thought (Murphy 2019, 5).

theories because they addressed these overlapping concerns by calling into question "atomistic individualism and rationalism," emphasising "collectivity, emotional bonding, and an organic (or holistic) concept of life" (1990, 358). Literary texts constitute useful examples of how the affinity between women and the zoological realm was released from its essentialist connotations and granted different meanings in a bid to dismantle hegemonic socio-cultural forces in an intersectional manner (Scholtmeijer 1995a, 233).[3] Birds were particularly recurrent tropes when it came to representing women's and animals' common vulnerability (Danahay 2007a, 109),[4] appearing as emblems of themes such as the appropriation of female sexuality (Shefer 1991, 447), or the reduction of women to the category of pets in their husbands' possession (Danahay 2007a, 99). It is therefore no surprise that avian perspectives occupied a central position in the reconfiguration of the condition of women and animals through citizen science.

3. Taking Flight: Women's Ornithological Writing as Environmental Activism

Although feminist readings of nineteenth-century avian imagery have shown that women's writing was more likely to evoke "images of caged birds, protected and controlled" (Marchbanks 2006, 119), female participation in natural science demonstrates how literary ornithology could adopt different forms, narrating emancipatory outings into the wilderness which matched the liberty of the examined birds. Female-led ornithological studies were essential to the validation of women's animal welfare activism, since "if women were to become 'moral agents' in the public sphere," they must first be acknowledged as "beings who were capable of analytical thought and rational action" (Donald 2020, 69). In contrast to patriarchal Victorian discourses on animal care, exclusively rooted in traditional notions of exaggerated feminine sensibility,[5] women scientists jeopardized the separate spheres ideology by combining their rational skills with the "unity with and deep reverence for nature" which, according to Schiebinger, characterizes feminist perspectives in science (1987, 314). Simultaneously, such works called into question cultural dichotomies which place male civilization in opposition to feminized animality (Donald 2020, 44), corroborating the ecofeminist assertion that "the nature/culture binary cannot hold, for women undeniably participate in culture" (Murphy 2019, 15). Without excluding the possibility of emotional bonding with animals, women ornithologists contributed to

[3] Moine provides an insightful overview of women's literary use of non-human viewpoints in her chapter "Manipulating the Animal" (2015, 151-215).

[4] Well-known examples of feminist reconfigurations of avian imagery to denounce patriarchal oppression include Wollstonecraft's *A Vindication of the Rights of Woman* (1792), Sarah Orne Jewett's "A White Heron" (1886) and Mona Caird's *The Daughters of Danaus* (1894).

[5] Donald traces similarly gendered animal welfare messages in women's writing back to the Georgian period, mentioning works such as Anna Letitia Barbauld's *Lessons for Children* (1778) and Mary Wollstonecraft's *Elements of Morality* (1790).

the democratization of natural history, another form of citizen science which "offered fields open to amateur and professional alike" (Gates 2007, 540). The flexibilization of scientific practices in the nineteenth century, which relied on observation rather than on academic theory (540), allowed female researchers to develop alternative scientific methods that differed from the approach adopted by the male-dominated institutions from which they were excluded.

In spite of Barbara Gates' claim that "natural history was essentially egalitarian" and "[n]o one was barred from its pursuit" (2007, 541), women were deliberately kept out of scientific clubs (Allen 1976, 167). Ornithology journals listed a number of excuses for this, namely the "competitive instinct of men, their evolutionary past as hunters, women's fears for personal safety" and "society's expectations that they should stay at home" (Moss 2004, 323). Female citizen scientists responded by transferring their work to a liminal space, forming networks of collaboration to conduct research in the natural environment. Their birding activities were at odds with the male-dominated practices of the day (Donald 2020, 57), manifesting a preference for observing live birds in their natural habitat instead of dissecting their corpses. Whereas most men conducted ornithological science by killing birds to preserve them as prizes (Moss 2004, 48), women scientists developed kinder alternatives in their study and protection of the same animals, thus challenging the male norm as the measure for scientific excellence (Schiebinger 1987, 313). For example, Florence Merriam Bailey (1863-1948), the first female associate member of the American Ornithologists' Union, argued that "the student who goes afield armed with opera glass and camera" would "add more to our knowledge than he who goes armed with a gun" (Bailey 1889, 5). Her first book, *Birds Through an Opera Glass* (1889), begins with this pioneering proposal to use binoculars, by then known as opera glasses, which she deemed "inseparable article[s]" to facilitate close bird observation without the need for shooting the object of study (3): "When going to watch birds, provided with opera-glass and note-book, and dressed in inconspicuous colors, proceed to some good birdy place [...] and sit down in the undergrowth or against a concealing tree-trunk, with your back to the sun, to look and listen in silence" (Bailey 1889, 4).

