DARWIN AND WOMEN

Darwin and women is a publication of the Darwin Correspondence Project. The Project was founded in 1974 with the aim of publishing all known letters to and from Charles Darwin. The editors of the project have produced a number of special publications in addition to the main series. This book focuses on Darwin's correspondence with women and on the lives of the women he knew and wrote to. It includes a large number of hitherto unpublished letters between members of Darwin's family and their friends, letters that will not be published in the main series but that throw light on the lives of the women of his circle. The letters included are by turns entertaining, intriguing and challenging, and are organised into thematic chapters that set them in an accessible narrative context. Darwin's famous remarks on women's intelligence in *Descent of man* provide a recurring motif, and are discussed in the foreword (by Dame Gillian Beer), and in the introduction.

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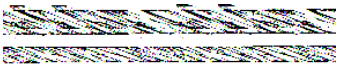
DARWIN AND WOMEN

A Selection of Letters

BY SAMANTHA EVANS

Foreword by Dame Gillian Beer



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Foreword
by Dame Gillian Beer

Darwin spent his life surrounded by spirited, enlightened, and supportive women, many of whom were actively involved in scientific enterprises. He relished female company and appreciated the precise observations, assiduous collecting of evidence, and the firm stand on principles of many of his female acquaintance. Yet he distinguished female capacities from those of human males in a deterministic and somewhat demeaning manner in the *Descent of Man*. The later part of this foreword will address that puzzling paradox and consider some of the pressures that go into it.

First, though, this cornucopia of correspondence demonstrates how throughout his adult life Darwin was in touch with an array of intelligent women. The letters from the Darwin Correspondence are here revealingly augmented with hitherto unpublished family letters in which 'Charles' or 'F.' (for Father) and his concerns are part of the network of preoccupations shared by very different people. Wherever you turn in this volume there are insights into the workings of the scientific community, often cast in the guise of acquaintance and gossip. The economics of funding research, the pressures of gaining a livelihood and sustaining a career, the innovative exchanges between friends and colleagues, are here understood anew as they become filtered through the experience of women, often acting as unpaid assistants, or translators, and research companions to their husbands, as was the case with Mary Lyell or Ellen Lubbock, for example. Indeed, Emma Darwin translated for Charles from French, German, and Italian and read much of his work as he proceeded. The particular significance of explicit, and implicit, exchanges sometimes emerges gradually through the organisation of the present volume, which is in terms of themes and clusters. These range from 'Marriage' to 'Companion Animals' and 'Religion' by way of 'Children', 'Scientific Wives and Allies', 'Travellers', 'Servants and Governesses', to the 'Ascent of Woman', with editors, and observing plants and humans, and other important topics on the way. One outcome of this arrangement is that people crop up under very different headings so that we gradually come to see the different roles they play. The arrangement is not always chronological and the reader needs to be aware of that. The editors' commentary creates a narrative and contextualising thread. The letters range from courteous formal expressions of gratitude to strangers to intimate and sometimes harrowing accounts of family events. This latter is particularly true for the chapter on children.

Children

Births, marriages, and deaths shape every family but for Victorian households that trinity could quite often occur in a more tragic order: marriages, births, and deaths. Childbirth and child-rearing were beset with dangers, first for the mother and baby and then throughout childhood from dangerous infections and illnesses. Perhaps inevitably then, the collection of letters in this chapter makes for painful reading. The death of ten-year-old Annie in 1850 has often been movingly written about and here we learn more of the impact of that death on other members of the household and the deep distress of her nurse, Jessie Brodie, and her governess, Catherine Thorley.

Crises demand correspondence and the letters around the childbirth and death in 1876 of Amy Ruck, Francis (Frank) Darwin's young wife, take the reader close into the raw grief of both families. To their son William, Emma vividly sketches some of the different reactions: Darwin 'distracting his mind with schemes about building an additional room so that Frank may be made comfortable', Bessy, their shy youngest daughter, who 'can only sleep very little and is utterly shattered':

> She feels truly that she can never hope to have the loss of Amy replaced. She was so sympathetic & the only person B. could be open with. (41)

The last paragraph of Emma's letter is challenging in its matter-of-fact insight:

> My heart aches whenever I think of Frank; but now he is out of our sight we shall be able to forget him more & take to our usual occupations. (41)

The surviving baby, Bernard, was their first grandson and, as it turned out, he and his father lived with Charles and Emma after Amy's death.

Indeed, it strikes me as very probable that it was the presence of this baby in the house that awakened Darwin's special interest in the discussions of child development current in *Mind*[1] in 1877. In 'A Biographical Sketch of an Infant' he went back, poignantly, to the diary he had kept of William's infancy and toddlerdom thirty-seven years earlier and added to it some observations from his later theories. In an incautious couple of sentences, and based it has to be said on a very narrow observational cohort, he drew some tentative conclusions about the physical capacities of male and female children:

> When two years and three months, he became a great adept at throwing books or sticks, &c., at anyone who offended him; and so it was with some of my other sons. On the other hand, I could never see

1 *Mind: a Quarterly Review of Psychology and Philosophy* 2 (July 1877): 285–94.

> a trace of such aptitude in my infant daughters; and this makes me think that a tendency to throw objects is inherited by boys. (p. 288)

This example suggests that Darwin could be somewhat cavalier with the evidence in attributing inherited tendencies to the sexes!

