Only a few women wrote to Darwin about overtly feminist topics, but many of his female correspondents were involved with the suffrage movement and the promotion of women's education. Often they were also involved in the campaign against vivisection; for some, as for Frances Power Cobbe, female emancipation and protection of animals went hand in hand, both women and animals suffering under a malign social order. Such campaigners often felt that Darwinian theory was on their side. Darwin's books had stressed the continuity of humans with the rest of the animal kingdom, so that it was not feasible for Darwinians to see animals as soulless machines that only appeared to feel pain, as Cartesian philosophy suggested. Also, whatever his own political and personal preferences, his account of female subordination made it seem contingent upon historical circumstances: it could, in theory, be changed.

It's also clear from family letters that women in Darwin's family, and their friends, were very aware of contemporary debates about feminism. Some of them were involved in the setting up of Newnham and Girton Colleges at Cambridge. Henrietta found herself smoking cigarettes with the Stansfelds, well-known feminist campaigners, in France. She had discussions with her friends about what they really wanted from education: was what men had really the ideal? Women in their circle, even without raising any particular banner, were extraordinarily active: they learnt mathematics and physics; they hired tutors; they took examinations; they watched debates in the House of Commons from the ladies' gallery; they attended university lectures if they were open to women.

Darwin himself was reticent on the subject. However, the surprisingly effective combination of women and opposition to vivisection spurred him to become a pragmatic supporter of scientific education for women. Women, with the moral authority resulting from their subordination and their motherly role, were effective advocates for an anti-vivisection law, even without the vote. Darwin lamented that if only they understood the medical benefits of physiological research, they would take a more moderate position. When the tricky subject arose of whether girls should learn physiology, he said they certainly should, if they wanted to. Possibly the drip-feed of barely voiced feminism that he had been receiving from his correspondence also had an effect.

Lydia Becker corresponded with Darwin chiefly about botany (see chapter 5); her interest in women's suffrage was aroused by John Stuart

Mill's petition for female suffrage to the House of Commons in 1866. For a time, her interest in science and her interest in women's position in society marched hand in hand; later, the suffrage movement absorbed all her energies. In 1867, she founded the Manchester Ladies' Literary Society. The two other Manchester scientific societies, the Manchester Literary and Philosophical Society, and the Manchester Scientific Students' Society, did not admit women. As she said in her inaugural address (Blackburn 1902, p. 33):

They do not throw open such opportunities as they afford for acquiring knowledge, freely to all who desire it; they draw an arbitrary line among scientific students, and say to our half of the human race—you shall not enter into the advantages we have to offer—you shall not enjoy the facilities we possess of cultivating the faculties and tastes with which you may be endowed; and should any of you, in spite of this discouragement, reach such a measure of attainments as would entitle one of us to look for the honour of membership or fellowship in any learned body, we will not, by conferring such distinctions upon any of you, recognize your right to occupy your minds with such matters at all.

But it would not be entirely correct to suggest that for Becker, to study botany was an act of revolution. In her view, science provided a model of rational and calm investigation and sharing of views, and a refuge for oppressed minds. She used Darwin as her example: the botanical paper he had sent her to use for the first meeting of her society had been worked up when he was confined to a sickroom. She wrote to Darwin to ask him for his help two years after sending him her *Botany for novices*.

10 Grove st | Ardwick. Manchester Dec. 22. 1866.

My dear M. Darwin

Before proceeding to the object of my letter I must try to recall my name to your recollection. I scarcely dare flatter myself, that I can do this successfully, though the remembrance of your great kindness and courtesy to me will never fade from my mind and is a constant source of pride and pleasure.

In the summer of 1863 I ventured to send you some flowers of *Lychnis diurna* which seemed to present some curious characteristics, and though they proved on examination not to possess the interest you at first thought they might have with respect to your own investigations you were good enough to write me several notes about them. You also did me the honour to send me a copy of a paper you had read to the Linnæan Society on two forms in the genus *Linum* and I had the greatest pleasure in immediately procuring a pot of seedlings of crimson flax—and watching the appearances you had recorded

• • •

I have not been able to pursue my study of the Lychis flowers nor my endeavours to penetrate the mystery of their alteration in form, for since then we have ceased to reside in the country and now, surrounded by acres of bricks and mortar—and an atmosphere laden with coal smoke, I have no opportunity of watching living plants.

