

The ‘Annie Hypothesis’: Did the Death of His Daughter Cause Darwin to ‘Give up Christianity’?

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Abstract. This article examines one of the most widely believed episodes in the life of Charles Darwin, that the death of his daughter Annie in 1851 caused the end of Darwin’s belief in Christianity, and according to some versions, ended his attendance of church on Sundays. This hypothesis, it is argued, is commonly treated as a straightforward true account of Darwin’s life, yet there is little or no supporting evidence. Furthermore, we argue, there is sufficient evidence that Darwin’s loss of faith occurred before Annie’s death.

Keywords. Anne Elizabeth Darwin, Charles Darwin, Christianity, evolution, religion

1. Introduction

A perusal of recent scholarly and popular books, articles and broadcasts on Charles Darwin will reveal that one of the elements usually repeated about his life story is that Darwin lost his religious faith as a result of the tragic death of his daughter Anne Elizabeth (or ‘Annie’) Darwin (Figure 1). Some scholars also claim that Annie’s death influenced Darwin’s later writings on evolution. These claims have wide currency in scholarly and popular publications, on the internet and on screen. However, as this article demonstrates, there is no direct documentary evidence to support these claims in anything written by Darwin or his contemporaries—instead, scrutiny of such evidence suggests that Annie’s death had no connection at all with Darwin’s loss of faith. Therefore we argue that the ‘Annie hypothesis’ should be classified, along with ‘Darwin’s finches’ (Sulloway, 1982) the Darwin-Marx letter (Colp, 1982), the death-bed conversion (Moore, 1994) and ‘Darwin’s delay’ (van Wyhe, 2007) as a modern Darwin myth, which has arisen only in recent times and was wholly unknown to Darwin, his contemporaries and generations of subsequent commentators.

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Fig. 1. Anne Elizabeth Darwin. Daguerreotype, 1849.

2. *Annie Darwin*

Annie Darwin was born on 2 March 1841 in London and died on 23 April 1851 in Malvern, after an illness that lasted at least several weeks and perhaps as long as 9 months. She was Darwin's second child of 10 and one of three to die in childhood. Darwin mentioned Annie as a baby (though not by name), briefly in his 1877 paper *A biographical sketch of an infant*, a publication generally devoted to observations on her elder brother William: 'he [William] held pencils, pens, and other objects far less neatly and efficiently than did his sister [Annie] who was then only 14 months old, and who showed great inherent aptitude in handling anything' (Darwin, 1877, p. 287).

Before her final illness, Annie featured in 17 of Darwin's surviving letters, (Burkhardt et al., 1985 - hereafter CCD) usually in statements of affection (e.g. 'not so bad a girl,' 'I long to kiss Annie's botty-wotty'), praise ('Annie is something... a second Mozart') or humour ('Miss Annie is not quite ready to be married yet'). She was also mentioned a dozen or so times in the so-called *Notebook of observations on the Darwin children* (*Darwin Online*¹) maintained by Charles and Emma, with Emma noting that at age three and a half: 'Obstinacy is her chief fault at present.'

Sometime before her 10th birthday, Annie fell ill. A retrospective note in Emma's diary for 27 June 1850 records: 'Annie first failed about this time' (*Darwin Online*²) and Darwin wrote 'Her health failed in a slight degree for about 9 months before her last illness.' (*Darwin Online*³) According to her sister Henrietta, a family trip to Ramsgate in October 1850 was made on account of Annie's poor health (Litchfield, 1915, p. 132). Henrietta also recorded that Darwin took Annie to Malvern on 24 March 1851, in the hope that the water cure espoused by Dr James Gully would lead to a cure. Darwin then left Annie in the care of her nurse Brodie, who was joined by the family governess, Miss Thorley a few days later.

Darwin was summoned back to Malvern on 15 April and arrived on 17 April. The series of letters that followed between Charles and Emma Darwin provide a poignant record of the hopes and fears of the parents of a dying child. (CCD 5, pp. 13–26) A single entry in Emma's diary for 23 April 1851, chilling in its terseness, records only the time of Annie's death: '12 o'clock.' (*Darwin Online*⁴) Darwin, in his diary or 'Journal' recorded '23 April our dear child expired.' (*Darwin Online*⁵)

That Annie's death caused great distress to her parents and family is beyond dispute. A week after her death Darwin penned a tender memoir of Annie, which was first published (in part) by his son, Francis, in *The life and letters of Charles Darwin* (1887) and since then has appeared in several other publications (Darwin, 1887; Colp, 1987; CCD 5 and *Darwin Online*⁶). Darwin closed the memoir with a cry from the heart: 'We have lost the joy of the Household, and the solace of our old age:—she must have known how we loved her; oh that she could now know how deeply, how tenderly we do still and shall ever love her dear joyous face. Blessings on her.'

Darwin also mentioned Annie's death in his *Autobiography*: 'We have suffered only one very severe grief in the death of Annie at Malvern on 24 April 1851, when she was just over 10 years old. She was a most sweet and affectionate child, and I feel sure would have grown into a delightful woman. But I need say nothing here of her character, as I wrote a short sketch of it shortly after her death. Tears still sometimes come into my eyes, when I think of her sweet ways' (Barlow, 1958, pp. 97–98).