Bailey's choice to blend with the animals' habitat and approach birdlife in a respectful way suggests a departure from the androcentric technologies which allowed the exploitation of nature, as well as a reconfiguration of the boundaries of mainstream science at a time when "[s]erious fieldwork, especially in ornithology, still depended on the gun" (Brooks 1980, 89). Moreover, like other women ornithologists, Bailey identifies hunting as a typically masculine manipulation of the landscape, encouraged even among boys who, "unmoved by the beauty of the scene," promoted avian slaughter (1889, 75). As John Miller explains, hunting sports were essential elements in Victorian constructions of masculinity (2012, 7). While children's books reminded girls of their feminine duty to instruct their violent brothers against torturing animals (Donald 2020, 45), didactic texts for boys openly suggested several forms of animal cruelty

as a supposedly healthy part of their upbringing (Miller 2012, 8). More significantly, nineteenth-century hunter narratives were embedded within the period's patriarchal and imperialist discourses, often tainted with metaphors of sexual domination and other analogies between women and animals, especially birds (Murphy 2019, 5). Bailey's non-violent understanding of the environment therefore entails gestures of ecofeminist solidarity which undermine the dominant culture which marginalized nature and the feminine (Moine 2015, 191).

Birds Through an Opera Glass was part of larger efforts by women conservationists to bring knowledge on birdlife closer to the general public in the hope that a more widespread interest in avifauna would halt the massacre perpetuated by the millinery trade (Musil 2014, 158). To educate her readers in the appreciation of nature, the author provides detailed information to comment on birds' valuable role as bioindicators, noting how "[e]ach bird seems to voice some phase of nature" (Bailey 1889, 204). Her remarks anticipate the conservation arguments of future environmentalist cornerstones like Rachel Carson's *Silent Spring* (1962), in which the absence of birds is underlined as a warning against the loss of biodiversity due to human activity:

> There was a strange stillness. The birds, for example – where had they gone? [...] It was a spring without voices. On the mornings which had once throbbed with the dawn chorus of robins, catbirds, doves, jays, wrens, and scores of other bird voices there was no sound; only silence lay over the fields and woods and marsh (Carson [1962] 2002, 2).

This intention to raise environmental awareness through ornithological writing was equally present in the work of other authors who, prior to Bailey's achievements, had also decided to "step aside from the turmoil of the world to hold quiet converse with Nature" (Bailey 1889, 5).

By the mid-nineteenth century, Susan Fenimore Cooper (1813-1894), one of the earliest bird protection advocates (Taylor 2016, 88), became America's first female nature writer (Anderson and Edwards 2002, 34). Her second book, *Rural Hours* (1850), traces her reflections on upstate New York wildlife throughout the seasons, defying conventional notions of expertise through implementing citizen science strategies. For instance, as noted by Timothy Sweet, Cooper's comments on birds present intersections between rustic knowledge and cosmopolitan sources of natural history which connect the author's local sense of place-consciousness to an international community of professional naturalists (2010, 544). By foregrounding place-based learning, now classified within citizen science as situatedness (Jørgensen and Jørgensen 2021, 1346), the author engages in the reconsideration of canonical boundaries not just in scientific methodologies, but also in the gender and class dynamics of her time, pushing past the bias against women and rural provincial writers in transatlantic exchanges of knowledge.

Besides providing opportunities for intellectual transnational mobility, birds in Cooper's field journal function as elements of connectedness, that is, facilitating

the citizen scientist's ability to identify links between diverse environmental issues (Jørgensen and Jørgensen 2021, 1346). As an example, her discussion of natural cycles reveals advanced observations on climate change, noting higher temperatures and the depletion of local flora and fauna (Cooper [1850] 1968, 16-18; 94; 167; 321). Once again, birds become a vital tool to warn against environmental destruction, since their diminishing numbers mirror the precipitous decrease of other wildlife, as Cooper effectively illustrates in her essay "Ostego Leaves I: Birds Then and Now" (1878): "twenty years ago, robins, wrens, cat-birds, and humming-birds, and, indeed, the whole summer flock, were certainly more numerous than they are today" ([1878] 2002a, 38). In order to convince her addressees of the value of birdlife, the author lists the benefits of bird presence in everyday human life, pondering on the significance of non-human perception: "if we understood the language of the wren, we might perhaps discover the same feeling of happy wonder at his own performance" (36). This consideration and incorporation of animal expression in environmental debates constitutes a form of what Patrick Murphy denominates "ecofeminist dialogics" in human-animal interactions (1995, 50). Similar attempts to make space for othered voices on the margins of dominant culture were later continued by writers like Sarah Orne Jewett, who also mused: "Who is going to be the linguist who learns the first word of an old crow's warning to its mate?" (1881, 4).