He was certainly a devoted and observant father and the notes that he and Emma made on the sayings and behaviour of their children, gathered as Appendix III to volume 4 of the *Correspondence*, would leaven the atmosphere of sorrow and crisis that prevails in much of this chapter despite the editors' account of the usually happy atmosphere at Down House.[2] Lenny, in particular, had a way with words:

> Lenny "Is the sky a sort of nowhere?
> L. I've opened the window an atomist bit.
> looking thro' that red thing unbetters me. (looking thro' a bit of red glass at the garden) (46v.)
> Lenny,— "It sometimes happens that I am happy"
> April 10th: In the morning whilst I was shaving, Lenny kept talking to me so I said, "Lenny I cannot talk while I am shaving"— "But you can talk, when you are *unshaving*".— (50v, 50bv.)

Not all family life can find its way into letters, particularly not the precious humdrum of everyday.

Gossip and Politics

The collection gives us insight into the workings of acquaintance and exclusion within the scientific community of Darwin's time. For example, a letter from J. D. Hooker to Darwin in 1865 comments extensively on the fact that 'Lady Lyell will not call on Mrs. Busk nor invite the Busks to her parties' (52). What might seem a matter of trivial personal distaste is revealed by the editor's commentary to have wider ramifications. The Busks were a distinguished scientific pair who could ordinarily have expected to be invited to a semi-public gathering of scientists of this kind. The reasons for their exclusion seem to have been, the editor comments, that 'Ellen Busk was known as a freethinker and religious sceptic' (52). The party attendance or exclusion carried questions about religion, evolutionary debate, and even plagiarism.

Some of those same questions emerge again around the Busks in a different setting: the controversy over the merging of the Ethnological Society, originally an offshoot of the Aborigines' Protection Society and relatively liberal in outlook, with the Anthropological Society, a generally anti-Darwinian society, in 1871. Ellen Lubbock, who herself practised as an archaeologist, writes vigorously to Emma Darwin, in tones that take us

2 *The Correspondence of Charles Darwin*, volume 4 1847–50 (Cambridge: Cambridge University Press, 1988), Appendix III, 'Darwin's Observations on His Children', pp. 427, 429.

close into the exasperation and urgency felt by the participants, and yet she manages to keep a persuasive, even frolicsome, lightness. The letter is clearly intended to be seen by Charles Darwin:

> I hate begging—so now you will perceive I am going to beg. Yesterday I was at the Busks', & Mr. Busk was groaning & lamenting over his Presidency of the Anthro—(I never can spell the horrid word)—Society—the name irritates him, as it does John, & it *isn't* the right one. We never wanted to be merged & swallowed whole in and by this mushroom society, with no good men in it— So I said well, why not alter it back to the Ethnological, which was the first & real root of the thing? To which he replied despondently that they were in debt £700.

The conflicted early history of anthropology is all caught into this letter with the stresses and strains of knowledge ownership and interpretation hinted at and sometimes breaking out: 'Poor old Mr. Crawford would have given every penny he had, in fact I should think he turned in his grave when his pet Society was named after his bitterest enemies.' The tribalism of Victorian scientific society attempting new kinds of knowledge is hinted at in these charmingly wheedling words, as Ellen Lubbock (half) fears being thought 'very meddlesome' (58).

A tone of playful banter is frequent in the correspondence of Darwin's close female acquaintance. Henrietta Huxley teases him about his disparagement of a line from Tennyson ('And he meant, he said he meant, Perhaps he meant, or partly meant you well.')

> In the first place it was very mean of you to give the lines without the context shockingly Owenlike (7)

Darwin had suffered from Richard Owen's maliciously taking his statements out of their context. Moreover, she points out, he has got the source of the quotation wrong. It is from 'Sea Dreams' not 'Enoch Arden' and he has thus 'damaged [his] reputation for accuracy'.

> If the "facts?!" in the Origin of Species are of this sort—I agree with the Bishop of Oxford [another of Darwin's adversaries].

This is breathtakingly impertinent, as only the best of friends can be, and it shows how his friends could rely on Darwin's sense of humour to accept such sallies. Intriguingly, he found it harder to accept his family's suggestions and corrections to his work, as Emma remarked. Henrietta became the exception to this as she more and more took on the role of editor for his work, especially of *Descent of Man*. He much valued the work she did, as an 1871 letter from him to her makes clear:

> Several reviewers speak of the lucid vigorous style etc.— Now I know how much I owe to you in this respect, which includes arrangement,

> not to mention still more important aids in the reasoning. …
> Goodbye my very dear coadjutor & fellow-labourer
> Your affec[ate]. father. Ch Darwin (143)

Henrietta was paid for her work by her father though 'as a memorial or souvenir rather than as wages.' (143)

Frances Power Cobbe, one of the most dynamic of his correspondents, and an activist in an array of campaigns, particularly anti-vivisectionism and rational dress, in a letter probably from 1870 urges Darwin to take Kant seriously and to unite his own lines of thought and 'let us see how metaphysics & physics form one great philosophy' (156). Perhaps to soften the force of her criticism she then uses a somewhat winsome apology that declares and jokes about her own feminism:

> Pray forgive dear M[r] Darwin, my infinite impudence! Though I attended on Saturday a most successful Woman's Rights Meeting I am of opinion that our Ancient privilege of talking nonsense even to those we most deeply honour, is one not to be parted with on any terms! (156)

The hidden political activity of women within the scientific community becomes manifest in the pages of this volume, from Arabella Buckley organising the campaign to procure a government pension for Alfred Russel Wallace to friends rallying to help Thomas Henry Huxley. But despite all the backstage activity and the drawing on funds that may well have been her own before marriage it was sometimes felt to be distasteful for a woman to appear openly on the list as a donor herself.