However, it must be stressed that nowhere in the millions of written words by Darwin that survive did he ever indicate, directly or indirectly, that Annie's death had anything to do with his loss of faith. Of course it would be naïve to restrict the evidence only to explicit statements. But first we must acknowledge that there are none. Furthermore, as we shall see, the balance of all surviving evidence that bears on his loss of faith suggests there was no connection with Annie at all.

3. *When Did Darwin Begin to Have Doubts about Christianity?*

Darwin wrote relatively little about his religious beliefs. He was baptized in the Parish Church of St. Chad's, Shrewsbury, on 15 November 1809. As a child, he initially

attended the Unitarian chapel in Shrewsbury with his mother; later, after her death in July 1817 his sisters apparently took him to the Anglican Church (Darwin, 1887, 1, p. 27). He was a believer in early life as he recalled in his *Autobiography*, begun in 1876, that he once held ‘the firm conviction of the existence of God, and of the immortality of the soul.’ However, he added, ‘I do not think that the religious sentiment was ever strongly developed in me’ (Barlow, 1958, p. 91). He remembered running to school and afraid of being late: ‘I prayed earnestly to God to help me, and I well remember that I attributed my success to the prayers and not to my quick running’ (Barlow, 1958, p. 25). Darwin may have recorded this because it was perhaps the only childhood memory of faith or prayer that he could remember.

After 2 years of studying medicine at Edinburgh University with little enthusiasm, Darwin’s father proposed that his son become a clergyman. Pre-requisite to becoming a clergyman in the Church of England was a B.A. degree from an English University, so Darwin joined Christ’s College, Cambridge in 1827. There he attended chapel, as was required, and it is likely would have taken his turn reading from the Bible at the front of the chapel, something curiously unnoticed by his biographers to date (van Wyhe, 2009). Darwin also read and admired the Rev. William Paley’s *View of the evidences of Christianity* (1794) and *Natural theology* (1802) (Fyfe, 1997).

Although Darwin appeared to hold conventional Christian beliefs at this time, it is unclear how deep-seated these were. His recollections in his *Autobiography*, quoted above, suggest some early misgivings about Anglican doctrine, but not about the Bible itself:

I asked for some time to consider [becoming a clergyman], as 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 (Barlow, 1958, pp. 56–57; *Darwin Online*).⁷

His daughter Henrietta’s recollections also emphasize his doctrinal doubts: ‘He says it was difficult enough for him even then [upon leaving Edinburgh] to drill his reason into accepting the doctrines of the church, although he was at that time and for some time after quite orthodox. . . He also studied [Pearson] in the Creeds - but he had to repeat very often “I believe in the Bible now” [Pearson, *An abridgement of the Exposition of the Creed*. (1729)] proves the Creeds to be true from the Bible, therefore they must be true.’ (*Darwin Online*)⁸ It is interesting to note the time scale implied by Henrietta’s remark, that Darwin continued to be quite orthodox for ‘some time after,’ hardly consistent with an understanding that he maintained religious belief instead for a further 20 years until Annie’s death (see below).

Additional evidence of religious doubt comes from the recollection of Darwin’s Cambridge friend John Maurice Herbert of ‘an earnest conversation’ with Darwin ‘about

going into Holy Orders; & I remember his asking me with reference to the question put by the Bishop in the Ordination service: "Do you trust that you are inwardly moved by the Holy Spirit &c" whether I could answer in the affirmative; & on my saying "I could not," he said, "neither can I, & therefore I can not take orders." (Darwin Online⁹)

After Cambridge, during the voyage of the *Beagle* (1831–1836), Darwin remembered another moment that showed that he still retained more-or-less orthodox Christian views. 'Whilst on board the *Beagle* I was quite orthodox, and I remember being heartily laughed at by several of the officers (though themselves orthodox) for quoting the Bible as an unanswerable authority on some point of morality' (Barlow, 1958, p. 85). Henrietta recorded the same story, but with words attributed to Darwin: "'Well, if the Bible is true that is wrong, you know" wh. was received with roars of laughter—tho the officers were religious men.' (Darwin Online¹⁰)

In his *Autobiography*, Darwin reported that it was in 1836–1839, after his return from the *Beagle* that he began to think deeply about religion: 'During these 2 years I was led to think much about religion.' In 1838, he wrote in his 'Journal': 'All September read a good deal on many subject: thought much upon religion. Beginning of October ditto.' (Darwin Online¹¹) His theoretical notebooks from the period sketch out arguments on comparative religion similar to those later reported in his *Autobiography* (see below) as he wrote in his *Notebook N*: 'people say I know it, because I was always told so in childhood, hence the belief in the many strange religions.' (Darwin Online¹²) In Darwin's 'Old and useless Notes about the moral sense and some metaphysical points' he wrote: 'Macculloch Vol. I. p. 115. Attributes of Deity—on Belief—you belief things you can give no proof for. and one often replies "what you say is perfectly true, but you do not convince me."' which dates from c. 1838. (Darwin Online¹³) And in his *Notebook M* Darwin wrote:

savages (mem York Minster) consider the thunder & lightning the direct will of the God... Those savages who thus argue, make the same mistake, more apparent however to us, as does that philosopher who says the innate knowledge of creator has been implanted in us ... by a separate act of God, & not as a necessary integrant part of his most magnificent laws (Darwin Online¹⁴)