But living in a town has its advantages, among others it makes possible such societies as that indicated in the circular I have taken the liberty to enclose. A few ladies have joined together hoping for much pleasure and instruction from their little society, which is quite in its infancy and needs a helping hand. Am I altogether too presumptuous in seeking this help from you? Our petition is—would you be so very good as to send us a paper to be read at our first meeting Of course we are not so unreasonable as to desire that you should write anything specially for us, but I think it possible you may have by you a copy of some paper such as that on the *Linum* which you have communicated to the learned societies but which is unknown and inaccessible to us unless through your kindness. In your paper on the *Linum* you mention your experiments on *Primula* which greatly excite my interest and curiosity, for last spring as I was gathering primroses I was forcibly struck with the difference between the "pin eyed" flowers, and those in which the stigma was concealed beneath the anthers. I have known of this difference in the Polyanthus from childhood, but not until I read your paper was I aware of its interest or importance and now I have just enough information to excite and tantalise, but not to satisfy, a strong desire for more. If you will pardon the presumption of the request, I would beg that your goodness might prompt you to send something you may have on hand in the form of pamphet or paper which would help us to learn the meaning of these curious differences in the flowers, and as we may all hope during the coming spring for the pleasure of luxuriating on a primrose bank we should indeed be grateful for the kindness that had guided us to look more closely into the beautiful things we were enjoying.

I send this with much misgiving lest you may be displeased at the liberty I have taken if I have a hope of pardon it rests entirely on your goodness.

Believe me always | yours much obliged | Lydia E. Becker.

After the meeting Becker returned the papers Darwin had sent, 'Climbing plants' and 'Three forms of *Lythrum salicaria*'.

Manchester Ladies' Literary Society. | 10 Grove st | Ardwick Feb. 6. 1867.

My dear Sir

I return you—with more thanks than I know how to express, the two papers which you were so good as to entrust to my care. Will



Lydia Becker. From the *Graphic*, 10 January 1874, p. 44. By permission of the Syndics of Cambridge University Library.

you have the kindness to cause me to be informed of their arrival—having once lost a book-post packet I shall feel a little anxious till I hear they are again in your hands—and this induces me to give you the little extra trouble involved in registering the packet—for which I must apologise.

I have transcribed portions of them, and made large copies of the diagrams— I hope this was not wrong—without your permission, but I thought, as they were printed—I might do so without impropriety.

The arrangements in *Lythrum* are indeed most marvellous. It sets one wondering whether different sized stamens in the same flower can ever be quite without meaning, and if there is any difference in the action of the pollen of the long and short stamens in didynamous and tetradynamous flowers. In the N. O. *Geraniaceae* it seems as if there might be some transition going on—for in *Geranium* each alternate stamen is smaller, and in the allied genus *Erodium* the alternate stamens have become sterile. Can it be possible that this genus was once dimorphic, and one of the female forms having by any means become exterminated, the corresponding set of stamens have shed away? If one of the forms of Lythrum were to disappear—two sets of stamens would be made useless to the species, and it is conceivable that they might then gradually become abortive.

I obeyed your directions about the paper on Climbing Plants and the insight into their extraordinary and regular movements was a new revelation to all of us. I made large copies of the diagrams and

dived into my herbarium for specimens of each class of climbers, bringing up enough to make a goodly show. Luckily a collection of ferns from the islands of the South Pacific recently presented to me contained a specimen of one named in your paper *Lygodium scandens*. Till I read it I had never dreamed of twiners in this class, as none of our British ferns have the habit, but as the "march of intellect" seems to be the order of the day, even in the vegetable world, there is no telling what they may accomplish in time!

Our society appears likely to prosper beyond my expectations the countenance you have afforded has been of wonderful service, and I do hope that by becoming useful to its members it may prove in some degree worthy of the generous encouragement you have given us.

The ladies who had the privilege of listening to the paper desire to express their thanks to you for it, which I hope you will be pleased to accept.

Believe me to be | yours gratefully | Lydia E. Becker.

Becker reused some of her opening address to the society in her 1869 article in the Contemporary Review, 'On the study of science by women'. As part of her research, she wrote to the secretaries of scientific societies in London. She confirmed that women were not admitted as members of the Royal Society, the Royal Geographical Society, or the Linnean Society. Women could attend meetings of the Geographical Society as guests of fellows, or, if they were teachers of geography, by a special card of admission. Although women had distinguished themselves as explorers, a women had never been offered a medal or reward by the Geographical Society. The Ethnological Society (on whose behalf Ellen Lubbock had campaigned) was an exception in admitting women as visitors. Mary Somerville was an honorary member of the Royal Astronomical Society. The Royal Horticultural Society admitted women as fellows, but only so that they could visit the gardens. The Geographical Society, but no other major society, allowed a small number of women to come to their soirées as friends of the president; microscopical clubs and the Society of Arts invited women freely to soirées. Becker's apparently not unsympathetic informant added that there seemed to be no bar on women's publishing papers in the transactions of the societies, if they were really good; but as Becker pointed out, women were as a rule not likely to write really good papers if they were debarred from the regular discussions of other enthusiasts. In the next part of her paper, she discussed the Dublin College of Science, which admitted both men and women. Although women seem to have been slightly in the minority in the lectures, they regularly came first or second in the examinations. Many of Darwin's colleagues published in the Contemporary, so it's quite possible that he, or Emma, who kept an eye on his press, read this article.

