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Charles Darwin Voyaging

Janet Browne

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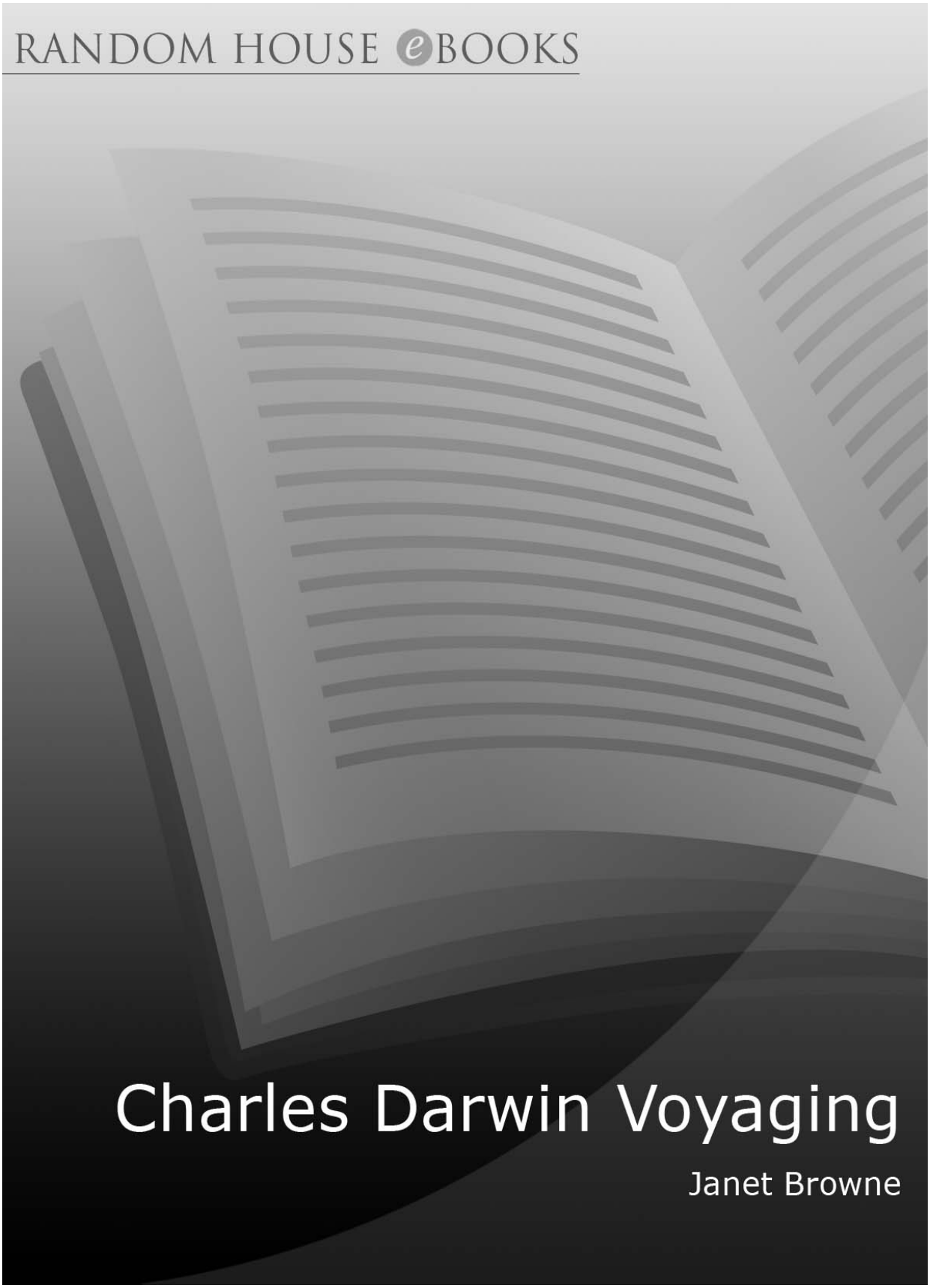

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About the Author

Janet Browne is a zoologist and historian of science. She is at present Professor in the History of Biology at the Wellcome Trust Centre for the History of Medicine at University College, London. Her most recent book is *Charles Darwin: The Power of Place* also published in Pimlico.

