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# Darwin's scientific women

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Activity 1b: Learning from Victorian women travellers

Subject: History

2 x 50 minutes

## Suggested preparation

Presentation:

[Darwin's scientific women](#)

## What do I need?

Letter 12781: Florence Dixie to Charles Darwin,  
29 Oct 1880

Letter 12795: Florence Dixie to Charles Darwin,  
4 Nov 1880

Letter 13269a: Charles Darwin to Marianne North,  
2 August 1881

Letters questions: Learning from Victorian Women  
travellers

Who's who?

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Darwin exchanged letters with people all over the world. It helped him to carry out research but letters also help us to learn about the extraordinary lives of his correspondents, particularly little-known women. These women explored remote countries. How common was it for Victorian women to travel and how much have attitudes changed today?

## What do I do?

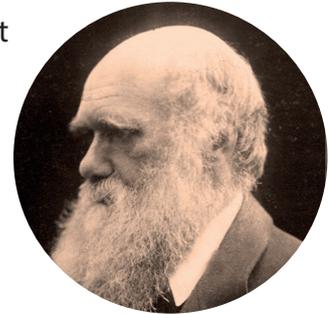
1. Read the letters and 'Who's who?'; and answer the questions after the letters.
2. Discuss what you think an ideal middle class ideal woman might have been like in Victorian times. What would she do? How would she dress? How would she be educated and in what subjects?
3. Discuss and describe how the lives of Florence Dixie and Marianne North differed from that of the ideal woman you have described. What factors helped them live differently from what was expected?
4. Imagine you are a journalist for a Victorian newspaper. Write a short article on the life of either Lady Florence Dixie or Marianne North. What sources might you use for your information? How would you illustrate your article? What might your angle or perspective be?
5. Imagine you are meeting either Marianne North or Florence Dixie today, for an interview. Write a list of questions that you would ask them.

# Letter 12781: Florence Dixie to Charles Darwin, 29 Oct 1880

Glen Stuart,  
Annan, N. B.  
October 29th. Friday.—

Dear Sir.—

Whilst reading the other day your very interesting account of "A Naturalist's Voyage round the world"—I came across a passage descriptive at Maldonado of the subterranean habits of the tucutuco in which you express the belief that this animal never comes to the surface of the ground.— I am sure it will be interesting to you to know that tho' this may be the usual habits of the tucutuco that there are exceptions. In 1879, I spent 6. months on the Pampas and in the Cordillera Mountains of Southern Patagonia and during my wanderings over the plains I have had occasion to notice in places tenanted by the tucutuco, as many as five or six of these little animals at a time outside their burrows. This was on moonlight nights, and I cld. not possibly be mistaken as they wld. frequently come within a yard of the spot on which I lying.— On two other occasions I have seen the tucutuco in broad daylight come out of its burrow and shuffle awkwardly along some 20 or 30. yards ere it took refuge in another of the hundreds of holes with which the ground appeared undermined...— I feel sure you will forgive me writing what I have done but I felt that what I personally saw wld. be interesting to prove that on some occasions the tucutuco does come to the surface of the ground.—



Trusting you will forgive the seeming presumption on my part I beg to remain very faithfully yours.

Florence Dixie.

From

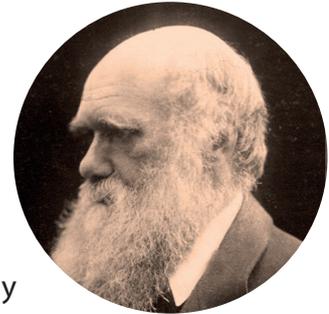
Lady Florence Dixie.



## Letter 12795: Florence Dixie to Charles Darwin, 4 Nov 1880

Nov. 4th.  
Bosworth Park.  
Hinchley.  
Leicestershire.

Dear Mr. Darwin.—



I must write a line to thank you for your kind letter in reply to mine.— The books you recommend I shall certainly procure & read with interest;— I have myself written a short description of my wanderings in Patagonia which appears this month in print and if you will do me the honour of accepting a copy I shall feel very proud to send you one....

