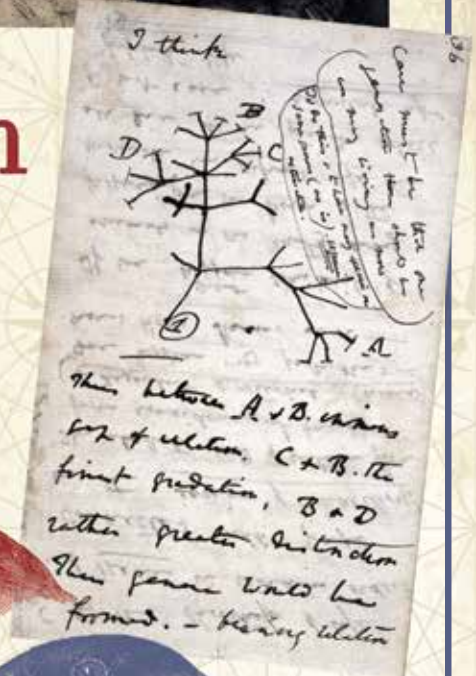
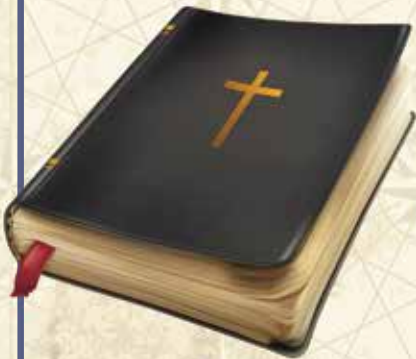


Charles and Emma Darwin



The Option to Believe



Chris Dunford

Contents

A Daughters's View	3
THE FAMILY	5
THE WOMEN	12
THE WHOLE MAN	19
HIS FRIENDS	25
HIS THEORY	33
"A REGULAR BIGOT"	38
THE CHURCH	42
HIS RELIGION	47
HER RELIGION	62
THE RELIGIOUS DIFFERENCE	66

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A Daughter's View

Emma knew her man well, and still loved him deeply. Charles returned her love in equal measure without truly understanding her after so many years.

They lingered at their favorite overlook above Lake Ullswater, quietly drinking in the view, alone in thought yet fully together in that moment.

The happy weeks of June 1881 in the Lake District would be Emma's remembered treasure. Not as happy as their first visit two years earlier, when Charles could still scramble up outcropping rocks to get better views. His love of the scenery had revived his enthusiasm for life, and Emma loved to see it—the child-like openness of mind and heart that led her to love the young adult Charles just returned from

FIGURE 1 An overlook above Lake Ullswater, second largest lake of the Lake District in Cumbria, northwest England. *Photo by Andrew Locking (Andrew's Walks), October 31, 2019 (by permission).*

his world-circling voyage on HMS *Beagle*. This time they knew the time remaining was short as they walked along the lakeshore. Charles was failing and would be gone before the next summer.

Emma felt his depression in the idle aftermath of his all-consuming book projects and ingenious experiments with pigeons, orchids, carnivorous plants, climbing plants, and earthworms. Charles felt spent after he finally put to bed his last book. He couldn't conceive starting a new multi-year scientific project at his age, but it broke his heart to admit it. Collecting relevant facts, sorting them, comparing them, asking why this not that, speculating, theorizing, imagining all counterarguments, refuting, more collecting, writing, editing, more writing, persuading, promoting, adjusting, persisting, he had become "a kind of machine for grinding general laws out of large collections of facts,"¹ as he put it. Scientific work had become his joy, his drug, his tonic, his obsession, his self-torture. His health predictably suffered from the intense anxiety of the mental work. Eventually Emma learned the temporary cure—to whisk him away, with the family and household staff—away from the comforting but demanding routine of Down House to long seaside holidays, often against his will. Soon, however, separation from the drug of work would overtake Charles, and back to Down House they would go.

This time felt different.

Charles and Emma stood close together, as close as two people become after decades of truly successful marriage, watching rain clouds envelope the surrounding mountains and darken the lake to gun-metal gray. The penetrating breeze carried a mist of drizzle, chilling them, but not enough to drive them off their special promontory.

1. Charles Darwin, "Recollections of the Development of my mind and character," in Nora Barlow, ed. *The Autobiography of Charles Darwin 1809-1882*. New York: W. W. Norton, 1958, p. 113 (The editor is one of the granddaughters of Charles and Emma Darwin. She restored original omissions by the family after Charles's death and provided an appendix and notes.)

The Family

Their daughter Henrietta stood a few yards behind her parents, side-by-side with her husband Richard Litchfield—“the Litches” as her lovingly irreverent Uncle Erasmus called them. Silently watching her parents, she was caught in a tangle of memories and thoughts.

Charles was probably wearing the fur coat his grown children had given him the previous summer—it was a tearful surprise for an elder man sensitive to cold but disinclined to pay for luxury. Henrietta would have remembered her brother Frank arranging the fur coat as a surprise gift, in conspiracy with the butler Jackson and the other siblings. Frank’s letter to Henrietta described the caper and their father’s reaction:

I think the coat exploded very well. I left it on the study table, furry side out and a letter on top at 3, so that he would find it at 4 when he started his walk. Jackson was 2nd conspirator, with a broad grin and the coat over his arm peeping thro’ the green baize door while I saw the coast clear in the study. You will see from Father’s delightful letter to us how much pleased he was ... I told Mother just before so that she might come and see the fun.²

Charles’s “delightful letter” ended with this:

*The coat ... will never warm my body so much as your dear affection has warmed my heart, my good dear children.
Your affectionate Father, Charles Darwin.³*

Unlike most Victorian fathers, Charles was very close to his children and they to him. He played with them, listened to them, watched

2. Francis Darwin to his sister Henrietta Litchfield—date Jan. 1880. In H. E. Litchfield, ed. *Emma Darwin, A century of family letters, 1792-1896*. London: John Murray, 1915. Volume 2, p. 239.

3. Charles Darwin to his children—dated 17 Jan. 1880. In Litchfield, *Emma Darwin*, p. 239.

them with a scientific eye, worried for them, recruited them to assist in his experiments, conspired with them, cared for them. Still, he retained the formal manners of the well-bred gentleman, especially in writing. From the time his books brought fame and notoriety, he was always conscious that his letters might be studied long after he passed from the scene. He didn't know that Frank would collect and edit two volumes of his letters for publication. Henrietta would do the same for their mother years later. They knew their parents well, but not as well while they still lived. In some respects, we cannot know our parents as well as their biographers would know them, but no one could ever know them as we do. Charles and Emma were so much a part of their children's lives that all seven surviving children—William, George, Henrietta, Francis, Elizabeth, Leonard, and Horace, oldest to youngest—not only honored their parents but felt their love and loved them in return.



FIGURE 2 Emma reading aloud to six of her adult children—a typical family pastime. Henrietta (Etty) is holding the parasol; Elizabeth (Bessy) is sitting; Leonard is probably the missing son taking the photograph; the four other sons are unidentified. Probably Horace, the youngest, is sitting with Emma, Francis (Frank) standing, and William and George sitting at far left and right. *Photo: Darwin Correspondence Project DAR 219:12:9 (reproduced by kind permission of the Syndics of Cambridge University Library)—image cropped.*

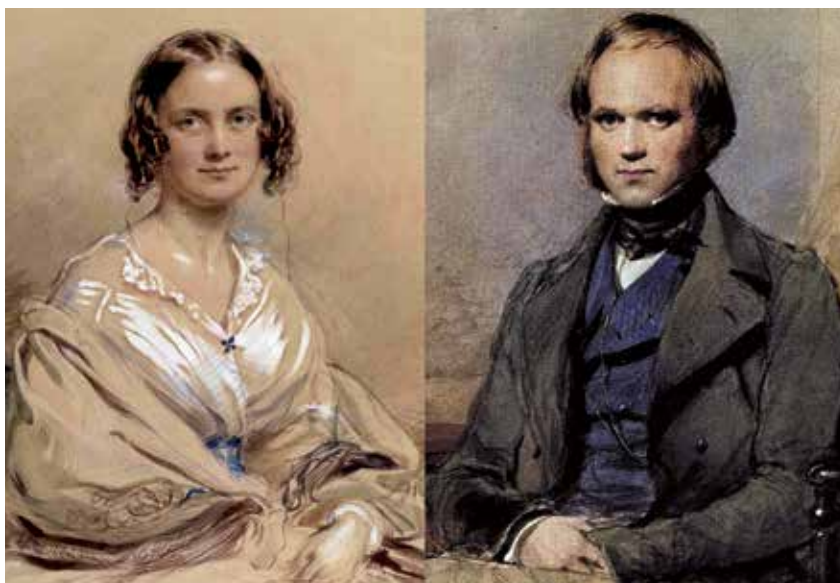


FIGURE 3 Emma and Charles in 1840, shortly after their wedding in January 1839. They moved in 1842 with their first son, William, and their first daughter, Annie, from 12 Upper Gower Street, London to Down House, Downe, Kent. *Separate portraits by George Richmond—Public domain, via Wikimedia Commons—images cropped.*

Arm in arm with Henrietta (“Etty” until the self-consciousness of young adulthood rendered the nickname undignified), Richard knew well enough to just stand with her in silent contemplation of the older couple and the magnificent view, allowing his wife to drift in thought.

She could see her parents’ love for each other in their postures, at ease and close, quietly talking as they looked out on the lake. She imagined them as a young couple, recalling their 1840 portraits by Mr. Richmond, just a year after their wedding. Also the Wedgwood, Allen, and Darwin family reports that Charles had a rather ordinary face but pleasant to behold, especially when animated by his good manners and easy conversation. Emma was the youngest of Charles’s many Wedgwood first cousins (his mother Susannah [Sukey] was a Wedgwood), and she was reputed to be the prettiest, except perhaps the much older Charlotte. Emma was not considered a classical beauty, but her mea-

sured vivacity illumined face and figure to make them shine in speech, action, and interaction. Emma and Fanny, her sister just two years older, were known as “the Dovelies” for their lovely togetherness and were always welcome additions to family gatherings as well as parties in other country houses of Staffordshire and Shropshire.

Henrietta thought of the fun she and her siblings had at Down House. Not confined to “the nursery” or their own secluded space in the small mansion (an old parsonage, really), they had free run, even rearranging the furniture in the parlor for rough-and-ready games. She particularly remembered with a smile how they romped around that room while Emma, a superb pianist, hammered out her own “galloping tune” on the family’s grand piano.



FIGURE 4 The Down House parlor (“drawing room”), restored to its appearance in 1884 based on old photos. Note the “lived in” appearance, with Emma’s grand piano and Frank’s bassoon ready to play. *Photo: reproduced by permission of Historic England Archive and English Heritage: <https://www.english-heritage.org.uk/visit/places/home-of-charles-darwin-down-house/>—image cropped.*



FIGURE 5 The Sandwalk. The Darwins had a path laid in a quarter-mile oval on the edge of their property and planted trees along the path. They brought in sand and gravel to make the path walkable even in wet weather, which turns the chalky soil of the North Downs into a gooey mess for walkers. Charles regularly walked round and round this “thinking path,” or Sandwalk as they called it, perhaps five times each visit, one or two visits each day, to relax and clear his mind for thoughts about whatever he was working on in his study. The children often tagged along to play in the maturing woods. *Photo: Copyright Anna Obarzanowska. Reproduced by permission of English Heritage and the Darwin Correspondence Project (Cambridge University Library).*

Emma was never fastidious about keeping a tidy house (as a girl, she was known as “Little Miss Slip-Slop,” so unlike her very organized sister Fanny—“Miss Memorandum”). She let entropy have its way with the toys and clothes, until it became so topsy-turvy that she called in the housekeeper to clear it all up and restore order. Charles was by nature quite fastidious, so his tolerance was saintly—as long as the chaos did not invade his study. Even so, he did not overly mind the children bursting in to borrow scissors or other items deemed essential for their projects, as long as they respected his right to shush them out again and get the item back in good time.

Not that Down House was chaotic—quite the opposite. Emma oversaw with care and efficiency a household staff worthy of a country gentleman of property, led by their loyal and loving butler, Joseph Parslow (Jackson was a late-comer after Parslow's retirement). Mrs. Evans was their cook for more than forty years. Their footmen, maids, and gardeners also stayed longer than usual because they enjoyed life and work at Down House. Emma organized household life around Charles's needs, which included a daily regimen of meals, work in his study and in the garden or greenhouse, walks round the Sandwalk, reading newspapers or novels or listening to Emma read them aloud, listening to Emma playing the piano, playing with the children, attending to household and village business, and napping. Emma made it possible for Charles to be a "gentleman" meeting his responsibilities to family, household, and village and at the same time a remarkably productive "natural philosopher" (as scientists were called before mid-century), doing very original research and maintaining a massive correspondence with fellow scientists and other suppliers of information and specimens from all over the world. During some periods of months or years, the children and household staff could know the exact time of day by Charles's methodical transitions from one activity to the next.

There were, however, other periods dominated by illness, most often Charles's chronic and severe bouts of intestinal upset or headaches or dizziness or skin outbreaks, sometimes all at once, and even hysterical weeping (mostly at night). Though she struggled with her own health through 10 pregnancies, Emma was Charles's ever-patient and loving nurse, backstopped by Parslow. Whole weeks or months, even years, were lost to these symptoms—symptoms of self-imposed psychological stress, Emma suspected, but Charles persisted in believing their cause purely organic and probably heritable, stressing him even more with guilt when his children were mysteriously ill. So prevalent was childhood illness, and so often fatal, that Victorians were obsessed with concerns for their children's health and their own.