Predicting future ecological disasters, Cooper additionally warns her readers not to take birdsong for granted, stressing how "the number of summer birds has diminished more than a half" ([1878] 2002a, 38), while "winter birds are also much less numerous than they were" (39). She identifies diverse causes for this "sad change" (39), addressing the devastating impact of both feather fashion and hunting sports. Like Bailey, she uncovers the double standards surrounding gendered animal cruelty narratives, emphasizing how "[y]oung boys, scarcely old enough [...] to carry a gun, are allowed to shoot the birds with impunity in the spring" (39). This stance set her and her fellow women birders aside from leading male ornithologists like Charles B. Cory, who opposed emerging conservation laws by proclaiming: "I don't protect birds, I kill them" (quoted in Graham 1990, 7). However, despite engaging in a long tradition of highlighting masculine boldness as opposed to women's redemptive yet passive sensibility in approaches to animal suffering (Donald 2020, 44), Cooper does not count on female innocence. Instead, she targets consumers of the plumage trade who "would scorn their little brothers for stealing nests or eggs, but [...] have no scruple whatever in wearing a dead bird in their hats" ([1878] 2002a, 40). By also blaming women, young girls, children, and even "half-babies" for bird extinction (40),[6] the author destabilizes the binary oppositions sustaining nineteenth-century animal discourse, basing her arguments on empirical data on the decreasing bird population,

[6] Here the author is referring to toddlers, highlighting how even extremely young children are exposed to the cruel habits of feather fashion.

rather than simply perpetuating angelic depictions of women as selfless caregivers.

Similar environmental efforts can be appreciated in the studies of Graceanna Lewis (1821-1912), as in her article "The Lyre Bird" (1870), which also discusses the use of feathers in hats (Lewis 1871, 326).[7] Lewis' work is an outstanding case of female-led citizen science due to her largely self-taught mastery in the fields of ornithology, botany, astronomy, geology and palaeontology (Bonta 1985, 27). Her Pennsylvania Quaker upbringing, which fomented an egalitarian education for women (Musil 2014, 24), pushed her to enjoy a stimulating intellectual life that would lead her to deliver public lectures and parlour classes on avifauna (Bonta 1985, 28, 31). This non-mainstream religious background also provided a justification for her interdisciplinary studies (Hanaford 1876, 2), which she perceived as a way of understanding God's creation: "I love nature," she wrote, "because it teaches me better to comprehend its Author" (quoted in Bonta 1985, 27). Spiritual yearning for a harmonious coexistence with the non-human environment was an essential part of Quaker principles and therefore constituted a vehicle for the ornithologist's holistic cosmology (Skilbeck 2021, 245), which lay the ground for the pantheist views of Transcendentalism (Albanese 1977, 8), Spiritualism (Gregory 2007, 164) and other nineteenth-century movements that encouraged conservation policies and less divisive approaches to animal subjectivities. Her lecture *The Development of the Animal Kingdom* (1877) sustains similar views on natural theology, that is, the conviction that ecological processes are "representative of Divine Energy" and proof of the intervention of a higher intelligence in earthly matters (Lewis 1877, 4). Although she endorsed Darwin's theories, Lewis refuted his ideas on random variation as a mechanism in natural selection (Kennedy 2007, 256), preferring to understand evolution as a divinely directed plan towards perfection (1877, 5).

Such contributions to one of the most decisive ideological debates of the day were initially stimulated by her study of birds, which she began with "no plates and no specimens,—nothing but a book of verbal descriptions" (Lewis [1896] 1995, 12). Recurring to what Finn Arne Jørgensen and Dolly Jørgensen denominate collectiveness, among other learning tools often employed in citizen science (2021, 1345), her self-taught ornithological knowledge was principally rooted in networks of amateur Quaker naturalists (Bonta 1985, 29), field guides and the prioritization of practical observation, for which freedom of movement was a necessary asset (30): "To wander at will, in field and wood, with the ear open to catch any note or song of bird, and the eye trained to notice the least flutter in the branches, cannot fail to result in an interesting knowledge of birdlife" (Lewis [1896] 1995, 13). As she explains in "Birds and Their Friends" (1896), this pursuit of watching birds in their natural habitat "led to the study of animal life in general," (13) awakening a fascination for other non-human beings. Ornithological observations enhanced her holistic view of ecosystems,

[7] In this case, the ornithologist refers to hunters' custom of wearing lyre bird feathers in their hats to capture specimens by tricking the animal into approaching them (Lewis 1871, 326).

which she describes as an interspecies mosaic of co-dependent elements partaking in "the eternal energy of the Supreme Ruler of the Universe" (Lewis 1877, 4). For example, while examining a bird nest, she wonders: "Who would have thought that even in the form, the colour and quality of the eggs of birds, the majestic flow of the tidal forces of life could be expressed?" (Lewis, quoted in Kennedy 2007, 256). Her religious reading of the interconnected energies of nature echoes Darwin's concluding that "entangled bank, clothed with many plants of many kinds, with birds singing on the bushes," are all "dependent on each other in so complex a manner" in [*On*] *The Origin of Species* ([1859] 1909, 528). Lewis' all-encompassing conception of the human-nature relationship, informed by similar views on ecological unity, was fuelled by her ornithological studies and her awareness of how "[e]ach science enriches the other" (Lewis 1877, 3). Her contributions to the field of natural history acquire additional meaning when considered in the light of her advocacy for women's rights and the abolition of slavery (Bonta 1985, 27), a commitment which resonates with her inclusive affirmation that "we are connected by ties of relationship [...] with every terrestrial being" (Lewis 1877, 21).