“Never mind about his genius, Mr. Pesca. We don’t want genius in this country, unless it is accompanied by respectability.”

—Wilkie Collins, *The Woman in White*

Acknowledgements

There was a time when I thought this book should perhaps be called *Darwin: Another Biography*. Several important new studies have been published since I began working in 1989, and I would like to acknowledge their stimulus, both intellectually and as a spur to getting on with mine: we all seem to have perceived a need at approximately the same time. My greatest debt, however, is to Charles Elliott of Knopf for commissioning the work in the first place. His long-continued help and careful counsel have made all the difference. I would also like to thank Michael Neve for help offered over as many years: his advice has been warmly appreciated.

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A special acknowledgement is due to Frederick Burkhardt and the late Sydney Smith, friends and colleagues for many years on *The Correspondence of Charles Darwin*. A great deal of what I write ultimately derives from the time I spent working on this correspondence project: one volume a year for eight years took me right into the heart of the Darwin family and nineteenth-century science. Without their enthusiasm for Darwin the complete edition of his letters would never have begun and we all would be much the poorer. I thank them and Stephen Pocock, Marsha Richmond, Peter Saunders, and Anne Secord, former members of the Darwin correspondence project; and Anne Burkhardt, Joy Harvey, Heidi Bradshaw, Sarah Benton, Hedy Franks, Perry O’Donovan, and Jon Topham, the present members, for their long-continued help and support. Alan

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Introduction

Some people called him an evil genius. Others just said he was a genius. Still, they unanimously saluted his brainpower. No other thinker shook Victorian England as deeply as Charles Darwin with his theory of evolution by natural selection. But Darwin was the most unspectacular person of all time, a man known to his contemporaries as a quiet, methodical worker, devoted to his family, hard to prise out of his house in the country, averse to ostentation, utterly conventional in his behaviour, modest and unassuming about his results. His personality did not seem to match the incisive brilliance other people saw in his writings.

Even Darwin sometimes wondered how he had done it. How had he, apparently one of the most ordinary of men, produced one of the most radical books of the nineteenth century and turned the society of his day upside down? The personal qualities he spelled out in his autobiography seemed to him insufficient for the changes his theories had introduced. “I have no great quickness of apprehension or wit,” he confessed at the end of his life. “My power to follow a long abstract train of thought is very limited . . . my memory is extensive but hazy.” He was too gullible to be a real scientist, he thought ruefully. No one else spent his old age investigating whether plants could hear a bassoon.

Looking back, he was equally surprised by the amount of work he had carried out over the years, bemused by the prominence his *Origin of Species* had brought. Other men, including Alfred Russel Wallace, Herbert Spencer, Robert Chambers, Jean Baptiste Lamarck, and his own grandfather

Erasmus Darwin, had all proposed theories of evolution. A handful more claimed to have thought of natural selection before him. So why did Cardinal Manning denounce him alone for relieving God of the “labour of creation,” or his friend William Whewell deny his book a place on the shelves of Trinity College library? Why did Carlyle quip that his ideas were rather a humiliating discovery and the less said about them the better? Darwin could understand Cambridge students dangling a monkey from the roof of the Senate House when he went to receive an honorary degree: it was the same response to his work that led Edward Bulwer Lytton, in *What Will He Do With It?*, to lampoon him as Professor Long, the author of two huge volumes on limpets; and Charles Kingsley to put the moral question of animal ancestry at the satirical heart of the *Water Babies* (“If you have a hippopotamus major in your brain, you are no ape”). He was amused enough by the caricatures appearing in *Punch* and elsewhere to collect some of them at home.

