

## Sympathetic Science: Charles Darwin, Joseph Hooker, and the Passions of Victorian Naturalists

JIM ENDERSBY

In autumn 1858, shortly after he published the theory of evolution by natural selection, Charles Darwin wrote to his friend, the botanist Joseph Dalton Hooker, to acknowledge him as “the one living soul from whom I have constantly received sympathy” (20 [Oct. 1858]; *Correspondence* 7: 174). Hooker had been the first person to hear of Darwin’s ideas and had carefully kept Darwin’s secret while the theory was being refined and completed. For over fifteen years, Hooker had answered questions, provided scientific facts, and analyzed and criticized Darwin’s developing hypotheses.

“Sympathy” might seem a surprising choice of words to characterize the support Hooker provided for Darwin, but it precisely captures the complex tangle of emotional and scientific attachments that linked them. They had shared interests, of course, and the *Oxford English Dictionary* gives one sense of “sympathy” as what “makes persons agreeable to each other”; Darwin commented that “I have known hardly any man more lovable than Hooker” (*Autobiography* 106). Sympathy also means being “affected by the suffering or sorrow of another,” as Hooker and Darwin were, particularly over the deaths of their children. And, as Rachel Ablow has recently noted, the *OED* definition also includes such concepts as harmony and resonance as char-

---

**ABSTRACT:** This essay examines the complex tangle of emotional and scientific attachments that linked Darwin and botanist Joseph Dalton Hooker. Analyzing their roles as husbands, fathers, and novel readers demonstrates that possessing and expressing sympathy was as important for Victorian naturalists as it was for Victorian husbands. Sympathy was a scientific skill that Victorian naturalists regarded as necessary to fully understand the living world; although sympathy became increasingly gendered as feminine over the course of the century, its importance to male naturalists requires us to rethink the ways gender roles were negotiated in Victorian Britain. Botany was, for men like Darwin and Hooker, an acceptably masculine pursuit that nevertheless allowed—and even required—them to be sensitive and sympathetic.

acteristics of sympathy, noting that these diverse meanings became aspects of the ideal Victorian marriage, especially as depicted in Victorian novels (*Marriage* 1-16). Taken together, Darwin's and Hooker's roles as husbands, fathers, and novel readers all demonstrate that possessing and expressing sympathy was as important for Victorian naturalists as it was for Victorian husbands. Sympathy was a scientific skill, partly innate and partly acquired, that Victorian naturalists regarded as necessary to fully understand the living world; considered as a skill it relates to an older sense of sympathy that referred to grasping the "affinities" between living things.

However, as the ideology of separate spheres developed in the mid-Victorian period, sympathy began increasingly to be regarded as a feminine virtue. The concept of separate spheres was, of course, as often prescriptive as it was descriptive, and the degree to which men's and women's lives actually conformed to the prescription has been much debated (C. Hall 75-91; Vickery). Nevertheless, my concern here is with Victorian perceptions of masculinity and femininity and the ways in which these were created and circulated in various kinds of writing. If, as Ablow argues, sympathy became increasingly important "as a way to differentiate between public and private spheres, to define gender difference" (*Marriage* 3), analyzing its importance to *male* naturalists requires us to rethink the ways gender roles were negotiated in Victorian natural history (and perhaps in Victorian Britain more widely). The popularity of the natural history sciences, especially botany, among women and children, made some men of science regard them as low-status disciplines. For Hooker, and men like him, improving botany's standing among the sciences was central to raising his own status, partly in order to allow him to earn a respectable living. One strategy was to make botany more manly by stressing, for example, the dangers and hardships involved in long voyages—where women, of course, could rarely go. As we shall see, in her novel *Wives and Daughters* (1866), Elizabeth Gaskell describes the fictional naturalist Roger Hamley in terms of his unusual sensitivity, but also emphasizes his manly qualities, describing him as tall and "powerfully made" (87). And in similar terms, Charles Kingsley went to great lengths to defend the manliness of natural history from those who regarded it as "a mere amusement and that as a somewhat effeminate one" (39-40). An emphasis on the physical demands and occasional dangers that naturalists faced accompanied shifts in classificatory and other scientific practices, which were aspects of the transformation of natural history from an

ill-defined, but supremely inclusive, family of studies into a series of sharply differentiated scientific specializations (Endersby 1-30).

Ann Shteir gives a richly detailed account of the diverse cultures of early-nineteenth-century botany, particularly of the ways in which distinct male and female roles were defined as botany's status as a lady-like accomplishment began to seem problematic to those men who wished to treat it more seriously (*Cultivating* 149-56). She quotes John Lindley's inaugural address as the first botany professor at University College London: "it has been very much the fashion of late years, in this country, to undervalue the importance of this science, and to consider it an amusement of ladies rather than an occupation for the serious thoughts of man" (qtd. in Shteir 156). She concludes from this that the "professionalization of botany meant its masculinization as well," and demonstrates how these changes within the sciences increasingly confined women to domestic contexts, primarily as educators of and writers for children (156-57). Peter F. Stevens has also argued that botany's feminine associations lowered its status in the eyes of other men of science, and that this was one factor in the struggles over rival classification systems (210-13).<sup>1</sup>

Obviously not every form of botanical knowledge or practice was considered feminine, but Shteir's and Stevens's arguments have led me to consider why some men were nevertheless attracted to these ever more feminized sciences. Nature study was widely held to encourage sociability and healthy exercise, and to promote morality, sensitivity, and sympathy; even for those who did not profess a conventional Christian faith, natural history retained many of the virtues it had held within the natural theological tradition. Analyzing Darwin's and Hooker's letters alongside the novels they read suggests that it was precisely these links—between botany and the increasingly feminized virtues of sensitivity and sympathy—that were attractive to naturalists. This was due in no small part to the fact that sympathy, as it became an important part of a scientific man's moral and scientific character, linked the public world of science to the domestic sphere. As John Tosh has demonstrated, while Victorian men were expected—above all—to *act*, especially by earning and providing for their families, they were also expected to return to the home and play a central role there by setting a moral example (1-6). Analyzing some of the relationships between reason and emotion, public and private, reveals that sympathy could be considered as feminine, manly, or—most intriguingly—as both.