The struggle for environmental justice through natural theology was equally embraced by Mary Elizabeth Barber (1818-1899), the first woman ornithologist in the Cape Colony (Cohen 2000, 187). Much like Lewis, Barber integrated her discoveries in avifauna within her interdisciplinary interest in botany, entomology, geology and archaeology (Hammel 87), which she interpreted as tools to reveal the "wonderful evidence of a divine guardianship, a protecting Power, which cares and provides" (Barber 1871, 470-71). With no formal education (Cohen 2000, 187) and having allegedly taught herself to read and write (Thorpe 1978, 37), Barber became one of the few female scientists in nineteenth-century South Africa (Beinart 2003, 117). She corresponded with several of the leading natural historians of her day, including Darwin (Cohen 2000, 187), and was the only woman quoted in Edgar Leopold Layard's influential *Birds of South Africa* (1867) (Hammel 2015, 88).

Her inquiring mind thrived outside the domestic space and, just as Bailey chose to wear "inconspicuous colors" to blend with nature (1889, 4), Barber "made herself a part of the landscape" in order to observe birds more closely, blurring interspecies boundaries by cohabiting with a vulture and a Cape starling (Hammel 2015, 90). She also resorted to what is now known as citizen science to compensate for her lack of access to academic institutions by relying on networks of intergenerational collaboration: her brother and sons kept her informed of bird-related incidents (Mitford-Barberton and White 1968, 36-37), her niece helped her illustrate her findings through ornithological watercolours (Layard 1869, 74) and her relatives may have participated in the reading society she organized to circulate scientific articles and books (Hammel 2015, 93).

Barber's fondness for birds was also expressed through her involvement in the crusade against the plumage trade, for which she provided sound arguments against avian slaughter. In her "Plea for Insectivorous Birds" (1886) she indicates, for instance, that

birds are constantly "labouring on our behalf and daily rendering us most invaluable services," noting, in a pragmatic allusion to the fragile co-dependence of ecosystems, that the death of each bird brought deterioration to the landscape by allowing the survival of thousands of insects that would thrive in the absence of a predator, taking over the fields, damaging the harvest and eventually affecting human activity and productivity (Barber, qtd. in Hammel 2015, 108). Barber's critique of the millinery business therefore highlights our inseparability from natural processes, focusing on the logical consequences of bird annihilation to expand beyond the moralizing appeal to compassion often expected in Victorian women's writing about animals (Donald 2020, 48).

While maintaining an empathetic approach to the "not only valuable but beautiful and innocent birds" slaughtered for feather fashion (Barber, quoted in Hammel 2015, 108), the ornithologist justifies her thesis through empirical evidence concerning bird extinction, thus disrupting the culturally established binary between masculine reason and feminine emotion in responses to animal suffering, exhibiting analytical skills and other abilities deemed conventionally unfeminine in nineteenth-century culture. Women's anger over the treatment of non-human creatures was, as Brian Luke reports, usually "divested of political significance" by being dismissed as "sentiment" or "hysteria" (1995, 293). As noted by Linda Forbes and John Jermier, female ornithologists' scientific writings may have been an intentional response to such trivializations of their reformist efforts in journals such as the *Millinery Trade Review* (1876-1938), where their anti-plumage activism was discredited as emotional effusion (2002, 460). Therefore, in contrast to her opponents' attempts to label women bird protectors as "fanatics" and "feather faddists" (Boase 2018, 112), Barber's scientific research was not only involved with redefining interspecies relations, but also with the re-evaluation of Victorian gender roles and the legitimization of ecofeminist voices in natural history.

Another example of the revolutionary potential of her ornithological writing lies in her examination of sexual roles in avifauna. Whereas prominent male naturalists like Darwin and Alfred Russel Wallace interpreted bird sexual selection through the lens of nineteenth-century societal models (Young 1991, 94), thereby "project[ing] Victorian patriarchy onto the natural world" (Smith 2006, 115), Barber, who was keenly aware of the subordination of women, disproved this male attempt to naturalize the separate spheres by providing evidence of contrary behavior in avifauna (Hammel 2015, 96). As Penny Young observes, although Darwin's descriptions of sexual selection were at times ambivalent, his basic assumption was that "males played an active role," displaying "vigour and superior intelligence," while females were "passive in copulation and caregivers in rearing the offspring" (1991, 96-97). Wallace was equally eager to "do away with almost any notion of female choice" (Smith 2006, 116), considering, like many of his colleagues, that "mate choice [...] was too extreme an involvement of women in the realm of sexual and/or power relations" (Young 1991, 96). Barber, however, offered corroborative proof for differing tendencies among several bird species, deconstructing sexual roles by

emphasizing the active stance of the female in courtship and the collaboration of both sexes in caring and nurturing activities (Hammel 2015, 85).