He was far more perplexed about the adulation and abuse raining down in equal portions. Vicars thundered against him from pulpits all over Britain, while American theologians wrestled with the contradictions between his words and the Bible. Elizabeth Gaskell made him the romantic hero of *Wives and Daughters* at the same time as Madame Blavatsky contemptuously put a copy of the *Origin* under the arm of a stuffed baboon to signify the anti-Darwinian route theosophy would take, and the *Daily Telegraph* urged the electors of Southwark not to return Henry Fawcett to Parliament because he had reviewed the *Origin* favourably. Darwin’s book certainly made him a scientific star. Yet he felt uncomfortable about this celebrity, about the endless unsolicited letters from stonemasons and schoolboys, from Gladstone, Marx, and “A Gorilla”; and was baffled by people’s wanting to name their sons after him. Tourists–some of them just as famous as he was–called at his house hoping to catch a glimpse of him. Later on, Leslie Stephen

dubbed him “a noble old hero of science.” And in the end, an unknown admirer (appropriately called Mr. Rich) left him a handsome fortune in his will as a mark of his esteem.

All this for a man who did not use the word “evolution” in the modern sense until the last edition of the *Origin* published in his lifetime. Not even the phrase “survival of the fittest” was coined by him. “With such moderate abilities as I possess, it is truly surprising that thus I should have influenced to a considerable extent the beliefs of scientific men on some important points.” How had it become Darwin’s century?

The question still remains a puzzle today. Although more has been said or written about Charles Darwin than about any other scientist, and great libraries of his books and papers have been established in England and America, his house turned into a museum, and collections of his manuscripts brought together at considerable cost, the individual behind the fuss remains elusive. Clearly he was not nearly as dull as he maintained, nor was he quite the burnished icon that Victorians and subsequent writers created. His autobiography and the path of history itself have thrown up a smoke screen almost as effective as if no records had been left behind at all.[1]

One answer surely lies in the intricate relations between a man, his ideas, and the public. Darwinism was made by Darwin *and* Victorian society. Yet for all the continuing interest in Darwin’s work and personality, remarkably little attention has been paid to the way he lived out his life on this interface: to his life as a gentleman-naturalist in an age when science first became prominent in British society, as a friend of eminent men, a traveller, husband, and father, a best-selling author, a dedicated experimenter, and a shawl-clad Victorian invalid. Many modern books, in fact, portray him as a relatively uncomplicated person, taking him as he liked to see himself. Others tend to search out a sense of purpose, an intellectual consistency, that did not always

exist; or detect an inner torment that similarly seems exaggerated. Few attempt to paint a picture his wife or friends might recognise.

And all of them cover the last twenty years of his existence in a few short chapters, as if, after the account of the writing of the *Origin*, there were nothing more to say.[2] But like most people, Darwin was more complicated than he thought and changed in several significant ways as he grew older. What kind of man could write the *Origin of Species* and the *Descent of Man*, then start watching worms?

Darwin's own opinion of himself was characteristically mild. "I was born a naturalist," he stated in his reminiscences, as if that explained everything. "My love of natural science has been steady and ardent."[3]

In some sense there was little else he could have said. Darwin's love affair with nature dominated his life, as he freely acknowledged, always drawing him on to look further and more intently than other men at the world around him. He was "all eyes," as his medical friend Edward Lane once said, so alert to the intricacies of living beings and their relationships with their surroundings that explaining nature's ways became the self-imposed task of a lifetime–his despair and delight. The effort to understand nature was the thread that held his existence together.

Yet none of the influential thinkers, scientists, and philosophers of any historical period were "born" in this simple sense. Because Darwin believed in the Victorian ethos of character–in the inbuilt advantages of mind–and unconsciously endorsed the cult of great men and public heroes that was so much a part of nineteenth-century life, he did not–could not–see that figures like himself were the product of a complex interweaving of personality and opportunity with the movements of the times. Scientific ideas and scientific fame did not come automatically to people who worked hard and collected insects, as Darwin seems to have half hoped they would. A love of natural

history could not, on its own, take a governess or a mill-worker to the top of the nineteenth-century intellectual tree. Nor can it, on its own, explain Darwin.

