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Brewer and Flagg's Insect Choirs: Psalmic and Wordsworthian Ecology

Abstract I: La seconda metà del diciannovesimo secolo vide due diverse spiegazioni, in parte antagoniste e in parte sovrapposte, degli intricati rapporti tra organismi e ambiente. Partendo dalla teologia naturale di William Paley e dal concetto di ecologia di Ernst Haeckel, e dal confluire di questi due filoni nell'approccio ecologico di Papa Francesco che ha le sue basi sia nella teleologia che nell'idea di natura di Wordsworth, questo saggio analizza come due popolari scrittori naturalisti, Cobham Brewer in Inghilterra e Wilson Flagg in America, esprimono la loro fascinazione per la 'musica' prodotta dai cori di insetti attraverso le loro rispettive idee religiose ed ecologiche.

Abstract II: The second half of the nineteenth century saw two partly competing, partly overlapping explanations for the intricate relations of organisms to the environment. Starting from William Paley's idea of Natural Theology and Ernst Haeckel's concept of ecology, and how these two strands of looking at nature come together in Pope Francis's both teleological and Wordsworthian ecological approach in *Laudato si'*, this essay concentrates on the way two successful naturalist writers, Cobham Brewer in England and Wilson Flagg in America, express their enchantment with the 'music' produced by insect choirs through their respective religious and ecological ideas of nature.

Keywords: Cobham Brewer, Wilson Flagg, insects, sound, Wordsworthian ecology.

The second half of the nineteenth century saw two partly competing, partly overlapping explanations for the intricate relations of different organisms, both amongst themselves, and to their environment. Before Darwin's *Origin of Species*, a widespread approach was that of Natural Theology, which aimed to reveal evidence of design and purpose in creation. The study of the intricate order and beauty of the natural world served above all to prove the existence and sagacity of God. It represented a way of looking at nature that went all the way back to the ancient Greeks, but which had been given a fresh impetus at the very beginning of the nineteenth century by William Paley's *Natural Theology; or, Evidence of the Existence and Attributes of the Deity* (1802). The principle of natural selection, which lay behind Darwin's idea of evolution, provided a different explanation of these intricate relations. Following in Darwin's footsteps, the German biologist Ernst Haeckel coined in 1866 the word *Œcologie*, giving his much-quoted definition: "Unter Œcologie verstehen wir die gesammte Wissenschaft von den Beziehungen des Organismus zur umgebenden

Aussenwelt, wohin wir im weiteren Sinne alle 'Existenz-Beziehungen' rechnen können" (Haeckel 1866: 2.286)[1]. However, the word "ecology" did not come into the English language until translations of Haeckel's later works started to come out. The word "œcology" first appeared in a translation of Haeckel's *History of Creation* (1873), while in his controversial book *The Evolution of Man* (1879) Haeckel's translators preferred the spelling "Œkology" (Haeckel 1883: 1.xiv). The passage in which the word is used in this last work is rarely quoted, which is to be regretted as it seems to indicate that theological deductions and naturalistic justifications for the existence of what we call today ecosystems are two mutually exclusive explanations:

> All the various relations of animals and plants, to one another and to the outer world, with which the Oekology of organisms has to do […] all admit of simple and natural explanation only by the Doctrine of Adaptation and Heredity. While it was formerly usual to marvel at the beneficent plans of an omniscient and benevolent Creator, exhibited especially in these phenomena, we now find in them excellent support for the Theory of Descent (Haeckel 1883: 1.114).