The *Autobiography*, as published by Nora Barlow in 1958, omits dates that Darwin wrote in the original manuscript within this comment:

But I had gradually come, by this time, (i.e. 1836–1839) to see that the Old Testament from its manifestly false history of the world, with the Tower of Babel, the rainbow as a sign, &c., &c., & from its attributing to God the feelings of a revengeful tyrant, was no more to be trusted than the sacred books of the Hindoos, or the beliefs of any barbarian. (Darwin Online¹⁵)

This has led some historians to doubt that the statement 'by this time' actually refers to the 1836–1839 period. Yet it is clearly written in the manuscript by Darwin. During

this time, Darwin also appears to have abandoned a Miltonic view of ‘man’s first disobedience’ as the source of evil; instead he looked for an evolutionary explanation in *Notebook M*: ‘Our descent, then, is the origin of our evil passions!!—The Devil under form of Baboon is our grandfather!’ (*Darwin Online*¹⁶)

Michael Ruse argued, convincingly in our view, that Darwin’s increased devotion to the supremacy of natural laws during and after the voyage contributed to his abandonment of belief in miracles. ‘Paley made the whole truth of the Christian revelation entirely dependent on the genuineness of the biblical miracles. So when miracles went for Darwin, Christianity went too’ (Ruse, 1979, p. 180).

The fact that Darwin’s views had shifted from what he termed ‘orthodox’ to what he called ‘doubts’ by 1838 is clear from a conversation with his free-thinking father, reported in the *Autobiography*: ‘Before I was engaged to be married (i.e. 11 November 1838), my father advised me to conceal carefully my doubts’ (Barlow, 1958, p. 95). In fact, Darwin did not follow his father’s advice, as we learn from Emma’s surviving letters to him before and after their marriage. In one November 1838 letter she regretted that ‘our opinions on the most important subject should differ widely’ and referred to Darwin’s ‘honest & conscientious doubts.’ (CCD 2, p. 122) In a *c.* February 1839 letter she wrote:

while you are acting conscientiously & sincerely wishing, & trying to learn the truth, you cannot be wrong ...but I believe you do not consider your opinion as formed. May not the habit in scientific pursuits of believing nothing till it is proved, influence your mind too much in other things which cannot be proved in the same way, & which if true are likely to be above our comprehension. I should say also that there is a danger in giving up revelation... (CCD 2, pp. 171–172)

The last three words seem to be the most specific hint of Darwin’s views from this time - he was considering ‘giving up’ his belief in divine revelation. This letter also suggests that Darwin made reference to evidence as a reason for doubting divine revelation had occurred.

4. *What Reasons Did Darwin Give?*

It appears not to have been previously stressed that most of the reasons Darwin gave in his *Autobiography* for his loss of faith were what we might now call comparative anthropology, namely his awareness of the wide variety of religious beliefs both spatially around the globe in different cultures and chronologically across human history (see Brooke, 1985). Darwin thus took a universal and general, as opposed to local or Eurocentric, view of religious beliefs. This is consistent with his study of species across space and time and his frequent remarks in his private notes of humans as just another species.

His two principal lines of argument against Christianity are evidential: the Old Testament and Gospels fail as history, while comparative anthropology demonstrated the unreliable and inconsistent nature of sacred scriptures. A third, more emotional strand in his argument is ethical: the immorality of divine retribution and eternal punishment.

In his discussion of religion in the *Autobiography*, Darwin targeted natural theology as much as revealed religion. In particular, he again drew on his awareness of other cultures, when he dismissed the argument for the existence of God from inner convictions because 'all men of all races' did not have 'the same inward conviction of the existence of one God.' However, towards the end of the discussion, Darwin revealed that one argument for the existence of God held weight with him: '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' (Barlow, 1958, pp. 92–93). However, a few lines later, he argued 'finite, evolved minds fail when contemplating the infinite' and therefore concluded 'The mystery of the beginning of all things is insoluble by us; and I for one must be content to remain an Agnostic.' Furthermore Darwin described his feelings within a context of increasingly common disbelief during the 19th century: 'Nothing is more remarkable than the spread of scepticism or rationalism during the latter half of my life.' Hence Darwin's experiences were similar to and shared with some of his friends and family. In his autobiography he referred to the fact that 'men who do not believe' included 'my Father, Brother and almost all my best friends' (Barlow, 1958, p. 87).

There is one other source from Darwin's hand. In 1873 Darwin provided answers to a questionnaire by his cousin Francis Galton as part of the latter's research for his book *English men of science: their nature and nurture* (1874). Galton's questions are given in italics.

Has the religious creed taught in your youth had any deterrent effect on the freedom of your researches? No.

Religion? Nominally to Church of England.