Novelists' portrayals of male naturalists are especially interesting in this context. Gaskell, who was one of Darwin's favorite writers, depicted two main naturalist characters: the elderly Job Legh, a humble, self-educated textile worker in *Mary Barton* (1849), and in *Wives and Daughters* the young, Cambridge-educated Roger Hamley, a scientific traveler with an international reputation who, had Gaskell lived to finish the book, would have ended up as a professor at "some great scientific institution" (Hughes 104–05). In many respects, the contrast between Legh and Hamley epitomizes the process of professionalization within the natural historical sciences during the Victorian period, one aspect of which was the gradual exclusion of women from many of the new scientific professions.<sup>2</sup> George Eliot was another writer Hooker and Darwin read, and in Eliot's *Silas Marner* (1861) the eponymous central character is a close counterpart to Job Legh, another artisan from the northern textile industries with a passion for plants.

These fictional naturalists are all depicted as unusually sensitive—indeed, as almost feminine in their gentleness and compassion. These were qualities that Darwin and Hooker also shared, as is evident when their letters shift from debating obscure scientific details to celebrating the births of their children; both were present at their children's births, and each gave his wife chloroform to spare her as much pain as possible. And Hooker and Darwin also shared poignant expressions of their grief over their children's deaths. Despite the ways in which Hooker's and Darwin's public roles as men of science contributed to the series of changes that marginalized women within the scientific world, their private correspondence exemplifies the ways in which naturalists sought to embody the distinctly domestic virtue of sympathy.

### “Dear old Darwin”

Like Charles Darwin, Joseph Hooker was a traveler whose scientific reputation was built on collections amassed during his journeys. His first major voyage was a four-year circumnavigation of the Antarctic, and thanks to his collections and to the friends he made during the voyage, Hooker was eventually able to establish himself as one of the nineteenth century's most influential men of science. He became director of the Royal Botanic Gardens at Kew, president of the Royal Society, and was knighted for his botanical services to the Empire.

Soon after Hooker returned from his voyage, Darwin wrote to

congratulate him and offer some of his own plant specimens. The rapid deepening of their friendship is evident from one of the earliest letters Darwin wrote: "I am almost convinced (quite contrary to opinion I started with)," he told Hooker, "that species are not (it is like confessing a murder) immutable," adding that "I think I have found out (here's presumption!) the simple way by which species become exquisitely adapted to various ends" (11 Jan. 1844; *Correspondence* 3: 2). That "simple way" was, of course, natural selection, and Hooker was the first person to hear of Darwin's theory.

In the early nineteenth century, the transmutation of species was both religiously and politically controversial, and thus a potentially dangerous topic for naturalists. So, despite his tongue-in-cheek description of himself as "confessing a murder," Darwin would have been concerned that Hooker might be appalled by his heterodoxy; he commented ruefully that he suspected Hooker might "now groan, & think to yourself 'on what a man have I been wasting my time in writing to.'—I sh<sup>d</sup>, five years ago, have thought so" (*Correspondence* 3: 2). The tone of this letter is somewhat teasing; Darwin seems to be dangling the extreme possibility of outright rejection before the object of his intellectual courtship in order to ensure a milder reaction. He need not have worried. Hooker replied that he thought species might well have undergone change, and he invited Darwin to explain his ideas about how it had occurred. Hooker's open-mindedness and his willingness to listen to Darwin's ideas were one basis for their long and fruitful correspondence.

However, while Hooker and Darwin's friendship was developing, they found themselves in very different circumstances. Thanks to inherited money Darwin never sought employment; he was able to marry early (and to marry money, in the form of his wealthy cousin Emma Wedgwood) and thus devote himself to science. Meanwhile Hooker was searching for a respectable, paid position that would allow him to marry Frances Henslow (daughter of Darwin's old botany professor, John Stephens Henslow). After failing to win the Edinburgh University chair of botany, Hooker was forced to defer marriage and set off on a second major expedition, this time to India (1847-51).

During Hooker's Indian travels, Darwin wrote to tell him that Emma had "lately produced our fourth Boy & seventh child!—a precious lot of young beggars we are rearing.—I was very bold & administered myself, before the Doctor came, Chloroform to my wife with admirable

success" (3 Feb. [1850]; *Correspondence* 4: 311). Darwin's sensitivity to the suffering of others had led him to abandon his medical training in Edinburgh after he found himself unable to even watch (much less perform) operations done without anesthetic. Many decades later he still recalled "two very bad operations, one on a child," which "fairly haunted me for many a long year" (*Autobiography* 47-48). Darwin's squeamishness never left him; during the years he spent breeding pigeons, when he needed their skeletons for comparative purposes, he paid his butler to do the skeletonizing for him, unable to boil the flesh off the birds himself.

The sensitivity of men of science to the pain of others became an important issue in mid-Victorian Britain, especially during intense debates over vivisection, an issue that was taken up by some Victorian feminists who explicitly contrasted male cruelty with female sympathy (E. Richards). Anti-vivisectionists claimed that repeated exposure to suffering blunted the feelings of scientists. If true, this meant that vivisection eroded one of the vivisector's scientific skills—the ability to sense and understand animals' pain. It therefore became essential for scientific men to distinguish their sensitivity from the mere sentimentality which they believed characterized their opponents. Vivisectionists and their supporters (who included Darwin) needed to manage sympathy, retaining their sensitivity while cultivating a degree of detachment that prevented over-identification (Mayer). One way of managing sympathy, as some vivisectionists argued, was to use chloroform on the animals (French 40).

Given the sensitivity to suffering that had cut short his medical career, Darwin was understandably delighted to be able to spare Emma some of the pain of giving birth by administering chloroform. The drug's ability to relieve anxiety as well as pain impressed him: "Many a man," he wrote, "must have felt, before the blessed discovery of chloroform, great horror at the thought of an impending surgical operation" (*Expression* 304). Chloroform fascinated Darwin so much that he even experimented to determine its effects on plants (*Insectivorous* 217-19).<sup>3</sup> When Hooker and Frances's second child, Harriet Anne, was born, Darwin asked his friend, "Did you administer the Chloroform? When I did, I was perfectly convinced that the Chloroform was very composing to oneself as well as to the patient" (27 [June 1854]; *Correspondence* 5: 197). Darwin's claim that the chloroform soothed him as much as it did Emma may reflect a need to joke about the very things that made him most anxious: pain and the possibility that Emma might die giving birth.