Darwin's self-assessment, too, was unavoidably subject to the literary and scientific conventions of the time. His autobiographical recollections, written for his family in 1876, six years before he died, tell us hardly anything about the issues that tantalise modern readers. He shrank from analysing motives and found it hard to give "the true key to my whole life," as John Henry Newman did. "I have never tried looking into my own mind," he told his cousin Francis Galton bleakly in answer to a questionnaire sent to him at roughly the same time.[4] He did not write his autobiography to settle old scores or to find personal insight for the future; nor did he try to justify the natural-history passions that ruled his mental world, not even to his wife, Emma, who spent most of her own life excluded from those innermost thoughts. For all Darwin's well-known and likable transparency, his heart remained resolutely private. His autobiography was just as much an exercise in camouflage – a disguise – as it was a methodical laying out of the bare bones of his existence.

Inevitably, the things he left unsaid in this autobiography are the most revealing. Behind Darwin lay the vast unacknowledged support system of the Victorian gentry, and beyond that the farflung network of imperial, colonial Britain. He was born a wealthy child in a socially secure, well-connected family. His father was a rich physician and his mother a daughter of Josiah Wedgwood, the potter; his grandfathers on both sides were noted for their contributions to science, philosophy, and technology. He possessed many advantages in life, including an education at the best institutions Britain had to offer. The friends he made at Cambridge University proved influential figures over the years, especially in the way they generated an invitation for him to join the *Beagle*'s expedition round the

world and then eased his entrance into London's scientific circles after his return. Soon after that return, Darwin married one of his Wedgwood cousins, who provided all the secure comforts of a sedately upper-class, countrified existence. Darwin was not always easy to live with from a wife's point of view, and Emma Wedgwood, like the respectable Victorian woman she was, sacrificed many of her personal expectations so that he could devote his thoughts to science.

It is also clear that an extraordinary number of people were drawn one way or another into Darwin's scientific projects. His *Beagle* contemporaries, his wife, friends, and neighbours, a wide variety of colonial correspondents, pigeon fanciers, cousins, aunts, and nephews, local gardeners, country squires, the family butler, Darwin's children, other people's children, the village vicar, university professors, botanical and physiological experts, medical men, and unsuspecting household pets–all these were vital accessories in furthering the progress of his evolutionary researches. Darwin's work was entirely a social process in this sense, and the "facts" he collected represented a collaborative endeavour fully documented in his extensive correspondence.[5] Darwin did not simply sit in the middle of Victorian society soaking up the overriding themes of the age. On the contrary, Victorian society made him. He built his theories out of information physically extracted from others. He knew how to charm, how to make people help him. And the collaboration was mostly hierarchical, with Darwin acting as a greedy spider, throwing out a thread here, pulling in a fly there. He was a "miser with facts," he gloated in middle age, accumulating them like treasure trove. By no means can the *Origin* be seen as an individual triumph.