Although not at the forefront of the feminist movement, Emma, Henrietta, and Elizabeth were aware of and intrigued by what was going on.

Many of their friends and acquaintances became involved with women's education. Henry Fawcett was professor of political economy at Cambridge University, and a member of parliament; he shared John Stuart Mill's enthusiasm for feminism. He married Millicent Garrett, sister of Elizabeth Garrett Anderson, the first female physician to train and practise in Britain. Their daughter, Philippa Fawcett, was famously placed 'above the senior wrangler' in the Cambridge mathematical tripos in 1890. (Women were allowed to sit examinations at Cambridge University at the time, but were not classed or awarded degrees: the senior wrangler was the man with top marks.) It's not known when he visited Down: it may have been in 1867. Emma wrote to Henrietta:

My dear Body

What a day yesterday was. I never did. The boys got thro' it wonderfully & in the afternoon Sir John [Lubbock] & Prof. Fawcett called & asked G. [George] to dinner (& you too) He is the man we saw at the Pop. [Popular concert of classical music] that day, very animated & agreeable. He said if he lived 20 or 30 years longer he fully expected that women w^d be regularly taking their degrees at Ox. & Cam. like men (not living in the Colleges of course) He spoke of the female exams as most useful, especially for governesses, & said that experience contradicted the expectations formed viz. that the girls w^d try for a smattering in many lines, for they generally kept to one & did it more thoroughly than men. ... He says he always likes to see women at his lectures & that many of them are attended by women

The civil engineer Edward Cresy had written to Emma about Elizabeth Garrett in 1865.

Metropolitan Board of Works | Spring Gardens 20 Nov 65

My dear Mrs Darwin,

Permit me to awaken your feminine sympathies in behalf of a very admirable young lady & dear friend of ours Miss Elizabeth Garrett who has, after encountering an amount of opposition which few men would have had the courage to encounter, succeeded in obtaining the diploma of the Apothecaries Company, & has started in practice—

Your brother in law M^r Erasmus Darwin is Chairman of the Council of the Bedford College for Girls & Miss Garrett is a candidate for their Professorship of physiology applications for which are to go in on Wednesday next—I have no doubt that if a properly qualified lady can be obtained that the council would be disposed to consider her as possessing many advantages for instructing girls, especially in that particular branch—I cannot of course ask you to urge the claims of one who is a stranger to you—but if you could say

to Mr Erasmus Darwin that you believe that my recommendation would not be lightly given and that I have had the opportunity of watching Miss Garretts career closely & of frequently observing & testing her scientific acquirements and know them to be of a high order—& also that her industry & zeal are beyond all praise, I think possibly that even at second hand such testimony might do her good service—She is frequently at our house & my wife & I both entertain the greatest regard for her—

I may add what I know will interest you although it cannot help her in the matter now under consideration, viz that the very special career to which she has devoted herself has nothing impaired the charm of her manner or her social converse—she is neither masculine nor pedantic & except you knew her intimately you would only recognise a well bred English Lady—I hope you will be able to give me a more favorable account of M^r Darwin than the last. pray remember us both most kindly to him—

Yours very truly | E Cresy

Henrietta wrote to her cousin Hope Wedgwood about men on 13 September 1867:

I think they are born selfisher & therefore I judge 'em by a diff. standard & thk no worse of them nor of myself—if it is original sin tisn't their fault—& I thk they have some merits we have not— I really believe without public schools universities & other inventions of the Devil they wdn't be found so v. m. worse than we are—as it is they are—but that is their misfortune not their fault— As you've been abusing y' young men I'm going to do the other thing to mine— I really do think George is no worse than he was before the university—you feel that kind of consciousness that you have with a girl & not with a boy, that there are no hidden depths of wickedness. I don't feel it with all of 'em but I do with George just precisely as m. as if he was one of us—He is m. the m. good hearted of every one of us—& I know he s many virtues I might try for a 100 years & I shd never get a truthfulness of nature wh. is not the shallowness of Frankian simplicity—but the truthfulness of clear waters with no muddy bottom to hide—and an utter absence of all malignity & asperity—wh. I take to be a manlike virtue—Well as young men are in such bad odour with you I won't go on with my Hymn of Praise

'Frankian simplicity' is annotated 'Barlastian', which probably indicates that it is a reference to Francis Wedgwood of Barlaston, Hope and Henrietta's uncle: a later history describes him as 'straightforward, brusque and unaffected' (Wedgwood and Wedgwood 1980, p. 242). Henrietta thought university was positively bad for men's characters in general:

possibly because the absence of home influences gave more opportunity for vice. With such views it was unlikely that she would have wanted a standard university education herself. Fawcett too, although he was in favour of women's education, seems to have thought at one stage that living away from home was problematic for women (later he was involved with the establishment of Newnham College, Cambridge, a women's college).