From Patagonia I brought home some ostriches a gunaco, & from the Rivers Plate, Uruguay, & Panama, a great many animals, comprising some ostriches, a Capybara & a little jaguar. The mother attacked me & followed me up a tree, in self defence I was obliged to shoot her but saved one of the cubs from the gauchos.— Since then he has been my almost constant companion following me abt. like a dog altho' of an enormous size being now 2. years old. I only yesterday took him to the Zoological Gardens, much to my regret, but he was growing so big that it was not safe keeping him longer at large. I have mentioned this fact to prove how these animals can be tamed by kindness as completely as a dog.—

With many apologies for thus troubling you

I beg to remain

Very

faithfully yrs.

Florence Dixie



# Letter 13269a: Charles Darwin to Marianne North, 2 Aug 1881

2d August 1881.  
Down,  
Beckingham,  
Kent.

My dear Miss North,

I am much obliged for the "Australian Sheep," which is very curious. If I had seen it from a yard's distance lying on a table, I would have wagered that it was a coral of the genus *Porites*. I am so glad that I have seen your Australian pictures, and it was extremely kind of you to bring them here. To the present time I am often able to call up with considerable vividness scenes in various countries which I have seen, and it is no small pleasure; but my mind in this respect must be a mere barren waste compared with your mind.



I remain, dear Miss North, yours, truly obliged,

Charles Darwin.

*Charles Darwin*

## Letter questions:

1. Why does Florence Dixie write to Darwin in letters 12781 and 12795? What do her letters tell you about her life and her personality? How typical do you think she was as a Victorian woman?
2. Why does Darwin write to Marianne North? From North's biography what do we know about her that might make Darwin write that his own mind is 'a mere barren waste' compared to hers?

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# Darwin's scientific women

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## Who's who?

### Elizabeth Garrett Anderson

(9 June 1836 – 17 December 1917)

Physician and supporter of women's rights.

Elizabeth Garrett was born in Whitechapel, London. She was initially educated at home but at 13 was sent to boarding school. She was always interested in politics and current affairs but decided to pursue a career in medicine at a time when women were prevented from qualifying as doctors in Britain. She worked as a nurse while studying privately and was eventually allowed to attend the dissecting room and lectures at Middlesex Hospital until a petition by male students forced her to leave. She was refused entry to several medical schools but continued to study privately until taking her Society of Apothecaries exam in 1865, and was awarded a licence to practise medicine. She was the first British woman qualified to do so, but could not work at any hospital so set up her own practice, eventually providing medical care to poor women and children across London. In 1874, she co-founded the London School of Medicine for Women, the only teaching hospital to offer courses for women. A colleague of Darwin's wrote to Emma Darwin to ask her to support Garrett's becoming Professor of Physiology at Bedford College for Girls.



Image of Elizabeth Garrett Anderson ©National Portrait Gallery, London. NPG x8446. CC BY-NC-ND 3.0

# Darwin's scientific women: Who's who?

## Mary Elizabeth Barber

(5 January 1818 – 4 September 1899)

Naturalist, artist, and writer in South Africa.

Mary Barber (born Bowker) was born in Wiltshire, England, but her family emigrated to South Africa when she was 2 years old. She shared her older brother's keen interest in natural history. Barber studied birds, moths, reptiles, and plants, often creating detailed and accurate paintings. A number of species of insects and plants that she discovered were named after her. She corresponded with leading scientists and exchanged letters with Joseph Hooker at Kew Gardens for thirty years. Hooker read some of her scientific papers at the Linnaean Society and several were published at Darwin's recommendation.



Image of Mary Barber courtesy of Paul Tanner-Tremaine and Ammy Hahndiek

## Lydia Ernestine Becker

(24 February 1827 – 18 July 1890)

Suffragist, botanist, and astronomer.