But "Haeckelismus", as a reviewer in *Science* put it, did not convince all his readers. What also irked some of them was that "Haeckel is such a proselytizer, such a scoffer and fighter of those who differ with him" (V. L. K. 1910: 629). Many of the devout preferred to stick to the words of the Psalmist, who, in William Brown's phrase, "as the choirmaster of praise" applauds God's creation. Indeed, metaphors of both cosmic choirs and insect choirs have often expressed the full scale of the intricacies of God's creation, from the immense vastness of the heavens to minute creatures such as insects, all singing together in harmony. Thus, commenting on the author of the Psalms, John Paul II can write that "The believer, in a sense, is 'the shepherd of being', that is, the one who leads all beings to God, inviting them to sing an 'alleluia' of praise. The Psalm brings us into a sort of cosmic church, whose apse is the heavens and whose aisles are the regions of the world, in which the choir of God's creatures sings his praise"[2]. But ultimately the distinction between the choirmaster and the scientist is less formidable than it might seem: speaking of Darwin's concluding lines in *Origin of Species*, Brown rightly notes that "Both the psalmist and the biologist are awestruck by the sheer diversity of life" (Brown 2010: 151).

In an influential article published in 1967 Lynn White blamed "Christian arrogance" for our present "ecological crisis". He concluded that "Since the roots of our trouble are so largely religious, the remedy must also be essentially religious, whether we call it that or not. We must rethink and refeel our nature and destiny". To do so he thought that "The profoundly religious, but heretical, sense of the primitive Franciscans for the spiritual autonomy of all parts of nature may point a direction". Therefore, he proposed "Francis as a patron saint for ecologists" (White 1967: 1207). Little could White dream that half a century

[1] "By ecology, we mean the whole science of the relations of the organism to the environment including, in the broad sense, all the 'conditions of existence'" (Stauffer 1957: 140).

[2] Papal General Audience of 17 January 2001, 1.

later a pope would assume the name of Francis and publish an encyclical letter "on care for our common home" in which he laments environmental degradation.

Although, perhaps, (inevitably) still mainly anthropocentric in approach, Pope Francis's *Laudato si'* (2015) evokes a concept of Creation that is both teleological and ecological. He states that the fact that "each human being is an image of God should not make us overlook the fact that each creature has its own *purpose*", but that we also need "to grasp the *variety* of things in their *multiple relationships*" (Pope Francis 2015: 84-86; my italics).

This article looks at how two popular mid-nineteenth nature writers, Cobham Brewer (1810-1897) and Wilson Flagg (1805-1884), engaged with the subject as they were led to contemplate the transcendent message one can draw from the music of insect choirs. In 1854 Brewer wrote about the sounds produced by insects in *Sound and Its Phenomena*, while Flagg published the following year in his *Studies in Field and Forest* a piece entitled "Music of Insects". The two authors assumed positions that occupy the two sides of Pope Francis's argument. While Brewer reflects the more traditional sentiment pervading Natural Theology which Pope Francis summarises in one of his opening statements, namely that "Saint Francis, faithful to Scripture, invites us to see nature as a magnificent book in which God speaks to us and grants us a glimpse of his infinite beauty and goodness" (12), Flagg resorts to a more Wordsworthian influence of nature, which Pope Francis also makes his own in a following passage: "Anyone who has grown up in the hills, or who, as a child, used to sit by the spring to drink, or played outdoors in the neighbourhood square, will feel called upon to recover something of their true selves when going back to these places" (84)[3]. The Wordsworthian ecological stance is irresistible to both theologian and scientist. Even the renowned zoologist Ray Lankester, who translated Haeckel's *History of Creation*, added an unauthorised motto to the book which included the lines from "Tintern Abbey" that introduce the well-known passage on a "sense sublime/Of something far more deeply interfused".

Cobham Brewer

Ebenezer Cobham Brewer, a Cambridge educated Anglican clergyman, took priest's orders but decided to devote his life to literature rather than to the cloth. He is best known today for his *Dictionary of Phrase and Fable* (1870), a work of reference explaining the origins of literary allusions for those who had not had a university education. Similarly, his *Sound and Its Phenomena* (1854) was aimed at a general reading public, popularising the current knowledge in the field of acoustic studies. It was marketed as a companion volume to his first great literary success: *A Guide to the Scientific Knowledge of Things Familiar* (1838).