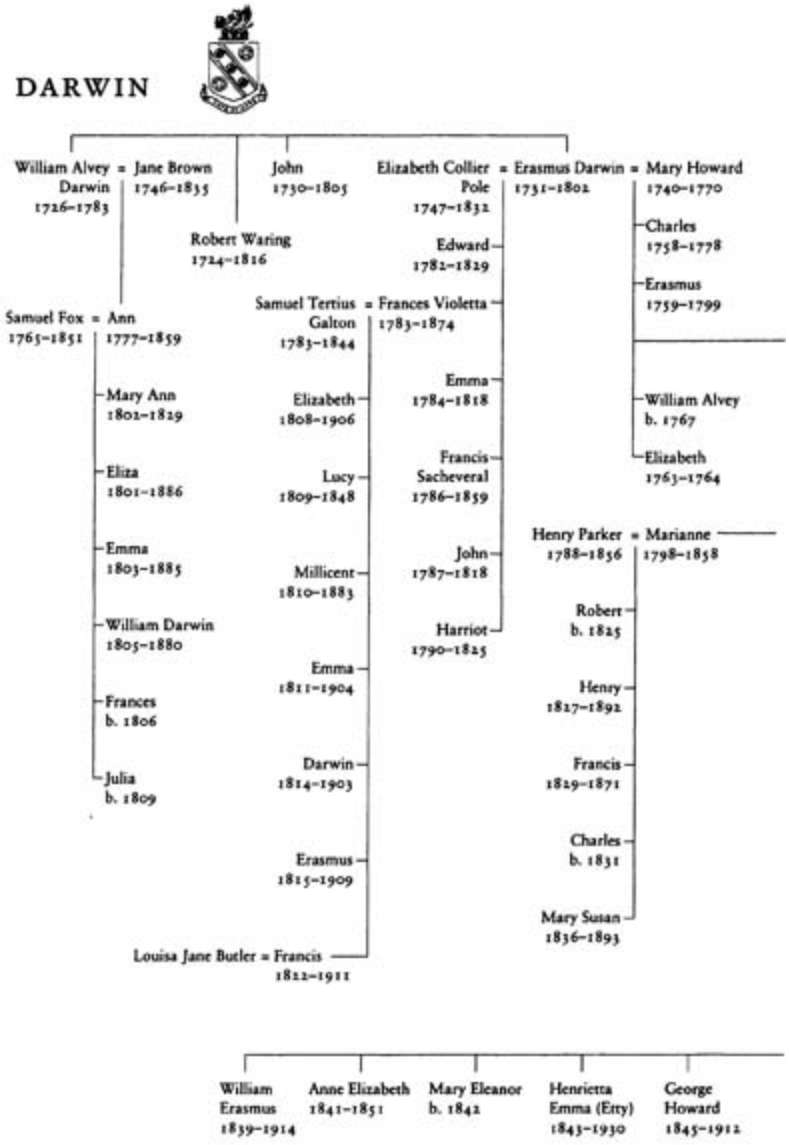
Furthermore, when the *Origin* was published, it was not Darwin but his scientific friends who took the brunt of defending the idea of evolution in public. Without Thomas

Henry Huxley acting as a pugnacious bulldog to his stay-at-home Labrador, Darwin would have been lost in the ensuing conflict; and prominent figures like Joseph Hooker, Alfred Russel Wallace, Charles Lyell, and the Harvard botanist Asa Gray, who each had serious misgivings about some part of Darwin's theory or other, willingly picked up their cudgels on his behalf. Even Darwin's notorious illnesses were excused and glamorised by his contemporaries as the penalty of intellect: characteristic, it was believed, of the deeply thoughtful group of eminent men to which he belonged. As Darwin sheepishly admitted, continuous ill health "saved me from the distractions of society and amusement."

Darwin's real life, in short, belies the common view of him as an isolated recluse. There was a sliver of ice inside enabling him to make the most of all the advantages he possessed and the circumstances in which he found himself. Though he was often alone with his theories, morbidly turning over the ideas of death and struggle on which the concept of natural selection was based, frequently unable to cope with the pressures of publication and fearful of the controversies that were bound to follow, deliberately avoiding the demands of social engagements, almost bored with fame towards the end, and only too keen to close the study door safely behind him or to retreat to his greenhouse, he was also, in another sense, propped up by British society. His story is the story of the era–of the different ways in which a man could emerge as a profound thinker in Victorian Britain, of the way that someone could take up and turn around the assumptions of the age and become a hero for doing so. It is the story of the transformation, in a particular time and place, of an amiable but rather aimless young man into a scientific giant whose intellectual heights have scarcely ever been rivalled.

He was no more "born a naturalist" than he was a sailor or politician.