Lydia Becker was born in Chadderton, Lancashire, and was educated at home. She studied botany and astronomy and was awarded a Horticultural Society gold medal in 1862. In 1864, she published *Botany for novices*, which she described to Darwin as being 'chiefly intended for young ladies'. She was founder and president of the Manchester Ladies' Literary Society and persuaded Darwin to send articles for the society to discuss. She was a leading member of the women's suffrage movement, becoming secretary to the Manchester Women's Suffrage Committee from 1867, and later to the Manchester National Society for Women's Suffrage. She was editor of and a regular contributor to the *Women's Suffrage Journal* from 1870. She moved to London and was elected president of the newly formed National Union of Women's Suffrage Societies in 1887. Becker exchanged botanical information, seeds, and plants with Darwin, as well as sharing papers and a copy of her book.



# Darwin's scientific women: Who's who?

## Antoinette Brown Blackwell

(20 May 1825 – 5 November 1921)

Ordained minister, writer, feminist, and social reformer



Antoinette Brown was born in Henrietta, New York. In early life she began to preach in her local Congregational Church and went on to teach. Throughout her life she was a renowned public speaker. Brown was the first woman to be ordained as a minister in the United States. She was a vociferous social reformer and promoter of women's rights. She later became a Unitarian and remained committed to the idea of that women's participation in religion could improve their status in society. She was also a keen philosopher and scientist. She believed Darwin to be one of the most influential thinkers of her time. After she sent Darwin a copy of her book *Studies in general science*, Darwin's reply to thank the author began 'Dear Sir', as he assumed it had been written by a man.

Image of Antoinette Brown Blackwell from archive.org. Digitised by Wellesley College Library

## Emma Darwin

(2 May 1808 – 7 October 1896)

Wife of Charles Darwin and mother of ten children; assisted her husband.



Emma Darwin (born Wedgwood) was born at the family estate of Maer Hall, Maer, Staffordshire. She was the youngest of seven children and was Charles Darwin's first cousin. Her family belonged to Unitarian church and Emma's faith remained important to her. It was something that she explored and discussed with Darwin at length before they married, and it continued to be actively analysed and debated between them. Emma Wedgwood married Charles Darwin on 29 January 1839 and they were the parents of ten children, three of whom died at early ages. Emma assisted Darwin, writing on his behalf during his many bouts of illness, monitoring his press, translating, and editing.

## Darwin's scientific women: Who's who?

She also received letters detailing observations (particularly from female correspondents) of the behaviour and emotions of children. She and Darwin kept notebooks on their own children as the children grew up. Such observations informed Darwin's later works on human emotion and behaviour. Emma also wrote on the issue of animal cruelty.

### Henrietta Darwin

(25 September 1843 - 17 December 1929)

Assistant to her father and editor of his published work



Henrietta was the third daughter of Charles and Emma Darwin, born at Down House, the family home in Kent. Henrietta and her brothers and sisters worked closely with their father, making observations and carrying out experiments, even as children. As she grew up, Henrietta also liaised with many of Darwin's correspondents requesting specific observations and collating their responses. Most significantly, Darwin entrusted Henrietta to edit a large proportion of his published work, including his book *The descent of man* regarding which Darwin referred to Henrietta as his 'very dear coadjutor and fellow-labourer'. (Charles Darwin to Henrietta Darwin, 20 Mar 1871). In replying to Henrietta's suggested revisions he wrote:

*'All your remarks, criticisms doubts and corrections are excellent, excellent, excellent'* (Charles Darwin to Henrietta Darwin, 26 July 1867).

In August 1871 she married Richard Buckley Litchfield. Henrietta edited two volumes of family letters after the death of her parents; *Emma Darwin: a century of letters* (1904 and 1915).

# Darwin's scientific women: Who's who?

## Lady Florence Dixie

(24 May 1855 – 7 November 1905)

Traveller, war correspondent, writer, and feminist



Florence Dixie (born Douglas) was born in Dumfries, Scotland. She was educated at home and in a convent. In 1879, she travelled to Patagonia with her husband and enjoyed big-game hunting (although she later turned against blood sports). She brought home a jaguar and kept it as a pet, describing to Darwin how she had to give it to the zoo as it had grown too big to keep safely. In 1881, Dixie was appointed as a war correspondent of the London *Morning Post* to cover the First Boer War. Dixie was politically active; she was strongly in favour of Irish home rule and women's suffrage. In the preface to her utopian feminist novel, *Gloriana* (1890), she wrote:

'Nature has unmistakably given to woman a greater brain power. This is at once perceivable in childhood ... Yet man deliberately sets himself to stunt that early evidence of mental capacity, by laying down the law that woman's education shall be on a lower level than that of man's ... I maintain to honourable gentlemen that this procedure is arbitrary and cruel, and false to Nature.'