Charles was unusually sensitive to suffering of any kind, whether animal or human. Henrietta remembered her father losing his temper only when confronting acts of cruelty toward animals or people. His hatred of slavery was deep and visceral, in part a family legacy (especially the Wedgwoods, who were abolitionist activists), but he himself saw too much of slavery in Brazil. Even more, his own chronic illnesses made him excessively sympathetic to illness in others, especially his children. Henrietta winced as she recalled how often she had been a sickly child and teenager, in and out of severe bouts of illness followed by months of lingering listlessness and depression. Her father and mother were very attentive to her when she was ill, to the point she could feel suffocated by their worried concern.



FIGURE 6 Charles's Old Study in Down House, photographed in 1932 with its original contents, including his custom-made chair on rollers with writing board. The mirror over the fireplace reflects the books shelved on the opposite wall. The portraits over the fireplace, left to right, are Joseph Hooker, Charles Lyell, and Josiah Wedgwood I. Note the basket next to the chair, in which there is a live dog looking very much like Charles's beloved Polly, his last dog. *Photo: Wellcome Collection, Creative Commons (CC BY 4.0).*

At the same time, Henrietta had to admit that being ill was a sure way to get her parents' undivided attention in a house full of competing siblings, mostly boys, and her father's obsessive work. Not that she invented illnesses for that purpose, but it was too easy for sickness to become a comforting way of life. Even now, she sensed that her husband, Richard, was all too easily manipulated by her convenient illnesses. And she suspected, along with her mother, that her father could play the same game, however subconsciously. After all, his father Robert Darwin was a renowned physician, and his grandfather Erasmus Darwin before him, and the children of very busy physicians soon find that the surest way to get their fathers' loving attention is to be sick. For Emma, humoring this tendency in Charles played to her own need to be needed. She was a caretaker by nature. Though Emma humored them with loving care, both Charles and Henrietta knew well that Emma was not taken in by the drama.

The Women

Charles worked from Down House for about forty years, but he could be very remote from his family. So often shut up in his study or his bedroom upstairs, consumed by work or illness, that the children pined for his attention, at least once trying to bribe him to play with them. His work was mostly a mystery, though he often gave them small tasks to do for his projects. Henrietta remembered her new lease on life when her father took up raising various breeds of pigeon and welcomed her interest and assistance. He was one of the last of the gentlemen scientists, self-financing and therefore independent of institutional constraints. In the bosom of his family, he churned out an enormous volume of notes, correspondence, experiments, articles, and books—books that had global, society-shaking impacts. His family felt his loving presence in their midst, but often he was locked away in his mind.



FIGURE 7 Down House, the home of Charles and Emma and their many children and servants from 1842 to Emma's death in 1896. This photo shows Down House as it looks now after diligent restoration of the exterior and gardens to their nineteenth century appearance, based on photos by fourth son Leonard in the 1870s and memoirs of the Darwin children. *Photo: reproduced by permission of Historic England Archive and English Heritage: <https://www.english-heritage.org.uk/visit/places/home-of-charles-darwin-down-house/>*.

Even so, he was very close to Emma, his confidante and nearly constant companion from their wedding day. The few times she left him at Down House to visit her Wedgwood and Allen relatives in Staffordshire and Wales, Charles was miserable and didn't hesitate to tell her so in hyperbolic yet sweet letters. No doubt Emma felt constrained by Charles's clinging dependence on her companionship and care. This sickly, reclusive, country gentleman was an odd contrast to the bold adventurer setting out cross-country from the *Beagle* with only hired local guides to explore remote, wild, and dangerous parts of

South America. In fact, his independence, courage, and stamina were much admired by Capt. FitzRoy and his other shipmates. Now he lived the secluded life of a country parson, which had been his career destination before the unexpected chance to sail around the world.

Emma clearly was content with her domestic situation, happy to be the lady of a country house, running the day-to-day operations, entertaining guests much of the time, alternating between roles as the famous scientist's wife and as the fulcrum of the extended family. Like Charles, she was raised in rural England and lived more comfortably in that setting than in London, where she and Charles started their married life. Still, Emma enjoyed the occasional opportunity to relive her pre-marriage years by indulging her passion for musical performances and plays "in town." In later years, she took the girls, Henrietta and Elizabeth (Bessy), with her. Henrietta exulted in those family visits to London.

After all, Emma was the daughter of a prominent Midlands industrialist (Wedgwood pottery and china), raised with a lady's home-based education in books, music, dance, and conversation, also in languages, history, and politics, often under the direct tutelage of visiting intellectuals, politicians, and social activists from the first circles of English society and culture. She was too familiar with famous people to hold them in awe or drop their names to enhance her own stature. Emma and her sister Fanny had done the Grand Tour of the Continent and lived for many months in Geneva with her favorite Aunt Jessie (Allen) de Sismondi, wife of the esteemed historian Jean de Sismondi, well-connected to social and political circles on the Continent. The sisters attended many grand balls and high-toned soirées.

Familiar with Miss Austen's novels, Emma and Fanny could see themselves in the Misses Bennet (Jane and Lizzie),⁴ who found amusement and aggravation in the foibles of society. They visited the famed

4. Jane Austen's *Pride and Prejudice*, first published in 1813.

museums and landmarks of Italy, often thinking the masterpieces of Italian art and architecture “a hum,” and they weren’t shy about saying so. Though always a bit awkward with strangers, Emma was comfortable in high society and could hold her own with the best and enjoy it. Emma took piano lessons from distinguished performers, including Chopin, who probably managed to impress her. Yet there she was in rural Kent, quite content to care for her beloved and loving husband, her children, her household, and her village.

Henrietta also was very close to Emma. She was a bright young woman who also had benefited from a lady’s education at home, even if rather less stimulating than her mother’s. Her education was hindered by relative isolation at Down House, her childhood illnesses, and her parents’ *laissez-faire* attitude toward education of girls. Henrietta also lived in the shadow of her deceased older sister Annie, who died at age ten (of what must have been tuberculosis), devastating both Charles and Emma but no worse than the effect on seven-year-old “Etty.” Annie was the second child and first daughter, sweet tempered, affectionate, and smart, the “apple” of Charles’s eye. Though her parents almost never spoke of Annie after her death (typical of the Darwin and Wedgwood families to sweep their grief into the closet), Etty probably felt she could never equal Annie in their eyes. Etty was too plain, and she wasn’t a sweet child or teenager. She could be sharp-tongued in her judgments of people and their conduct, very direct in her gaze, serious in her manner, forthright in her opinions freely given. Her illnesses were no doubt due to bad luck, as well as perhaps an inherently weak constitution (or so her father always feared—first-cousin marriages were becoming suspect), maybe even due to the shadow of Annie’s death, which made Etty inordinately fearful of dying from one of the mysterious contagious diseases that popped up unexpectedly in Victorian England.



FIGURE 8 Daguerreotype of Henrietta (“Etty”) in 1851 (8 years old) still in mourning for her sister Annie, who died at age 10, probably from tuberculosis. Note her direct, defiant gaze at the Daguerreotype camera (exposure required holding very still for up to one minute). Photo: © *Historic England Photo Library*. Credit: By kind permission of Richard Keynes, *Margaret Keynes Collection*—image cropped.

Nonetheless, Henrietta blossomed in her own way as a young adult. Petite, smart, interesting, engaged in the issues of the day, and “well bred.” She became a real partner to Charles in his book projects. Henrietta did a thorough and critical edit of his *Descent of Man*⁵ while on holiday in Cannes for several months (Victorian holidays were never short, it seems). She brought her smart directness to bear on Charles’s often difficult prose and casual defiance of conventional sensibilities. She saved him from embarrassing the family name any

5. *The Descent of Man; and Selection in Relation to Sex*. London: John Murray, 1871.

more than necessary to make his controversial points. He respected her judgment and heeded her advice and admonitions, as well as her superior command of grammar and spelling. In fact, Emma and later Henrietta were key players in the editorial process once he produced his first draft of a book. Frank and George also played this role, but his women were the main editorial board for the major books. This might seem to contrast starkly with Charles's casual agreement with contemporary thinking that women were dominated much more by emotion than men, thereby less capable of sophisticated use of reason. Hence women could not be expected to match the intellectual achievements of men. Emma and Henrietta were probably quietly amused rather than incensed by such prejudice; they knew the limits imposed by their society, and like so many well-bred women of good families, they learned early how to operate with great effect within those limits.

The name Darwin gave her entrée to polite and sophisticated society, though Henrietta seemed to prefer the barely-respectable margins, where she could share in the spirit of defiance so typical of the era, determined to contribute to social progress. Most likely this mind-set accounted, in part, for her attraction to Richard Litchfield, which so puzzled her brothers. They thought him a "fop," perhaps a bit ridiculous in his short, pudgy, bewhiskered, over-dressed frame. But Henrietta fell quickly for Richard, in part because of his music and commitment to teaching music (singing mostly) at the new Working's Men's College (he was one of the founders). At about age thirty, seeming destined to be a spinster, Henrietta married Richard within three months of meeting him. The family was taken aback, and it was a surprisingly small wedding in the Downe village church. But Richard soon endeared himself to Emma, as well as Frank, because of their shared love of music. For a start, he organized Little Miss Slip-Slop's collection of sheet music. This could only endear him to Charles as well and soften the skepticism of his brothers-in-law.



FIGURE 9 Henrietta and Richard Litchfield in 1879 at ages 36 and 47, respectively. *Photos by Wilhelm Mayr. Reproduced by permission of The Huntington Library, San Marino, California—images cropped.*

Her younger sister Bessy was no doubt more pleased by the marriage than her brothers. Though much thrown together as the only girls of the family, Bessy and Henrietta were worlds apart in personality and behavior. Bessy was a plump, attractive, but peculiar child, quiet and withdrawn to her own world, slow to learn, fearful of doing anything on her own. Charles and Emma were puzzled and even concerned that Bessy might be mentally defective, further twisting Charles's worry about unfortunate consequences of Darwin-Wedgwood inbreeding. Yet Bessy was an active, perceptive member of the household and a good companion to Emma and Henrietta. She felt and probably resented her older sister's disdain. Henrietta fell squarely into the category of those who do not suffer fools gladly. That lifelong edge to her personality was no doubt razor sharp in her irritable, sickly, self-conscious teenage and young adult years during which she probably felt that sisterhood with Bessy was a social liability as well as a daily aggravation.

The family noted how Bessy blossomed as her mother's companion after Henrietta married Richard and the Litchfields set themselves up in London.

In her twenties, and even after marrying, Henrietta became her mother's closest confidante, especially as the Allen aunts who played that role passed away. Henrietta knew her mother's political and religious views quite well, though Emma seldom shared the latter. She also knew how clear-eyed her mother was in her deep love of Henrietta's father. Both of them knew Charles for what he was.

The Whole Man

As her parents looked out on Lake Ullswater in the deepening gloom of oncoming weather, Henrietta took a moment to look at Richard, squeezed his arm, and half smiled as he looked back and returned the loving squeeze. Her eyes returned to her parents and her thoughts of their love and her love for Richard prompted her to give silent thanks for these gentle men in Emma's and her life—the kindest and best of men. Her father, however, was complex. Richard was so much easier for her to understand. She could see clearly into his depth, as into a well of crystal-clear water. Her father was much more obscure to Henrietta's critical eye, so full of contradictions that frustrated understanding of the whole man. Yet to Emma, Charles had always seemed refreshingly open and transparent. Perhaps we should expect that a loving wife would see more easily into a good husband than anyone else could see. Or Emma might have had unusual insight even for a wife, having grown up with Charles. Over the years, the Darwin cousins spent many days visiting the Wedgwoods at Maer Hall in Staffordshire, as often as they visited the Darwins at The Mount in Shrewsbury in next-door Shropshire.

Indeed, Charles was open and transparent, disarmingly so, even childlike in his guileless sharing of enthusiasms and anxieties. Visitors remarked on his simplicity and directness of speech and manners, so

unexpected in a Great Man. While Charles might go on and on about his latest projects, at risk of being a bore, he had the happy possession of natural charm in the society of others, both of his rank and education and those quite different in social standing, learning, and manners. It was not an act he had cultivated; it was just Charles being himself. For him, social poise, humor, and kindness were almost instinctive. He was comfortable and convivial with sailors, farmers, and tradesmen as much as with gentry, churchmen, and academics. Because he found them interesting, even fascinating, people tended to like and respect him.

Yet as long as Henrietta could remember, her father was careful to limit his engagement with people outside the immediate family, claiming that animated conversation was too exciting to his nervous system, making him physically ill if prolonged beyond an hour or so. Newcomers to Down House found it quite puzzling that Charles would be so welcoming and interested in their lives then abruptly withdraw to his study or bedroom after a short time with his guests. Was he so absorbed by his own health concerns? Was he protecting time and energy for his intellectual pursuits? No matter the reason for Henrietta and the rest of the family and staff, as well as the more frequent guests; his behavior was just part of life at Down House. The serious job of entertaining visitors and house guests fell to Emma, Henrietta (until she married and moved out), and Bessy, and to the boys when they were at home. Understanding and loving Charles as well as she did, Emma was cheerfully steadfast in organizing the household around his health and his time for work.