This letter from Elinor Bonham Carter in 1870 throws another light on the discussions Henrietta was having with her friends. Elinor and her future husband, Albert Venn Dicey, were also involved in the setting up of Newnham. The sense of the discussion is sometimes hard to grasp but the references to 'lodging life' suggest that living arrangements are at issue, and that Henrietta's experiences as a traveller have shed new light on the problem. Later Elinor goes on to discuss a meeting with a deeply religious woman, the Quaker Caroline Stephen, who was later Virginia Woolf's aunt; and a mathematical approach to marriage. Effie, also mentioned in the letter, was Hope Wedgwood's sister. Snow Wedgwood, another sister, had been teaching classics briefly at the women's college at Benslow House, Hitchin, that later became Girton College, Cambridge (Hirsch 1998, p. 256).

Ravensbourne March 27/70

Dearest H.

Your letter was very acceptable though as I said before I find it decidedly trying to read yr descriptions. Our winter is never, never ending & one does nothing but have colds & get to feel more & more torpid. We have had deep snow twice lately & east wind in between. But I won't be too gloomy all things come to an end & I feel as if once in my life I must go abroad for a winter, if you are going to take to it as a habit. You won't be able to keep me off joining you some time. I am so glad you are comfortable & like yr independent life. I have come to think less well of real lodging life than I did once. I'm sure many a man feels it very dreary & it is greatly that life that makes 'em so selfish. Oh why am I writing such trite things—what I mean is, I think a modified lodging life is what one wants for men & women, then yours now is as you say modified. ...

The next thing I want to talk to you abt is a nice little visit I paid last week to Caroline Stephen (Effie's friend). You know she came here last year & so I got my return invite & staid 3 days with them in London. I was immensely interested & taken with her—& she seemed to have so much to say to me, all at once without any preliminaries, wh. is so nice. I gave myself up entirely to talking with her—& did very little else but a Saturday concert, which by the bye I enjoyed mightily—in spite of a fearful struggle for places. Jo [Joseph Joachim] & [Clara] Schumann, Mendel[ssohn] quartett strings—solos Schumann & Kreuzer Sonata— How curious is the effect that a very

tall large person has at first in making one think them ever so much older wiser & better than oneself, at least so it is with me I didn't mean to say that Caroline S is not all this, but I cant help taking it for granted at first, without knowing it, & wondering what such a superior being can want with a little thing like me! This feeling wore off very soon— I suppose you know she is a regular, conservative woman & will have "none of these things" such as you & I wish to see. education is her special abhorrence, but I don't mind that the least in the world, in fact it is rather an additional interest to me to talk to a woman with quite opposite views— We talked immensely abt marriage too & there again her feelings are essentially womanly, of course we came to no more conclusions than you & I do but she hit upon rather a neat way of defining the 1st & second rate marriages, that we so often discuss, by numbers eg. If you feel you are capable of a marriage that is of affection = 50, ought you ever to accept one which on your side is only = 15. She says she thinks she would, for if the man were at 50 in his affections the strong wish on his side would be sufficient to satisfy her in fact to make it impossible for her to refuse. I daresay this view is true of a great many people & I do think the answer to the question I put above depends so very much upon whether the woman is one who has felt all her life, that marriage is the one thing she wishes for (in the best sense) if this is the case I think she had better take 15 on the whole rather than wait all her life for 50, just as in everything in this world we have to content ourselves with lowering our ideal to what we can get. Miss Thackeray [Anne Isabella Thackeray] came & spent a quiet evening, which was extremely entertaining I liked her of course very much, who does not? & she being so intimate with C.S the talk was easy directly—She said she had not enough spinster friends! who were "boon companions" & we enrolled ourselves in a society of this name. I heard great deal abt C.Ss book [The service of the poor (1871), a study of religious sisterhoods] which interested me very much, she wont get it out just yet though. Also a great deal abt her admiration & liking for Effie & more distant admiration of Hope, because she did not know her as she did Effie. I hear Snow is come back from Hitchin to finish up her book [a biography of John Wesley], she seems a good deal puzzled in her views abt College life, we must try & get her here to hear all abt it. Do you know that they are setting up at Cambridge too after all. I dont mean that Miss Davies [Emily Davies] is doing it, but the Professors have instituted regular Lectures for Women & now there is to be a lady there who will receive students. [Henry Sidgwick rented a house at 74 Regent Street, Cambridge, where women who came from a distance to attend his 'ladies' lectures' could live.] I wonder how it will answer, it would be just the thing for such as you or me who might want to study & not to be hampered or examined but whether the public in general are prepared for such a move I dont know.