Brewer's *Guide* was a tremendously popular book. Its immediate popularity was such that in 1851 an English-text edition was published in Milan "with Italian notes"[4]. Bernard

[3] The translation is mine, as the official English translation issued by the Vatican does not reflect the Pope's meaning adequately (Cf. the original Latin version of article 84: "Qui in montibus adolevit, vel puer prope rivum sedebat potaturus, vel in sui suburbii platea ludebat, cum ad ea loca redit, animadvertit ad propriam reciperandam identitatem se vocari").

[4] A full Italian translation appeared a few years later by Achille Batelli: *La Chiave della Scienza o i Fenomini di tutti i giorni* (1856).

Lightman estimates that "The print runs for Brewer's *Guide* are among the highest of any scientific book published in the second half of the nineteenth century". As a matter of fact, the preface to the 1849 edition of the *Guide* proudly mentioned the "almost unparalleled success of this little volume, of which 10,000 copies have been printed since 1848". The preface was reprinted verbatim in later editions, only updating the number of sold copies, which, as reported by the author, amounted to 25,000 in 1852, 49,000 in 1853, 81,000 in 1858, 105,000 in 1863, and 113,000 in 1872. According to Lightman's calculations of the print runs, however, Brewer actually underestimated the total volume of sales the book had reached by 1872. Although the preface to the 1894 edition, which mentions 300,000 copies sold, might be an exaggeration of the book's sales, Lightman's calculations still indicate 195,000 copies printed for 1892 (Lightman 2007: 66).

The *Guide* contained, in catechist fashion, over 2000 short questions and answers to scientific phenomena. Brewer wanted to make sure that his readers perceived his work as scientifically sound and underlines in the preface that "In order to secure the strictest accuracy in the answers, the most approved modern authors have been consulted". Even some nineteenth-century process of peer-reviewing was involved as "each edition has been submitted to the revision of gentlemen of acknowledged reputation for scientific attainments". For use in schools, he also reassured teachers that "every question has been again and again submitted to a most rigid investigation" (Brewer 1858: v-vi). Yet many of his explanations of natural phenomena were given in the religious context of divine design. This was most obvious in a number of questions that started with "Show the wisdom of God in …". Brewer vindicated the appropriateness of such teleological explanations by pointing at the growing number of sales, which he thought was "incontrovertible proof of its acceptance". The very catechism structure for the explanation of natural phenomena transferred a religious quality to the scientific discourse.

After the enormous success of the *Guide*, Brewer decided to write a companion volume, which concentrated on the production of sound only. But *Sound and Its Phenomena* (1854) was decidedly less successful, perhaps because it was a very different book from its precursor. The catechism style was abandoned for a more matter-of-fact investigation into the nature of sound and the over-all teleological argument that loomed so large in the *Guide* mostly disappears in *Sound and Its Phenomena*. Much of the description of how sounds are produced is factual without religious comment.

A work written by Brewer a few years later sheds light on his idea of natural theology. In *Theology in Science […] For the Use of Schools and of Private Readers* (1860) he proclaims that his object is "to show how Science is the handmaid of Religion, and confirms what Scripture has revealed". As such he sees his approach as different from Paley's *Natural Theology*. If Paley mainly argues for "the adaptation of certain *organs* and *functions* to the work they have to perform" (Brewer 1860: vi), Brewer wants to show the wisdom of the creator by stressing the successful working of everything in nature. Whereas Paley argued logically from the complexity of adaptation to the creator (designer), Brewer often reasoned the other way round from an a-priori existence of the wisdom of the creator to an explanation of natural phenomena. It was a view that was clearly reassuring to many Victorians. In the immediate aftermath of *Origin of Species*, Brewer realised that Paley's emphasis on

adaptation might play right into Darwin's hands, while a priori emphasis on the attributes of God firmly led the debate back to religion. Brewer's view of Natural Theology agreed with Henry Fish's, who read in 1840 a lecture in which he countered Lord Brougham's view of it: "Natural Theology is more indebted to divine revelation, than divine revelation to it. Divine revelation stands upon its own basis" (Fish 1840: 11-12). Indeed, Brewer made it clear in his works that the theory of evolution had not taken the validity of natural theology away (Lightman 2007: 65). This approach was clearly successful with the Victorian reading-public as his books far outsold Darwin's.