Independence of Judgment? I think fairly independent; but I can give no instances. I gave up common religious belief almost independently from my own reflections. (Darwin, 1887, 3, p. 179)

According to the letter from Emma and Darwin's own statements it was his gradual appreciation that Christianity was not supported by evidence that led to his disbelief. Nevertheless this never seems to have amounted to atheism as he seems always to have retained a theistic belief in a creator as first cause. The important point was disbelief in miracles, as Darwin summarized: 'Everything in nature is the result of fixed laws' (Barlow, 1958, p. 87). Indeed this interpretation is hardly surprising given that similar losses of faith were common amongst educated men of his time, and for similar reasons.

5. When Did Darwin 'Give up Christianity'?

In his *Autobiography*, Darwin recalled that he was at first reluctant to give up his religious belief:

But I was very unwilling to give up my belief. . . I can well remember often and often inventing day-dreams of old letters between distinguished Romans and manuscripts being discovered at Pompeii or elsewhere which confirmed in the most striking manner all that was written in the Gospels. But I found it more and more difficult, with free scope given to my imagination, to invent evidence which would suffice to convince me. (Barlow, 1958, p. 86–87)

He also described his loss of faith as a slow painless process: 'disbelief crept over me at a very slow rate, but was at last complete. The rate was so slow that I felt no distress, and have never since doubted even for a single second that my conclusion was correct' (Barlow, 1958, p. 87). However, nowhere, in his writings, did Darwin provide a definitive date for when this process of disbelief was complete. Writing of the 1837–1843 period, the editors of Darwin's correspondence noted: 'From Darwin's notebooks of this period it is obvious that he had already given up a belief in orthodox church religion and that he no longer accepted creationism or design in nature.' (CCD 2, p. xxii)

It is important to remember that personal belief and conviction is not the same as outward behaviour such as public observance. It is not known when Darwin stopped attending church on Sundays. Francis Darwin recollected in 1884 that in later life:

[Darwin] worked on Sundays exactly the same hours as on other days. The only occasion which I can remember his being at Church were the christening [on 21 May 1857] of the baby Charles who died, and the funeral of Uncle Ras; the first occasion (the christening) I only remember because my father was there which to us children [was] an extraordinary and abnormal occurrence.' (*Darwin Online*¹⁷)

This recollection by Francis, who was at the time 8 years and 9 months old, provides evidence that Darwin had stopped attending church at least by the mid-1850s, but the non-attendance could have started much earlier. No further evidence is known. This habit of non-attendance continued for the remainder of Darwin's life. George Sketchley Ffinden (vicar of Downe from 1871) recalled '[Darwin] never came to church, and it was such a bad business for the parish, a bad example' (Anon, 1909). In 1889, George William Foote wrote:

He [Darwin] did not, however, go through the mockery of attending church. I was informed by the late head constable of Devonport, who was himself an open Atheist, that he had once been on duty for a considerable time at Down. He had often seen Darwin escort his family to church, and enjoyed many a conversation with the great man, who used to enjoy a walk through the country lanes while the devotions were in progress. (Foote, 1889, p. 20)

One indirect piece of evidence can be used to anchor Darwin's final abandonment of Christianity. In September 1881, 7 months before his death, Darwin was visited by the

Marxist and atheist Edward Aveling and German atheist Ludwig Büchner. In 1887, 5 years after Darwin's death, Aveling published a pamphlet entitled *The religious views of Charles Darwin* (Aveling, 1883). In the pamphlet, Aveling provided an account of their 1881 conversation with Darwin, with Aveling's recollection of Darwin stating: 'I never gave up Christianity until I was 40 years of age.' Aveling stressed that the utterance proved that Darwin abandoned Christianity before Aveling's own birth in November 1849:

I confess that a great joy took possession of me as I heard a statement by its implication so encouraging. I, like the rest of the outside world, was not sure as to his position in regard to religion. Now, from his own lips, I knew that before I was born this, my master, had cast aside the crippling faith. The step taken by so many of us had been taken by him long ago. What a strength and hope are in the thought that the first thinker of our age had abandoned Christianity (Aveling, 1883, p. 6)!

Aveling claimed that he asked Darwin why his long delay before giving up Christianity, to which Darwin replied: 'that he had not had time to think about it. His time had been so occupied by his scientific work, that he had none to spare for the careful study of theological questions.'

It is interesting to note that during this conversation Darwin was urged to contribute to the atheist cause by declaring his disbelief. Darwin replied that little good would be achieved. Aveling countered: 'Had he [Darwin] kept silence [rather than publishing *Origin of species*], the tremendous strides taken by human thought during the last 21 years would have been shorn of their fair proportions, perhaps had hardly been made at all.' Here would have been a perfect opportunity for Darwin to successfully counter Aveling, if Darwin could have replied that he *had* delayed the *Origin* for many years. His failure to capitalize at this point is yet more evidence that Darwin did not postpone publication of the theory of evolution (van Wyhe, 2007). And then when asked why he gave up his belief, Darwin stated simply: 'It is not supported by evidence.'

Opinions differ as to how seriously one should take the Aveling record and how it should be interpreted (see below). However, it is worth noting that the accounts of Aveling and Darwin are consistent in two important ways: both stress the role of evidence (or lack of it) in Darwin's decision to abandon religion and neither makes any mention of Annie's death. In fact, Darwin's reported lack of distress in his loss of faith twinned with the fact that Annie's death was probably the most distressing event in Darwin's life is strong evidence that Annie's death had nothing to do with this process.