Hooker did indeed give his wife chloroform, but his letters (perhaps because of his medical training) exhibit a slightly different attitude toward childbirth. He wrote about his children's births in a tone of slightly unconvincing detachment, as if they were little more than a minor interruption to his scientific work. In a letter to Darwin discussing island floras, Hooker paused briefly to note that "(Fanny has just had a fine boy, excuse the interruption)" before returning to his subject. He concluded the letter with the words, "Mrs Hooker has presented me with a fine boy since this letter was begun, & is doing well" ([12 Jan. 1867]; *Correspondence* 15: 30). The faintly ironic tone of Hooker's and Darwin's letters and the relegation of a new baby to parentheses are not, I think, indicative of callousness, but are more likely to have been an expression of relief at the birth being over, perhaps mingled with a desire to appear detached, as befits a man of science. Darwin commented apropos of Hooker's daughter's birth, "You seem to have taken it very philosophically" (27 [June 1854]; *Correspondence* 5: 197). Although the tone is playful, "philosophical" was in reality the most highly prized epithet a man of science could hope for; the tensions between professional and private personae were managed within a complex mix of earnestness and levity.

Hooker's and Darwin's presence at, and active involvement in, their children's births might at first seem unusual, but middle-class fathers were increasingly likely to be present from the 1840s onward; Albert was with Victoria when she first gave birth in 1841, and the press praised his decision (Tosh 82). Fathers' presence at births may also reflect the need for men to be domestic while remaining men of action, and, in the case of Darwin and Hooker particularly, wielding the chloroform may have helped them manage their sympathy, balancing concern and detachment by asserting some control through a display of scientific expertise.

The blend of sympathy and science discernible in Darwin's attitude to childbirth is apparent in his later relationships with his children. He played with them and was generally indulgent; one of them recalled that their father once came into the drawing-room and found his son Leonard "dancing about on the sofa, which was forbidden, for the sake of the springs, and said, 'Oh, Lenny, Lenny, that's against all rules,' and received for answer, 'Then I think you'd better go out of the room'" (F. Darwin 1: 134). It is, however, equally characteristic of Darwin that he also involved his children actively in his scientific work,

and they participated enthusiastically in his experiments (see Browne; Levine, *Darwin Loves You* 148-59).

Hooker was a regular visitor to Darwin's home, and he later recalled Darwin "pumping" him for botanical facts (Hooker 188). However, these visits were not wholly occupied by science; when Hooker sent the Darwin family a cake by way of thanks for their hospitality, Darwin told him that his daughter Annie had wanted to know whether it had come from "the gentleman 'what played with us so'" (10 Apr. [1846]; *Correspondence* 3: 310). Hooker loved to teach children (taking on his granddaughter's education in 1904, when he was 87) and doubtless shared his botanical knowledge with his children; his own botanical education had begun with his father, William Jackson Hooker, whose botanical lectures Joseph attended from the age of seven (Huxley 1: 5, 22; 2: 457). Botany must have been a regular topic within Hooker's home, not least because his wife, Frances, was a well-educated woman from a botanical family who possessed a sufficiently extensive knowledge of science to allow her to translate a French botanical textbook (le Maout and Descaigne). And Hooker lost none of his enthusiasm for playing with children as he got older: he was sixty years old when his fifth son, Joseph Symonds, was born, but this did not stop Joseph senior from instituting a game in which he used his long shaggy beard as a lion's mane and came roaring out from under the drawing-room table, after which he and his son always referred to each other as "Lion" and "Young Lion" (or Cub) (Turrill 192).

Sadly, it is Hooker's and Darwin's letters about the deaths of their children that express their feelings most eloquently. In September 1863, Hooker wrote to Darwin: "Dear dear friend, My darling little 2<sup>d</sup>. girl died here an hour ago, & I think of you more in my grief, than of any other friend" ([28 Sept. 1863]; *Correspondence* 11: 640). He was writing just an hour after his six-year-old daughter Maria Elizabeth had died.

Hooker's thoughts turned to Darwin because he and Emma had lost their ten-year-old daughter Anne Elizabeth (Annie) in 1851. The loss had devastated Darwin, who kept a box of mementos of Annie that he occasionally took out and mourned over. His response to Hooker's letter has not survived, but a week later Hooker was writing again:

Dear old Darwin

I have just buried my darling little girl & read your kind note. I tried hard to make no difference between her & the other children, but she was my very own,

the flower of my flock in everyone's eyes, the companion of my walks, the first of my children who has shown any love for Music and flowers, & the sweetest tempered affectionate little thing that ever I knew. it will be long before I cease to hear her voice in my ears—or feel her little hand stealing into mine, by the fire side & in the Garden.—wherever I go she is there. (1 Oct. 1863; *Correspondence* 11: 644-45)

The fact that Maria, tellingly characterized by Hooker as the “flower of my flock,” shared her father’s love of flowers made it inevitable that he would feel “her little hand stealing into [his]” whenever he was in a garden; for a man whose whole life’s work revolved around plants and gardens, the constant reminder of his child would be agony.

Hooker told Darwin that “the Funeral service had no more effect on me than on her . . . my mind was wandering amongst sweeter memories elsewhere.” He expressed some relief at being able to “think of what sorrows I am spared”—that her disease was not contagious, so the rest of the family were not in danger, that “she suffered comparatively little,” and “above all do I rejoice, that she was yet so young & happy, that death did not enter her little head during her illness.” Perhaps Maria’s innocence affected Hooker himself, since he told Darwin “I never knew she was dying till 3 minutes before the breath left her body.” For the previous three hours he had been “blind to every one of those symptoms of rapidly approaching dissolution that every nurse knows & every novelist describes” (1 Oct. 1863; *Correspondence* 11: 644-45).

Despite his apparent obliviousness to the signs of approaching death, Hooker nevertheless seems to have expected that his child’s death would resemble a scene from a novel. The all-too-common, conventional, and frequently sentimentalized image that novelists depicted was of an innocent leave-taking (Houghton 276-77; Jalland 24-25). As some Victorian novelists found it harder to offer the traditional comforts of religion, and some of their readers found them harder to accept, writers offered instead the comfort of future sorrows spared; as Hooker put it in his letter to Darwin, death was an escape from present and future pain.