Sound and Its Phenomena, however, was a pre-Darwinian publication, and had perhaps little need for constant reiterations of God's wisdom. Brewer sets out with the assertion that "all bodies from which sound is proceeding experience at the time a physical disturbance wholly the result of physical force" (Brewer 1854: 3). The emphasis is on Secondary Causes rather than First Causes, and the book proceeds along these lines for the first 370 pages until we come to the part where the sounds of insects are described. It is here, after a technical explanation of the humming of the bee, the song of the cicada, the chirp of the grasshopper, the hearth-song of the cricket, and the trumpet of the gnat, that Brewer interrupts his scientific discourse to make space for unanticipated praise for the beauty and perfection of God's creation: "So wonderful, so complex, so curious, so diversified, are all the works of God!" His praise is firmly grounded on the discernment of "a universal voice, rising like incense from every corner of the universe, and quiring, in one vast accord" (370). The quire (choir) Brewer refers to is that of insects singing. Thus the diversified works of God's infinite ingenuity can be heard not only in the "vast and mighty, but also in the insignificant and minute", whose voice is "[n]ow roaring in the hurly burly of a volcano, and anon humming from the thorax of a bee, or buzzing in the stigmata of a fly" (370-371). Brewer's quire is lifted straight from James Thomson's *Seasons*:

> Thy Works themselves would raise a general voice,
> E'en in the depth of solitary woods
> By human foot untrod; proclaim thy power,
> And to the quire celestial Thee resound,
> The eternal cause, support, and end of all!
> (Summer 187-191).

Eighteenth-century pastoral, as well as later nineteenth-century Romantic poetry, linked the sounds of insects to the essence of a mood that celebrated nature: "Just as the insect song blends in harmony with any chorus of nature, so, as music at the theater, it interprets the mood or heightens the effect of any drama. The poet has already shown how well insect music fits into any pastoral scene" (Eddy 1931: 68). Thus in Thomson's *Seasons* the awaking insect tribes, "the little noisy summer-race", celebrate the coming of the warmer season, epitomising, through periphrasis, man's fullness of life, but not without a stern reminder of its transience when the insect's "animating fire" becomes a "shriller sound [that] declare[s] extreme distress". Such events must make man pause and meditate on the larger state of being:

> Resounds the living surface of the ground:
> Nor undelightful is the ceaseless hum,
> To him who muses through the woods at noon;
> Or drowsy shepherd, as he lies reclined,
> With half-shut eyes, beneath the floating shade
> Of willows grey, close crowding o'er the brook.
> Gradual, from these what numerous kinds descend,
> Evading e'en the microscopic eye?
> Full Nature swarms with life; one wondrous mass
> Of animals, or atoms organized,
> Waiting the vital breath, when parent Heaven
> Shall bid his spirit blow.
> (Summer 281-292)

In his biography of ecology Donald Worster sees two traditions emerging in the late eighteenth century. One is the Arcadian stance to nature in which a peaceful co-existence with other organisms is encouraged. He sees this tradition epitomised in Gilbert White's *Natural History of Selborne* (1789). This tradition, however, was mainly overshadowed by what he calls the empire of reason in which man actively tries to control nature as much as possible (through science) and which went hand in hand with a Christian mechanistic view of nature "fashioned according to a wholly rational, intelligible design that is imposed on chaos" (Worster 1994: 29). Although Brewer is clearly part of Worster's imperial tradition, which reflected God's benevolence by celebrating a utilitarian fitness (use and purpose) of nature for the existence of all organisms (Worster 1994: 44), his contemporary Wilson Flagg embraced the Arcadian tradition.