6. *The Historiography of Annie*

So how did Annie's death come to feature so prominently in recent accounts of Darwin's religious beliefs? Aside from his son's *The life and letters of Charles Darwin*, (which reproduced part of Darwin's memoir of her) there was barely a mention of Annie

Darwin's death by writers or biographers in the 19th century (Poulton, 1896, p. 41). The first extensive study of Annie's death and Darwin's grief—'Charles Darwin's insufferable grief' by American psychiatrist and Darwin scholar Ralph Colp Jr.—was not published until 1987 (Colp, 1987).

In his study, Colp catalogued over two dozen references to Annie's death in the biographical record during the 20th century, starting with references to Darwin's memoir of Annie in three accounts of Darwin's life published in 1927. Subsequently, according to Colp, Annie's death (and often also Darwin's memoir of her) was cited in over 20 biographical accounts published from 1937 to 1987, but did not appear in at least half a dozen other biographies. However, in none of these accounts is there any suggestion of a link between Annie's death and Darwin's loss of faith. Similarly, in her 1990 account of Darwin in Malvern, Janet Browne made no such link (Browne, 1990).

In his 1987 study, Colp drew on a full-length transcript of Darwin's sketch of Annie and Darwin's correspondence to emphasize Darwin's affection for his daughter and the grief that Darwin suffered at her loss. Colp did not suggest a connection between Annie's death and Darwin's loss of faith but he did mention: 'James Moore has suggested that Annie's death, together with other factors, caused Darwin finally to give up his diminished belief in Christianity. Dr Moore intends to discuss this, along with the evolution of Darwin's religious views, in a forthcoming study' (Colp, 1987, p. 31).

7. *The First Links between Annie's Death and Darwin's Loss of Faith*

The first connection between Annie's death and Darwin's loss of faith we have found appears to occur in the 1978 BBC TV series *The Voyage of Charles Darwin*, where writer Robert Reid or producer Christopher Ralling included a passage on Darwin's religious beliefs from the *Autobiography* as a voiceover accompanying a funeral scene in which the deceased is unidentified (but, we assume, is meant to be Annie). It seems, however, that other commentators did not adopt this tentative link between Darwin's religion and Annie's death.

The first suggestion in print that Annie's death precipitated Darwin's loss of religion—the 'Annie hypothesis'—appeared in a remark by historian James Moore made in 1982, apparently as conjecture: 'Perhaps it was the "bitter and cruel" death in 1851 of 10-year-old Annie, his favourite child, just a month after he had read the moral challenge to that doctrine in Francis Newman's 'excellent' spiritual autobiography, *Phases of Faith*, that prompted Darwin, as he later said, to give up Christianity once and for all' (Moore, 1982, pp. 188–189). A connection between the death of Darwin's father and Annie's death was also suggested in Moore (1988).

A full statement of the 'Annie hypothesis' came a few years later, in 1989, in James Moore's book chapter 'Of love and death: Why Darwin "gave up Christianity"' (Moore, 1989). Early in the chapter, a summary of the position that Darwin lost his faith in

the late 1830s is provided. The family quarrels over the publication of sections of Darwin's *Autobiography* and memoir of Annie were then analysed in order to suggest that something was missing from existing accounts of Darwin's apostasy. Towards the end of the chapter it was argued that Darwin's loss of faith occurred not in the 1830s, but in the late 1840s and early 1850s, during a period bracketed by the deaths of Darwin's father and of his daughter Annie.

A pair of reasons were provided for the conclusion that Annie's death was the key to Darwin's apostasy: a reinterpretation of the *Autobiography* and Darwin's reading list: 'First, it [the prevailing view of Darwin's loss of faith] takes the *Autobiography* too seriously as a statement of causality and not seriously enough as an ascription of dynamics.' Secondly, the Aveling pamphlet: 'The second reason why I dissent from the prevailing view of Darwin's loss of faith is the uncontroverted testimony of Edward Aveling that Darwin did in fact finally relinquish Christianity at a period approximately 10 years later than the one usually assigned.'

Moore's 1989 analysis of Darwin's *Autobiography* included a lengthy discussion of Darwin family disagreements over which parts of the text should or should not be published. Moore also attempted a reconstruction of the state of Darwin's mind during the years 1848–1851 and when writing the *Autobiography*. The first reason offered for a link between Darwin's religious beliefs and Annie's death is their proximity in the text of the *Autobiography*:

he [Darwin] has drawn a line of demarcation in the family memoir, which closely follows the section on religious belief, by recalling poignantly his wife's 'beautiful letter' to him on the subject of his own eternal salvation, and by then remembering the 'very severe grief' they suffered and the 'short sketch' he wrote to commemorate their deceased daughter. (Moore, 1989, p. 209)

In the *Autobiography*, Darwin wrote the incorrect dates for Annie's death (and for his father's death). Moore (like Colp before him) interpreted this error as evidence of a heightened emotional significance of these events for Darwin. Yet it seems more plausible that heightened emotional significance would make dates *more* rather than *less* memorable. In fact, a more mundane explanation of the error stems from a close examination of Darwin's manuscript 'Journal,' which he probably consulted when writing the *Autobiography*. Here, although correctly dated on the previous line as '23 April,' the phrase 'our dear child expired' runs into the date for the entry for the following day '24th,' so that Darwin probably misread it as 'our dear child expired 24th.' (*Darwin Online*¹⁸).