Birds are important elements in Darwin's discussion of sexual selection in *The Descent of Man* (1871), which he illustrates with allusions to women's use of feather fashion, stating they "take more delight in decorating themselves with all sorts of ornaments than do men" (Darwin [1871] 2007, 313). According to Jonathan Smith, here the naturalist recurs to the already by-then clichéd analogy between women and birds to confirm assumptions about female vanity and superficiality, signaling "their limited capacity for rational thought, the domestic as their proper sphere" (Smith 2006, 115). In contrast, Barber's essay "On the Peculiar Colours of Animals in Relation to Habits of Life" (1878) defends autonomous female behavior in sexual selection and other aspects of birdlife. She underlines examples of female birds adopting the active role so often attributed to the male, noting, for instance, how the Cape bristle-necked thrush protects her mate by letting him know when danger is near (Layard 1867, 105). Other ornithological texts by women also include observations on female birds as a form of feminist critique, such as Bailey's comparison between the situation of married women and that of the female black-throated blue warbler, inaccurately baptized after the colors of her male counterpart: "Like other ladies, the little feathered brides have to bear their husbands' names, however inappropriate. What injustice! [...] Talk about woman's wrongs! And the poor little things cannot even apply to the legislature for a change of name!" (Bailey 1889, 187-88).

In other cases, bird-watching notes reveal how female birds may contradict human assumptions on sexual difference, as in Cooper's comments on the female hawk's function as hunter: "It was the larger female who pursued the hare, the kite, the crane. These birds will not submit to be enslaved, they never breed in a domestic state" ([1850] 1968, 262). Similarly, the South African writer Olive Schreiner (1855-1920) provided further evidence on the unconventional sexual roles of birds in order to denounce gender inequalities among humans in her feminist work *Woman and Labour* (1911).[8] Much like her predecessors, Schreiner points out that in certain species, like eagles, "the female form is larger and stronger than the male," yet their behavior is similar because "the psychic differences seem very small" (1968, 76). She also notes that numerous birds "build the nest together and rear the young with an equal devotion" (76). Likewise, she mentions how the ostrich male "shares with [the female] the labour of hatching the eggs, relieving the hen of her duty at a fixed hour daily", showing that "his care for the young [...] is as tender as hers" (76). Her well-known novel *The Story of an African Farm* (1883) contains similar musings on how parenting tasks are not inherently female in nature: "I like these birds," says the protagonist, referring to an ostrich couple, "they share each other's work, and are companions" (Schreiner [1883] 1890, 153). She

[8] Although not a naturalist herself, Schreiner was an avid reader of Darwin and took interest in avifauna, the plumage trade and, according to the papers of the 1896 World's Congress on Ornithology, the protection of birds (Black 1896, 172).

then turns to *her* companion and asks: "Do you take an interest in the position of women, Waldo?" (153). According to Nathalie Saudo-Welby, Schreiner may have been familiar with Barber's theories (2017, 6), since her allusion to egalitarian conjugal responsibilities in bird relations to prove how gender roles can overlap in the natural world matches Barber's earlier dismantling of the nineteenth-century separate spheres through ornithological citizen science.

Barber points out, for example, how male ostriches, sunbirds, yellow finches, and other Cape species share with their mates the "arduous duties" of "nest building and rearing the young" (1878, 30; 34-35). Such observations also appear in her allegations against the plumage trade, where she describes how males were shot for their feathers in the breeding season while they were caring for their progeny, causing the consequent death of the offspring and the female, who perished "of grief" (Barber, quoted in Hammel 2015, 108). Tanja Hammel considers that this accentuation of avian domestic collaboration involves a reflection on the qualities Barber lacked in her own marriage (2015, 102),[9] as well as a critique extended to the separate duties perpetuated by Victorian matrimony at a time when the 'angel in the house' was meant to exclusively find fulfilment in the domestic realm (Hammel 2015, 85). Barber's work is therefore a clear example of the application of ornithological science for ecofeminist purposes. Instead of presenting avifauna as a symbol of female imprisonment, her texts focus on the empowering attributes of birds, reshaping avian imagery beyond the birdcage metaphor to denounce gender inequality and anthropocentric domination by making room for constructive parallels between the human and the non-human world.

Learning from and about birds through empirical data collection in the open air not only refuted contemporary assumptions of women's incapacity for rational speculation and their 'natural' attachment to the home (Donald 2020, 45), but also fomented the advancement of unconventional research techniques that correspond to what Jørgensen and Jørgensen define as the main traits of citizen science: collectiveness, situatedness, and connectedness (2021, 1345). The abovementioned nature writers engaged in all three. Lewis and Barber completed their investigations by relying on interpersonal networks of friends and family, thus "recognizing the collective nature of citizenship" (Jørgensen and Jørgensen 2021, 1345); Cooper cultivated situatedness, embedding her ornithological training within social practice and place-based learning (Jørgensen and Jørgensen 2021, 1346) by merging with the landscape and incorporating the local knowledge of her rural community (1968, 81); and most of them connected their discoveries to larger environmental problems (Jørgensen and Jørgensen 2021, 1345), signaling the links between bird eradication and ecological destruction. Their innovative scientific methods achieved a significant social impact, demonstrating how bird study could lead to the establishment of conservation management strategies.