In higher Victorian society, ill health was almost fashionable for both men and women, the poor indisposed one languishing with a sherry and a thick book on a chaise in the drawing room, too frail to be expected at the *soirée*. Erasmus, Henrietta's beloved Uncle Ras and Charles's older brother, had mastered this pose in his London mansion. But as much as Charles valued his brother's social connections and intellectual opinions, his brother's languid lifestyle was quite the

opposite of his own restless need to pursue ambitious projects. Both brothers suffered real ailments, especially of the digestive system. They were not hypochondriacs, no matter how often others suspected it. In Charles, however, his very real health issues had a definitely psychosomatic overlay.



FIGURE 10 Left: Emma and son Leonard in 1853 when Emma was about age 45. Married women wore caps like this one. Posing for a Daguerreotype was unpopular with children! Right: Charles about 45 years old, five years before publication of *On the Origin of Species* and before he grew his famous beard to hide skin outbreaks on his face.” Photos by Henry Maull and John Fox—Public domain, via Wikimedia Commons—images cropped.

Emma understood early in their marriage that Charles was prone to obsessive overwork leading to mental and physical stress and soon to debilitating symptoms. Even so, she knew that Charles was happiest when fully absorbed in a scientific project. She and he both recognized that work was a tonic for Charles, but he seemed unable to avoid driving himself too long and hard—until the project (usually a book) was totally finished or his health collapsed or, especially in his last couple of decades, Emma persuaded him to take a long break for a holiday away from Down House and his study.



FIGURE 11 Francis “Frank” Darwin, the seventh child, who became his father’s secretary and assistant in 1873 (approx. date of this photo), three years after graduating from Cambridge University. Building on collaborative studies with his father, Frank became a distinguished plant physiologist and Cambridge lecturer in botany. He was also his father’s first biographer. Like his brothers George and Horace, Frank was elected to the Royal Society and knighted. Knighthood was one honor never bestowed on their father. *Photo: Darwin Correspondence Project DAR 225:42 (reproduced by kind permission of the Syndics of Cambridge University Library)—image cropped.*

Always the record-keeper, Charles counted and mourned the number of hours per day, days per week, and weeks or months he had been hardly able to work. His son Frank, who became his research assistant and scientific secretary in Charles’s later years, remembered his father’s horror of wasting time, how quickly he moved when working, and the intensity of his attention to detail in his experiments with plants. When Charles worked, it was with total absorption. In the two hours of work he allowed himself per day during long periods of ill health, he seemed to accomplish more than other scientists of his time could accomplish in full 8-12-hour days of healthy activity. But Charles would never concede as much. He never admitted to him-

self, much less others, just how enormously productive he was in the span of his working life. Instead, in his voluminous correspondence with close relatives, old friends, and new-found scientific colleagues, Charles developed a familiar refrain of lamentation about his ill health and how much it robbed him of precious time for productive work. He would indulge in self-pity with inadvertently amusing hyperbole, too often predicting he would die before finishing whatever “abominable” project he was devoted to at the time.

Amused as they might have been, Emma and Henrietta and the other children, as well as the Down House staff, could never doubt that Charles’s suffering was real. They must have found it puzzling that, despite his obvious discomfort, Charles was so unfailingly polite to all, profoundly appreciative of any service rendered, and ever the loving and fun-loving husband and father, as well as the fair-minded employer.

Less obvious was that some research topics made him sicker than others. His stress was ratcheted up to illness-inducing anxiety whenever he expected negative reaction to his conclusions. His family and friends were very aware of how much Charles craved approval and how even reasonable criticism wounded him deeply. He was elated by every favorable review, and, when criticized, he would spend days writing and rewriting his response, often disregarding good advice to ignore the critic and move on. Anxiety about his ability to impress, not just convince, his scientific peers with a particular article or book often drove him to work harder for more hours, days, and years than were probably necessary to establish his credibility and build a convincing case. The eight years devoted to the classification of all the world’s barnacles dramatically illustrated Charles’s over-anxious pursuit of scientific respectability. That his “over the top” devotion to excellence paid dividends in acclamation of his work by the great majority of the scientific community of Britain and America, the Continent as well, may have only reinforced his strategy of excess rather than allay his fear of inadequacy and the ridicule it would bring down on his head within polite society.

Most likely to make Charles sick was his anxiety about the opprobrium he feared in reaction to his theory of evolution by means of natural selection, especially regarding the “descent of man” from an ancestor in common with the apes. Compounding his fear of social humiliation and loss of status, Charles feared the reactions of his closest friends and family, even (perhaps, especially) Emma. He famously delayed for twenty years the publication of his theory as *On the Origin of Species* in 1859,⁶ and even that book did not explicitly treat the origin of the human species. It was another 12 years before he finally revealed his views in *The Descent of Man* in 1871. Early on, Charles noticed that spells of ill health were associated with thinking and writing about his theory.

In contrast, Charles had the unswerving support of his closest scientific friends (Charles Lyell, geologist; Joseph Hooker, botanist; Thomas Huxley, zoologist-anatomist; Asa Gray, the Harvard botanist; and Alfred Russel Wallace, who independently hit upon the same theory but at least 18 years after Charles), all of whom were distinguished in their fields and steadfast allies in the ensuing public controversies. Once he introduced Emma fully to his theory, she played key roles in the development of *Origin's* manuscript, and Henrietta did the same for *Descent of Man*. And all of them were pleased to see that after 1871 Charles was remarkably healthy in his last decade. Though he continued an exhausting pace of research and writing on other topics, Charles had abundant evidence in the 1870s that he was accepted as a great scientist (some even said he was the greatest of his time) and that his theory was gaining global acceptance and even acclaim, along with all his writings. He could relax his anxiety, much to Emma's relief.

Emma knew very early on that Charles felt an inexplicable compulsion to pursue his evolutionary line of thinking and writing. Having been schooled in the Bible, like most of her social class, she might have seen a parallel with the Old Testament prophets reluctantly accepting divine commission to speak out regardless of the social and even phys-

6. *On the Origin of Species by Means of Natural Selection, or the Preservation of Favoured Races in the Struggle for Life*. London: John Murray, 1859.

ical consequences. Indeed, Charles might have seen the same parallel; without asking himself from whom or where this calling might have come, he was both grateful and regretful for the blessing and curse of it. Whenever he returned his focus to “my theory,” Charles suffered a four-way psychic tension between his fascination with these propositions that explained so much *and* his conviction that his conclusions would refute centuries of received wisdom *and* his fear of the personal consequences of revealing his theory *and* his deep desire to own this theory and gain approval and even acclaim for it. Emma always felt this tension and feared its effects on Charles, but she could not break the tension for him, nor did she feel she should try. Instead, she loved him through it. And she helped the children and the household staff to do the same.

His Friends

Henrietta looked at this simple, modest, and lovable gentleman and, like her mother, was almost incredulous that he had created such a noise in the world. What had he done but connect observations with other observations in ways others had foreseen but never in such persuasive detail? “It’s dogged as does it,”⁷ her father would say, convincingly humble in his self-estimation of talent and intellect. There could be no doubting his energy, patience, and perseverance. Without those qualities, whatever genius he possessed, little would have become of his theory.

Henrietta knew his books. She had helped him finalize *Descent of Man*. She corrected misspellings and bad grammar, she offered style improvements, she pushed for greater clarity here and there, and she counseled against pushing conclusions beyond the limits of tolerance in good society. But she claimed no credit for his writer’s voice that so much mirrored his personality—his directness of language,

7. Francis Darwin. *The Life and Letters of Charles Darwin*. Vol. 1. New York: D. Appleton, 1897, p. 125 (first published in London by John Murray in 1887).

his enthusiasm for the natural world, his courtesy toward contrary interpretations, and his almost reckless pursuit of the logical conclusion. This distinctive and now well-known voice of Charles Darwin, naturalist and author, was for the mid-nineteenth-century readers refreshingly easy to “listen” to, in contrast to so much stuffy and convoluted Victorian prose.

Henrietta also knew that another key reason for her father’s success in persuading both the scientific community and the reading public was his strategy of overwhelming the skeptic with wave after wave of facts—amazing stories about animals and plants in nearby and far-away places, populated by familiar and strange people. Charles was quite calculating in his “overwhelm” strategy—it was the source and sustenance of his daily effort to collect and assemble “facts” from all over the world, relevant facts. Relevant to all the ramifications of “my theory,” which he had worked out in the late 1830s, shortly after returning from his round-the-world journey, even as he asked Emma to marry him, just as 18-year-old Victoria acceded to the throne. He spent the rest of his life marshalling evidence from a bewildering variety of lines of inquiry. For the twenty years before *Origin’s* publication, he remained secretive about his obsessive campaign, his ultimate motive, as he solicited information from family, friends, colleagues, and correspondents worldwide. Just a handful of people knew what he was up to. Emma was first to know, but the young botanist Joseph Hooker, becoming his best friend other than Emma, was the first to fully see the whole picture, then his older friend and mentor Charles Lyell, the founder of modern geology. For many years they were the only ones, until Hooker and Lyell pushed him to broaden the circle in the 1850s.

In later years, Henrietta and Emma read and heard the word “genius” applied to Charles. How do you see “genius” in your father or your husband, that man you have known so long and so intimately, with all those daily weaknesses and strengths you have taken for granted and learned to live with and even to love? A man so ordinary yet special, mainly because of his love for you! You don’t see the genius.



FIGURE 12 Adam Sedgwick, geologist, in 1833 at age 47; right: John Stevens Henslow, botanist and geologist, in 1851 at age 55. Professors, friends, and mentors to Charles Darwin during his years at Cambridge University, these men were pioneers in their respective fields of natural science. They also were instrumental in securing the opportunity for Charles to sail with the *Beagle* expedition, 1831-36. *Separate portraits—Henslow lithograph by Thomas Herbert Maguire—Public domain, via Wikimedia Commons—image cropped; Sedgwick portrait by Samuel Cousins, after Thomas Phillips mezzotint—National Portrait Gallery, London (NPG D5929, CC BY-NC-ND 3.0)—image cropped.*

Emma and Henrietta could see it, however, through the eyes of his close scientific friends. Charles had many, but none so close in professional interests and keen intellect as the inner circle he gathered around him and often entertained and conspired with at Down House—starting with his professors/mentors John Henslow and Adam Sedgwick at Cambridge, without whom he would never have sailed with the *Beagle*. Then on his return five years later, Charles Lyell, whose book on geology had taught him during the voyage to see the natural world with Lyell’s brilliant, unconventional mind. Word of Charles’s major discoveries during the voyage having been spread in scientific circles by Henslow, the patrician Lyell stunned Charles with his warm welcome upon Charles’s return to England and soon supplanted Henslow as Charles’s primary mentor.

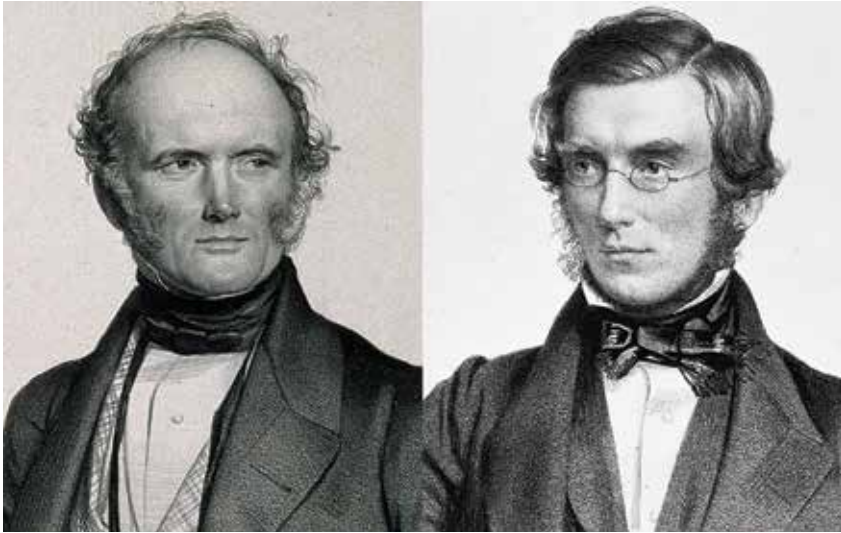


FIGURE 13 Left: Charles Lyell, geologist, in 1849 at age 52; right: Joseph Hooker, botanist, in 1851 at age 34. Lyell and Hooker, as well as their wives, were close friends and confidantes of Charles and Emma Darwin. The older Lyell founded modern geology with his landmark *Principles of Geology* (1830–33), which inspired Charles during the *Beagle* voyage, which in turn inspired Hooker to embark on a similar Royal Navy expedition to the Antarctic. *Separate lithograph portraits by Thomas Herbert Maguire—Wellcome Collection, Creative Commons CC-BY-2.0 (Lyell) and CC-BY-4.0 (Hooker)—images cropped.*

Several years later, young Joseph Hooker, botanist, emerged as almost a dotting acolyte, eager to meet the author of the travelogue (*Voyage of the Beagle*,⁸ Charles's first and in some ways his favorite book) that had inspired his own participation in a Royal Navy scientific voyage to the sub-Antarctic islands. Hooker was of the scientific nobility, son of the director of Kew Gardens, the repository of plants from all over the Empire. The budding botanist later would succeed his father as director and take Kew to even greater prominence. Charles soon

8. Originally published as *Journal of Researches into the Geology and Natural History of the Various Countries Visited by H. M. S. Beagle, under the command of Captain Fitzroy, R.N. from 1832 to 1836* (London: Henry Colburn, Great Marlborough Street, 1839).