• • •

Dont be very long afore you write to yr disconsolate friend & come home in reasonable time—

Yr EMBC

Elizabeth, Darwin's younger daughter, travelled up to London for lectures at the university: she wrote to Horace on 12 February 1873, 'I am going to be so spirited as to go up once a week for a lecture on French history. I come into the middle of a course so I shall only get about six' (DAR 258: 556). On 28 February, she told Horace how the lectures were going:

I was in London on Monday and Tuesday I stayed two days with Henrietta and went to my lecture which was interesting but I have such fearful difficulty always to find my way it is at the University College and it is a complicate way along passages and I have the dread of bursting into some of the men's class rooms which would be awkward. He has a very small audience to lecture to which must make it very flat for him poor man.

It was a fearful day as there had been a heavy snow I had a cab with two horses. I also went to see some pictures the Old Masters for the last time and a collection of Masons where Uncle Rase's donkey [*The unwilling playmate, a painting by George Mason*] looks better than it ever does in his drawingroom, some of his pictures are very lovely particularly The Harvest Moon which was at the Academy.

The young women in Darwin's circle seemed to have a positive preference for 'difficult' subjects. Elinor Bonham Carter was interested in art, but also took examination courses in geometry. She commented of the lecturer, 'he did put such laudatory remarks on my paper, that I shd become conceited only that I'm sure tis only that he did not think the female mind capable of taking in a Geometrical idea before he gave these Lectures, for there was nothing much in what I did' (DAR 219.8: 13). Francis Darwin's fiancée, Amy Ruck, also seemed to be meditating a course of serious study, as this letter from both of them to Horace Darwin (Jim) of 23 April 1873 shows. Rose and Lucy were Wedgwood cousins.

Pantlludw, | Machynlleth.

An early answer will oblige as we want to confabulate— I go back to Babylon the accursed soon—

Dear Jim

... I wish you would find out a little about Maths would Stuart be the man who wd teach Amy? It would be very jolly if he would. Rose appears to find it such awfully hard work. could you find out what Stuart thinks about that— Also must she wait till October to begin or can she begin any time; any information about it will be gratefully received You might find out whether they would teach

Heat & Electric to Amy after she had shewed her brains by math's & if we could get Lucy & Rose to join Amy doesn't much want mathem unless she can use them as a stepping stone to Physics, if she can't I think she would go in for learning Literature. If you can get a prospectus without bother wd you send one, Amy put away the other so safely she can't find it— If Stuart knows about how much time a day it ought to take a person would you let us know—Amy **says** she works slowly

Yrs | FD

Remember me to Stuart

Dear Horace.

... I am very sorry that I have mislaid the prospectus—if it is any trouble, never mind ab^t getting another, as it is pretty sure to turn up, if I hunt.

Thank you very much for enquiring abt things. | A R. R.

On her travels with her husband in Europe in 1873, Henrietta met Caroline and James Stansfeld, and Josephine Butler. The Stansfelds had edited their marriage ceremony to reflect their view that marriage was a union of equals. James was a leading male activist in the women's rights movement; Caroline was a member of many campaigning organisations. Together with Josephine Butler, they were campaigning against the Contagious Diseases Act, which allowed the compulsory examination of women suspected of being prostitutes (effectively, any women outdoors after dusk) in a number of ports and garrison towns. Caroline Stansfeld shared her cigarettes with Henrietta, which was very daring. (Caroline's father took a progressive view of women's rights and allowed his daughters to smoke cigars.) 'I & Mrs Stansfield smoked in the most brazen way. They would leave me ½ dozen which R. says he shall throw away to put temptation out of my way' (DAR 245: 5), Henrietta wrote on 26 August to her mother; on 29 August she continued:

I don't think I've written for 2 days which have been full of events for Villars, namely the appearance of the great Josephine Butler with a frightfully ugly son & Mr Stewart [James Stuart, another campaigner against the Contagious Diseases Act; an assistant tutor at Trinity College, Cambridge, when Francis Darwin was there] Frank's beloved Mr Stewart if you remember about him. They came up to see the Stansfields for a night Mr Stansfield is I gather a regular out & outer, & I think that your opinions about Woman are a shibboleth without wh. you can't enter the inner circle. Not but what she is not very civil to me introduced & made Josephine come & sit by me on the sofa—but then I think she thinks I'm v. young & may be converted. However whatever were their opinions they made a very pleasant party. There is somethg particularly taking in Mr Stewart,

such a fresh bright nature, not at all like an ordinary bored yng man, & very young looking. R. was v. glad to meet him as he had heard he was open to nobbling for W.M.C. [Working Men's College] & so they had a good talk. We first dined together & then went into the Stansfields salon & staid ever so late. Josephine has the remains of great beauty & I can quite understand how she captivates mens souls. There is something very commanding & fascinating in her eyes. She told me a little about that wonderful Theodosia Marshall who talked to me about squashing fools at the W.M.C.. She must be a very remarkable woman—tho' she is the dau^r of an employer, & an employer of the old school. She has got the complete confidence of the men & they tell her everything—about their trades union & everything else & talk of her as Theodawsia Marshall. I am sure Horace's Marshall can't be sound in his views about women. She talked about him with just the slightly disparaging tone that Theodosia did.