Many of the women who operated in these quiet political ways were themselves skilled scientific observers and collectors, and there were also many who acted as Darwin's scientific informants without ever meeting him face to face, providing him with crucial material particularly in the area of botany.

Poets Reply

Darwin's presence reached out to affect other creative women, within his lifetime and just after his death, particularly the poets of the age such as Mathilde Blind, whose *Ascent of Man* (1888) challenges the exclusionary aspects of natural selection and chooses to concentrate on the less enabled as well as on the wild drama of initial creation. May Kendall and Constance Naden both explore in light verse the implicit hierarchies lodged in evolutionary ideas and challenge its tendency to promote progress in such a way that the pride of humankind is left intact. These are writers who are, one may say, indirectly corresponding with Darwin.

In her jaunty and satiric poem 'Solomon Redivivus, 1886', Constance Naden imagines King Solomon reappearing in 1886 as 'the modern Sage'.

Naden first describes this 'two sexes united in the same individual' and then the whole sequence of evolution by which the sexes were separated. Naden, herself well educated scientifically, considers in the poem the various phases of evolutionary development. She seems indeed to have had in mind a particular summary paragraph from the *Descent*:

> The Quadrumana and all the higher mammals are probably derived from an ancient marsupial animal, and this through a long line of diversified forms, from some amphibian-like creature, and this again from some fish-like animal. In the dim obscurity of the past we can see that the early progenitor of all the Vertebrata must have been an aquatic animal, provided with branchiae, with the two sexes united in the same individual, and with the most important organs of the body (such as the brain and heart) imperfectly or not at all developed. (2nd ed., p. 609)

… 'the two sexes united in the same individual' and no developed heart or brain—Naden seizes on that description.

She writes in the voice of the returned King Solomon, again wooing and addressing the Queen of Sheba. I quote here a few stanzas from a three-page poem.

> We were a soft Amoeba
> In ages past and gone,
> Ere you were Queen of Sheba,
> And I King Solomon.
>
> Unorganed, undivided,
> We lived in happy sloth,
> And all that you did I did,
> One dinner nourished both:
>
> Till you incurred the odium
> Of fission and divorce—
> A severed pseudopodium
> You strayed your lonely course.

So through the form of fish, reptile, mammal, at last appears our predecessor, the naked ape:

> But now, disdaining trammels
> Of scale and limbless coil,
> Through every grade of mammals
> We passed with upward toil.
>
> Till, anthropoid and wary
> Appeared the parent ape,

And soon we grew less hairy,
  And soon began to drape.

So, from that soft Amoeba
  In ages past and gone,
You've grown the Queen of Sheba,
  And I King Solomon.[3]

Naden's poem is both a neat lesson in evolutionary sequence and a reminder of how the diverse forms of life cling still within the present form of the human. Her use of 'we' represents not only the loving pair of king and queen but all the beings through whom they emerged to their present state. 'We' are ascidian, fish, and reptile, as well as the self-crowned height of evolutionary history. And she picks up Darwin's long discussion of hairy or hairless men in which he, perhaps unwisely, takes for granted the beauty of the beard in the opinion of his readers. By taking on the voice of King Solomon, Naden both mocks and relishes the claims of men: it is the Queen of Sheba who precipitated divorce and development by 'fission' from him, and from that primordial state when 'Whatever you did I did, / One dinner nourished both.' Naden is intrigued by the idea of the single progenitor but also feels glee at the disruptive powers of the female who asserts her independence. She draws inspiration for her satire quite specifically from the *Descent*.

Not all these women poets knew or corresponded directly with Darwin but one who did was Emily Pfeiffer. Pfeiffer wrote about the situation of women in essays in the journals (156) and her poetry has a tonic intensity in its insights into some of the less sanguine aspects of Darwinian theory. The one surviving letter from her to him detaches the idea of beauty from that of fascination in understanding sexual selection: fascination may be malign, beauty is life-giving (157). Darwin himself grew uneasy with the personification of Nature, with its suggested undertow of maternal care, as we can see from the variorum edition of the *Origin*, where he struggles to de-personalise nature and reduce it to law-like processes.

> So again it is difficult to avoid personifying the word Nature; but I mean by Nature, only the aggregate action and product of many natural laws, and by laws the sequence of events as ascertained by us. With a little familiarity such superficial objections will be forgotten.[4]

Pfeiffer saw how ill the language of a personified Mother Nature fitted with the implications of Darwin's theory. She wrote several powerful sonnets on the implications of Darwinian evolution: this one addresses the nature of Nature:

3 Constance Naden, *Complete Poetical Works*, with an explanatory foreword by Robert Lewins (London: Bickers & Son, 1894), pp. 317–19.

4 Morse Peckham, *The Origin of Species by Charles Darwin: a variorum text* (Philadelphia: University of Pennsylvania Press, 1959), p. 165.

Dread Force, in whom of old we loved to see
A nursing mother, clothing with her life
The seeds of Love divine,—with what sore strife
We hold or yield our thoughts of Love and thee!
Thou art not 'Calm,' but restless as the ocean,
Filling with aimless toil the endless years—
Stumbling on thought, and throwing off the spheres,
Churning the Universe with mindless motion.