The chapter 'Of love and death' also included a careful study of Darwin's reading lists, pointing out that Darwin was still reading books on religion in the 1840s and 1850s, even though according to the prevailing view, he was by then a hardened sceptic: 'Since 1840 he had shown an interest in various titles that, on the assumption he was already a confirmed unbeliever, should perhaps not have engaged him' (Moore, 1989, p. 212). A

lengthy but speculative reconstruction of the effects of Darwin's reading on his state of mind before Annie's final illness was then adduced. This was built from five single-line entries in Darwin's reading list: (*Darwin Online*¹⁹)

1848: April 21 Norton Genuineness of the Gospels—good

1848: July 20 Sterlings Memoir of by Hare—moderately good

1849: Sept. 5 Newman on the Soul

1850: Aug 30 Hebrew Monarchy,—poor

1851: March 16th Newman Phases of Faith excellent

Moore's account was highly innovative since he was probably the first historian to read all of these works and analyse their content in light of Darwin's interests. Nevertheless these scattered entries record just 5 out of the 90 or so books that Darwin recorded reading between 1848 and 1851. Furthermore it does not logically follow that loss of religious belief must entail loss of interest in intellectual discussions on the subject. Indeed Darwin never completely lost interest in such discussions of religion. In his last letter to Alfred Russel Wallace dated 12 July 1881, Darwin wrote of reading William Graham's *The creed of science: religious, moral, and social* (1881): 'he discusses many great subjects, such as the existence of God, immortality, the moral sense, the progress of society, etc. . . . I could get no clear idea of his notions about God. Notwithstanding this and other blemishes, the book has interested me *extremely*' (Marchant, 1916, 1, pp. 318–319). So the evidence of reading books on religion seems to take us no closer to dating Darwin's loss of faith. In any case, the works Darwin read in 1848–1851 are not pious discussions of faith, but include a critical examination of the evidence for Christianity and a personal voyage on the part of the author away from orthodox belief.

Moore also marshalled the testimony of Aveling in support of the 'Annie hypothesis.' Moore described this testimony, which included the '40 years of age' utterance, as 'uncontroverted.' In his brief account of the same visit, Büchner did not mention the '40 years of age' (Büchner, 1901, pp. 147–148). However, in Aveling's favour, a late date for when Darwin 'gave up Christianity' goes against what Aveling, as an advocate of atheism, would perhaps have preferred and is consistent with his surprise at the length of time it took Darwin to give up Christianity. Furthermore, Darwin's son Francis, who was present during the Aveling interview, wrote in *The life and letters of Charles Darwin*, 'Dr. Aveling gives quite fairly his impressions of my father's views' (Darwin, 1887, 1, p. 317).

Therefore, accepting Aveling's recollection, what does the phrase 'gave up Christianity' actually mean? Given the abundant evidence of Darwin's scepticism as early as the late 1820s and more serious and outspoken scepticism and consideration of abandoning revelation by the late 1830s, a more plausible interpretation is that it means that he gave

up formal observance, such as attendance at church, at or around the age of 40, rather than a change in inner conviction. One might even suggest that telling Aveling, a stranger, the date of Darwin's change in public observance, rather than his personal thoughts, is quite plausible. Whatever Darwin meant by this statement, even a literal interpretation places Darwin's abandonment of Christianity sometime in his 40th year (12 February 1849 to 12 February 1850), between 14 and 28 months before Annie's death.

It is unclear what other visible effects there were to Darwin's disbelief apart from not attending church. He had some private anticlerical feelings as Francis recalled: 'He had rather a prejudice against young curates and bishops & enjoyed [the] proverb "A bench of bishops is the devils flower garden."' (*Darwin Online*²⁰) Darwin's niece Julia Wedgwood wrote in 1884:

Every one, I suppose, who feels Religion infinitely the most important subject of human attention, wd be aware of a certain hostility towards it in his attitude, so far as it was revealed in private life. . . . he had no hostility towards Religion, as a view of the ultimate origin of things . . . yet when Religion appeared as concerning itself with forces now at work in the world . . . then I think it always seemed to him a belief that brought disorder, & was hostile to all true Science. And so of course he was hostile to it. (*Darwin Online*²¹)

Darwin was not a dogmatic disbeliever and seems to have taken no steps to convince others to think as he did. He did not object to his children being baptized or attending church with their mother. It had, after all, been the same for him in his own childhood and his father before him.