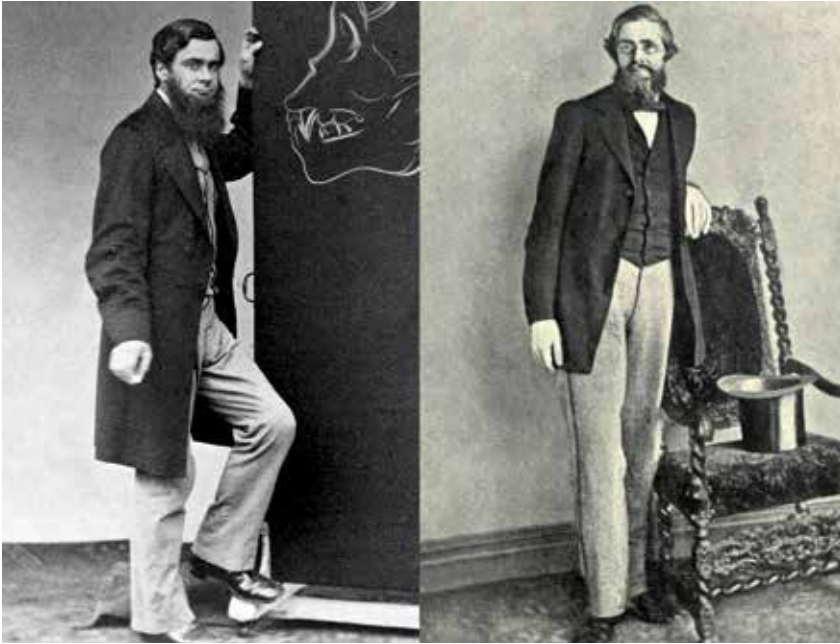


FIGURE 14 Left: Thomas Henry Huxley, comparative anatomist, lecturing on the skull of the gorilla, c. 1861 at age 36; right: Alfred Russel Wallace, naturalist explorer, shortly after his return from years in the East Indies, c. 1862 at age 39. Huxley was known as “Darwin’s Bulldog,” a relentless advocate of Darwin’s theory in public and scientific circles. Wallace independently developed the theory of evolution by natural selection, but years later than Darwin, and always recognized Charles as the first author. *Photo of Huxley by Cundall Downes & Co.—Wellcome Collection, Creative Commons CC-BY-4.0—image cropped; photo of Wallace by James Marchant—Public domain, via Wikimedia Commons—image cropped.*

discovered a deep affinity with the younger man and took him into his confidence regarding his most ambitious scientific projects. Hooker developed into Charles’s closest friend and together with Lyell became a key advisor in the development of Charles’s theory.

Thomas Huxley, up-and-coming zoologist and anatomist, entered the inner circle much later, only a few years before publication of *Origin*. Not until he read that book did Huxley align himself fully

with Charles's theory, becoming its most visible and aggressive public advocate. As a scientific outsider, Huxley relished the opportunities the theory gave him to attack and undermine the Old Guard of the Oxbridge-Church of England stranglehold on British science and scientists. Huxley was a gifted polemicist, and Charles loved his pugnacious energy in defense of evolutionary theory. Even so, Charles was also uncomfortable with, and tried to warn Huxley off, the confrontational strategy that Huxley relentlessly pursued in service of his own as well as Charles's professional ambitions.

Alfred Russel Wallace was Charles's partner in proposing evolution by means of natural selection. Wallace was even more the scientific outsider, starting as a Midlands land surveyor then partnering with Henry Walter Bates in a multi-year natural history collecting expedition to the Amazon, funded almost solely by selling their collections to vendors who supplied the private collections of landed gentry and nobility (in the nineteenth century, displaying collections of various types of animals, such as butterflies, beetles, mollusk shells, or stuffed birds, was almost *de rigueur* as a mark of social stature). Wallace then went on to the East Indies for several more years of collecting, during which he established a correspondence with Charles and coincidentally developed the same theory of evolution by means of natural selection but in the late 1850s, twenty years later than Charles. It was the 1858 letter from Wallace (still in the East Indies) to Charles, enclosed with a thin manuscript describing Wallace's theory, that with the urging of Lyell and Hooker finally pushed Charles into publication of *Origin*. Rivals though they might have been, Wallace always acknowledged Charles's prior claim to their theory, jointly presented to the Linnaean Society in July 1858 by Lyell and Hooker in a brilliant face-saving compromise. Charles and Wallace (soon back in England) developed deep respect and affection for one another and became close colleagues in the advancement of their joint theory, even if not friends in the same way as the others.



FIGURE 15 Asa Gray, botanist at Harvard College, in 1864 at age 54. Gray was a pioneer of North American botany and the counterpart of Huxley in advocating Darwin's theory in North American public and scientific circles. His *Darwiniana* showed how evolution by natural selection could be compatible with Christianity. *Photo by John A. Whipple—Public domain, via Wikimedia Commons—image cropped.*

Also entering Charles's circle as a correspondent, even before Wallace, was Asa Gray, a young American botany professor at Harvard College, where the renowned Swiss geologist Louis Agassiz had recently arrived from Europe to cast a long shadow over American science. There was something about their correspondence that gave Charles enough confidence in Gray to share in a long letter the essentials of his theory, in more detail than for anyone other than Hooker. Perhaps he felt the same affinity with a younger scientist that he had felt with

Hooker. This letter took on special importance, because it established Charles's priority over Wallace as the first to propose the theory of evolution by means of natural selection and was part of the Linnaean Society presentation made by Lyell and Hooker in 1858. Gray immediately understood the explanatory power of the theory and engaged with Charles in its further development. After publication of *Origin*, Gray became a relentless advocate, Huxley's North American counterpart. Gray had a softer touch, but he tirelessly stood up against Agassiz's aggressive dismissal of the theory. Gray was a particularly important supporter, because he was an evangelical Christian who had little trouble reconciling evolution by natural selection with his Christian worldview.

Emma and Henrietta knew all of these men personally, because they entertained them at Down House and encountered them in London and at scientific meetings in other cities, and sometimes on holiday. They were especially close to Hooker, Lyell, and Huxley and their wives and their children. Emma and Mary Lyell (a scientist herself) knew each other from the early years living as neighbors in London, and they shared the bond of patience with the scientific minutia of their husbands' conversations. When Henrietta Huxley was six months pregnant and mourning the death of her first child, Emma gave her quiet refuge at Down House. Years later Emma took in all seven Huxley children to give Mrs. Huxley a badly needed rest, and the Huxley children long remembered how much they enjoyed themselves at Down House. Joseph Hooker was a special favorite of Emma, the Darwin children, and the Down House staff. Before he was married, he often stayed with them for long periods of work on his own and in conversations with Charles. After his years of collecting plants in the Himalayas, he married the Henslows' eldest daughter Fanny, and she was welcomed into the circle of families frequenting Down House.

One weekend, Hooker brought Asa Gray and his wife to Down House. Charles had only once met Gray in person, years before at Kew Gardens. Emma marveled at the evident admiration and affection the

three men felt for each other as they enjoyed the weekend together. Similar admiration and affection could be seen when Charles was with Lyell, Huxley, and Wallace, though they were not the scientific soul mates that Hooker and Gray were for Charles. Emma and Henrietta could easily see how important this inner circle of scientific friends was to Charles' work and happiness. It was equally clear how much they were drawn to Charles as the leading light of the group. His genius was evident in their high regard for his thinking and writing as well as his friendship. The genius of Charles Darwin was in seeing connections within a chaotic world of observations and also in his talent for communication and friendship, which he employed very effectively to build a distinguished coalition of support for his insights.

His Theory

Henrietta might have imagined how different the lake and surrounding wilderness would look to Charles and Emma. He would be thrilled by the ordered chaos of plants and animals, water, rocks, peaks, and valleys manifesting an epic natural history. Emma no doubt would miss much of that detail, but she also might see more—manifestations of purpose written on the landscape, intimations of unseen power in the brooding sky, a spirit of place that beguiles the person open to feeling its presence. Henrietta understood that her father could look on this magical landscape and not see the hand of God, while she surmised that her mother would see that hand as a matter of course. Henrietta could barely imagine how different the whole world must appear to each of them!

As Henrietta reminisced about her father's closest scientific friends, she would have realized that each looked at the world in a distinctly different way, much like the difference between her mother and father. If these friends were gathered here looking out on Lake Ullswater, what would each of them see? No doubt, Lyell the geologist would see rock formations and shapes of hills and valleys giving intimations

of changes in the landscape over eons of time. Hooker the botanist would notice how the composition of tree and shrub species is transformed from north-facing to south-facing slopes and with elevation. Huxley the zoological anatomist might ponder the likelihood of finding fossil evidence of extinct giants of the Ice Age. Gray the American would marvel at how different plant communities are here in north-west England compared to similar landscapes in his New England. Wallace the roving collector of new species could not help notice how much less diverse and colorful are the birds here compared to the wet tropical forests of the Amazon Basin or the island of Borneo. Though gazing upon the same scene of lake and hills and wildland vegetation, their mental images would be as different as the focus of each mind's eye. Our vision cannot take in all there is to be seen, because our eye can focus on only some, not all. And our minds filter what we see into categories of interest and experience, established well beforehand. For some of these men, their mental categories included the transcendent as well as the material world in front of them. But not for all of them.

As a coalition of experts, their diversity of viewpoints enriched Charles's thinking and fortified his theory against criticisms from observers standing on dispersed promontories overlooking his lake filled with observations, examples, and ideas.

None of these close colleagues would agree completely with Charles in his theorizing. They had no problem at all with the concept of new species evolving from existing species, creating genealogies of related species gradually diverging as they adapted to different environments. Once Charles's inner circle of scientific friends had read and endorsed his version of evolutionary theory, however, each of them had some level of concern with the mechanism he proposed—natural selection—especially how it might be applied to the “descent of man.” At issue was the undirected nature of natural selection acting on random variations within a species of animal, plant, or microorganism to change the species over time, often into something quite different.

Somewhere in the development of British Christian thought about the origin of species, it was asserted or assumed that God had created each and every species just as we see that species today: “special creation” by divine action, after which the created species remained immutable for all time thereafter. Though implied in Genesis, special creation was never explicitly asserted, yet it had become an essential pillar of the Natural Theology that emerged from the Scientific Revolution and the Enlightenment to support the validity of Christianity and therefore the Christian-based social orders of Britain and its colonies.

In the twenty years Charles was reluctant to publish his theory of evolution, there was growing acceptance of evolution, especially due to the widespread success of *Vestiges of the Natural History of Creation*,⁹ anonymously published in 1844. Good society, inclusive of the relatively small community of serious scientists, was becoming comfortable with the notion that species were not immutable, that change had occurred after a species was created, and change would continue to occur. By the time *Origin* was published in 1859, and especially because of *Origin*, there was simply too much evidence of species change for intellectually honest thinkers to deny that evolution has occurred. The mechanism by which species change, however, was a different matter.

Charles’s most fundamental and novel insight was to see the parallel between species change in nature and the human-managed development of breeds of domesticated animals and cultivated plants. He studied the practices of artificial selection by breeders of animals and plants and proposed that natural species change by the same kind of selection process. The key observation was that species spontaneously generate variety in the anatomy, physiology, and behavior of their offspring. From this variety, breeders select healthy individuals with traits the breeders deem desirable and allow them to mate and produce offspring, which are more likely than not to have these desirable traits. Over many generations, this artificial selection pushes the species to-

9. *Vestiges of the Natural History of Creation*. London: John Churchill, 1844 (first published anonymously; years later the author was revealed to be Robert Chambers).

ward an ideal the breeder aims to achieve—larger size, more consistent color, more manageable behavior, for example. In nature, however, selection of individuals to mate and have offspring is driven by something other than human intelligence and intervention.

Charles found an answer when reading *An Essay on the Principle of Population*,¹⁰ published long before (in 1798) by Thomas Malthus, a man of his father's generation and well-known personally by the family. Malthus wrote about human population and its tendency to increase more rapidly than food production, leading to famine and death. Charles again saw the parallel with the natural world, the tendency to over-production of offspring. Few to very few of the offspring survive to become breeding adults; there must be a natural winnowing process allowing some to survive and causing most to perish before leaving offspring of their own. Given variation between the individual offspring, it seemed very likely that some individuals would have an advantage *because of their differences* from other individual offspring. Being larger or browner or more furry or faster or more tolerant of cold might give the individual an advantage, in the sense that it would more likely survive the stresses and dangers imposed by the world around them—their environment—composed of other individuals of the same species, other creatures trying to catch or evade them or eat the same foods, and the cold, the wet, the drought, the heat of their surroundings. Once conceived, this natural selection mechanism seemed so elegant in its simplicity and universality, almost like a law of physics—to Charles at least.