Dull fount of joy, unhallowed source of tears,
Cold motor of our fervid faith and song,
Dead, but engendering life, love, pangs, and fears,
Thou crownedst thy wild work with foulest wrong
When first thou lightedst on a seeming goal,
And darkly blundered on man's suffering soul. (p. 30)

This grim apostrophe to a repudiated mother who proves to be mere machine, Nature, 'churning the Universe with mindless motion', expresses also the struggle in the poet's mind to 'hold or yield our thoughts of Love and thee'. Hers is another kind of personification, not 'only the aggregate action and product of many natural laws, and by laws the sequence of events as ascertained by us'. But Darwin also found it more or less impossible in his descriptions to hold to that reductionist 'only': 'only the aggregate action'. Elsewhere in the same sequence of sonnets Pfeiffer addresses Evolution as 'Hunger': 'Sacred disquietude, divine unrest!':

Hunger that strivest in the restless arms
Of the sea-flower, that drivest rooted things
To break their moorings, that unfoldest wings
In creatures to be rapt above thy harms;

That poem ends:

Thou art the Unknown God on whom we wait:
Thy path the course of our unfolding fate. (p. 51)

The blanking out of knowledge and its substitution by *energy*, an energy that informs all and drives us to seek its meaning, is Pfeiffer's persistent dilemma—and the originality of her insight. Pfeiffer's sonnets—pithy, compressed, yet extreme—refuse to bring Nature back into meaning, even while she longs for a sestet that will restore harmony. She sets severe limits to sympathy. Sympathy does not reach the human from other forms. Instead the task of the human is to reach towards other life forms that *do not* reciprocate. Pfeiffer confronts the degree to which humans share the impersonal drives of all living organisms without being able to find any community with them.

It is perhaps no wonder that Mark Pattison was divided between dismay and admiration in his response, published in a preface to the second edition of her work:

> I think the most striking and original of your sonnets are those inspired by the evolutional idea—an idea or form of universal apprehension, which, like a boa, has infolded all mind in this generation in its inexorable coil. Try as we may, we cannot extricate our thoughts from this serpent's fold. Its pressure upon the soul forces our spirit to cry out with a Laocoon shriek; but though the inspiration of despair, it is inspiration, and poetry is its natural vent.[5]

Pfeiffer articulated troubles that few of Darwin's correspondents could directly address in their letters and her poems expand the effects of his enquiry.

Women's Capacities

Darwin's early life-experience moved from a childhood where sisters were all-important and a youth with many young women friends, to five years in his twenties spent on, and off, the *Beagle*, where his habitual cohort was entirely other men. He encountered women during his land journeys from the ship but these were, so far as we can tell, either formal social encounters with upper-class Latin-American women or cautious observation of indigenous women. His mother had died when he was eight years old and he deeply regretted that he held few memories of her. On his return to London he re-entered the large social network of his extended family and he married his first cousin, Emma Wedgwood, from a lively and enlightened family. The Darwins' own immediate family came to include three living daughters, among six sons, and their household extended to governesses and nurses and female servants. His life after marriage was settled, though he travelled for his health, and occasionally for leisure, within Britain. Because of his very uncertain health, the Darwins did not entertain at large. Close friends, particularly married couples and scientific colleagues like the Huxleys, Lyells, and Lubbocks came to see him, but much of his friendship and acquaintance took place as correspondence.

During his five years of world travel his sisters kept him in touch through their letters with British home life and with them he shared family gossip, literature, and current affairs (though letters had a drag of several months on their arrival). The thrill of constant discovery during that time provided him with a template of achievement entirely occupied by men. However, his intellectual life continued to be profound and wide-ranging throughout the years of later domesticity and his children became his assistants without discrimination of gender. What is striking in this pattern is that the most

5 Emily Pfeiffer, *Sonnets*, revised and enlarged edition (London: Field & Tuer, The Leadenhall Press, [1886?]), p. iii.

innovative and adventurous period of his active life, the years on the *Beagle* voyage, left women in the past or in a now impossible future as a clergyman with a little wife. Perhaps a nostalgia for those active male-centred years also inclined him, unawares, to take a lower estimate of women as essentially bound to domestic life.

His daughters were born too soon to enjoy a university education but Henrietta's letters show her wit and authority and she travelled widely in Europe. Annie, who died at ten years old, was felt by all the family to be an unusually gifted child, and his youngest daughter, Elizabeth or Bessie, despite her reclusive reputation, had the enterprise to request to be sent to boarding school as a young girl and attended lectures at University College, London. Emma, his wife, oversaw the large Darwin household, read and wrote letters for him, kept up contacts with other scientific families, played the piano with great proficiency, translated from several languages, read novels with him daily, and bore him many children with all the dangers by which childbirth and child-rearing were then surrounded. Without Emma's presence Darwin's professional achievements would have been hard to solidify. The problems of a scientific household without a competent wife to manage it can be seen in these pages in the sad case of J. D. Hooker, whose domestic confusion and troubles are retailed to Darwin over a number of years. Darwin was also the beneficiary of his father's shrewd investments as well as a skilled manager of financial affairs himself. Neither the women nor the men by whom he was surrounded matched Darwin's achievements: that was not to be discriminated by gender.