Darwin offered his sympathy to his “dear old Friend”: “I understand well your words: ‘wherever I go, she is there.’—I am so deeply glad that she did not suffer so much, as I feared was inevitable. This was to us with poor Annie the one great comfort.—Trust to me that time will do wonders, & without causing forgetfulness [sic] of your darling” ([4 Oct. 1863]; *Correspondence* 11: 646). Neither Hooker nor Darwin separated science from friendship or family, and neither was embarrassed to express his feelings to his friend. A month after Maria’s death, Hooker wrote

Darwin a long letter about geology that concluded, “it will be long before I get over this craving for my child; or the bitterness of that last night. To nurse grief I hold is a deadly sin, but I shall never cease to wish my child back in my arms, as long as I live” (23 Oct. 1863; *Correspondence* 11: 652). Hooker was noticeably more forthcoming and emotional than the rather reserved Darwin—who once commented to Hooker, “What a man you are for sympathy” (17 [June 1868]; *F. Darwin* 3: 61)—but the open expression of strong emotion was becoming more common in mid-Victorian Britain, since it was widely perceived as healthy to give full vent to one’s feelings (Jalland 4).

As Darwin predicted, forgetfulness did not come; almost a year after Maria’s death, Hooker wrote to tell his friend that although he felt it was best not to observe such anniversaries, “as the day draws nearer I feel all the misery of last year crawling over me & my lost child’s face & voice accompany me everywhere by day & by night.” Nevertheless he felt confident that he would not reexperience what he had felt at the time, “an attack of what were more the horrors of delirium tremens than the chastened sorrows of a sensible man,” adding that “time, as you told me it would, has done its inevitable work” (16 Sept. 1864; *Correspondence* 12: 325). Two years later, when Darwin’s younger sister Emily was dying, Hooker wrote: “May you soon my very dear friend be relieved of your aching sympathy for one so dear to you” (23 Jan. 1866; *Correspondence* 14: 25). Sympathy was a virtue, but one that caused deep pain to those who felt it.

The shared experiences of fatherhood, of both loving and losing children, deepened the sympathy between these men. Hooker continued the 1864 letter by telling Darwin that it was because “your affection for your children has been a great example to me” that there was “no other living soul with whom I can talk of the subject” of his abiding grief. Hooker believed that “it would make my wife ill if I went on so to her” (Frances had become dangerously ill after Maria died), whereas he was made “of tougher coarser material, & like Rawdon Crawley, have greater capacity for feelings, which when once aroused, run riot, without deranging” (16 Sept. 1864; *Correspondence* 12: 326). It is intriguing that, in the course of expressing his “greater capacity for feelings” to the one living soul with whom he could share them, Hooker should compare himself to a fictional character—and to William Makepeace Thackeray’s Rawdon Crawley at that. But it is likely Hooker was thinking not of Crawley the dueling, rat-hunting, young blood, but of the older, chas-

tened Crawley who is such a tender father that he entrusts his son's care to his brother rather than leave the child with his adulterous mother or take him away to the uncertain and dangerous life he will lead in exile.

Hooker's sense that, like Crawley, he combined the "tougher coarser material" with a "greater capacity for feelings" was to some extent shaped by the novels he read. Many of Hooker and Darwin's contemporaries believed novels played a special role in creating and maintaining sympathy, particularly within the home: their settings were generally domestic, and that was where they were usually read (Darwin's wife read novels to him at the end of a hard day's research). As Ablow has shown, the novel's virtues were explicitly feminized; reading them took the place of a wife's moral guidance in some descriptions of the novel's ability to exercise a positive moral influence on men (*Marriage* 4-5). In Hooker's case, it is clear that he believed his masculine toughness allowed him to feel a deeper sympathy, to experience emotions that could be aroused and "run riot" but would not derange him, whereas such potent feelings would destroy his wife's health.

This apparently paradoxical combination expresses an ideal of Victorian masculinity, the man of action who was also a man of domestic (especially paternal) passion. It was an ideal of particular importance to naturalists because of the perceived effeminacy of their pursuits, and the specific appeal of this ideal of masculinity to naturalists like Hooker and Darwin becomes more evident if we examine some of the novels they read that included naturalists as characters.

### **"An emotion mysterious to himself"**

Gaskell was distantly related to Darwin and one of his favorite writers; according to his son Francis, her books "were read and re-read till they could be read no more" (1: 124-25). *Mary Barton* was among Darwin's favorite novels, but Hooker found it less appealing, describing it as "the most horrible story I ever read," thanks to the "deaths of all classes & ages of starvation, fever, & consumption spiced and garnished with Paralysis & blindness." Despite thinking the book "tremendously unnatural," he nevertheless had to acknowledge that the novel was "most powerful, & I suppose extremely well written—At least I could always reread bits with pleasure" (17 Aug. 1867; *Correspondence* 15: 351). One of Gaskell's concerns was to use the novel to create sympathy between classes, to ensure that middle-class gentlemen like Hooker understood

and shared the pain of those less fortunate than themselves. The naturalist character, Job Legh, functions in part to create that sympathy by showing a working man who is both rational and sensitive.

Legh, the grandfather of Mary Barton's friend Margaret, is typical of Lancashire's self-educated artisan weavers, of whom Gaskell says, "There are botanists among them . . . who know the name and habitat of every plant within a day's walk from their dwellings" (75).<sup>4</sup> As Gaskell emphasized, this natural history expertise was a sign of his rationality, his "almost wizard-like" intelligence, but she also emphasized his gentleness and did so in terms that are unambiguously feminine: "Margaret he caressed as a mother caresses her first born; stroking her with tenderness, and almost altering his voice as he spoke to her" (76). Legh's domestic skills are also described in terms that make him implicitly feminine: "Job was in the full glory of host and hostess too, for by a tacit agreement he had roused himself from his habitual abstraction, and had assumed many of Margaret's little household duties" (197). Sympathy, as a combination of skill (intellectual and practical) and feminine tenderness, allows Legh to act as both mother and father to the apparently orphaned Margaret.

The eponymous central character in Eliot's *Silas Marner* is feminized in ways that are reminiscent of Job Legh. Although Marner is not formally a naturalist, he "had inherited from his mother some acquaintance with medicinal herbs and their preparation," and this knowledge is one aspect of his feminine sensibility (57). When he first arrives in the village of Raveloe, his new neighbors regard him almost as a witch when he uses his knowledge of herbs to cure a woman whose "heart had been beating enough to burst her body"; his successful cure is described as having an "occult character" (66). As a result, the villagers come to believe it important to be polite to him, "if it was only to keep him from doing you a mischief" (55).