[9] Barber's husband was often absent and she resented his lack of participation in child-rearing, since having to carry the burdens of parenthood alone interfered with her scientific research (Hammel 2015, 102).

4. Ecofeminist Legacies in Women's Ornithological Literature

After decades of tireless transatlantic efforts to outlaw the annihilation of birds, Nancy Astor, the first woman to take her seat in the House of Commons, pressed for the approval of the Plumage Bill, which forbade the importation of feathers (Boase 2018, 213). In 1921, the Parliament of the United Kingdom passed the Plumage Act and, that same year, the Supreme Court of the United States approved the Migratory Bird Treaty Act, stipulating that the protection of birds was in the national interest (Taylor 2016, 230). The nineteenth-century bird protection movement opened up new possibilities for the involvement of women in culture, science and politics, paving the way for subsequent animal rights organizations like People for the Ethical Treatment of Animals (PETA) (Gaarder 2011, 62). Today, women still make up the majority of advocates against animal abuse and face similar challenges regarding the fashion or cosmetics industries (Adams and Donovan 1995a, 5), such as the use of animals in laboratory testing (Gaarder 2011, 76). Victorian eco-activists also visibilized women's contributions to ornithology, revealing their interdisciplinary endeavours to advance in the male-dominated field of natural science. The legacy of their achievements can be appreciated across generations, as in the case of Emily Williamson's great-great-niece, Melissa Bateson, who is an ethologist who analyses the behaviour of foraging starlings (Boase 2018, 60).

The examination of female ornithological science and activism within the cultural context of avian iconography in women's writing facilitates further considerations regarding the extent to which some of these texts can be labelled as ecofeminist through today's lens. Although authors like Cooper and Lewis do not seem to explicitly manifest a conscious identification with birds for feminist purposes, their publications were certainly instrumental in the advancement of women's autonomous public expression as researchers, artists and lecturers. In addition, the recurrence of female involvement in avian matters leaves room for further subliminal analogies between the anti-plumage movement and the recognition of women's social constraints, as Boase suggests in her speculation on what attracted Etta Lemon and other founders of the RSPB to birds in the first place: "Did she identify with the birds? She watched them, she followed them and she fought for them. Their freedom was a kind of release for her: a freedom that could not be compromised" (2018, 227). Like the influential anti-plumage activist, the authors discussed here found in literary ornithology a significant tool to dismantle hegemonic power structures, generating subversive images that allowed for the emergence of emancipatory associations between women and avifauna in nineteenth-century culture.[10]

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Works Cited

Adams, Carol J. (1994) 2018. *Neither Man nor Beast: Feminism and the Defense of Animals*. Oxford: Bloomsbury.

— and Josephine Donovan. 1995a. Introduction to *Animals and Women: Feminist Theoretical Explorations*. In Adams and Donovan 1995b, 1-9.

— and Josephine Donovan, eds. 1995b. *Animals and Women: Feminist Theoretical Explorations*. London: Duke UP.

Adkins, Peter and Wendy Parkins. 2018. "Introduction: Victorian Ecology and the Anthropocene." *Interdisciplinary Studies in the Long Nineteenth Century* 19 (26): 1-15.

Albanese, Catherine. 1977. *Corresponding Motion: Transcendental Religion and the New America*. Philadelphia: Temple UP.

Allen, David Elliston. 1976. *The Naturalist in Britain: A Social History*. London: Penguin.

Anderson, Lorraine and Thomas S. Edwards, eds. 2002. *At Home on this Earth: Two Centuries of U. S. Women's Nature Writing*. Hanover: UP of New England.

Bailey, Florence Merriam. 1889. *Birds through an Opera Glass*. New York: Chautauqua.

Barber, Mary Elizabeth. 1871. "On the Fertilization and Dissemination of Duvernoia Adhatodoides." *Journal of the Linnean Society (Botany)* 11: 469-72.

—. 1878. "On the Peculiar Colours of Animals in Relation to Habits of Life." *Transactions of the South African Philosophical Society* 4: 27-45.

—. 1886. "A Plea for Insectivorous Birds: A Paper by Mrs Barber" *Grahamstown Journal* 58 (6930): 3-12.

Beinart, William. 2003. *The Rise of Conservation in South Africa: Settlers, Livestock, and the Environment 1770-1950*. New York: Oxford UP.

Bending, Lucy. 2000. *The Representation of Bodily Pain in Late Nineteenth-Century English Culture*. London: Oxford UP.

Bentham, Jeremy. 1838. *The Works of Jeremy Bentham*, Vol. 1. John Bowring, ed. Edinburgh: Simpkin, Marshall & Co.