Wilson Flagg

William Gardner Barton, a Massachusetts nature poet, warned against the limitations of Natural Theology (or, as he calls it, Natural Religion) in writings of nature:

> Let us cultivate a love for nature by communing with those who love her; but let us not mistake poetic emotion or artistic feeling for religion, or think a high degree of culture attained if our moral sense or our neighbor have been ignored. Perhaps the benevolent affirmations of Nature outweigh her malevolent negations; but natural religion alone is thin diet. These walkers in the field teach us great things. But we should not be in haste to deny that a walker in Judaean fields teaches us the greatest things (Barton 1885: 80).

Surprisingly, this passage comes from a lecture Barton gave in 1885 on Brewer's American contemporary Wilson Flagg, a naturalist writer without a teleological agenda. Flagg trained as a doctor at Harvard, but he did not practice. His *Studies in the Field and Forest* (1857) revealed an enthusiastic writer of nature. He was a shrewd observer – "perfectly correct in all the science of his subject" – who, "open to all the refining and elevating influences of nature" (Flagg's Field and Forest 1857: 267), decided to write "from the heart rather than

the head" (Wilson Flagg 1884: 3). Barton put Flagg on an equal footing with Henry David Thoreau and John Burroughs[5].

Flagg identified his enraptured feelings for nature not with religious sentiments but with the imagination and the poetic. In the introduction to *Field and Forest* he stressed that "the object of this work is to foster in the public mind a *taste* for the observation of natural objects and to cultivate that *sentiment* which is usually designated as the *love* of nature […]. All our pleasures, including those derived from the survey of nature, must be exalted by some *poetic* sentiment, or they will soon become tiresome and insipid" (Flagg 1857: 1; my italics). And he added that "[t]his is the gift of those who have passed beyond the ordinary plodding of mental culture, and who have learned to associate with almost every object in nature some image derived from the imagination" (Flagg 1857: 2). How close he comes to the early Wordsworth of "Tintern Abbey" is evident in the following passage from the same introduction:

> Later in life, flowers would fail to yield us any pleasure, did we not associate them with certain agreeable fancies; with the remembrance perhaps of the pleasures they afforded us in childhood, and of their connection with many simple and interesting adventures; with the offices of friendship and love, and their association with numerous poetic and romantic images (Flagg 1857: 3).

In 1853 Flagg became an assiduous contributor to the *Magazine of Horticulture*. In March 1855 he started 10 monthly instalments of a series he called *Studies in the Field and Forest*. Each study was headed by a description of the month in verse. These mainly lyrical pieces were collected (with numerous other contributions) in book-form two years later, although the poetic inceptions were dropped. Many of the *Studies in the Field and Forest* reveal that Flagg is an attentive listener to the sounds of nature. Apart from the obvious melodies produced by birds, he is also perceptive of the more subtle presence of sounds:

> There are gentle flutterings of winds that nestle in the foliage; mysterious whisperings of zephyrs and humming of nocturnal insects, that hover around us like spirits, and seem to interrogate us about the reason of our presence at this unseasonable hour. We catch the floatings of distant sounds, mellowed into harmony by the softened effect of distance, hardly to be distinguished from the noise made by a dropping leaf, as it comes rustling down through the small branches (Flagg 1857: 163).

And again, such perception is repeatedly cast in the Wordsworthian perspective of powerful feelings and emotions recollected in tranquillity:

> But when, at this later time of life, I chance to hear a repetition of their notes, the whole bright page of youthful adventure is placed suddenly before my mind. It is only at

[5] Barton actually thought that "Flagg was in some respects inferior to both of the other authors; but if I could own the books of only one of the three, they should be Flagg's" (1885: 57). For a discussion of why Barton should think so, see Buckley (2010).

> such times that we feel the full influence of certain sounds in nature in hallowing the period of manhood with a recollection of early pleasures and a renewal of those feelings, that come upon the soul like a fresh breeze and the sound of gurgling waters to the weary and thirsty traveller (Flagg 1857: 157).