*Mary Barton* also includes a character, Alice Wilson, who collects plants with which to make herbal medicines, and her feminine knowledge is contrasted with Job Legh's more formal botanical learning (King 255-57). This long-standing association between women, plants, and healing is apparent in *Silas Marner*; it is Marner's feminine knowledge of healing plants that allows him to heal himself, overcoming his distrust of his fellow humans. The misanthropic weaver surprises his neighbors by adopting and caring for a foundling child, Eppie. A village woman, Dolly Winthrop, gives Marner cast-off baby clothes and teaches him to bathe

the child, but when she offers to take care of it for him, he is jealous that “it may get fond o’ somebody else, and not fond o’ me,” so he prefers to have Dolly teach him how to care for the child; she passes Eppie across, and Marner finds himself “trembling with an emotion mysterious to himself, at something unknown dawning on his life” (180).

Marner comes to Raveloe to escape a false accusation of theft. He hoards the money he earns, but it is stolen and he becomes convinced that his misfortunes are a punishment for his sins. Afraid his healing knowledge may not be godly, he neglects his herbs until the child appears: “Eppie toddled to pluck the flowers, and make remarks to the winged things that murmured happily about the bright petals, called ‘Dad-dad’s’ attention continually by bringing him the flowers.” Her delight in nature and love for her newfound father gradually persuade Marner that he has been forgiven, and so, “Silas began to look for the once familiar herbs again” (185). Eppie’s affection leads Marner back not to a generalized love of flowers, but to carefully observing and identifying plants with medicinal uses. Although the love of flowers and that of children are closely linked in Eliot’s story, what the child reawakens is botanical knowledge, a learned skill that can be used to heal (Giardetti 29). Describing her intention in the book as the portrayal of “the strong remedial influences of pure, natural human relations” (qtd. in Graver 101), Eliot carefully constructed the connection between the natural love of (adoptive) parent and child and their mutual love of nature and natural history (Graver 67–69).

Francis Darwin recalled that his father “could not enjoy any story with a tragical end, [and] for this reason he did not keenly appreciate George Eliot, though he often spoke warmly in praise of ‘Silas Marner’” (1: 124–25). Darwin recommended the book to Hooker, describing it as a “charming little story” (27 [or 28 Sept. 1865]; *Correspondence* 13: 245–46). Hooker was underwhelmed: “I read *Silas Marner* the other day & did not enjoy it”; by comparison with “the love scenes of *Mill on Floss*,” he had found the book “flat & awfully Eliotian: too didactic & prosy without plot enough or incident enough” (6 Oct. 1865; *Correspondence* 13: 262). Darwin responded, “As you do not like *Silas Marner*, I will not like much the *Mill on the Floss*; it is certainly most clever; but almost all the persons are odious, & there is no one so charming as Dolly” (22 and 28 [Oct. 1865]; *Correspondence* 13: 279). Given his love for happy endings and his own children, it is not surprising that Darwin should find *Silas and Dolly Winthrop* so appealing while, by contrast, Hooker’s

dislike for the book may reflect a desire not to be reminded of his own flower-loving daughter who had died just two years earlier.

Although Darwin left no record of having read Gaskell's last novel, *Wives and Daughters*, it seems likely that he did, given his fondness for Gaskell's work, and that he would have recognized in Roger Hamley another sympathetic naturalist (but might not have known that the author had modeled Hamley on Darwin himself). Gaskell's heroine, Molly Gibson, is initially more attracted to Roger's older, poetry-writing brother Osborne, but when she is in distress, it is Roger who comforts her. The young naturalist "had been out dredging in ponds and ditches," when he finds Molly weeping in the garden and fetches her a drink from a nearby spring, "bringing a little in a broad green leaf, turned into an impromptu cup." The leaf-cup emphasizes Roger's feeling for living things: "He was so great a lover of nature that without any thought, but habitually, he always avoided treading unnecessarily on any plant" (118).

As Clare Pettit has argued, Roger Hamley's scientific and sympathetic sides are not contrasted but intimately linked. Later that evening, Roger tries to distract Molly from her grief:

If Roger was not tender in words, he was in deeds. Unreasonably and possibly exaggerated as Molly's grief had appeared to him, it was real suffering to her; and he took some pains to lighten it, in his own way, which was characteristic enough. That evening he adjusted his microscope, and put the treasures he had collected in his morning's ramble on a little table; and then he asked his mother to come and admire. (123-24)

Pettit notes that just as Roger needs to adjust his microscope to show Molly his treasures, he needs to adjust his sympathy to fit her "exaggerated" grief (331; see also Hughes 100-01). The microscope also draws our attention to the importance of vision for naturalists, who saw more clearly than others in several senses.

Gaskell drew on her extensive knowledge of the scientific world to make Roger Hamley a convincing character, and she makes it clear that it is partly because of his naturalist's training that he is able to really see Molly, perceiving her needs more clearly than anyone else (Litvack 729, 741). Elsewhere in the novel, Hamley's father comments on how perceptive and keen-sighted Roger is ("his eyes are always wandering about, and see twenty things where I only see one" [73]), and Lord Hollingford notes that he has "shown himself to be an observer of a fine and accurate kind" (384).

Looking closely and seeing what others miss was vital for naturalists, whether fictitious or real. In his popular manual on seaside natural history, *Glaucus*, Kingsley described the “highest praise which can be bestowed” on a naturalist as being that he possessed the “highest faculty,—The Art of Seeing.” This art cannot be attained through “the study and the book” since “it is God’s gift,” but “its true school-room is the camp and the ocean, the prairie and the forest, active self-helping life, which can grapple with Nature herself.” Learning to observe outdoors was one of natural history’s great attractions, combining studiousness with healthy outdoor exercise, often in the company of other men. The rigors of the active life guaranteed natural history’s manliness, as Kingsley wrote: “Let no one think that this same natural history is a pursuit fitted only for effeminate or pedantic men.” On the contrary, “We should say rather that the qualifications required for a perfect naturalist are as many and as lofty as were required, by old, chivalrous writers for the perfect knight errant of the Middle Ages”:

our perfect naturalist should be strong in body; able to haul a dredge, climb a rock, turn a boulder, walk all day; . . . he should know how to swim for his life, to pull an oar, sail a boat and ride the first horse which comes to hand; and finally he should be a thoroughly good shot, and a skilful fisherman and, if he go far abroad, be able on occasion to fight for his life. (43-44)

As Shteir has noted, Kingsley’s stress on the manliness of natural history contributed to the exclusion of women from such a physically demanding pursuit (“Elegant” 252). However, she does not quote the next paragraph of Kingsley’s description of the ideal naturalist: “he must like a knight of old, be first of all gentle and courteous” (44). Courtesy, as I have argued elsewhere, was among the most important characteristics a man of science could possess (Endersby 249-75), but Kingsley also stresses that he needs to be “gentle.” One might assume he means this in the sense of “gentleman,” as opposed to tender (as in “the gentle sex”). However, the latter meaning seems more likely, since Kingsley claimed that being “gentle” was one of the combination of qualities “which make our scientific men, as a class, the wholesomest and pleasantest of companions,” adding that naturalists are “the most blameless, simple, and cheerful, *in all domestic relations*; men for the most part of manful heads, and yet of childlike hearts” (47-48, emphasis mine).