Black, Hortensia. 1896. "To the Rescue of Birds". *Papers Presented to the World's Congress on Ornithology*. Chicago: Charles H. Sergel Co., 171-78.

Boase, Tessa. 2018. *Mrs Pankhurst's Purple Feather: Fashion, Fury and Feminism – Women's Fight for Change*. London: Aurum.

Bonta, Marcia, ed. 1995b. *American Women Afield: Writings by Pioneering Women Naturalists*. College station: Texas A&M UP.

—. 1985. "Graceanna Lewis: Portrait of a Quaker Naturalist." *Quaker History* 74 (1): 27-40.

Breton, Mary Joy. 1998. *Women Pioneers for The Environment*. Lebanon: UP of New England.

Brontë, Charlotte. (1847) 1992. *Jane Eyre*. London: Wordsworth Classics.

Brooks, Paul. 1980. "Birds and Women." *Audubon Magazine*, 82 (5): 88-97.

Cardozo, Ann Elisabeth Laksfoss. 2021. "Report on Historical Development of Bird Counting Activities in Europe." *Foundations of Bird Counting Activities. Citizen Science*

for Environmental Citizenship: Backyard Birding and the Potential for Cultivating Green Engagement. Deliverable 1.2 of European project EnviroCitizen: Citizen Science for Environmental Citizenship (GA 872557).

CARSON, Rachel. (1962) 2002. *Silent Spring*. Boston: Houghton Mifflin Company.

COHEN, Alan. 2000. "Mary Elizabeth Barber: South Africa's First Lady Natural Historian." *Archives of Natural History* 27 (2): 187-208.

COOPER, Susan Fenimore. (1878) 2002. "Ostego Leaves I: Birds Then and Now." In Anderson and Edwards 2002. 34-41.

—. *Rural Hours*. (1850) 1968. New York: Syracuse UP, 1968.

DANAHAY, Martin A. 2007. "Nature Red in Hoof and Paw: Domestic Animals and Violence in Victorian Art." In Denenholz and Danahay 2007, 97-121.

DARWIN, Charles. (1859) 1909. [*On*] *The Origin of Species*. New York: P. F. Collier & Son.

—. (1871) 2007. *The Descent of Man, and Selection in Relation to Sex: The Concise Edition*. London: Penguin.

DONALD, Diana. 2020. *Women Against Cruelty: Protection of Animals in Nineteenth-Century Britain*. London: Manchester UP.

DONOVAN, Josephine. 1990. "Animal Rights and Feminist Theory." *Signs*, 15 (2): 350-75.

FLOOD, Allison. 2021. "Emily Brontë's Handwritten Poems Are Highlight of 'Lost Library' Auction." *The Guardian*, 25 May. [Accessed November 30, 2021].

FORBES, Linda and John Jermier. 2002. "The Institutionalization of Bird Protection: Mabel Osgood Wright and the Early Audubon Movement." *Organization & Environment*, 15 (4): 458-65.

GAARDER, Emily. 2011. *Women and the Animal Rights Movement*. London: Rutgers UP.

GATES, Barbara. 2007. "Why Victorian Natural History?" *Victorian Literature and Culture*, 35 (2): 539-49.

GRAHAM, Frank, Jr. 1990. *The Audubon Ark: A History of the National Audubon Society*. Austin: U of Texas P.

GREGORY, James. 2007. *Of Victorians and Vegetarians: The Vegetarian Movement in Nineteenth-Century Britain*. London: Tauris Academic Studies.

HAMMEL, Tanja. 2015. "Thinking with Birds: Mary Elizabeth Barber's Advocacy for Gender Equality in Ornithology." *Kronos*, 45 (1): 85-111.

HANAFORD, Phebe Anne. 1876. *Daughters of America; or, Women of the Century*. Augusta: B. B. Russell.

IRWIN Alan. 1995. *Citizen Science: A Study of People, Expertise and Sustainability*. London: Routledge.

JEWETT, Sarah Orne. 1881. *Country By-Ways*. Boston: Houghton Mifflin.

JONES, David. 1968a. Introduction to *Rural Hours*. In Jones 1968b, 11-38.

JONES, David, ed. 1968b. *Rural Hours*. New York: Syracuse UP.

JØRGENSEN, Finn Arne and Dolly Jørgensen. 2021. "Citizen Science for Environmental Citizenship." *Conservation Biology*, 35 (4), 1344-47.

KENNEDY Bostian, Patricia. 2007. "Graceanna Lewis." In Patterson et al. 2007, 254-61.

KREILKAMP, Ivan. 2005. "Petted Things: *Wuthering Heights* and the Animal." *The Yale Journal of Criticism* 18 (1): 87-110.

LANSBURY, Coral. 1985. *The Old Brown Dog: Women, Workers and Vivisection in Edwardian England*. Madison: U of Wisconsin P.

LAYARD, Edgar Leopold. 1867. *Birds of South Africa: A Descriptive Catalogue of All the Known Species Occurring South of the 28th Parallel of South Latitude*. Cape Town: Juta.