When Darwin in the *Descent* commented that women would never equal men until they became the breadwinners he seems not to have noticed that his wife's extraordinary time-management smoothed his uninterrupted researches and writing and thus underpinned the 'breadwinning' of the household. He repeats this view in his late correspondence with Caroline Kennard: 'women must become as regular "bread-winners" as are men' to avoid 'the laws of inheritance'. But then he demurs further: 'we may suspect that the early education of our children, not to mention the happiness of our homes, would in this case greatly suffer' (226). Thus women are corralled within an argumentative loop: they cannot catch up with men until they are active in the wider world but if they are so active, they will lose the innate moral superiority with which he at present endows them, because they will be obliged to sacrifice their families to their ambitions. Yet in his life experience he had encountered, and appreciated, both as correspondents and as personal acquaintances, many women who succeeded in balancing scientific fieldwork with more domestic commitments. What few women then held was independent wealth and access to higher education.

Another reason, perhaps, for Darwin's difficulty in recognising female capacities was the inclination of the language that he was working with. Until the 1870s Darwin did not publish extensively about human beings and their descent or liaisons. Then in quick succession he published *The Descent of Man, and Selection in Relation to Sex* (1871) and *The Expression of the Emotions in Man and Animals* (1872). That second work was originally to have formed

part of the *Descent* but it grew too large. The *Descent* itself is on an enormous scale and explores the issue of sexual selection in ways that demanded quite new thinking from Darwin, though it had been touched on in the *Origin*. The sexual behaviour of different human groups is studied in the *Descent* alongside that of other kinds, as also are the physical differences between sexes in a range of creatures. And here we begin to see the problem that Darwin has not so much introduced as illuminated by setting the human among other kinds. In his descriptions of *behaviour* it is often difficult to discriminate human interpretation from physical structures. For example, discussing the secondary sexual characters of insects, he contrasts 'the pectinated and beautifully plumose antennae of the males of many species' with the meagreness of the females: 'the male has great pillared eyes, of which the female is entirely destitute' (2nd ed., p. 274). His children told him that his descriptions sounded like advertisements and here the males benefit from the enthusiasm of his language. And where he finds not physical difference but likeness between the sexes he comments, using the observations of colleagues, on contrasted behaviour:

> In one of the sand-wasps (*Ammophila)* the jaws in the two sexes are closely alike, but are used for widely different purposes: the males, as Professor Westwood observes, 'are exceedingly ardent, seizing their partners round the neck with their sickle-shaped jaws'; whilst the females use these organs for burrowing in sand-banks and making their nests. (p. 275)

—a striking example of separate spheres among sand-wasps.

Darwin clearly felt some little scepticism himself since he added a footnote stating, 'Mr. Walsh, who called my attention to the double use of the jaws, says that he has repeatedly observed this fact.' And fact it may be, since we cannot just wish away such structural and performative differences between sexes within particular species, even as we note the gendered interpretation being offered. Darwin's fundamental insistence in all his arguments on the similitudes between the human and other kinds inclines him to accept the fixed differences, for example in sand-wasps, as a model for human capabilities, rather than as the outcome of human behaviours in current social conditions.[6]

It is thus a relief to read at the end of the current volume the spirited and cogent challenge to Darwin's views from the Bostonian Caroline Kennard:

> In reply to your argument that "women must become as regular 'bread-winners" as are men"; have they not been and are they not largely bread-winners; though unrecognized generally as such? … The family must be *right*eously maintained Let the 'environment' of

6 These two paragraphs derive from my essay 'Late Darwin and the Problem of the Human' published by invitation on-line by the National Humanities Center as part of their project 'On the Human'. For the full essay and some responses see http://nationalhumanitiescenter.org/on-the-human/2010/06/late-darwin-and-the-problem-of-the-human/.

> women be similar to that of men and with his opportunities, before she be fairly judged, intellectually his inferior, please.— (227)

Socially and intellectually, Darwin respected and delighted in the women of his acquaintance and drew on their specific skills and knowledge for his research, but he failed to observe in this one field the pressures of environment that were elsewhere fundamental to his arguments.

Preface

In *Descent of man* 2: 327, Darwin wrote:

> The chief distinction in the intellectual powers of the two sexes is shewn by man attaining to a higher eminence, in whatever he takes up, than woman can attain—whether requiring deep thought, reason, or imagination, or merely the use of the senses and hands. ... We may also infer ... that if men are capable of decided eminence over women in many subjects, the average standard of mental power in man must be above that of woman.

It was a surprising thing to write at a time when there was already much discussion of the social disadvantages faced by women; their lack of education, their exclusion from the professions and politics, their legal disabilities. Darwin's own beloved Jane Austen had pointed out, through her heroine Anne Elliot in *Persuasion*, 'Men have had every advantage of us in telling their own story. Education has been theirs in so much higher a degree; the pen has been in their hands. I will not allow books to prove any thing.' How could Darwin be unaware of the social bias that doomed most women to underachievement, and the bias of perception that caused even high achievers to be considered second rate compared with men?

Darwin knew of plenty of talented women through his correspondence and in his daily life. There were women scientists who corresponded with Darwin and sometimes even made a living of sorts in science. Darwin's letters also bring to light the participation of women in science in less public ways, as editors, observers, collectors, supporters, and popularisers. This activity is not always very evident in published works of Victorian science. This book seeks to throw light on the lives of the women around Darwin: what they were doing in science and other fields, and what kind of conversations they were having about women's rights and women's education. It is a compilation of selected letters from the *Correspondence of Charles Darwin*, the 30-volume edition of all known letters to and from Charles Darwin (the *Correspondence*), publication of which is expected to be completed in 2022, and from the collection of Darwin family letters in the Darwin Archive at Cambridge University Library (CUL), most of which are unpublished.