Dixie wrote to Darwin of her observations on Patagonian animal life.

Image of Florence Dixie ©National Portrait Gallery, London. NPG. D16189. CC BY-NC-ND 3.0

## Marianne North

(24 October 1830 - 30 August 1890)

Botanical artist and traveller



Marianne North was born in Hastings, where her father became a Liberal MP. Her family supported Marianne's attempts at singing and painting as suitable activities for a Victorian lady.

After her parents died, Marianne sold the family home and began travelling with the aim of painting the flora of different countries. Between 1871 and 1885, Marianne North visited America, Canada, Jamaica, Brazil, Tenerife, Japan, Singapore, Sarawak, Java, Sri Lanka, India, Australia, New Zealand, South Africa, the Seychelles, and Chile. During this time she travelled alone through the interior of Brazil for a year and through India for eighteen months, often exploring areas unknown to Europeans. Darwin recommended to North that she visit Australia. On her return she visited Down House in 1881, to show the Darwins her paintings of Australian flora. Back in England, she approached Kew Gardens to show her work and paid for a gallery to be built to house the collection. It is part of the attractions at Kew today.

Image of Marianne North ©National Portrait Gallery, London. NPG x128767. CC BY-NC-ND 3.0

## Clémence Royer

(21 April 1820 – 6 February 1902)

Scholar who wrote on economics, philosophy, science, and feminism and translated *On the origin of species* into French.

Royer was born in Nantes, Brittany, and was mainly educated at home. She taught herself French, arithmetic, and music to qualify as a teacher in a secondary school, living in Paris and then England. Royer moved to Lausanne, Switzerland, and in 1859 gave a series of lectures aimed at women; she was a great advocate of women's rights. She was a strong supporter of Darwin's ideas and is most known for her French translation of *On the origin of species* in 1862. Her preface was a strongly expressed sixty-page essay against organised religion and she added her own footnotes to Darwin's text. Darwin wrote to his friend and colleague Asa Gray:

'I received 2 or 3 days ago a French translation of the Origin by a Madelle. Royer, who must be one of the cleverest & oddest women in Europe: is ardent deist & hates Christianity, & declares that natural selection & the struggle for life will explain all morality, nature of man, politicks &c &c!!!'



Image of Clémence Royer from the Biodiversity Heritage Library. Digitised by University of Toronto | [www.biodiversitylibrary.org](http://www.biodiversitylibrary.org)

# Darwin's scientific women: Who's who?

## Mary Lua Adelia Treat

(7 September 1830 – 11 April 1923)

Naturalist, botanist, and writer



Mary Treat (born Davis) was born in Trumansburg, New York, but after her marriage moved to Vinelands, New Jersey. Her studies of the natural world brought her respect and a good reputation as an observer during her lifetime. As well as travelling to collect specimens, she worked part of the year at home, like Darwin, creating what she referred to as her 'Insect Menagerie', an enclosed space from which she observed the minutiae of the natural world around her. After Treat separated from her husband, Dr Joseph Burrell Treat, in 1874, she supported herself by writing popular science articles for widely read magazines and published five books.

Treat carried out experiments and collected plants and insects for leading naturalists including Asa Gray and Charles Darwin. Darwin commented: 'Your observations and experiments on the sexes of butterflies are by far the best, as far as is known to me, which have ever been made.' Darwin encouraged Treat to publish her results in an academic journal, but she remarked: 'You may wonder at my selecting a literary magazine rather than a scientific one, but I am wholly dependent on my own exertions and must go where they pay best,' Darwin acknowledged Treat's work in his book *Insectivorous plants* (1875.)

Image of Mary Treat © Vineland Historical and Antiquarian Society