—. 1869. "VI. Further Notes on South-African Ornithology." *Ibis, A Quarterly Journal of Ornithology*, 5 (17): 74-77.

LEWIS, Graceanna. 1871. "The Lyre Bird." *The American Naturalist: A Popular Illustrated Magazine of Natural History*, 4: 321-31.

—. 1877. *The Development of the Animal Kingdom: A Paper Read at the Fourth Meeting of the Association for the Advancement of Woman*. Nantucket: Hussey & Robinson.

—. (1896) 1995. "Birds and Their Friends." In Bonta 1995b, 9-17.

LUKE, Brian. 1995. "Taming Ourselves of Going Feral? Toward a Non-Patriarchal Metaethic of Animal Liberation." In Adams and Donovan 1995, 290-320.

MARCHBANKS, Paul. 2006. "Jane Air: The Heroine as Caged Bird in Charlotte Brontë's *Jane Eyre* and Alfred Hitchcock's *Rebecca*." *Revue LISA/LISA*, 4 (4): 118-30.

MILLER, John. 2012. *Empire and the Animal Body: Violence, Identity and Ecology in Victorian Adventure Fiction*. London/New York: Anthem.

MITFORD-BARBERTON, I. and V. White. 1968. *Some Frontier Families: Biographical Sketches of 100 Eastern Province Families Before 1840*. Cape Town: Human & Rousseau.

MOINE, Fabienne. 2015. *Women Poets in the Victorian Era: Cultural Practices and Nature Poetry*. London: Routledge.

MORSE, Deborah Denenholz and Martin A. Danahay. 2007a. Introduction to *Victorian Animal Dreams: Representations of Animals in Victorian Literature and Culture*. In Denenholz and Danahay 2007b. 1-13.

— and Martin A. Danahay, eds. 2007b. *Victorian Animal Dreams: Representations of Animals in Victorian Literature and Culture*. Hampshire: Ashgate.

MOSS, Stephen. 2004. *A Bird in the Bush: A Social History of Birdwatching*. London: Aurum.

MURPHY, Patricia. 2019. *Reconceiving Nature: Ecofeminism in Late Victorian Women's Poetry*. Columbia: U of Missouri P.

MURPHY, Patrick. 1995. *Literature, Nature, and Others: Ecofeminist Critiques*. Albany: State U of New York P.

MUSIL, Robert K. 2014. *Rachel Carson and Her Sisters: Extraordinary Women Who Have Shaped America's Environment*. London: Rutgers UP.

PATTERSON, Daniel, Roger Thompson, and J. Scott Bryson, eds. 2007. *Early American Nature Writers: A Biographical Encyclopedia*. Westport: Greenwood.

ROSE, Anne C. 1992. *Victorian America and the Civil War*. Cambridge: Cambridge UP.

Saudo-Welby, Nathalie. 2017. "Learning from Nature: Feminism, Allegory and Ostriches in Olive Schreiner's *The Story of an African Farm* (1883)." *Becoming Animal*, 85. [Accessed April 22, 2022].

Schiebinger, Londa. 1987. "The History and Philosophy of Women in Science: A Review Essay." *Signs*, 12 (2): 305-32.

Scholtmeijer, Marian. 1995a. "The Power of Otherness: Animals in Women's Fiction." In Adams and Donovan 1995b, 231-63.

Schreiner, Olive. (1883) 1890. *The Story of an African Farm: A Novel*. Boston: Roberts Brothers.

Shefer, Elaine. 1991. "The 'Bird in the Cage' in the History of Sexuality: Sir John Everett Millais and William Holman Hunt." *Journal of the History of Sexuality*, 1 (3): 446-80.

Skilbeck, M. 2021. *Loving and Studying Nature: Celebrating the Earth through History, Culture and Education*. Berlin: Springer.

Smith, Jonathan. 2006. *Charles Darwin and Victorian Visual Culture*. London: Cambridge UP.

Sweet, Timothy. 2010. "Global Cooperstown: Taxonomy, Biogeography, and Sense of Place in Susan Fenimore Cooper's *Rural Hours*." *Interdisciplinary Studies in Literature and Environment*, 17 (3): 541-566.

Taylor, Dorceta E. 2016. *The Rise of the American Conservation Movement: Power, Privilege, and Environmental Protection*. London: Duke UP.

Thorpe, C. 1978. *Tharfield: An Eastern Cape Farm*. Port Alfred: Private publication.

Young, Penny. 1991. "The Politics of Love: Sexual Selection Theory and the Role of the Female." *Nexus*, 9: 92-106.

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Clara Contreras is an Associate Lecturer at the Department of English Studies of the University of Extremadura. She holds a PhD in Advanced English Studies from the University of Salamanca and is the author of diverse publications on Victorian women's writing. As a member of the European project EnviroCitizen: Citizen Science for Environmental Citizenship (GA No 872557), she has recently been researching representations of environmental activism and animal welfare advocacy in nineteenth-century women's literature.