To others, natural selection seemed *too* simple to be the sole driver of life on earth, to account for the complexity and exquisite functioning of life forms and processes. For many it was unappealingly mechanical and devoid of purpose, denying a role for intelligence, especially the divine super-intelligence that seemed essential for creation of the form and function seen in nature—the key argument of Natu-

10. Thomas Robert Malthus. *An Essay on the Principle of Population*. London: J. Johnson, 1798.

ral Theology. For others, it could explain change within a species and even change of one species into another, leading to progression from species to species across millions of years, yet it could not explain how the progression got its start with the first species in the line. And there was always the question of the origin of the human species. Are we at the end of a long progression of species, gradually accumulating distinctive abilities, or are we a unique creation in the image of God—or somehow both?

Put simply, there were doubts about natural selection as the sole mechanism driving evolution.

Thomas Huxley became notorious as “Darwin’s bulldog,” positively relishing the opportunity to push evolution into the face of the Anglican establishment, especially the evolution of Man from apes. It was easy enough, however, for Huxley to basically ignore natural selection, as he had no need to champion a particular mechanism of evolution, as long as the evidence of evolutionary progression served his professional aim to unseat the Old Guard alliance of church, nobility, and science. And he was very effective.

Lyell, Wallace, and Gray all accepted the power of natural selection to explain the phenomena of the natural world but could not bridge what they perceived as a wide gap between the natural world and Man. Lyell was a patrician, a gentleman scientist, for whom the distinctions of social rank were real, justified, and important. This attitude extended into the natural world, in which there was a hierarchy of worth, at the top of which stood Man. Though he was not a religious man in any traditional sense, Charles Lyell could not abandon the Christian notion of the human species having special dignity in the universe. To suggest that humans are simply evolved animals, a type of ape, was to diminish the dignity of Man. Lyell felt our species had to have a special origin, if not from God then at least arising from outside the framework of the natural world.

Asa Gray was very much a religious man, an evangelical Christian, but also very much a scientist. For him, natural selection was in-

deed an elegant explanation of the diversity of the natural world, but it remained an incomplete explanation without the involvement of God in some key way. Natural selection could be the mechanism by which God had created the natural world (Charles himself allowed that God had probably created the laws which govern the natural world), but this mechanism could not operate as effectively as it obviously had without some essential and ongoing direction by God.

Alfred Wallace was a socialist at heart and certainly not a Christian. He shared Charles's commitment to natural selection as *the* mechanism driving evolution. In fact, when Charles wavered enough to propose sexual selection, really just a variation of natural selection, as a major driver of human evolution (in his *Descent of Man*), Wallace could not get on board with Charles. Where they truly parted ways, however, was over the origin of the human mind. Wallace asserted that nature's normal mechanisms did not apply to the evolution of the human mind, which for Wallace was too unique in its abilities to be of this natural world. Instead, Wallace believed in the reality of a spiritual world from which the human mind draws its unique qualities.

Only Hooker remained close to Charles on all these issues, but even he expressed some anxiety about the adequacy of natural selection to explain all.

“A Regular Bigot”

Charles was emotional about criticism of his theory from any quarter, but he was severely pained by objections from his closest circle of scientific friends. Charles was initially confident that Lyell would come around. When Lyell could not fully accommodate him, Charles felt it as a personal betrayal and suffered one of his prolonged periods of sickly depression. This over-reaction surely tested Emma's and Henrietta's patience, as they nursed Charles through his crisis. Emma was probably grateful to Asa Gray for his effort to reconcile Charles's the-

ory of evolution with Christian beliefs, especially since Charles was initially elated to have a full paper from Gray setting forth his case for reconciliation. Charles even had the paper published in Britain as a pamphlet and arranged for its wide distribution to his more traditionally Christian relatives, friends, and colleagues. But Gray was asserting that there had to be purposeful, intelligently directed assistance in some unspecified way, presumably by God. Otherwise, totally random natural variation within a species could not supply enough useful traits needed for natural selection to cause change rapid enough to match the history of life on earth. This rational argument was embraced by a growing number of scientists and religious writers, and Charles was alarmed.

Charles was deeply resentful of any attempts to insert divine intervention into his evolutionary scheme. Emma and Henrietta could only wonder why this was such a sticking point. It was as though the value of “my theory” depended on showing that evolution operated with total independence of God—no involvement at any stage or in any way. Was this because Charles believed there was no God that could be involved? Charles never revealed such atheistic belief in anything he had said to the family or in his letters and certainly not in his books. Perhaps he had an ideological commitment to deism, which asserts that God created the universe and the laws by which it functions but plays no continuing role in the functioning of those laws in the universe? That seemed highly plausible, given what he had said and written.

But Charles was even more committed to science, to the careful consideration of alternative explanations of nature, so why would he reject out of hand any and all suggestions of a role for God? Was this because he feared that giving legitimacy to such divine explanations would invite mischief and misdirection by the Old Guard of Anglican dons at Oxford and Cambridge, generating crack-pot, half-baked versions of evolutionary theory? Did he so embrace the ambitions and

efforts of Huxley and the X Club members to unseat the Old Guard that he was determined, no matter what, to knock away the religious props of its grip on science?

Or was Charles just disgusted with the fuzziness of religious thinking, the invocation of an unknowable spiritual world that leads to no real explanation at all, that he insisted on excluding all such talk from the profession of science? To this question, Henrietta recalled her father's distress at the growing fascination in good society with "spiritualism." It was increasingly fashionable in the 1870s among their family and friends to attend séances conducted by famed spiritualists claiming to communicate with the spirits of deceased family members. Even Charles's skeptical brother, Erasmus, hosted a séance with a paid medium in his London drawing room (purely for the entertainment value, no doubt). Emma's brother and sister-in-law, Hensleigh and Fanny Wedgwood, who were so close to Charles and Emma, were seriously engaged in research of psychic phenomena. Particularly upsetting for Charles was that no less a leading naturalist than Wallace was an enthusiastic believer in spiritualism.

Nonetheless, Emma and Henrietta managed to persuade a reluctant Charles to attend a séance. As it happened, they were joined by famed author George Eliot and her partner George Henry Lewes, who made a nuisance of himself. Adding to Charles's irritation about being there at all, the room was stifling hot. So, he left the séance "before all these astounding miracles or jugglery took place," he later told Hooker, "... the Lord have mercy on us all if we have to believe in such rubbish."¹¹ Emma and Henrietta stayed through the séance, and in Henrietta's words, "The usual manifestations occurred: sparks, wind blowing and some rappings and moving of furniture."¹² The daughter reported that "Spiritualism made little effect on my mother's mind and

11. Edna Healey. *Emma Darwin: The Inspirational Wife of a Genius*. London: Headline Book Publishing, 2001, p. 292 in the 2002 paperback published by Review.

12. Healey, *Emma Darwin*, p. 292 in Review paperback.

she maintained an attitude of neither belief nor disbelief."¹³ But Emma had faith in an afterlife and did not dismiss spiritualism so completely as Charles. Her biographer Edna Healey suggested that as Emma sat in the dark room, "maybe she half hoped, half feared, to hear her sister Fanny's quiet voice—'It's all a hum, Em'—or the thin cry of a child long dead."¹⁴ Healey was referring to Emma's sister and closest companion until she suddenly died in her mid-twenties, as well as to Emma's and Charles's three children lost at young ages.

Henrietta's cousin Julia, known as Snow (she was born during a rare London snowstorm), daughter of Hensleigh and Fanny and a favorite niece of Charles and Emma, reported a conversation with Emma regarding Charles's "narrowness of view" of spiritualism in contrast to Emma's "clear sightedness" regarding her husband.

Emma told Snow, "I think he has quite made up his mind he won't believe it, he dislikes the thought of it so much. Otherwise I'm sure Mr. Wallace would be just the sort of man he would have believed."

Snow reported, "I could not help saying rather spitefully, 'I thought he used to look upon it as a great weakness if one allowed wish to influence belief.' [Emma] 'Yes, but he does not act up to his principles.' [Snow] 'Well that seems to me what one means by bigotry.' [Emma] 'Oh yes, he is a regular bigot.'"¹⁵

What might seem like a condemnation was Emma merely making an ironic observation, probably said with a twinkle in her eye (and a smile from an unrepentant Charles, if he had been within earshot). Charles made no secret of his discomfort with talk of a spiritual world. He seemed to forbid serious consideration of God acting in or on the material, natural world, especially any effort, however well meaning, to insinuate divine intervention into his evolutionary explanation of nature's operation. In his view, nature had to operate with total independence of the spiritual world.

13. Healey, *Emma Darwin*, p. 292 in Review paperback.

14. Healey, *Emma Darwin*, p. 292 in Review paperback.

15. Healey, *Emma Darwin*, p. 292 in Review paperback.

The Church

A peel of laughter drew Henrietta's attention back to her parents, clearly enjoying this precious moment in the Lake District. She was reminded of how important a lively sense of humor is to a good marriage, or any human relationship. How often had their ability to laugh at themselves and each other rescued them from a tense moment?

Charles and Emma looked back to see if Henrietta and Richard were ready to go, then started off arm-in-arm on the walk down to and along the lakeshore, heading back to the house the family had taken at Patterdale. As she and Richard followed, also arm-in-arm, Henrietta puzzled over her parents' differing attitudes toward religion and belief in God. How was it that two people so similar in social background, intellect, political views, and circles of friendship could diverge so strikingly in their religious beliefs? They literally grew up together and made an exceptionally happy and productive marriage, yet there it was, this fundamental difference of view. The difference was evident but hardly ever mentioned, which made it rather difficult for Henrietta and the other family members to say with any confidence just exactly how their views differed.

Aside, that is, from the obvious difference in their weekly church attendance. Henrietta vividly remembered dressing up for church and trooping with her siblings down the lane with their mother to the Sunday service in the little parish church of Downe village (in mid-century, the Royal Mail added an "e" to the village name to distinguish it from County Down in Ireland, but no "e" was added to the name of their house). As the "parish church," it was of course Church of England. Their father attended the service with the family in the early years, before Annie's death in 1851, but after that fatal blow to his faith in the Christian God, Charles would accompany the family only as far as the lych-gate of the church. During the service, he would stroll the village on his own, perhaps chatting with the local constable. The Reverend John Innes understood. He and Charles had become good friends over

the years. Though they disagreed on almost all matters religious (Innes was a product of High Church Oxford), they thoroughly enjoyed their arguments. One time they realized they had just agreed on some religious point, silently stared at each other for a moment, then burst out laughing when Charles suggested that one of them must be ill!

Revd. Innes was also grateful to Charles for his support of parish business. Typical of Unitarians and freethinkers, both the Wedgwoods and the Darwins were Whigs (later to become the Liberals) as well as landed gentry, sharing a deep sense that their social privilege entailed responsibility for the welfare of their local communities. Therefore, both Charles and Emma were engaged in village life as benefactors and sometimes as active participants, though they mostly preferred to keep to themselves. Emma followed the example of her older sisters at Maer Hall in ministering to the poor and sick of Downe. Charles was inspired and guided by John Henslow, who was not only a university professor but also the Church of England vicar for a parish in Suffolk. Revd. Innes had persuaded Charles to take over the treasurer responsibilities for the local Coal and Clothing Club, which appealed to Charles's propensity for keeping scrupulous accounts of his own family income and expenses. Charles later proposed they start a benefit society to which villagers could pay a small monthly premium that would provide them weekly payments in times of sickness and old age, and five pounds for funeral expenses. In 1850, Charles and the vicar founded the Down Friendly Society, which met regularly at the George and Dragon Inn across the lane from the parish church. Henslow helped draw up the rules of the savings club, and Charles became its treasurer for the next thirty years.

Before the voyage of the *Beagle*, Charles had idolized Henslow at Cambridge, deeming him the man he would most like to be, a country parson-naturalist. Charles emphasized in his mind the role of naturalist pursuing the development of natural science, of course, but intended serious devotion to clerical duties and the welfare of his parishioners. In both respects, Henslow was the exemplar. Charles had

been introduced to Henslow's weekly scientific soirées by his cousin William Darwin Fox, a fellow beetle enthusiast and himself preparing at Cambridge for ordination and a country parish soon after. Charles became a regular and popular Friday night guest of the Henslow household, where he met and impressed a good number of fellow students and distinguished men of science. There he met another ardent beetle collector, Leonard Jenyns, Henslow's brother-in-law and already a country parson. Henslow, Fox, and Jenyns remained life-long friends of Charles. While his career objective was changed by new opportunities opened by his scientific voyage around the world, Charles was always somewhat envious of their lives of quiet respectability as they pursued their science. In a way, Charles and Emma created a similar style of life by withdrawing from London to the relative seclusion of life in their village of Downe.

Young Charles had gone to Cambridge on the rebound from disappointing his father's ambition that Charles become an Edinburgh-trained doctor like his father, Robert, and his grandfather, Erasmus. Dr. Robert was worried that his second son was aimless and might descend into dissipated idleness. His first son, Erasmus, already seemed at risk, having left Edinburgh University without a degree, then continuing his medical studies without enthusiasm at Cambridge then at a London hospital. Unlike Ras, Charlie had fully resolved to abandon medicine after finding the lectures intolerably boring and witnessing two appalling operations, one on a child, before the advent of anesthesia. His sensitivity to pain and suffering in others was manifest in life-long distress whenever he thought of those operations. Recognizing how unfit his son would be for a legal, political or military career, Dr. Robert concluded there would be only one way to salvage a respectable future for a young gentleman passionate only for hiking, hunting, collecting beetles, and socializing—the Church of England.