DARWIN


William Alvey Darwin 1726–1783
Jane Brown 1746–1835
John 1730–1805
Robert Waring 1724–1816
Elizabeth Collier Pole 1747–1832
Erasmus Darwin 1731–1802
Mary Howard 1740–1770
Charles 1758–1778
Erasmus 1759–1799
William Alvey b. 1767
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Edward 1782–1829
Samuel Tertius Galton 1783–1844
Frances Violetta 1783–1874
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Francis Sacheverel 1786–1859
John 1787–1818
Harriot 1790–1825
Samuel Fox 1765–1851
Ann 1777–1859
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Eliza 1801–1886
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William Darwin 1805–1880
Frances b. 1806
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Elizabeth 1808–1906
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Millicent 1810–1883
Emma 1811–1904
Darwin 1814–1903
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Louisa Jane Butler
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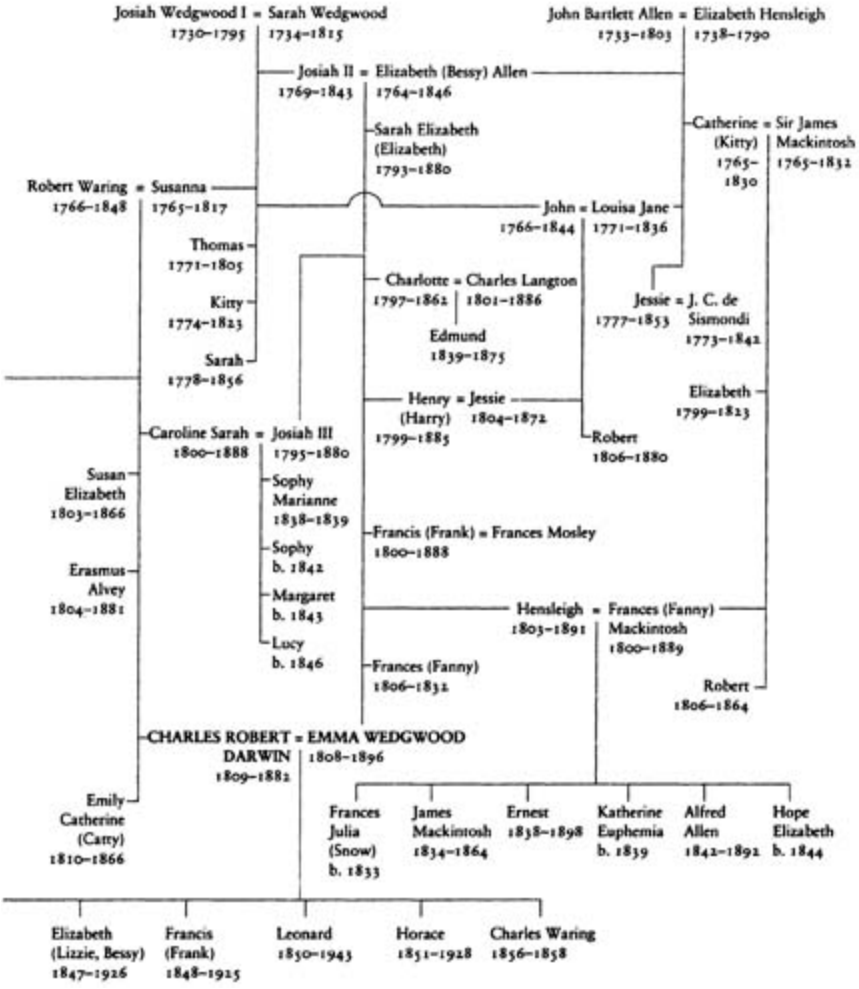
Henrietta Emma (Etty) 1843–1930
George Howard 1845–1912

WEDGWOOD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Sarah Wedgwood 1734–1815
John Bartlett Allen 1733–1803
Elizabeth Hensleigh 1738–1790
Josiah II 1769–1843
Elizabeth (Bessy) Allen 1764–1846
Sarah Elizabeth (Elizabeth) 1793–1880
Catherine (Kitty) 1765–1830
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Robert Waring 1766–1848
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Jessie 1804–1872
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Caroline Sarah 1800–1888
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Susan Elizabeth 1803–1866
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Margaret b. 1843
Lucy b. 1846
Francis (Frank) 1800–1888
Frances Mosley
Erasmus Alvey 1804–1881
Hensleigh 1803–1891
Frances (Fanny) Mackintosh 1800–1889
Frances (Fanny) 1806–1832
Robert 1806–1864
CHARLES ROBERT DARWIN 1809–1882
EMMA WEDGWOOD 1808–1896
Emily Catherine (Catty) 1810–1866
Frances Julia (Snow) b. 1833
James Mackintosh 1834–1864
Ernest 1838–1898
Katherine Euphemia b. 1839
Alfred Allen 1842–1891
Hope Elizabeth b. 1844
Elizabeth (Lizzie, Bessy) 1847–1926
Francis (Frank) 1848–1925
Leonard 1850–1943
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CHARLES DARWIN