Kingsley, like Gaskell and Eliot, implies that the ability to conduct scientific observations and the insight needed to be a sympa-

thetic friend or lover were connected: gentleness and a childlike heart complemented the more obviously manly virtues, tempering the naturalist's steel with sympathy. Kingsley's description of the moral improvement natural history would engender is strikingly similar to that claimed for the best novels, which by inculcating sympathy helped preserve "men's best selves" from the potentially corrupting influence of the marketplace (Ablow, *Marriage* 3). And Kingsley argued that, thanks to their particular combination of rational and emotional virtues, naturalists "stand out most honourably in the midst of a self-seeking and mammonite generation, inclined to value everything by its money price, its private utility" (46). It is important to recall that Hooker, like many men of science, was negotiating the problematic shift from studying science as a vocation to pursuing it as a paid profession. The men of science attempted to insulate themselves from the potentially corrupting pressures of the marketplace by upholding the ideal that the man of science should be a gentleman; but that ideal's roots were based on the assumption that a gentleman was wealthy enough to pursue truth disinterestedly, and so the idea of a gentleman had to become a moral one in order to describe those, like Hooker, who needed to work for money (Endersby 249-75). In addition, the moral character of scientific men was under particular scrutiny because their studies were widely regarded as undermining religion and thus the traditional foundations of morality; maintaining an exemplary role at the heart of the family helped deflect such criticisms.

Kingsley's claim that natural history was morally improving was a common one, particularly for writers whose work, like his and Darwin's, grew out of the long tradition of natural theology (see Ospovat). William Henry Harvey (a close friend of Hooker's) described the "the pure minded joy, one of the most delightful feelings of a naturalist," which results from finding a previously unknown species: "This feeling is a mixture of warm affections which cannot confine themselves to a single breast, but instantly seek for sympathy." The naturalist's first thought is to find a companion to share his discovery, but "if there be none to sympathise, how naturally the grateful heart looks up and worships the Author of its enjoyment" (19).

Science had, of course, long been considered an innately sociable activity (not least because discoveries needed to be witnessed and shared), but this was especially true of naturalists. A typical botanical field trip, where the naturalist's key skills were learned, would end,

as one Victorian naturalist put it, at a pub “with lots of punch (in moderation) and good songs” (qtd. in Allen 96). Friendships between men often formed on such expeditions and were frequently the building blocks of global networks of correspondence.

Hooker, Harvey, and Thomas Thomson (another old friend and collaborator of Hooker’s) went on collecting trips together before they were married and continued the practice in later years, taking their wives and children with them on joint holidays. Botanical collecting was still part of the trip, but by botanizing in the company of his wife and children, Hooker brought science into the domestic sphere of the increasingly common family holiday, just as Darwin brought his children into his study. One cannot help imagining that, had Gaskell lived to describe it, Molly Gibson and Roger Hamley would have led a very similar life: husband and wife discussing science while their children assisted with their father’s research.

### Conclusion

Many Victorians sought to construct the public sphere (where science belonged) as a masculine domain of rationality, in contrast with the domestic world where feminine emotions reigned. Ablow has argued recently that historians have been too ready to take the Victorians at their own estimation, arguing instead that the emotions functioned as “an epistemological tool,” defining such contrasts as those between male and female, or public and private (“Introduction” 375). Gaskell and Darwin were kin in more than one sense; the novelist’s sympathetic yet somewhat dispassionate view of her characters finds echoes in the naturalist’s detached but ardent love for his objects of study.

As is well known, Eliot wrote that “the greatest benefit we owe to the artist, is the expansion of our sympathies”; sermons and statistics may fail, “but a picture of human life such as a great artist can give, surprises even the trivial and the selfish into that attention to what is apart from themselves, which may be called the raw material of moral sentiment” (qtd. in Ablow, *Marriage* 70). This is a sense of sympathy operating in the public sphere—where it might promote charitable feelings, for example—which Gaskell shared. However, Ablow argues that Eliot’s concern was distinctive in that she was concerned with overcoming selfishness while “maintaining the self-consciousness necessary for ethical relationships” (*Marriage* 70–71). Eliot’s use of sympathy to negotiate the

relationship between self and others is mirrored in the naturalist's need to balance objectivity against empathy. Eliot's "attention to what is apart" also expresses itself as a form of scientific skill, combining a passion for the subject with the detachment needed to make accurate observations. As Dorothy Mermin notes, Eliot's omniscient narrative voice sounds at times like T. H. Huxley's ideal of the man of science: an authoritative observer, teacher, and interpreter. Science gave Eliot a tool with which to interpret and analyze the world, and she observed the inhabitants of Middlemarch with the same mixture of precise objectivity and unabashed delight that Darwin brought to bear on plants and insects (Mermin 136-37).<sup>5</sup> And Darwin's admiration for *Mary Barton* even extended to citing it in his *Expression of the Emotions in Man and Animals* (1872), where he described its author as "an excellent observer" and quoted her precise description of a crying baby (151).