The Doctor's medical practice introduced him to many country parsons, some who became regular guests in his home. While all had earned their Bachelor of Arts degrees at Cambridge or Oxford, and

a few were truly learned men, many others were “dullards and dawdlers”¹⁶ manifesting little belief in or practice of Christianity.

What calling but the highest for those whose sense of calling was nil? And in what other profession were the risks of failure so low and the rewards so high? The Anglican Church, fat, complacent, and corrupt, lived luxuriously on its tithes and endowments, as it had for a century. Desirable parishes were routinely auctioned to the highest bidder. A fine rural ‘living’ with a commodious rectory, a few acres to rent or farm, and perhaps a tithe barn to hold the local levy worth hundreds of pounds a year, could easily be bought as an investment by a gentleman of Dr Darwin’s means and held for his son. It was inducement enough for a young man to subscribe to almost any creed. When Charles was duly educated and ordained, he would simply step into the job. He would be set up for life. Among the gentry he knew so well, he would enjoy social prominence, a steady income, and eventually a handsome legacy. He could even resume the hunting and hobnobbing that, at the moment, were jeopardizing his career.¹⁷

Dr. Robert was an intellectual and accomplished investor, like his father, Dr. Erasmus. And both were confirmed freethinkers, men of strong convictions and informed opinions but without loyalty to any religious tradition or creed. Though Dr. Robert’s wife Sukey had remained a devout Unitarian in the liberal Wedgwood mode and raised their children in that faith, the socially shrewd Doctor had his sons baptized as Anglicans for the sake of respectability among the gentry of Anglican England. Even his childhood friend Josiah Wedgwood II (Uncle Jos to Charles) had another nephew installed as the Church of

16. Adrian Desmond and James Moore. *Darwin: The Life of a Tormented Evolutionist*. New York: Warner Books, 1991, p. 47.

17. Desmond and Moore, *Darwin*, pp. 47-48.

England vicar of Maer. The Unitarians, along with Methodists, Quakers, Baptists and other evangelical Christians, were considered among the Dissenting Sects, tolerated in the early nineteenth century but excluded from the mainstream of good society—unable to hold public office until well into the century and still unable in the 1820s and 30s to attend Cambridge or Oxford without swearing an oath of belief in the Thirty-nine Articles of Faith of the Church of England.

Under paternal pressure, Charles acquiesced to the Doctor's plan willingly. He could see the benefits of a life in a rural parish where he could pursue his interests in natural history, even contributing to the new wave of natural philosophy (science) to which he had been exposed during his two years at Edinburgh. In his first year there, his brother Ras had been his social and intellectual companion, introducing him to books and men with radical ideas. On his own the second year (Ras had moved on to Cambridge), Charles joined a couple of scientific societies and became a protégé of Prof. James Grant, an early champion of evolution who was pleased to associate with a grandson of Dr. Erasmus Darwin. Charles joined Grant on field trips to explore the tidal zone of the Firth of Forth. He even published a brief paper on one of the tiny marine creatures they studied together. Though he eschewed medicine, Charles fell in love with science. His problem was that science was not yet a respectable profession, only an honored hobby of the social elite, especially the elite educated at Oxford and Cambridge in preparation for Church of England careers. The first university course in botany was created and taught by his mentor at Cambridge, Prof. Henslow. The sciences would be professionalized only in the second half of the 19th century, thanks in great part to men like Thomas Huxley and Joseph Hooker, with the inspiration and support of Charles Darwin himself.

The Church as a career was a neat solution for both Dr. Robert and Charles, with one little hiccup—Charles's growing doubts about what he actually believed, especially after exposure to the radical unorthodoxies of Edinburgh's intellectual life. Cynical as British society had become about the religious sincerity and competence of Anglican

vicars, the Darwins and Wedgwoods were people of high intellectual integrity. Charles had been taught by father, mother, sisters, brother, aunts, uncles, and cousins that good conscience in exposition of ideas is one of the surest signs of good character, and character is all important for being a respectable member of good society. Therefore, in preparation for Cambridge, along with remedial study of Greek and mathematics, he felt compelled to take religion seriously and explore the Christian faith as he had never done before. He read several tomes, one of which was recent, highly rational, and persuasive—*The Evidence of Christianity* by Revd. John Bird Sumner.¹⁸ Charles found the author's logical progression through the evidence and probabilities associated with the divinity of Jesus overwhelmingly persuasive, making the skeptics seem silly in their determined doubts—as good a job done as by any Anglican apologist of the day. In the end, Charles decided there was nothing in the Thirty-nine Articles he could not say he believed.

His Religion

Henrietta may not have known the details of her father's transition from radical Edinburgh to conventional Cambridge, but cynicism about the Church and its churchmen had long been part of the cultural wallpaper, always there, even if too familiar to earn comment. She would have scoffed knowingly at the haughty, ineffectual vicars on the pages of Jane Austen's novels written decades earlier. The Darwins and Wedgwoods seldom discussed personal matters of substance (though very freely about all else), so most of what Henrietta knew of her father's faith journey (at the time of their visit to the Lake District in 1881) she would have read in Charles's autobiography¹⁹ written just a few years earlier (1876). Though precipitated by the request of a German editor, he claimed that he wrote it mainly, if not solely, for the benefit of his

18. John Bird Sumner. *The Evidence of Christianity: Derived from Its Nature and Reception*. London: J. Hatchard, 1824.

19. *The Autobiography of Charles Darwin, 1809-1882: with original omissions restored / edited with appendix and notes by his grand-daughter, Nora Barlow*. London: Collins, 1958.

children and grandchildren (he had regretted his own poor knowledge of the life of his famous grandfather Erasmus). Charles devoted a section of his autobiography to “*Religious Belief*.”²⁰ Allowing for the limitations of self-awareness and the tendency to paint ourselves in respectable hues, this autobiography seems as open and insightful as any, and it would have been at this time Henrietta’s best source beyond what her mother may have shared and her father revealed in personal conversations during her years at Down House.

Recalling his preparation for Cambridge, Charles wrote in his autobiography:

... from what little I had heard and thought on the subject I had scruples about declaring my belief in all the dogmas of the Church of England; though otherwise I liked the thought of being a country clergyman. Accordingly I read with care Pearson on the Creed and a few other books on divinity; and as I did not then in the least doubt the strict and literal truth of every word in the Bible, I soon persuaded myself that our Creed must be fully accepted. It never struck me how illogical it was to say that I believed in what I could not understand and what is in fact unintelligible. I might have said with entire truth that I had no wish to dispute any dogma; but I never was such a fool as to feel and say “credo quia incredibile.”²¹

In this context, the Latin indicates he would be a fool to say “I believe that which is incredible.” Henrietta would have understood her father’s strong conviction that religious belief should be subject to the same standard of evidence as applied in a court of law or in scientific discourse, that faith must be based on evidence intelligible to human reason.

20. In the W.W. Norton paperback, first published in 1969 and reissued in 2005, “*Religious Belief*” is found on pp. 71-80.

21. Charles Darwin, “*Recollections*,” in Barlow, *Autobiography*, p. 49 in Norton paperback.

Two pages on, referring to his study of Paley's *Evidences of Christianity*,²² Charles wrote: "The logic of this book and as I may add of his *Natural Theology*²³ gave me as much delight as did Euclid."²⁴ Both books, as well as Paley's *Moral Philosophy*,²⁵ were core texts of the B.A. curriculum at Cambridge. And "I did not at that time trouble myself about Paley's premises; and taking these on trust I was charmed and convinced by the long line of argumentation."²⁶ Though Paley was culturally passé by Henrietta's time, she had probably read at least *Natural Theology*, the premiere Anglican statement of this distinctively British eighteenth century justification of belief in God as beneficent designer and overseer of the natural world. If so, she would have realized that what must have appealed to her father was that Paley, in keeping with the Age of Reason, did not appeal directly to biblical revelation for evidence of God. Rather he built his logical argument for the existence and active involvement of God on the concrete evidence he found in nature. This was the kind of evidence that natural philosophers/scientists like Charles Darwin could amplify with new evidence that might or might not be consistent with the evidence available to Paley, thereby confirming or refuting Paley's argument. That is, Paley's argument, compelling in the Age of Reason, the Enlightenment, made the question of God's existence and action in the world available and vulnerable to scientific investigation in the nineteenth century. The implications for Anglican England were profound, as Henrietta would have understood.

22. William Paley. *A View of the Evidences of Christianity*. 1794.

23. William Paley. *Natural Theology or Evidence of the Existence and Attributes of the Deity, collected from the appearances of nature*. 1802. Oxford World's Classics edition 2006 published by Oxford University Press.

24. Charles Darwin, "Recollections," in Barlow, *Autobiography*, p. 51 in Norton paperback.

25. William Paley. *The Principles of Moral and Political Philosophy*, 1785.

26. Charles Darwin, "Recollections," in Barlow, *Autobiography*, p. 51 in Norton paperback.

During the voyage years, Charles Lyell's new book on geology²⁷ and Charles's own fossil and geological discoveries in South America were enough to convince Charles that the Old Testament was a "manifestly false history of the world," not to overlook its repugnant attribution "to God the feelings of a revengeful tyrant." That Christian revelation would be connected with the Old Testament "appeared to me utterly incredible."²⁸ Then Charles went on to list in logical progression reasons he "came to disbelieve in Christianity as a divine revelation."²⁹

... the clearest evidence would be requisite to make any sane man believe in the miracles by which Christianity is supported,

... the more we know of the fixed laws of nature the more incredible do miracles become,

... the men at that time were ignorant and credulous to a degree almost incomprehensible by us,

... the Gospels cannot be proved to have been written simultaneously with the events,

... [the Gospels] differ in many important details, far too important as it seemed to me to be admitted as the usual inaccuracies of eye-witnesses,

... many false religions have spread over large portions of the earth like wild-fire ...

... the plain language of the text seems to show that the men who do not believe, and this would include my Father, Brother, and almost all my best friends, will be everlastingly punished. And this is a damnable doctrine.

27. Charles Lyell. *Principles of Geology*. 3 vols. London: John Murray, 1830-33. The Penguin Classics paperback edition, edited by James A. Secord, was published in 1997.

28. Charles Darwin, "Recollections," in Barlow, *Autobiography*, p. 71 in Norton paperback.

29. Charles Darwin, "Recollections," in Barlow, *Autobiography*, p. 71-72 in Norton paperback.

This last point especially seemed to lead Charles to conclude: “I can indeed hardly see how anyone ought to wish Christianity to be true.”³⁰

Having investigated Christianity and found it wanting in so many respects, he turned his attention to the great apologist William Paley and asserted that “The old argument of design in nature, as given by Paley, which formerly seemed to me so conclusive, fails, now that the law of natural selection has been discovered.” “Everything in nature is the result of fixed laws.”³¹ By 1876, Charles’s confidence in “my theory” was as solid as the rocks he collected during his voyage, and in his view, the theory refuted Paley completely. He did not (perhaps dared not) explore the wider implications of such refutation, nor the possibility of reinterpreting Paley’s *Natural Theology* in light of evolution by natural selection. He only boldly asserted that “the generally beneficent arrangement of the world” with its “endless beautiful adaptations which we everywhere meet with” could be accounted for by “the effects which we might expect from natural selection.”³²

Charles shared to some degree Paley’s view of nature as generally a happy place. Not because its designer made sure every species was perfectly adapted to its place in nature, and therefore “happy.” Rather, this adaptive happiness was achieved only through suffering of those disfavored by the natural selection process. Put more bluntly than Charles would have done: only the winners are still around to testify “whether there is more of misery or happiness; whether the world as a whole is a good one or a bad one.”³³ Thus, Charles explained the widespread suffering in the world, as natural selection grinds up individual animals and plants, thereby pushing species toward better and better (happier and happier?) adaptation to their surroundings.

30. Charles Darwin, “Recollections,” in Barlow, *Autobiography*, p. 72 in Norton paperback.

31. Charles Darwin, “Recollections,” in Barlow, *Autobiography*, p. 73 in Norton paperback.

32. Charles Darwin, “Recollections,” in Barlow, *Autobiography*, p. 73-74 in Norton paperback.

33. Charles Darwin, “Recollections,” in Barlow, *Autobiography*, p. 73-74 in Norton paperback.

Traditional attempts to explain why God would allow widespread suffering usually focused on humanity, its Fall from grace in the Garden of Eden, our misuse of free will, which brought pain and death upon not only humanity but all Creation. For Charles, these attempts at explanation were, at best, irrelevant to the suffering and death of non-human animals, which started long before the advent of human beings.

A being so powerful and so full of knowledge as a God who could create the universe, is to our finite minds omnipotent and omniscient, and it revolts our understanding to suppose that his benevolence is not unbounded, for what advantage can there be in the sufferings of millions of the lower animals throughout almost endless time? This very old argument from the existence of suffering against the existence of an intelligent first cause seems to me a strong one; whereas, as just remarked, the presence of much suffering agrees well with the view that all organic beings have been developed through variation and natural selection.³⁴

It is indeed a strong argument, but does it refute the existence of God? Charles only hinted at the possibility that even a benevolent, all-powerful, and all-knowing God might have to employ variation and natural selection in the creation of the universe and all within it.