8. *Speculation Hardens into Fact*

Moore occasionally acknowledged in the chapter 'Of love and death' that he was presenting a hypothesis: 'Since Darwin had, *I believe*, virtually reached this conclusion . . . in the preceding three years..'; '*If* my argument in this essay is accepted.' and '*If* contemplation of Dr Darwin's eternal destiny had spiked Christianity. . . .' (Moore, 1989, pp. 220–221 our italics). However, most of the assertions in the conclusion are presented as declarative statements of fact—taking the hypothesis as proven, even though, as we have seen, the hypothesis was not supported by direct documentary evidence:

Darwin was forty-two years old. *Thereafter* he would worry about God and pain and immortality, unencumbered by the Christian plan of redemption.

Darwin underwent an *upheaval* that marked him permanently. He began a doubter; *he ended* a resolute unbeliever. . . his non-Christian self-identity became established. Emma alone, who had been affected in quite the opposite way by the death of her beloved sister Fanny, understood the significance of the period between 1848 and 1851.

Further research will show how far the events surrounding Darwin's loss of faith subsequently influenced his personal life and his science. Certainly, parts of the *Origin of Species* and *The*

Expression of the Emotions in Man and Animals will need to be interpreted afresh (Moore, 1989, pp. 220–221 our italics)

Towards the end of ‘Of love and death,’ Moore, like Colp, suggested that Annie’s death influenced Darwin’s writings on evolution (see below). The chapter concluded with an idiosyncratic fusion of Darwin’s evolutionary writings with the memoir of his daughter, culminating in an emotional vision of Annie ‘who died at Easter...’ (in fact, she died the Wednesday after Easter) becoming ‘the paschal lamb of Darwin’s post-Christian soteriology’ (Repeated in BBC, 2009).

9. *The Annie Hypothesis Gains New Impetus*

In subsequent writings and on-screen productions Moore and others have treated the purported link between Annie’s death and Darwin’s apostasy as established fact rather than as a tentative interpretation or a hypothesis to be tested (BBC, 1978, 1991, 1998; PBS, 2001). In particular, the 1991 biography of Darwin by Adrian Desmond and Moore played a major role in propagating the Annie hypothesis, providing a stirring and highly praised account of Annie’s illness and death drawn from Darwin’s correspondence, interspersed with unsupported interpolations about Darwin’s supposed simultaneous religious crisis (Desmond and Moore, 1991). This powerful and highly emotional account gave a far more prominent role to Annie’s death than previous accounts and thrust this important period of Darwin’s life into the historiographical record and into the public image of Darwin. Indeed, the sensitivity and apparent realism of the account lent undue plausibility for many readers—and many subsequent writers—to the unsubstantiated assertions that Darwin’s faith was shattered (or even ended) by Annie’s death.

In her well-received 1995 Darwin biography *Voyaging*, Janet Browne fell under the spell of the Annie hypothesis, with the claim that ‘This death was the formal beginning of Darwin’s conscious dissociation from believing in the traditional figure of God.’ She also is implausibly precise, given the lack of any documentary evidence, in stating: ‘Over the following months, Darwin became more certain, more fixed in his scepticism. Little by little, his theological doubts turned into conviction’ (Browne, 1995, p. 503). In a subsequent book, however, the link is expressed more tentatively (Browne, 2006).

In 2001, Annie’s life and death together with Darwin’s family life and religious views again took centre stage in *Annie’s Box*, a book written by Darwin descendant Randal Keynes. In general, the book is carefully researched and well supported with evidence, much of it not previously published. However in one small passage Keynes provided a post hoc ergo propter hoc statement:

After Annie’s death, Charles set the Christian faith firmly behind him. He did not attend church services with the family; he walked with them to the church door, but left them to enter on their own and stood talking with the village constable or walked along the lanes around the parish. (Keynes, 2001, p. 222)

This passage stands out from the rest of the book in that no evidence is provided for such a significant claim. Keynes also wove a new strand into the Annie hypothesis: that Darwin stopped attending church services upon Annie's death. However, the document cited by Keynes (Foote, 1889) provides no evidence as to the timing when Darwin stopped attending church. The source of the information (presumably Police Constable Soper, identified by Keynes in a footnote) came to Downe village 7 years after Annie's death. The subsequent film *Creation* (2009) based on Keynes' book steers clear from promoting the Annie hypothesis. However it could be argued that the Annie hypothesis feeds on the oxygen of the publicity of the centrality of Annie's death to Darwin's life. Many works on Darwin repeat these accounts of Darwin's Christianity ended by Annie's death (e.g. Stetoff, 1996; Healey, 2001; Zimmer, 2001; Quammen, 2006; Contosta, 2008; Levine, 2008).