Nineteenth-century science flourished in the world of men-only clubs and societies, a world from which women and children were excluded. By contrast, naturalists like Darwin and Hooker seem to have been intent on allowing science to colonize the domestic sphere, by bringing chloroform and scientific expertise into the birthing room, by discussing families and novels in ostensibly scientific letters, by bringing children into the study. Darwin's son Francis commented that his father's *Expression* revealed how closely Darwin "watched his children" (F. Darwin 1: 132); his detailed record of his first son William's infancy was later published, becoming the first scientific study of child development (C. Darwin, "Biographical Sketch"). An ostensible scientific purpose may have allowed Darwin to feel justified in spending so much time in the female realm of the nursery, but Francis noted that his father believed that he had not always achieved the detachment he felt appropriate, since "although he was so anxious to observe accurately the expression of a crying child, his sympathy with the grief spoiled his observation" (F. Darwin 1: 132). Reason and emotion were entwined in complex ways; as George Levine has recently argued, "to know, in Darwin's prose, is in a very important sense to feel" (*Darwin Loves You* 29). So while domesticating science might have been partly an excuse to be more involved with their children, and perhaps to extend a little more influence over the home, the naturalists' capacity for sympathy also helped bring the world of science into the home, blurring the boundaries between men's and women's supposedly separate spheres. Yet this is at best only part of the story; it was precisely

*because* sciences like botany were feminized that it was so easy to practice them within the domestic sphere. It was easier to involve wives and children in botany than in zoology, which evoked the horrors of vivisection. The physical or mathematical sciences were even harder to domesticate, not least because they required more education than most women had access to.

However, the fictional naturalists suggest another, perhaps more important, facet of the attraction that feminized aspects of science held for men. Job Legh's combination of "wizard-like" intelligence and maternal care allows him to be "host and hostess too"; Roger Hamley embodies for Molly the qualities of her own father who, as Mermin has noted, combined "a woman's kindness, a scientist's power of observation, and a man's authority" (137). And Silas Marner is a man whose female knowledge of herbal medicine allows him to be a "mother" to the child Eppie. Eliot's image of Marner gripped by "an emotion mysterious to himself" (180) suggests how men might benefit by acknowledging their feminine, even their maternal, characteristics. Eliot derived this conviction partly from the philosophy of Auguste Comte, who argued that fully valuing women's "strongly sympathetic nature" was essential to the progress of civilization (Graver 101). Pettit suggests that Gaskell also effectively argues that men and male culture could benefit by acquiring supposedly feminine characteristics: "by displacing such characteristics as attention to detail, sympathy and patience, usually ascribed to women, onto the privileged 'male' domain of science, [Gaskell] finds an unobtrusive way of demonstrating their importance to civilisation" (Pettit 330, 332). Perhaps the greatest attraction of botany for men like Darwin and Hooker was that it was an acceptably masculine pursuit, one that nevertheless allowed, even required, them to be sensitive and sympathetic. Practicing science at home changed both the home and the science.

*University of Sussex*

---

## NOTES

My thanks to Clare Pettit, Anne Secord, Jonathan Smith, and Paul White. All my work is deeply indebted to the comments and criticisms of Pamela Thurschwell, but this article is more indebted than usual.

<sup>1</sup>There is, of course, much more to be said about gender aspects of Victorian natural history, and of botany in particular, than I can cover here. For more detailed discussions, see Gates; Merrill; Schiebinger; Sheffield.

<sup>2</sup>The very term “professionalization” is problematic, since it implies a teleology, a conscious desire to become professionals which, as I have argued in detail in *Imperial Nature*, very few Victorian men of science felt.

<sup>3</sup>For more on Darwin and pain, see Levine, *Darwin Loves You*; R. Richards.

<sup>4</sup>The culture of artisan botany has been analyzed in detail by Anne Secord, who highlights the deep pride such men took in their ability to master the abstruse technicalities of natural history. As she has shown, the portrait of Legh was somewhat sanitized, but Gaskell made a serious effort to understand such men and depict them faithfully.

<sup>5</sup>Gillian Beer and George Levine have both commented on the ways that scientific ideas became background assumptions for many Victorians who may not have possessed detailed knowledge of the science involved, Darwinism being only the most obvious example. See also Ermarth; Purdy; Shuttleworth.

## WORKS CITED

- Ablow, Rachel. “Introduction: Victorian Emotions.” *Victorian Studies* 50 (2008): 375–77.
- . *The Marriage of Minds: Reading Sympathy in the Victorian Marriage Plot*. Stanford: Stanford UP, 2007.
- Allen, David Elliston. *The Naturalist in Britain: A Social History*. 2nd ed. Princeton: Princeton UP, 1994.
- Beer, Gillian. *Darwin’s Plots: Evolutionary Narrative in Darwin, George Eliot and Nineteenth-Century Fiction*. 2nd ed. Cambridge: Cambridge UP, 2000.
- Browne, Janet. *Charles Darwin: The Power of Place*. London: Jonathan Cape, 2002.
- . *Charles Darwin: Voyaging*. London: Jonathan Cape, 1995.
- Darwin, Charles. *The Autobiography of Charles Darwin*. Ed. Nora Barlow. London: Collins, 1958.
- . “A Biographical Sketch of an Infant.” *Mind: A Quarterly Review of Psychology and Philosophy* 2 (1877): 285–94.
- . *The Correspondence of Charles Darwin*. Ed. Frederick Burkhardt et al. 16 vols. to date. Cambridge: Cambridge UP, 1985–.
- . *The Expression of the Emotions in Man and Animals*. London: John Murray, 1872.
- . *The Complete Work of Charles Darwin Online*. Ed. John van Wyhe. 1 Jan. 2008 <<http://darwin-online.org.uk>>.
- . *Insectivorous Plants*. London: John Murray, 1875. *The Complete Work of Charles Darwin Online*. Ed. John van Wyhe. 1 Jan. 2008 <<http://darwin-online.org.uk>>.
- Darwin, Francis. *The Life and Letters of Charles Darwin*. 3 vols. London: John Murray, 1887.
- Eliot, George. *Silas Marner: The Weaver of Raveloe*. 1861. Ed. Q. D. Leavis. Harmondsworth: Penguin, 1985.
- Endersby, Jim. *Imperial Nature: Joseph Hooker and the Practices of Victorian Science*. Chicago: U of Chicago P, 2008.
- Ermarth, Elizabeth Deeds. “George Eliot’s Conception of Sympathy.” *Nineteenth-Century Fiction* 40 (1985): 23–42.
- French, Richard D. *Antivivisection and Medical Science in Victorian Society*. Princeton: Princeton UP, 1975.