Next, Charles confronted the argument that mystical experience (he used the words “deep inward conviction and feelings”)³⁵ constitutes persuasive evidence for the existence of an intelligent God. He pointed out that this subjective experience is likely shared as well by many non-Christians, who might easily interpret their mystical experiences differently, thereby pointing toward very different conceptions

34. Charles Darwin, “Recollections,” in Barlow, *Autobiography*, p. 75 in Norton paperback.

35. Charles Darwin, “Recollections,” in Barlow, *Autobiography*, p. 75 in Norton paperback.

of God or Gods or no God. Charles continued along this line by exploring his own inner experience, which during the voyage sometimes led him to “higher feelings of wonder, admiration, and devotion which fill and elevate the mind.”³⁶ Acknowledging that his religious sentiment was never strongly developed, Charles continued:

I well remember my conviction that there is more in man than the mere breath in his body. But now the grandest scenes would not cause any such convictions and feelings to arise in my mind. It may be truly said that I am like a man who has become colour-blind, and the universal belief by men of the existence of redness makes my present loss of perception of not the least value as evidence. This argument would be a valid one if all men of all races had the same inward conviction of the existence of one God; but we know that this is very far from being the case. Therefore I cannot see that such inward convictions and feelings are of any weight as evidence of what really exists.³⁷

It is odd that Charles seems not to see that his “colour blindness” actually serves to illustrate how people differ in their ability to perceive—subjectively experience—“what really exists.” The religious sentiment is more developed in some people than in others. Another person might experience intimations of God’s existence, even though he or she would find it nearly impossible to capture that experience in intelligible words. Charles, being the expert on variation among individuals of the same species, knew that people vary enormously in their propensity to experience “higher feelings” that elevate the mind to more abstract levels of meaning. In the extreme, there are true “mystics,” always a tiny minority but found in every culture. Neither their

36. Charles Darwin, “Recollections,” in Barlow, *Autobiography*, p. 76 in Norton paperback.

37. Charles Darwin, “Recollections,” in Barlow, *Autobiography*, p. 76 in Norton paperback.

rarity, nor their widespread distribution has bearing on whether or not what they experience is truly God or something very like what we think we mean by “God.”

Charles recognized the rational argument for the existence of God that

... follows from the extreme difficulty or rather the impossibility of conceiving this immense and wonderful universe, including man with his capacity of looking far backwards and far into futurity, as the result of blind chance or necessity. When thus reflecting I feel compelled to look to a First Cause having an intelligent mind in some degree analogous to that of man; and I deserve to be called a Theist.³⁸

Charles admitted that about the time he wrote *On the Origin of Species* (1850s) he found this argument compelling, but since that time

... it has very gradually with many fluctuations become weaker. But then arises the doubt—can the mind of man, which has, as I fully believe, been developed from a mind as low as that possessed by the lowest animal, be trusted when it draws such grand conclusions?³⁹

Here are echoes of his reading in the late 1830s of David Hume’s profound skepticism.

I cannot pretend to throw the least light on such abstruse problems. The mystery of the beginning of all things is insoluble by us; and I for one must be content to remain an Agnostic.⁴⁰

38. Charles Darwin, “Recollections,” in Barlow, *Autobiography*, p. 77 in Norton paperback.

39. Charles Darwin, “Recollections,” in Barlow, *Autobiography*, p. 77 in Norton paperback.

40. Charles Darwin, “Recollections,” in Barlow, *Autobiography*, p. 78 in Norton paperback.

Henrietta knew that Thomas Huxley had coined this term, claiming simply to not know, rather than admit to outright disbelief and risk the dread “Atheist” label. To say that you are an agnostic does not specify whether you have truly pushed yourself to the limit of human understanding or you cannot be bothered to try or you dare not say out loud that you are an atheist.

Notwithstanding his humble claim to not know, Charles speculated boldly that belief in God or a First Cause might be a mere artifact or spin-off from the working of that human mind of animal origin. In words implied but not written by Charles, religious sentiment or conviction could have emerged from the operation of the evolved, material brain rather than from any perception or intimation of transcendent spiritual reality. A conjecture he developed at length in his *Descent of Man* was that notions of morality and moral behavior could have emerged from the social instincts that made possible the cooperative group living that enabled our primate ancestors to survive and reproduce themselves. Notions of transcendent reality, and consequent religious behavior, might be spurious side effects of mental processes evolved for social living, not causes of moral sentiments and behavior.

Emma had a particular objection to the following sentence in Charles’s autobiography:

Nor must we overlook the probability of the constant inculcation of a belief in God on the minds of children producing so strong and perhaps an inherited effect on their brains not yet fully developed, that it would be as difficult for them to throw off their belief in God, as for a monkey to throw off its instinctive fear and hatred of a snake.⁴¹

In 1885, years after Charles’s death, when their son Frank was editing the autobiography for public consumption, Emma requested in a letter that Frank omit this sentence:

41. Charles Darwin, “Recollections,” in Barlow, *Autobiography*, p. 77-78 in Norton paperback.

*... as it would not change the whole gist of the Autobiography. I should wish if possible to avoid giving pain to your father's religious friends who are deeply attached to him, and I picture to myself the way that sentence would strike them ...*⁴²

She feared the sentence would

*... give an opening to say, however unjustly, that he considered all spiritual beliefs no higher than hereditary aversions or likings, such as the fear of monkeys towards snakes.*⁴³

Emma and the children knew F(ather), as they referred to him in correspondence, would never draw parallels between humans and animals with intent to give offense. Life long, Charles retained a child-like sympathy with animals, seeing their similarities to humans as much as their differences, and always in the same evolutionary frame of reference. Plants got the same respectful treatment. In his "Reminiscences of My Father's Everyday Life,"⁴⁴ Frank remembered his father "gently touching a flower he delighted in; it was the same simple admiration a child might have." Frank observed: "He could not help personifying natural things."⁴⁵ Emma and others had often cautioned Charles against anthropomorphism in the way he wrote about animals, plants, and even natural selection as intentional actors in nature. He wrote the way he thought, and sometimes his women had to intervene to save him and his family from more controversy and disrepute than was necessary to share his revolutionary, evolutionary views.

42. Charles Darwin, "Recollections," in Barlow, *Autobiography*, footnote to p. 78 in Norton paperback.

43. Charles Darwin, "Recollections," in Barlow, *Autobiography*, footnote to p. 78 in Norton paperback.

44. Francis Darwin. "Reminiscences of My Father's Everyday Life," Chapter 3 of *Life and Letters of Charles Darwin*. London: John Murray, 1887, p. 95 of the D. Appleton & Co. 1897 printing, reprinted by Kessinger Publishing.

45. Francis Darwin, *Life and Letters*, p. 95.

Emma's objection to the sentence was also personal. In the same letter to Frank, she acknowledged that "... your father's opinion that *all* morality has grown up by evolution is painful to me."⁴⁶ Henrietta would have known that long before Emma's letter to Frank.

Both Emma and Henrietta, indeed the whole family, had cause to think that F's unorthodoxy was more radical than he was willing to admit in his autobiography.⁴⁷ Charles and his eldest son William (a banker in Southampton) were avid readers of *The Index*,⁴⁸ an American weekly periodical of the radical wing of the Free Religious Association, composed of dissident American Unitarians and other unbelievers.⁴⁹ In 1871, the editor Francis Abbot invited Charles to contribute an article "in the spirit of reform" without "deference to the authority of the Bible, the Church, or the Christ." Charles declined, claiming he had not thought deeply enough about religion to justify sharing his views in print. He nonetheless expressed his approval of Abbot's pamphlet *Truths for the Times*,⁵⁰ which in fifty propositions forecast "the extinction of the Christian Confession" and the development of a humanistic "Free Religion" that offers "the only hope of the spiritual perfection of the individual and the spiritual unity of the race." Regarding these propositions as evolutionary "truths," Charles wrote to Abbot, "I admire them from my inmost heart, & I agree to almost every word." Uncharacteristically, Charles allowed Abbot to print this endorsement every week in *The Index* for the next several years. Charles was assuming, no doubt, that circulation of *The Index* would be effectively limited to North America. But in 1880, as atheism became a hot political issue even among English Liberals, the growing risk of family embarrassment persuaded Charles and William that the endorsement should be withdrawn.⁵¹

46. Charles Darwin, "Recollections," in Barlow, *Autobiography*, footnote to p. 78 in Norton paperback.

47. Randal Keynes. *Annie's Box: Charles Darwin, his Daughter and Human Evolution*. London: Fourth Estate, 2001, p. 254.

48. Keynes, *Annie's Box*, p. 254.

49. Desmond & Moore, *Darwin*, p. 591.

50. Desmond & Moore, *Darwin*, p. 591.

51. Desmond & Moore, *Darwin*, p. 643.

Frank Darwin recalled that his father touted “the most extraordinary facts” from *The Index* in conversation with his sons and daughters and “was indignant with anyone who doubted their complete accuracy.”⁵² Such obstinacy, like his out-of-hand dismissal of spiritualism, became less uncharacteristic in his older years. Feeling drained by his over-reaction to critics he perceived to be motivated by religiosity, Charles’s antipathy to established religion deepened and hardened. His views in private were increasingly definite and assertive, when he could be persuaded or provoked to share them. Even so, he was careful to steer clear of avowing atheism. Charles was always uncomfortable with the enthusiastic pro-Darwinism of crusading atheists like the notoriously immoral couple, Edward Aveling and Annie Besant, and the over-exuberant German biologist Ernst Haeckel. For a respectable gentleman of Downe parish, association with such aggressive atheism was unthinkable. In public discourse, Charles gravitated to Huxley’s humbler (and evasive) label “agnostic.” He saw no benefit, only danger, in promoting free thought among uneducated, ordinary people. Charles shared, as no doubt did Emma, the elitist concern for preservation of the social order underpinning their comfortable social class.

Charles’s antipathy to traditional Christianity did not rule out God as Creator of the Universe and its governing laws. He seemed sincere in his doubt, often falling back on Hume’s concern that human understanding, emerging from an evolved animal mind, is incapable of grappling with the Question of God. To W.S. Graham, he wrote of his

*... inward conviction ... that the Universe is not the result of chance. But then with me the horrid doubt always arises whether the convictions of man’s mind, which has been developed from the mind of the lower animals, are of any value or at all trustworthy. Would anyone trust in the convictions of a monkey’s mind, if there are any convictions in such a mind?*⁵³

52. Keynes, *Annie’s Box*, p. 254.

53. Letter to W.S. Graham, July 3, 1881. In Francis Darwin, *Life and Letters*, p. 284-286.

Emma and the children were accustomed to Charles's speaking of humans as merely advanced animals and of animals as less complicated prototypes of humanity. But for British society at large, the way Charles talked and wrote about humans and animals was peculiar, and for those without appreciation of self-deprecating humor, it was outright insulting. As with most everything about Charles, this manner of thinking was not contrived. It reflected two deep features of his personality—a profound distaste for the “arrogant” presumption that humans stand apart and above the rest of Creation and a profound affinity with the “rest” of Creation. He truly loved the natural world as much as he loved his own family. But Charles was known to intentionally exploit the shock value of his perspective, such as when he suggested a link between religious devotion and “the deep love of a dog for his master, associated with complete submission, some fear, and perhaps other feelings.”⁵⁴ Charles's could not hide his disdain for the intellect of the great majority of humanity. Amusing for some, liberating for others, and offensive to many, Charles's distinctive perspective on our animal origins seemed to forbid the exceptional power of human intuition and reason to enable some of us—not all—to “see” beyond the observable facts of the Universe.

Even so, Charles seemed at times to long for a broader, more satisfying view. Responding to a Dutch correspondent, Charles noted that “the impossibility of conceiving that this grand and wondrous universe, with our conscious selves, arose through chance, seems to me the chief argument for the existence of God,” but if God is the First Cause, “the mind still craves to know whence it came, and how it arose.” Then he revealed his most powerful objection, born of his hyper-sympathy and unflinching awareness that evolution through natural selection entails an enormously wasteful destruction of little lives: “Nor can I overlook the difficulty from the immense amount of suffering through the world.” Then back to Hume: “The safest conclusion seems to me

54. *Descent of Man*, 2nd edition, 1874, p. 99 in reprint by Prometheus Books, 1998.

that the whole subject is beyond the scope of man's intellect; but man can do his duty."⁵⁵ As a man who could and did do his duty to family and society, Charles recognized here the preeminence of moral obligation. But he did so without the Christian faith in God as the ultimate source of our moral obligation, the one who holds us responsible for doing our duty.

Charles seemed to find it easier to accept the pain and suffering in nature if divine purpose was not governing the life and death of loved ones like his daughter Annie. In an 1866 response to a lady asking if his theory was compatible with a belief in God, Charles wrote: "It has always appeared to me more satisfactory to look at the immense amount of pain and suffering in this world as the inevitable result of the natural sequence of events, i.e., general laws, rather than from the direct intervention of God."⁵⁶ His answer implied that his theory was compatible with a belief in God but not in the providential God of Abraham.