Women made up about five per cent of Darwin's correspondents, and letters to and from them about five per cent of Darwin's total correspondence. As is the case with his correspondence with men, not all of the letters

are about science. This book therefore aims to pull together various strands in order to highlight the contribution of women, who are often assumed, with a handful of exceptions, not to have been active in Victorian science, and examine their complex relationship to the developing institutions of science.

The Darwin Archive at CUL contains a great deal of correspondence between members of the Darwin family other than Darwin himself, and between members of the family and their own friends. In the Darwin Project, we refer to these as the family letters, to distinguish them from the letters published in the *Correspondence*. The distinction between the family letters and Darwin's letters (in the *Correspondence*) is loose. Letters written by members of the family to Darwin himself, or vice versa, are of course published in the *Correspondence*, as are letters not to Darwin that clearly contain information intended for him ('Tell Uncle Charles …'), and letters written on his behalf by other family members. Darwin probably read or had read to him most of the letters Emma received from family members as a matter of course, but only the ones he explicitly comments on in a reply are published in the main edition.

The family letters throw great light on the lives of the women in Darwin's life, and contain some surprises. Women writing to women, for instance, are often a good deal more forthright and unsentimental than women writing to men. Also, the family letters reveal interests and pursuits that are rarely mentioned in the more familiar sources. Views on education, feminism, politics, charity, religion, and marriage, for example, are discussed in the family letters far more than in Darwin's own correspondence.

The letters, both Darwin's letters and the family letters, help us to understand something not at all evident in Darwin's published work: the social substructure of science and the extent to which it was underpinned by unacknowledged female activity, and, sometimes, by unacknowledged male activity. Female obscurity was both a consequence of the social status of most of the women concerned (high rank made a great difference to women's willingness to accept publicity), and of their own choices. Women's observations are often recorded in Darwin's books as coming from 'a lady' or 'a friend', whereas men are likely to be named. This is not a sign of disdain on Darwin's part. Some letters survive in which Darwin asks his informants how they wish to be cited, and it's likely he always asked, if possible. Published authors, whether male or female, would naturally be cited by name, but private persons were allowed to choose.

Scientists depended on social gatherings to cement professional relationships, and these were often organised by women. Mary Lyell and Ellen Lubbock were prominent hosts. Emma Darwin played only a small role in this arena; her main concern was to see that Charles avoided stress as much as possible, and he found social gatherings stressful. However, she sometimes collaborated with the wives of Darwin's closest colleagues: Henrietta Huxley, Ellen Lubbock, and Frances Hooker: often, as we see in the chapter 'Scientific wives and allies', this activity had to be obscured after the event. 'My name must not appear', must have been a frequent plea of

female activists. The role of women as go-betweens was complex. When Lord Derby received a petition to preserve the land around Niagara Falls, it had passed through the hands of Sara Darwin, William Darwin, Charles Darwin, Emma Darwin, and Lady Derby. If Emma and Lady Derby could not provide a conduit to Lord Derby, William told Charles, it would be no good, and the petition had better not be sent, even though Charles had already corresponded directly with Lord Derby. On the other hand, when a woman's name appeared on the list of contributors to a financial appeal on behalf of Thomas Huxley, Darwin's friend John Tyndall was dismayed: it looked as if there had been an 'effort'.

Darwin worked and received scientific visitors at home: the work of keeping the household running smoothly was masterminded by Emma, with the help of her staff and (as they grew older) her children. It could be because she did her work so well that we hear so little of it in Darwin's letters. (A series of letters from Darwin's friend Joseph Dalton Hooker in the chapter 'Servants and governesses' shows how overwhelming a preoccupation housekeeping could become if a wife was too ill to take care of it.) Here, the family letters are crucial to understanding what was going on behind the scenes: for instance, the social alarm that ensued when it looked as if two ornithologists, one Russian, one American, were about to visit at the same time as Lady Derby. (Lady Derby was put off.)

Looking at the letters between women sheds light not only on their lives but on Darwin's own life. When she married Darwin, Emma not only took a share of his responsibilities for keeping in touch with friends and family, but became an avenue for messages from people who didn't want to bother Darwin himself. If Darwin had not married, his correspondence would probably have been larger and more varied in tone. The letters in the *Correspondence* are on the whole scientific because Emma was writing most of the chatty, newsy, keeping-in-touch letters, the ones about birth, death, marriage, travel, clothes, servants, and all the rest of it. Darwin would have read or had read to him many letters that weren't addressed to him, and no doubt knew the content of many that weren't signed by him. Long letters were often circulated around the family to save the writer the bother of writing the same things many times. (Abbreviations and symbols are also common in the family letters: probably the Victorians would have loved social media and text messaging.)

It wasn't that Darwin couldn't write a newsy letter; he kept in touch with his cousin William Darwin Fox and his old shipmate Bartholomew James Sulivan by this means, and the chapter 'Friends' shows that Darwin could and did cultivate female friendships: but he didn't do very much of this sort of letter-writing, because like most married men whose wives and children were close at hand most of the time, he didn't have to.