Theodosia Marshall, otherwise little known, seems to have been involved with women's higher education in Leeds. Her brother, William Cecil Marshall (Horace's Marshall of the unsound views), was an architect, and built a new billiard room onto Down House in 1877. In 1874, she sent Darwin observations on and specimens of insectivorous plants; he used some of her information in *Insectivorous plants*.

There even seems to have been a plan to get Henrietta involved in the Working Women's College founded in London in 1874, in association with her husband Richard's Working Men's College: unfortunately nothing is known of her involvement other than this brief note from Emma:

About the Women's College F. [father] thinks & so do I that if u were a strong woman it w^d be a real good thing to do; but if it ended in your being the real manager in the same way that R is for his college, it w^d be too gt a weight for your little back, & undertaking a thing & giving it up, I suppose, w^d really do more harm than good.

Although no campaigner, Emma certainly didn't view the women's suffrage movement with the abhorrence that some more conservative women did. This note to Henrietta, written on 30 May 1876, exemplifies her practical and rather tranquil attitude.

Snow has been both agreeable & entertaining. Yesterday we read aloud her pamphlet on suffrage, which a good deal converted W^m & me— Thinking as I do that the game laws & land monopoly is one of the greatest drawbacks to happiness in the country, & as women in general will have no sympathy with either, I think suffrage will be an additional handle against them—

Darwin's own views on such pragmatic support for women's suffrage would have been slightly different. Although both he and Emma were fundamentally opposed to cruelty to animals, Darwin was alarmed at the popular success of the anti-vivisection movement, led by campaigners such as Frances Power Cobbe. He was concerned that a outright ban on vivisection would halt progress in physiological research, and thought that women were ill informed about the benefits of scientific research. He wrote the following (unpublished) letter to *The Times* at the height of the debate. It was typed on an early typewriter that only used capital letters.

TO THE EDITOR OF THE TIMES SIR,

AS EVERY ONE WHO IS CAPABLE OF FORMING A SOUND JUDGMENT ON THE SUBJECT IS CONVINCED THAT THE RELIEF OF HUMAN SUFFERING IN FUTURE DEPENDS CHIEFLY ON THE PROGRESS OF PHYSIOLOGY, I HOPE THAT YOU WILL FIND SPACE IN YOUR COLUMNS FOR THE ENCLOSED ARTI-CLE BY DR. RICHARDSON, WHICH HAS JUST APPEARED IN "NATURE". THE ARTICLE SHEWS IN A PRACTICAL MANNER, AND MORE CONCLUSIVELY THAN ANYTHING THAT HAS BEEN PUBLISHED ELSEWHERE, THE NECESSITY OF EXPERIMENTS ON LIVING ANIMALS. WOMEN, WHO FROM THE TENDER-NESS OF THEIR HEARTS AND FROM THEIR PROFOUND IGNORANCE ARE THE MOST VEHEMENT OPPONENTS OF ALL SUCH EXPERIMENTS, WILL I HOPE PAUSE WHEN THEY LEARN THAT A FEW SUCH EXPERIMENTS PERFORMED UNDER THE INFLUENCE OF ANAESTHETICS, HAVE SAVED AND WILL SAVE THROUGH ALL FUTURE TIME, THOUSANDS OF WOMEN FROM A DREADFUL AND LINGERING DEATH. IT IS HUMILIATING TO REFLECT THAT THOSE TO WHOM MANKIND OWE THE DEEPEST DEBT OF GRATITUDE SHOULD NOW BE OVERWHELMED BY FALSEHOOD AND CALUMNY

I AM, SIR, | YOUR OBEDIENT SERVANT | CHARLES DARWIN DOWN, BECKENHAM
JUNE 23RD. 1876.

In 1877, a Mrs D, possibly Elinor Dicey (formerly Elinor Bonham Carter) wrote to Darwin about the advisability of women's observing vivisection; the query may have been to do with Newnham Hall (later Newnham College), Cambridge, which opened to students in 1875. Elinor and her husband were involved in the foundation of the college. Mrs D's letters are lost, but Darwin's draft reply survives.

My dear Mrs. D.