VOYAGING

Volume I of a Biography

Janet Browne

PIMLICO

part
one

COLLECTOR

chapter
1

BOBBY

HE was born into Jane Austen's England. Indeed, the Darwins could have stepped straight out of the pages of *Emma*, the four girls sharply intelligent about the foibles of others, their father as perceptive as Mr. Knightley. The boys had several equally distinctive qualities. Charles Darwin and his older brother, Erasmus, were obliging and sympathetic young men full of the gentle humour, domestic attachments, and modest tastes that made Austen's characters stand out in the drawing rooms of local notables, with a good range of idiosyncratic failings to match. These natural attributes were enhanced by a substantial family fortune. Like sensible Mr. Weston with his warm heart and easy financial circumstances, the two were general favourites: "always acceptable," as Emma Woodhouse said of Weston. Behind the scenes presided Mrs. Darwin, a clever, well-educated woman, at one time a friend of the novelist Maria Edgeworth, who now led a retired life, the female counterpart to Mr. Woodhouse, "never quite well & never very ill," according to her sister Kitty.

The Darwins, like Austen's fictional families, lived in a sleepy market town in the countryside, in their case in Shrewsbury, the county capital of Shropshire, standing on the River Severn halfway between the manufacturing Midlands and Wales. Further downstream in the Severn

Gorge smouldered William Hazledine's ironworks, the driving force of the Industrial Revolution. North-east sat the smoking chimneys of the Potteries. But Shrewsbury itself was untouched by any signs of industrial change. The big black-and-white houses of Tudor wool merchants lined the narrow streets leading up to an old marketplace, eventually giving way to a castle and well-established "public" school for boys, while all around the bottom of the hill curved the river and its meadows, enclosing the town, as Daniel Defoe said, in the form of a horseshoe. It was a fine place to live, thought Defoe: a "large, pleasant, populous, and rich town; full of gentry and yet full of trade too."

This quiet provincial capital enclosed the Darwin family and others like them in a genteel, self-contained world defined in social terms by the landed gentlemen of neighbouring estates and wealthy manufacturers. Books and letters, newspapers, country walks, sewing, riding, painting, proper English talk about the weather, and debates about current affairs with like-minded friends were punctuated by regular visits to cousins and music festivals in nearby towns. "We are going on much in our usual hum drum style," wrote one of these friends: "a little hunting, a little shooting & now and then a little argument about the Reform Bill." Science–or natural philosophy, as it was then called–was very much a part of this culture. The Darwins kept abreast of all the latest improvements in factory technology and–the women included–were familiar with many of the leading scientific concepts of the age from their varied reading. Fireside discussions were as likely to range over recent changes in interpreting chemical phenomena, pottery glazes, or the classification of plants as they were to dissect *Rob Roy* or consider a collection of scenic prints. When talk on these subjects was exhausted, one or another of the sisters would read novels or improving literature aloud.

Their entertainments were just as sedate. “Balls, suppers, oyster-feasts, meets of hounds, an occasional visit from a party of strolling players,” made up the winter’s festivities, complained Eliza Meteyard, who spent her early years in Shrewsbury before escaping to London. The Darwins avidly followed the course of local elections, charitable movements, and parliamentary reform, attended dances, and speculated endlessly about marriages forged between branches of the Shropshire gentry. They went to dine at the great houses of the county during the season and gave their own parties in return. Still, “it is not the custom in this town,” wrote Mrs. Darwin in surprise to her brother in Staffordshire, “to give dinners in summer.” As consolation, they saw plays on tour from London, rode out to picturesque Welsh castles, and, on one memorable occasion, watched the militia performing exercises on the field opposite their house during the victory celebrations for Waterloo. The Darwin children were far too level-headed to think of running away to join them.