Regular letter-writing, for no particular purpose other than keeping in touch, was somewhat more of a female than a male art-form. Jane Austen in *Mansfield Park* is humorous on the subject of women's hoarding of titbits of news to spread over pages of a letter, while men's letters are, stereotypically, brief and to the point, if written at all (the Darwins and Wedgwoods

were steeped in Jane Austen). When Darwin was on the *Beagle*, his sisters promised to write at least one letter a month, and on the whole managed to keep it up. His brother Erasmus, however, had to have his arm twisted to extract a letter: Catherine Darwin joked that brothers never could write to each other (*Correspondence* vol. 1, letter from Catherine Darwin, 26–7 April [1832]). Charles found that the best way to get a letter from Erasmus was to give him 'commissions' (things to do) so that he would have to write about how he got on about them. Erasmus's surviving letters often contain only a sentence or two. Darwin was much more chatty, but still, he usually only wrote when he had something to say, or had been prompted by receiving a letter himself. Consequently, when we read Darwin's life through his letters, we get a rather partial view. Darwin had no notion of diarising his inner life through letters, and except when he knew his letters would be published, as with the ones he wrote on the *Beagle* voyage, he didn't diarise his external life in much detail either.

This volume is different from previous selections of letters published by the Darwin Correspondence Project as a supplement to the main edition in that it is based on a theme, women, and has thematic rather than chronological chapters. A different point of focus could have been chosen and probably will be chosen by future scholars: the correspondence could be used from the point of view of historians of class, empire, or childhood; or it could be looked at from the point of view of nationality (a Calendar of the German correspondence has already been published). Because of the thematic arrangement of the chapters, it has been necessary to excerpt letters and provide more explanatory text than appeared in previous selections. A typical letter from Emma to one of the children, for example, would normally range over a number of subjects: the weather, what has happened at Down, what news has come from relations, advice on some problem raised by the addressee, comments on current affairs, plans for the future, and so on. In addition, more biographical information about the correspondents and information from other sources, including their own publications, has been included.

The themes that formed the chapter headings for this book were principally derived from an analysis of the subjects on which women wrote in the letters in the main edition of the *Correspondence*. About half of women's correspondence turned out to be what might be called friends-and-family letters: chatty, newsy, keeping-in-touch or staying-organised letters between Darwin and female relatives and friends.

Of the remaining letters, the next biggest group was from observers in the widest possible sense, from women working at a high level in science to mothers noting at Darwin's request at what age their baby first cried real tears. The majority of observations came from botanists. Botany was the female science par excellence in Victorian times, and the chapter 'Observing plants' could easily have been made three times the size of the others, and still only included a handful of serious botanists, without even starting on the casual or unskilled observers. Other observations were on animals, both domestic ('Companion animals') and non-domestic ('Insects

and angels'). Finally, there were observations on humans: mothers who had been asked to watch for their babies' first tears; women responding to Darwin's questionnaire about expression of the emotions or to his book, *Expression of the emotions*; and letters about supernumerary digits. There were also letters from writers; letters from editors (principally Darwin's own editor-in-chief, his daughter Henrietta); a handful of letters on religion; and a small number on women's rights ('Ascent of woman').

Some chapters were more challenging, such as the one on travel. The notion of the Victorian women traveller, marching into the jungle armoured with her veil and a 'good stout skirt' is very familiar to modern readers, but very few of that sort of traveller wrote to Darwin. Henrietta, Darwin's daughter, was an indefatigable traveller in Europe, where she tramped around, usually with a relative as a companion, and wrote exhaustive and sometimes exhausting accounts to her parents at home. This sort of travel was surprisingly common for Victorian invalids and hardly merited letters to the Geographical Society, but it was travel, none the less. Henrietta's account of a train wreck in which she was involved is included in this chapter. Lady Florence Dixie was a Victorian traveller more in the classic mould, a big-game hunter in search of solitude: she wrote to Darwin about her observations of animals in South America and to send him a copy of her book, written in the interval between her expedition to Patagonia and her departure for South Africa to be a war correspondent. Marianne North, painter and traveller, visited Darwin at Down as his request: only one short letter from Darwin to her survives, through the medium of her own autobiography.

The chapter on servants emerged not from reading letters to or from Darwin but from reading the family letters, where they play a much larger role. Choosing, training, keeping, and sometimes maintaining lasting relationships with servants was a major preoccupation of housewives. One harrowing episode involving a fierce governess is mentioned only in the family letters, even though Darwin himself did have to intervene. Having to sack a servant gave even the strong-minded Henrietta the jitters: it was a relief to have a man in the house at the time, according to her, even though the man wasn't going to do the actual sacking. Once the theme had been established, on looking again at the main edition, a series of letters from J. D. Hooker to Darwin detailing the trouble in his household when his wife was ill and unable to supervise the female staff had added force. This theme is doubly important since Darwin thought that women would only equal men in intelligence when they became breadwinners. Reading Darwin's own correspondence, it's easy to forget that he was surrounded by women earning their own living, at various different levels of society. (Darwin himself lived for much of his life mostly on unearned income. Nevertheless, when his cousin Francis Galton sent him a questionnaire about his character, it was his acumen with money that he was most proud of: apart from that, he didn't claim that there was anything special about his intellect. Also he was extremely proud of the amount of money his books made.)

Many of Darwin's female correspondents were prominent feminist campaigners and radicals, and based on their biographies, it seemed inevitable that there would be a chapter on Victorian feminist thought. In fact, this chapter ('Ascent of woman') was not straightforward since hardly any of these women wrote to Darwin about their thoughts or their campaigns. Lydia Becker, author of an article 'Women in science' in the *Contemporary Review*, and a leader of the women's suffrage campaign, wrote to Darwin about botany. Eliza Meteyard, radical and feminist, wrote to Darwin about his Wedgwood relations, and asked for his support in her petition for a civil-list pension. The only surviving direct challenge Darwin received on his views about women's intelligence was from Caroline Kennard, an American. She wrote first to make sure she'd understood him correctly. When he replied, confirming that he thought women would not equal men in intelligence until they were breadwinners, and adding that their becoming breadwinners would tend to detract from the happiness of the home, she answered briskly: women already were breadwinners, albeit severely handicapped by lack of educational and professional opportunities. And was work any the less work because it was unpaid?