Flagg appropriates the Wordsworthian link between the beauty of nature and the "recollection of early pleasures and a renewal of those feelings [of youth]" (Flagg 1857: 157), but he ultimately does not approve of Wordsworth's poetic theory. In an article he wrote in 1845 for *The World We Live In* he explains why. Although he thinks Wordsworth's poetry is redeemed by the "sympathy with all kind feelings of the human heart, with what may be termed the beautiful in morals", his language is "neither melodious, nor as poetical language ought to be – suggestive". Flagg cannot forgive Wordsworth's disdain for poetic diction, which impedes the association of nature with the poetic. As the language of nature needs elevated poetic language, he prefers Thomson to Wordsworth: "Thomson was a poet of nature. He described common things and common scenes. He described feelings and sentiments which every good man feels and can appreciate […]. Yet he is far from using the language of common life, and deviates farther from simplicity of diction than any other writer of equal genius who can be named" (Flagg 1845: 3).

The September 1854 issue of *The Magazine of Horticulture* featured Flagg's "Music of Insects", his seventh article in the *Field and Forest* series. About midsummer, he writes in his opening lines, as the majority of singing birds have become silent, "new hosts of musicians […] take up the chorus". These are the insects, who are, "in their respective species, the harpist, the violinist, and the drummer" (Flagg 1857: 228). Casting insects as musicians was, of course, a literary commonplace. Brewer, as we have seen above, used the same metaphor. It was also powerfully deployed by Brewer's and Flagg's contemporary Louise M. Budgen, who was the author of the popular three-volume *Episodes of Insect Life* (1849-1851), whose chapters closed with spirited vignettes of anthropomorphic insects. The tailpiece of the chapter "Insect Minstrelsy" portrays a cicada plucking a harp, a beetle bowing a cello and a grasshopper beating a drum. And the text places this stalwart ensemble in the Psalmist's tradition:

> Insects may be the last in the scale of animated beings capable of making music to their Maker's praise, and the strains of some of them may be the lowest in the scale of sounds perceptible to us. But […] can we refuse to reckon as music the softest vibration of the tiniest insect's wing, because it is an audible token of happy existence, and, as such, a hymn of gratitude to the Giver of the boon of life? (Budgen 1851: 227).

Budgen's *Episodes* went through various editions on both sides of the Atlantic and both Brewer and Flagg might well have known it.

After describing insects as musicians, Flagg moves to the human recipient of the sounds of insects. He stresses that all sounds in nature become by habit "pleasing and assimilated to music". And thus insects too evoke "poetical sounds" that "awaken many pleasing thoughts and images": they "seem appointed by nature to take up their little lyre

and drum, after the birds have laid aside their more musical pipe and flute". It is the very fact that nature through sound shows it is alive that provides musical quality. Without it, the world's "dead silence, […] would otherwise render this earth a dreary and melancholy abode" (Flagg 1857: 229).

There a streak of anthropocentrism in Flagg's expressions. Above all insects affect human moods: he approaches his subject from the premise that "we are so formed" that insect sounds have such a "soothing and tranquillizing influence", that "no man can be indifferent to the sounds and music of insects" (Flagg 1857: 229). There are, he repeats, but "few persons who are not affected, by these sounds, with a remarkable sensation of subdued but cheerful melancholy". Therefore insect sounds are to Flagg, "highly musical and expressive" and "worthy of being consecrated to poetry" (Flagg 1857: 232). At times insects even out-perform human players: "The most skilful musician could not perform a more delightful crescendo and diminuendo" (Flagg 1857: 231).

Conclusion

Like Brewer, Flagg ultimately expresses his admiration for the sounds of insects in terms of a choir:

> The whole myriad choir were singing in perfect harmony; their key being about F natural, and their time about three notes to a second, which is very rapid. During this high temperature, the shriller toned insects, as the diurnal grasshoppers and the black crickets, sing in unison with the August pipers, varying their tone in the same manner with the variations of temperature (Flagg 1857: 233-234).