- Gaskell, Elizabeth. *Mary Barton: A Tale of Manchester Life*. 1849. Ed. Stephen C. Gill. Harmondsworth: Penguin, 1985.
- . *Wives and Daughters: An Every-Day Story*. 1864–66. Ed. Angus Easson. Oxford: Oxford UP, 1987.
- Gates, Barbara T. *Kindred Nature: Victorian and Edwardian Women Embrace the Living World*. Chicago: U of Chicago P, 1998.
- Giardetti, Melora. "How Does Your Garden Grow?: Plants, Gardens, and Doctrines in George Eliot's *Silas Marner*." *George Eliot–George Henry Lewes Studies* 48–49 (2005): 27–38.
- Graver, Suzanne. *George Eliot and Community: A Study in Social Theory and Fictional Form*. Berkeley: U of California P, 1984.
- Hall, Catherine. *White, Male and Middle-Class: Explorations in Feminism and History*. Cambridge: Polity P, 1992.
- Hall, Donald E., ed. *Muscular Christianity: Embodying the Victorian Age*. Cambridge: Cambridge UP, 1994.
- Harvey, William H. *The Sea-side Book: Being an Introduction to the Natural History of the British Coasts*. New ed. London: Van Voorst, 1849.
- Hooker, Joseph Dalton. "Reminiscences of Darwin." *Nature* 60 (1899): 187–88.
- Houghton, Walter E. *The Victorian Frame of Mind, 1830–1870*. New Haven: Yale UP, 1963.
- Hughes, Linda K. "Cousin Phillis, Wives and Daughters, and Modernity." *The Cambridge Companion to Elizabeth Gaskell*. Ed. Jill L. Matus. Cambridge: Cambridge UP, 2007. 90–107.
- Huxley, Leonard. *Life and Letters of Joseph Dalton Hooker*. 2 vols. London: John Murray, 1918.
- Jalland, Patricia. *Death in the Victorian Family*. Oxford: Oxford UP, 1996.
- King, Amy M. "Taxonomical Cures: The Politics of Natural History and Herbalist Medicine in Elizabeth Gaskell's *Mary Barton*." *Romantic Science: The Literary Forms of Natural History*. Ed. Noah Heringman. Albany: State U of New York P, 2003. 255–70.
- Kingsley, Charles. *Glaucus; or, the Wonders of the Shore*. 1855. London: Macmillan, 1887.
- le Maout, J. E. M., and Joseph Descaine. *A General System of Botany: Descriptive and Analytical. Translated from the Original by Mrs Hooker; with Additions, an Appendix on the Natural Method, and a Synopsis of the Orders, by J. D. Hooker*. London: Longmans, Green, 1873.
- Levine, George. *Darwin and the Novelists: Patterns of Science in Victorian Fiction*. Chicago: U of Chicago P, 1991.
- . *Darwin Loves You: Natural Selection and the Re-Enchantment of the World*. Princeton: Princeton UP, 2006.
- Litvack, Leon. "Outposts of Empire: Scientific Discovery and Colonial Displacement in Gaskell's *Wives and Daughters*." *Review of English Studies* 55 (2004): 727–58.
- Mayer, Jed. "The Expression of the Emotions in Man and Laboratory Animals." *Victorian Studies* 50 (2008): 399–417.
- Mermin, Dorothy. *Godiva's Ride: Women of Letters in England, 1830–1880*. Bloomington: Indiana UP, 1993.
- Merrill, Lynn L. *The Romance of Victorian Natural History*. New York: Oxford UP, 1989.
- Ospovat, Dov. *The Development of Darwin's Theory: Natural History, Natural Theology and Natural Selection, 1838–1859*. Cambridge: Cambridge UP, 1995.

- Pettit, Clare. "An Everyday Story: Wives, Daughters and Nineteenth-Century Natural Science." *Studies in the History and Philosophy of the Biological and Biomedical Sciences* 33 (2002): 325-35.
- Purdy, Dwight H. "'The One Poor Word' in *Middlemarch*." *Studies in English Literature, 1500-1900* 44 (2004): 805-21.
- Richards, Eveleen. "Redrawing the Boundaries: Darwinian Science and Victorian Women Intellectuals." *Victorian Science in Context*. Ed. Bernard Lightman. Chicago: U of Chicago P, 1997. 119-42.
- Richards, Robert J. *The Meaning of Evolution: The Morphological Construction and Ideological Reconstruction of Darwin's Theory*. Chicago: U of Chicago P, 1992.
- Schiebinger, Londa. "Gender and Natural History." *Cultures of Natural History*. Ed. N. Jardine, J. A. Secord, and E. C. Spary. Cambridge: Cambridge UP, 1996. 163-77.
- Secord, Anne. "Elizabeth Gaskell and the Artisan Naturalists of Manchester." *The Gaskell Society Journal* 19 (2005): 34-51.
- . "Science in the Pub: Artisan Botanists in Early-19th-Century Lancashire." *History of Science* 32 (1994): 269-315.
- Sheffield, Suzanne Le-May. *Revealing New Worlds: Three Victorian Women Naturalists*. London: Routledge, 2001.
- Shteir, Ann B. *Cultivating Women, Cultivating Science: Flora's Daughters and Botany in England, 1760 to 1860*. Baltimore: Johns Hopkins UP, 1996.
- . "Elegant Recreations? Configuring Science Writing for Women." *Victorian Science in Context*. Ed. Bernard Lightman. Chicago: U of Chicago P, 1997. 236-55.
- Shuttleworth, Sally. *George Eliot and Nineteenth-Century Science: The Make-Believe of a Beginning*. Cambridge: Cambridge UP, 1984.
- . "The Language of Science and Psychology in George Eliot's *Daniel Deronda*." *Victorian Science and Victorian Values: Literary Perspectives*. Ed. James G. Paradis and Thomas Postlewait. New Brunswick: Rutgers UP, 1985. 269-98.
- Stevens, Peter F. *The Development of Biological Systematics: Antoine-Laurent de Jussieu, Nature, and the Natural System*. New York: Columbia UP, 1994.
- "Sympathy." *Oxford English Dictionary*. 4 Mar. 2009 <<http://www.oed.com>>.
- Thackeray, William Makepeace. *Vanity Fair: A Novel without a Hero*. London: Bradbury & Evans, 1847-48.
- Tosh, John. *A Man's Place: Masculinity and the Middle-Class Home in Victorian England*. New Haven: Yale UP, 1999.
- Turrill, W. B. *Joseph Dalton Hooker: Botanist, Explorer and Administrator*. London: Scientific Book Club, 1963.
- Vickery, Amanda. "Golden Age to Separate Spheres? A Review of the Categories and Chronology of English Women's History." *The Historical Journal* 36 (1993): 383-414.