Despite the rarity of letters showing women's direct engagement with Darwin on this issue, the family letters, some of which are included in this chapter, reveal Darwin's relations' awareness of feminism. Henrietta was on the edge of liberal and feminist movements—she met Josephine Butler—but was not necessarily a convert. Elizabeth, Darwin's other surviving daughter, who is often underestimated, went to lectures at London University. Some of Darwin's female relations and their friends seemed bent on learning difficult subjects and taking examinations. Amy, Darwin's daughter-in-law, wanted to learn mathematics as a route to physics. Emma, under the influence of her niece Snow Wedgwood, thought it would be a good idea if women had the vote, largely because she thought this would influence MPs to take a more favourable view of legislation against cruelty to animals. Elinor Dicey and her husband, family friends of the Darwins, helped set up Newnham College, a women's college in Cambridge. Snow Wedgwood, Darwin's niece, taught in Hitchin at a precursor of Girton College, another Cambridge women's college. Erasmus Darwin was chairman of the council of Bedford College for Women in London; Emma's sister-in-law Frances Wedgwood was also on the council. Darwin was surrounded by thought, talk, and action on 'the woman question', as Victorians called it.

Darwin was not overtly opposed to women's higher education. Towards the end of his life, events seemed to catch up with him when women's influence in the anti-vivisection movement became clear. He thought women underestimated the medical benefits of vivisection, and attributed this to their lack of education in physiology. He became a supporter of physiological education for women. In 1881, women were given the right to take examinations at Cambridge University. Darwin commented in a letter to his son George: 'You will have heard of the triumph of the Ladies

at Cambridge. The majority was so enormous that many men on both sides did not think it worth voting. The minority was received with jeers. Horace [*Darwin*] was sent to the Lady's College to communicate the success & was received with enthusiasm.' (DAR 210.1: 103.)

When Darwin wrote on women's capabilities in *Descent*, he couldn't have been unaware of the problems of bias and social disadvantage. However, he kept his argument strictly biological, and he relied on two factors he himself wasn't entirely sure about: the inheritance of acquired characteristics, and inheritance limited by sex. His theory was that men had long undergone more severe testing than women as adults in competition for wives, and that the qualities they acquired as a result—energy and perseverance—were passed on to their sons but not their daughters (the principle being that qualities that manifest later in life tend to be limited to one sex: as, for instance, colourful plumage in the male peacock). This accounts for his notion that for women to equal men in intelligence, they would not just have to be educated as young adults; they would have to pass on the effects of that education to their daughters and repeat the process for many generations.

Even given Darwin's beliefs, it's not a good argument. Intelligence does not manifest only in adulthood, like the peacock's tail. Many women must have doubted, like Charlotte Papé, that the men around them were really cleverer, on average, than the women, or, like Caroline Kennard, that men were really making more of an effort. Still, Darwin's account did at least suggest that change was possible. Even though female inferiority might be written into their biology, their biology could change. Nor was Darwin particularly dogmatic about it: in his reply to Kennard, he reiterated that his beliefs were based on laws of inheritance that he only hoped he understood correctly. Savages, he thought, were more equal; maybe civilised people could be too.

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A few notes on the text: in order to keep the text as readable as possible, footnotes have been avoided; instead there are a minimal number of short clarifying notes in the letter texts themselves. These are in square brackets and italics. Omissions are marked by ellipses (...). For full texts of letters to and from Darwin, with explanatory footnotes, and for some third-party letters, see *The correspondence of Charles Darwin* or www.darwinproject.ac.uk. (Some letters may not yet be available.) References to works in the bibliography are generally in author–date form (e.g. Becker 1864), but some reference works and Darwin's own publications are referred to by short titles (e.g. *ODNB*, *Descent*, 'Climbing plants'). Again, for readability, these have been kept to a minimum: there are some publications in the bibliography that are not formally referenced in the chapters, but that may be useful for further reading. The spelling and punctuation of the original letters have not been altered. Underlined words in the original texts are reproduced

in italics, and double underlined words in bold. Printed addresses, from headed notepaper, are also in italics.

Some letters could have appeared in more than one chapter; for instance, a letter from a woman who had lived in India about the people and animals she encountered there could have appeared in three different chapters. (In fact, it's in 'Travellers'.) The decision of where to include letters is fairly arbitrary, being influenced mostly by the need to keep the chapters a reasonable length. There are cross-references to related material in another chapter that the reader might like to see. Likewise, when a woman's letters appear in more than one chapter, there are cross-references to highlight related material.

Brief biographical details, if they could be discovered, for all correspondents and some of the other persons mentioned are included in the Biographical notes. Full details of the date, provenance, and previous publication of each letter of which substantial portions are reproduced are given in the List of letters; otherwise brief details are given in the text.

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Symbols, abbreviations, and conventions

CUL	Cambridge University Library
DAR	Darwin Archive, Cambridge University Library
⟨ ⟩	Damaged text
[*text*]	Editorial note
|	New line in original text
text	In letters: underlining in original text/printed address
text	Double underlining in original text

Full details of letters featured are in the List of letters and provenances, pp. 229–40.