But unlike Brewer, his choir is nature's rather than God's. The closest Flagg comes to attributing such music to the divinity is a half-joking anecdotal account of an "ingenious" shoemaker who heard in the song of the Red-Thrush the following words: "Look up look up, – Glory to God, glory to God, – Hallelujah, Amen, Videlicet" (Flagg 1881b: 129). Rather than singing praise for the Creator in the fashion of the Psalmist, Flagg repeats over and over again that the attractions of nature are a poetic experience and are "felt only by individuals of a poetic temperament" (Flagg 1881b: 7). There might seem to be in this a strong anthropocentric propensity for the picturesque, in which the beholder comes before the object one beholds. However, similar to the Wordsworthian ecopoetics that Jonathan Bate describes in *The Song of the Earth*, it is rather "an exploration of the inter-relatedness of perception and creation, a meditation on the *networks* which link mental and environmental space" (Bate 2000: 148).

Flagg's idea of nature is ultimately ecological rather than religious. If the formulation "we are so formed" seems to bring him for a moment very close to Brewer's teleological praise of man's sensory organs, it should be remembered that Flagg does not resort to the kind of argument of design Brewer, or St Francis, uses to lead us to the conclusion of God's perfection. Flagg's emphasis is on the intricacies of nature itself: "Nature is exhaustless in the means by which she may effect the same end; and birds, insects, and reptiles are each provided with different but equally effective instruments for producing sounds".

Respect is for nature, not for the creator. Therefore Flagg never refers to St Francis, though his anthropocentric view of nature foreshadows Pope Francis's Wordsworthian idea that ecological awareness leads people back to their past and that thus they will be called upon "to recover something of their true selves" (Pope Francis 2015: 84).

The step from a Wordworthian poetic view to a fuller ecological awareness of the fragility of the ecosystem is a relatively small one. In an illuminating article called "Insecurity of Our Forests" Flagg makes a case for special legislation to institute forest reserves. His premise is the erroneous supposition that woods "were of no importance further than they subserve the present wants of the community" and that men "are either reckless or ignorant of their indispensable uses in the economy of nature". He further warns prophetically that:

> The science of vegetable meteorology deserves more consideration than it has yet received from our professors of learning. This, if fully explained, would teach men some of the fearful consequences that would ensue if a country were entirely disrobed of its forests, and their relations to birds, insects, and quadrupeds would explain the impossibility of ever restoring them. [… In] his senseless grasp for immediate advantages, he [man] may disqualify the earth for a human abode (Flagg 1881a: 63-64).

As Brewer is entrenched in notions of purpose and psalmic praise for the creator, he never reaches an evolutionary or Wordsworthian view of nature, and therefore cannot make the final step to the ecological awareness that we find in Flagg.

From the point of view of modern ecocriticism it is easy to dismiss aesthetic sentiments in nature writing as hopelessly anthropocentric. Timothy Morton would, no doubt, link psalmic celebration of God's perfection to "a possessive, predatory grasp of the world" of which he cynically remarks that it is merely the externalization of "The beautiful soul" in a "sermon of 'beautiful Nature'" (Morton 2007: 138-139). Yet the aesthetic stance is not entirely without ecological importance. Nor are Brewer's and Flagg's rhetorical devices without value beyond the linguistic performance itself. "Need such foregrounding of language and rhetorical technique in this kind of non-fiction always be liable to seem consumerist, blunting its ethical challenge?", Timothy Clark wonders (Clark 2011: 41). Laura Walls, too, aptly makes a case in favour of the practitioners of natural history: "The spring is just as silent to one who sleeps oblivious to that chorus; one will neither protect nor miss what one cannot hear, see, or name. The lesson is blunt: without natural history, there is no human history either" (Walls 2017: 188). Interestingly, philosopher Ronald Sandler in his textbook on environmental ethics has very little to say about aesthetics and advocates throughout a strict "evidence- and reason-based approach", even in theological approaches to ecology (Sandler 2018: 34). Yet he cannot refrain from opening his book with rhetoric that would have sounded familiar to both Brewer and Flagg: "The natural world is magnificent. It is filled with unique and amazing forms of life that constitute astoundingly complex and varied ecological systems. It is comprised of awesome landscapes and wonderful seascapes" (Sandler 2018: xix).

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