So, although Charles Darwin eventually became an archetypal Victorian, giving his name to a revolution in nineteenth-century thought and emerging as a figure as fully representative of the new age as Gladstone, Tennyson, or Dickens, his roots were embedded in a notably different context. The distinctive aura of late Georgian times left an indelible mark. Darwin’s first and most formative experiences of life were politely Regency in spirit, seasoned with the vigorous intellectual activity of the early years of the Industrial Revolution.

These experiences, as for Austen and others of similarly high social standing, were of course far more rumbustious than the miniaturised lives of three or four families in a country village. The Darwins may have been sedate, but they lived through a period of extraordinary vitality and change in Britain–in politics, in social relations, in art and literature, in science, agriculture, trade, and manufacture.

From the time of the American Revolution to the trial of Queen Caroline and the dramatic Cato Street conspiracy in 1820, there were hardly any other years in British history so full of contrasts, political uncertainties, and booming commercial expansion. Revolution and terror in Paris, the long-drawn-out wars with Napoleonic France, ardent radicalism at home, grain riots, crippling taxes, “gagging bills” in Parliament, and unparalleled antagonisms within English society suddenly made the prospect of civil strife–even bloody revolt–possible. It seemed as if the country was as close to internal rebellion as when Oliver Cromwell challenged the crown.

At the same time, new technology was transforming the national economy and landscape: factories and mills sprouted deep in the backbones of England and Scotland; iron, coal, textile, and pottery works inched through the Midlands; canals and bridges sliced the land; close-packed houses in terraced streets began altering the faces of towns like Birmingham, Derby, and Newcastle. Not yet fully encompassing either Blake’s satanic visions or the belch of Coketown, and markedly regional in nature, these early industrial concerns stood witness to a new kind of machine- and goods-based future.

With them came extraordinary riches for the privileged few. Nothing the frame-breakers could do would alter the rapid acceleration towards modern capitalism and consumer culture characterising high society in late Georgian times. Despite the fact that Napoleon was actively gathering up Europe, the success of Trafalgar still rang in complacent British ears. Despite also the fact that the rolling northern landscape revealed the dramatic effects of enclosure and the beginnings of industrial expansion, the social repercussions of these fundamental changes barely impinged on the world the affluent landed classes knew. Regency London was the brightest, most opulent city in Europe: Edmund Kean was acting at Drury Lane; Lord Byron

reading *Childe Harold* to swooning society ladies; Keats walking from Hampstead across the fields to Lisson Grove to visit the painter Benjamin Haydon; great commercial magnates like Josiah Wedgwood, Richard Arkwright, and Jedediah Strutt enjoying prodigious incomes from the sale of their fancy goods and turning themselves into landed gentlemen; the Prince Regent himself endlessly busy devising grandiose rebuilding schemes or seeking emotional release from the sobriety of his father's court.

Britain was becoming the first industrial nation: a nation of shopkeepers, according to Napoleon; of manufacturers and customers; of culture, taste, and elegance at one level; of fistfights and seditious literature at another. Its people were restlessly innovative, a Prometheus unbound.[1]

Few families were so well poised to take advantage of this changing world as the Darwins of Shrewsbury.

II

Charles Robert Darwin was born on 12 February 1809, the fifth child of Susanna and Robert Waring Darwin of The Mount, a large Georgian house overlooking the bend in the river with gardens running down to water meadows and the town beyond.[2] In one of those odd coincidences of history, Abraham Lincoln was born on the same day; Tennyson and Gladstone were born a few months later. His father was a prosperous physician, one of three practising in Shrewsbury, his mother a daughter of Josiah Wedgwood, the founder of the china company and an influential Staffordshire entrepreneur. They called their infant son "Bobby."

Darwin's parents typified everything that is known about the emergent entrepreneurial society of early industrial England, a classic example of the way wealthy members of the professional and manufacturing classes created a significant niche for themselves in a changing world.[3] But it is important to emphasise how far this social movement had