In answer to your two letters to my wife I have pleasure in giving you my opinion, which you can communicate to anyone, as you may think fit; but I must beg you to observe that I am not a physiologist & that my opinion can have no special value.—

I should regret that any girl who wished to learn physiology shd be checked, because it seems to me that this science is the best or sole



Elinor Dicey. (Chrystal Album no. 1 PH/10/3.) By permission of The Principal and Fellows, Newnham College, Cambridge.

one for giving to any person an intelligent view of living beings, & thus to check that credulity on various points which is so common with ordinary men & women.

I shd look at it as a Sin to discourage any boy from studying physiology who had the wish to do so; & I make the distinction between a boy & a girl, because as yet no woman has advanced the Science. I believe much physiology cd. be learned without seeing any experiments performed or any organ in action; but I do not believe that a person could learn several parts of the subject with (the) vividness & clearness, which is necessary for well instructing others, unless he saw some of the organs in action.— All that I have said here with respect to ordinary students applies with greatly increased force to medical students; though no doubt very many perhaps most medical men practice their profession by the mere rule of thumb. With respect to you not liking a girl to see an animal operated on, though quite insensible, I can quite understand it & shd. sympathise fully with you, if it were out of mere idle curiosity; but if a person with a wish \langle to \rangle learn physiology was thus prevented, I shd. consider it a weakness.— I may add that I have bitterly repented this very weakness in my own case, as I cd. not get over my horror at seeing men dissected when I was young.— Even to take the extreme case of an animal becoming sensible before the operation was over, it w^d take only a few seconds either to kill it or render it again insensible. Nor can I see the least reason to suppose it w^d suffer more during such few seconds than it w^d for hours during any severe illness to which men & animals are

liable. By dwelling too much on humanity, though Heaven knows this until lately has been a rare error, do you not think that there is danger of compassion becoming morbid?

Pray believe me, dear Mrs D | Yours very sincerely | Ch Darwin

Darwin's readers also occasionally asked for his views. Charlotte Papé was probably German; she was in Britain in 1875, and later wrote in German on the lack of mother's rights over their children. In Germany, as in England, women had no right to keep their children after the breaking up of a marriage. She corresponded with Helen Taylor, the stepdaughter of John Stuart Mill. In this letter to Darwin, she voiced a concern that must have occurred to many women: looking around them at their male and female friends and acquaintances, it did not seem obvious to them that the men were the cleverer. Such observations might be criticised as anecdotal, but could they not be set on firmer ground? Unfortunately Papé's paper and Darwin's reply are lost.

Lark Hill House | Edgeley | Stockport July 16th. 75

Dear Mr. Darwin,

I must ask your pardon and your indulgence for the great liberty I am going to take just now in begging of you the favour to look at the enclosed paper. The general interest which I always took in questions relating to the laws that regulate the development of life has been raised to a very strong wish to know as much about it as I can, by your own works, which I have only now been able to really read; and Mr. Francis Galton's books have shown me, in what, on the whole, simple way facts bearing on some questions of Heredity may be collected. I have been thinking that perhaps even I might be able, by accurately tabulating and comparing such cases as I know, to do something towards ascertaining the truth or error of some of Mr. Galton's conclusions, at least as far as my own conviction is concerned. The point which naturally has the greatest interest for me, about which I am most anxious to find out something certain, is, how far heredity is limited by sex in the human race, especially whether mental qualities are at all limited by it. I am well aware that your own, I think, provisional view is, that even mental qualities are thus limited; I myself know so comparatively many striking instances to the contrary, among my friends and my own family, that it seems highly improbable to me. At any rate, every woman ought to try to ascertain as much of the truth in respect to it as she can; for apart from the interest of the question in itself, it is most important for the future of women.

Now I have noted down different rubrics, as on the paper enclosed, to be filled out as accurately as possible; and the great, very great, favour I am begging of you, dear Mr. Darwin, is just to throw a look

at it and tell me, whether, if I do so, the conclusions appearing from such tables would be trustworthy as far as they go; also what number of families would be the minimum for a reliable average, and any other remark necessary, and so invaluable from you, and for me.

For, of course, like all women, I have had no scientific training, and know nothing except from random reading; neither could I attain any now. And it is just this very helplessness as to getting information, or even any word of advice and criticism that I could trust more than my own that must form my excuse for the unwarrantable liberty I am taking, and plead with your kindness for the granting of the favour I beg. I literally know of no one to ask, except the illustrious authority I am addressing; and so doing I wonder at my own boldness. If you think such tables no good, at least if not put together by more skilful hands, of course, I shall not attempt to fill them out.

I am, dear Mr. Darwin, | with true admiration and reverence | Yours | Charlotte Papé

Caroline Kennard was the wife of a businessman in Boston, Massachusetts; she was a member of the New England Woman's Club and the Women's Educational and Industrial Union and participated in meetings of the Association for the Advancement of Women. At one of these meetings, she read a paper, 'Housekeeping a profession', which argued that housekeeping should be measured in economic terms like any other profession. Her courteous yet forceful engagement with Darwin makes a fitting close to this book.