Probably the best short summary of Charles's position on the Question of God is found in a letter to his good, Christian friend, Asa Gray, which both Emma and Henrietta probably had read by the time of the Lake District holiday in 1881. Having read *Origin*, Gray sent Charles a series of letters during 1860-62 challenging him on the origin of design in nature, even though Gray accepted Charles's basic argument for natural selection as a creative force that "could explain exquisite features of the natural world that would otherwise be regarded as convincing evidence for God-given design."⁵⁷ Avoiding an easy default to creationist or providential evolution, Gray urged a subtler

55. Letter to N. D. Doede, April 2, 1873. Darwin Correspondence Project, "Letter no. 8837," accessed on 28 February 2021, <https://www.darwinproject.ac.uk/letter/DCPLETT-8837.xml>. Also published in *The Correspondence of Charles Darwin*, vol. 21.

56. Letter to M. E. Boole, 14 December 1866. Darwin Correspondence Project, "Letter no. 5307," accessed on 28 February 2021, <https://www.darwinproject.ac.uk/letter/DCPLETT-5307.xml>. Also published in *The Correspondence of Charles Darwin*, vol. 14.

57. Janet Browne. *Charles Darwin: The Power of Place* (Volume II of a Biography). Princeton, NJ: Princeton University Press, 2002, p. 174.

form of divinely directed evolution that Charles, not Gray, regarded as a threat to the integrity of his theory. As a gesture of respect for Gray's friendship and intellectual partnership, Charles's responding letter engaged in rare objective analysis of his own religious views:

With respect to the theological view of the question; this is always painful to me. — I am bewildered. — I had no intention to write atheistically. But I own I cannot see, as plainly as others do, & as I should wish to do, evidence of design & beneficence on all sides of us. There seems too much misery in the world. I cannot persuade myself that a beneficent & omnipotent God would have designedly created the Ichneumonidae with the express intention of their feeding within the living bodies of caterpillars, or that a cat should play with mice. Not believing this, I see no necessity in the belief that the eye was expressly designed. On the other hand I cannot anyhow be contented to view this wonderful universe & especially the nature of man, & to conclude that everything is the result of brute force. I am inclined to look at everything as resulting from designed laws, with the details, whether good or bad, left to the working out of what we may call chance. Not that this notion at all satisfies me. I feel most deeply that the whole subject is too profound for the human intellect. A dog might as well speculate on the mind of Newton.⁵⁸

There's that dog again!

Upon reading this letter, Emma and Henrietta might have suspected that Charles's expression of intellectual humility was for the sake of preserving his friendship with Asa Gray. They also might have seen the contrast with the adamant disbelief of his later years as evi-

58. Letter to Asa Gray, 22 May 1860. Darwin Correspondence Project, "Letter no. 2814," accessed on 28 February 2021, <https://www.darwinproject.ac.uk/letter/DCPLETT-2814.xml>. Also published in *The Correspondence of Charles Darwin*, vol. 8.

dence that his religious views had hardened with increasing exasperation that opponents and even friends of his theory could not abide his determination to exclude a divine role in any form.

Her Religion

Sorting through such memories and reflections on her father's views, Henrietta would have asked herself at some point what she really knew of her mother's religious views. Emma's regular attendance at Church of England Sunday services in the village church were no indication of what she actually believed about God. Though both of them had been baptized in the Church of England, Henrietta knew her mother was certainly no orthodox Anglican. She and her siblings suffered the weekly embarrassment of her mother's in-church defiance (when it came time in the service to say the Creed, Emma had her children join her in refusing to turn to the East—staring sullenly and silently into the faces of their fellow parishioners all the way through the Creed).⁵⁹ That Emma was sincerely religious was equally certain. She led the family in daily prayer, read to them from the family Bible, and taught her children a simple Unitarian creed she had absorbed from her Wedgwood family—an idiosyncratic blend of low-church Anglicanism and a casual Wedgwood Unitarianism, flavored by the prevalent evangelicalism of the 1820s and 30s.

Emma seldom spoke or wrote to anyone regarding her religious views. In general, she was known as a “cool fish”—calmly matter of fact in all dimensions of life. Biographers often describe her as “un-sentimental.” She was always kind, caring and warmly sensitive to the feelings of those around her, like her mother Bessy Allen Wedgwood, especially loyal to family and close friends. But in addition to sharing the directness and common sense of her Wedgwood father Josiah II, Emma shared his emotional reserve, which extended to personal reli-

59. Probably the Nicene Creed rather than the Apostles' Creed.

gious views. It is therefore likely that Emma shared little with Henrietta, except through her religious education of the children.

From this education, Henrietta would have surmised that her mother held certain beliefs characteristic of the late eighteenth and early nineteenth century British Unitarians, articulated by the Unitarian minister Joseph Priestley, good friend of Josiah I and Dr. Erasmus, fellow member of the Lunar Society, and the pioneering chemist who discovered oxygen. These Enlightenment-inspired Unitarians insisted on the unity of God and the non-divinity of Jesus, a human person sent by God to show us the way to live with each other in preparation for salvation in an after-life; the Bible was not to be read literally but with rational interpretation; God's providence is active in our world, promoting human virtue and happiness and extending even to the lowest creatures; and regarding the problem of evil in our world, Priestley wrote, "the evils and miseries of which we complain are intended for our good, though we are not always sensible of it. They are the corrections of a wise and affectionate parent."⁶⁰ This Dissenting Sect was outlawed in Britain until 1813 for its denial of the Holy Trinity, but it was nonetheless Bible-based and traditionally Christian in most other beliefs and practices.

Emma's attendance at Church of England services in Downe parish reflected both the similarity of values and beliefs in Anglicanism and Unitarianism and the lack of respectable alternative forms of worship in rural Kent to fulfill her duty to keep the Sabbath. She envied her brother and sister-in-law, Hensleigh and Fanny Wedgwood, who attended a Unitarian chapel in their London neighborhood. She joined them as often as she was "in town" on a Sunday; Henrietta and the other children would have joined them as well.

Henrietta might not have been aware until later in life that her mother's persona had changed significantly with the death of her beloved sister, Fanny—the other Dovelty—at age 26. (Cousin Charles

60. Joseph Priestley. *A Catechism for Children and Young Persons*. London: R. Hunter, 1817, pp. 15, 19-20.

was on the *Beagle* and not yet much in Emma's mind. He learned of Fanny's death months later by letter from his sister Caroline.) It was at Maer Hall that Fanny fell ill in August 1832, coincident with an epidemic of cholera sweeping the country. Her parents Jos and Bessy were away from home, but Fanny was expertly nursed by the eldest sister Elizabeth, age 31, and by Emma, age 24, both of whom regularly doctored the sickly poor in their vicinity, no doubt with the guidance of their uncle, Dr. Robert Darwin. Despite their best efforts and assistance from the local apothecary, Fanny passed away quite quickly. Emma's grief was deep.

As Fanny herself would have done, Emma chronicled her sister's ordeal in unblinking written detail. After the end, Emma wrote:

At 9 came on the final attack and in 5 minutes we lost our gentle sweet Fanny, the most without selfishness of any body I ever saw and left a blank which will never be filled up. Oh Lord, help me to become more like her and grant that I may join her with thee never to part again. Teach me to keep in mind the solemn wishes I now feel to love thee and put my whole trust in thy mercy.⁶¹

She went on pray for the strength to resist the distractions of the world that might dilute and dissipate her resolve to love and pray to God and achieve reunion with her sister, her nearly constant companion and friend since birth.

Emma's modern-day biographer, Edna Healey, wrote:

Perhaps for the first time, Emma now found real comfort in the Unitarian faith she had absorbed almost without thought. This was not the ritual gabble of creeds learned by rote, but the intense experience of direct communication with a loving God. The firm belief in an afterlife in a 'better land' in which a place could be earned and in the power of

61. Healey, *Emma Darwin*, p. 130 in Review paperback.

prayer were to be the twin bedrocks of Emma's faith. Jos, like Dr. Robert Darwin, was something of an eighteenth-century freethinker, and Bessy took more interest in the mind than in the spirit, but Emma was a child of her age and influenced by the evangelical fervor of the time. Jos watched the growing religious fanaticism and hoped that the 'Maerites' [the Wedgwood family raised at Maer Hall] would be too sensible to be in danger of catching the infection. But Emma, though she never indulged in extreme enthusiasm—unlike one of her friends, who took to speaking in tongues ('Poor thing,' wrote Emma, "I should think she would become quite mad soon")—began to develop that profound and unshakeable faith that sustained her for the rest of her life.⁶²

As a modern thinker possibly misunderstanding evangelical "enthusiasm," Edna Healey may have over-estimated the profundity and solidity of Emma's faith. At best it would have been difficult for contemporaries, given Emma's reticence about faith, to know just how profound it was. Henrietta remembered that her mother expressed regret that her faith had weakened later in life, no doubt eroded by the unrelenting religious skepticism and antipathy to traditional Christianity coming from her husband and many other family members, as well as Victorian society at large. Even so, it is clear that Emma became more serious and devout after Fanny's death and remained more serious for the rest of her life, enough so that her children were surprised by family reports that she was lively and outgoing as a young woman before Fanny's death. They remembered their father as the one who, even when moderately ill, cracked the jokes and engaged them in lively play. Emma was always kind and loving, remarkably so, but she projected calm, cool gravity rather than warm gaiety in the household.

62. Healey, *Emma Darwin*, pp. 131-32 in Review paperback.

The Religious Difference

Like her mother and her cousin Snow, Henrietta must have wondered why her father was so adamant in his dismissal of all immaterial phenomena. She may have wondered equally how it was that her mother could accept traditional Christian belief in an afterlife and in the power of prayer to God. As a sophisticated humanist, caught up in Victorian secular optimism and her progressive commitments to social progress, Henrietta seemed to believe in none of traditional Christianity while at the same time remaining open to the possibility of transcendent reality beyond human understanding.

The two couples strolled along the lakeshore toward their house in Patterdale, Charles and Emma arm-in-arm in the lead. The younger couple followed far enough behind that Henrietta felt comfortable in sharing with Richard some of her meditations on the differences in her parents' religious views. The topic was not new between them but was seldom broached. They agreed, as when discussed in times past, that the origins of these differences between Charles and Emma must be found in the events of their youth, because Charles had documented in his autobiography that he had shared with Emma his religious doubts well before their wedding, almost at the moment of their engagement. And Emma had told Henrietta as a child and young adult that her Unitarian creed came from her Wedgwood family.

What may have fascinated Henrietta and Richard was that the elder Darwins had more or less maintained their differences ever since their wedding, despite their shared experience of the same intellectual, cultural and social upheavals and trends during Victoria's reign. Both Henrietta and Richard had undergone some degree of convergence in their religious and other views, which seemed a natural development in the course of a happy marriage. Though equally happy together for decades longer, Charles and Emma did not seem to converge, only to accommodate their differences, mostly by not talking about them. Henrietta probably sensed a sort of cloud hanging over her parents, an unresolved disagreement they had long set aside until it became

an unseen presence in their daily lives, like background noise seldom consciously heard. Religion was never a central concern of their lives in the same way as family was for Emma and science was for Charles. As much as religion was embedded in household routine for Emma and an unwelcome distraction for Charles, they never seemed to share the passionate anguish of so many other Victorians, whether for or against belief in God.

As Henrietta and Richard speculated on causes of the religious difference between Charles and Emma, they realized how deeply they would have to probe into social and family histories as well as idiosyncrasies of personality. Just then they all arrived at the house, and a light rain drove them indoors to greetings from the servants. Henrietta and Richard joined Charles and Emma in congratulating themselves for a fine outing, finished just in time to evade the rain.

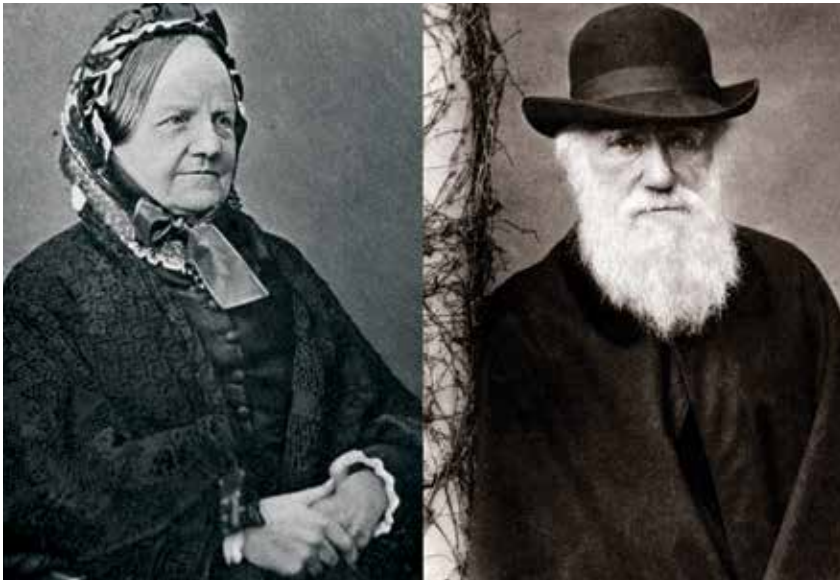


FIGURE 16 Charles and Emma in 1881, the year they and the Litchfields made their second visit to the Lake District. Note how much less aged Emma appeared compared to Charles in the same year, though she was almost one year older. Charles died in April 1882, and Emma lived to 1896. *Photo of Emma by Walker & Cockerell—Public domain, via Wikimedia Commons—image cropped. Photo of Charles by Julia Margaret Cameron—Public domain, via Wikimedia Commons—image cropped.*