Mr. Darwin

Dear Sir.

I a paper recently read before a company of women in Boston, ground was taken of the inferiority of women; past, present and future; based upon scientific principles: as concisely reported in the newspaper extract enclosed.

In reply to opposing arguments in the discussion following the paper, the Author stated her scientific Authority to be Mr. Darwin, in his "Origin of Species".

As a believer in continued scientific discoveries and revelations answering and modifying, ultimately, all material questions; and as an admirer of your cautious and candid methods of conveying great results of learning and investigations to the world, I take the liberty to inquire whether the Author of the paper rightly inferred her arguments from your work: or if so, whether you are of the same mind now, as to possibilities for women, judging from her organization &c

If a mistake has been made the great weight of your opinion and authority should be righted: to which, I take it for granted, you would not object.

Excuse the liberty I take of addressing you and the hope of a reply in enclosed envelope.

I am yours with expressions of great esteem | Caroline A. Kennard.

Brookline | Dec. 26. 1881.

Down, | Beckenham, Kent. | (Railway Station | Orpington. S.E.R.) Jan. 9th. 1882

Dear Madam

The question to which you refer is a very difficult one. I have discussed it briefly in my "Descent of Man". I certainly think that women though generally superior to men to moral qualities are inferior intellectually; & there seems to me to be a great difficulty from the laws of inheritance, (if I understand these laws rightly) in their becoming the intellectual equals of man. On the other hand there is some reason to believe that aboriginally (& to the present day in the case of Savages) men & women were equal in this respect, & this wd greatly favour their recovering this equality. But to do this, as I believe, women must become as regular "breadwinners" as are men; & we may suspect that the early education of our children, not to mention the happiness of our homes, would in this case greatly suffer.

I have written this letter without any care of style, as it is intended only for your private use.—

Dear Madam | Yours faithfully | Ch. Darwin

Brookline Mass. U.S.A Jan. 28–1882–

Mr. Darwin Dear Sir,

I thank you for your very kind reply to my letter of inquiry as to your opinion of the comparative intellectual abilities of the sexes—

I believe you are supported in your ideas of the greater moral qualities of woman—Before quite deciding as to her condition intellectually will you excuse me if I remind you that recent results from efforts for her higher education, in your own country and in this, are very flattering and encouraging: and are opening for women avenues for individual improvement and for the general enlightenment of her sex— and therefore, of necessity (according to the laws of heredity) for the advancement of the human race intellectually. Her enlightened intellect, united with her wholesome moral nature, can then with the aid of man (for in nature the male & female must work in sympathy together, you have taught us—)—ordain, in a manner hitherto unthought of or practised upon, for the propagation of the best and the survival of the fittest in the human species.

The laws of heredity have been closely watched in the lower animals, and tendencies toward improvement encouraged and toward deterioration guarded against; while in marriages and the begetting of offspring, the perpetuation of the best physical, intellectual and moral tendencies in the human race have been mostly unheeded and neglected—

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?

Partners in business—share money profits and why should not partners in marriage—where the wife, by her labor and economy does her full part toward husbanding for the future? In the unceasing demand upon the head of a household, for executive ability, fixedness of purpose, and courage of execution, are not women possessed of the same kind of qualities which would grow with the using into as *apparent* & grand results as are accorded to men of business, government officials, & army officers and statesmen who all expect compensation for services rendered?

And why be anxious for the "education of our children" and "the happiness of our homes", if women become breadwinners? when in this country five sixths of the educators are women and acknowledged 'breadwinners', beside improving the condition of their homes and adding happiness thereto—

Which of the partners in a family is the breadwinner where the husband works a certain number of hours in the week and brings home a pittance of his earnings (the rest going for drinks & supply of pipe) to his wife; who, early & late, with no end of self sacrifice in scrimping for her loved ones, toils to make each penny tell for the best economy and besides, to these pennies she may add by labor outside or taken in?

Dr. Walker, once president of Harvard College said that, of the young men who had been by personal effort, assisted through that college, three fourths had been, by efforts of women. And we know it has been the custom for Mothers & sisters to help their sons & brothers, by every possible effort, to an education (Whoever heard of a brother assisting a sister through college while he druged & toiled?

One young woman I know who receives pay for nursing the sick and gives the half of it to a brother who is learning to engrave. Is she less a bread-winner than he—or less than the other brother who, though younger than herself, by aid of the Father & herself received an education which she longed for and that enabled him to rank with our most prominent clergymen?

The family must be *right*eously maintained Let the 'environment' of women be similar to that of men and with his opportunities, before she be fairly judged, intellectually his inferior, please.—

Excuse this great liberty and I am your obliged | Caroline A Kennard