10. *Did Annie's Death Influence Darwin's Writing?*

Colp, Moore and Keynes suggested that Annie's death influenced Darwin's later writings on evolution. All three attempt to link the final sentence of Chapter III of the *Origin of species* with Annie's death:

When we reflect on this struggle, we may console ourselves with the full belief, that the war of nature is not incessant, that no fear is felt, that death is generally prompt, and that the vigorous, the healthy, and the happy survive and multiply. (Darwin, 1859, p. 79)

Yet Annie's death, after her long illness, can scarcely be considered prompt. This passage follows a few pages after another that Moore and Keynes attempted to link with Annie's death:

The elder De Candolle and Lyell have largely and philosophically shown that all organic beings are exposed to severe competition. . . We behold the face of nature bright with gladness, we often see superabundance of food; we do not see, or we forget, that the birds which are idly singing round us mostly live on insects or seeds, and are thus constantly destroying life; or we forget how largely these songsters, or their eggs, or their nestlings, are destroyed by birds and beasts of prey; we do not always bear in mind, that though food may be now superabundant, it is not so at all seasons of each recurring year. (Darwin, 1859, p. 62)

But a comparison with what Darwin wrote in his 1844 essay shows that there is little change in the content or tone of his argument, merely a revision of what he had written long before Annie's death:

De Candolle, in an eloquent passage, has declared that all nature is at war, one organism with another, or with external nature. Seeing the contented face of nature, this may at first be well doubted; but reflection will inevitably prove it is too true. The war, however, is not constant, but only recurrent in a slight degree at short periods and more severely at occasional more distant periods; and hence its effects are easily overlooked. (Darwin, 1909, p. 88)

Similarly, Moore, in the 2009 BBC documentary *Darwin's struggle*, attempted to link another 'face of nature' passage from Chapter III of *Origin of species* with Annie's death: 'The face of Nature may be compared to a yielding surface, with 10,000 sharp wedges packed close together and driven inwards by incessant blows, sometimes one wedge being struck, and then another with greater force.' However, this metaphor of wedges and incessant blows appeared in the 1844 essay: 'Nature may be compared to a surface, on which rest 10,000 sharp wedges touching each other and driven inwards by incessant blows' (Darwin, 1909, p. 90). And similar passages also feature in the 1842 'pencil sketch' (Darwin, 1909, p. 8) and even Darwin's *Notebook D* from as early as 1838, 13 years before Annie's death, indeed before she was even born: 'One may say there is a force like a hundred thousand wedges trying [to] force every kind of adapted structure into the gaps in the oeconomy of nature. or rather forming gaps by thrusting out weaker ones.' (*Darwin Online*²²) Presumably, the 'face of Nature' is thought to be influenced by Annie, because Darwin makes frequent emotional references to Annie's face in his memoir of her:

'Her dear face now rises before me'

'her dear face bright all the time'

'satisfaction. . . beamed from her face'

'how tenderly we do still & shall ever love her dear joyous face'

Yet the phrase 'face of nature' was used very widely in the scientific and popular literature of the day and Darwin himself used it in his *Beagle diary* in 1836 (Keynes, 1988, p. 437). Unfortunately, although none of these attempts to show that Darwin's scientific writing was specifically influenced by Annie's death are supported by any direct evidence, many writers repeat this interpretation as if it were established fact.

11. Conclusion

As we have shown, there is no clear evidence linking the death of his daughter Annie to Darwin's break with Christianity—any supposed evidence is at best indirect and any arguments for this view are entirely speculative. A large burden of conjecture rests on arguable interpretations of so few facts: the interpretation of one line from Aveling about Darwin's belief rather than public observance, the five lines in Darwin's reading list read so as to mean a continued belief in Christianity rather than a continued interest in religion and the proximity of the accounts of Annie's death to Darwin's religious beliefs in his *Autobiography*. In the years since the Annie hypothesis was first formulated, no fresh evidence has emerged, no hypothesis testing has been attempted. Instead, speculation has somehow hardened into 'fact.' Countless repetitions of the hypothesis in print and

on screen have spawned a pervasive mythology around Annie and her father's beliefs. Of course the absence of evidence is not evidence that the Annie hypothesis is false. But the confidence in this hypothesis should be proportionate to the evidence that can support it.

In addition to the absence of clear evidence for any connection between Annie's death and Darwin's loss of faith in Christianity there is the fact that much more and clearer evidence exists for an earlier loss of faith and for different reasons altogether. The balance of evidence is overwhelmingly on the side that Darwin gave up his belief in Christianity because of growing scepticism during the late 1830s to early 1840s when Emma feared he was about to give up his belief in revelation and the only time he recorded thinking much on religion in the passage in the 'Journal.'

The suggestion of a sudden death knell for Darwin's religious belief built on strong emotion stands in stark contrast to his consistent accounts of his loss of faith, which followed from an assessment of the evidence for Christianity and which took place at a 'rate . . . so slow that I felt no distress' (Barlow, 1958, p. 87). Yet Annie's death was the most distressing event in Darwin's life. No explanation for this dramatic contradiction has ever been provided. The time has come to bury the Annie hypothesis.

NOTES

1. <http://darwin-online.org.uk/content/frameset?itemID=CUL-DAR210.11.37&viewtype=text&page seq=1>.
2. <http://darwin-online.org.uk/EmmaDiaries.html>.
3. <http://darwin-online.org.uk/content/frameset?viewtype=side&itemID=CUL-DAR210.13.40&page seq=1>.
4. <http://darwin-online.org.uk/EmmaDiaries.html>.
5. <http://darwin-online.org.uk/content/frameset?viewtype=side&itemID=CUL-DAR158.1-76&page seq=1>.
6. <http://darwin-online.org.uk/content/frameset?viewtype=side&itemID=CUL-DAR210.13.40&page seq=1>.
7. <http://darwin-online.org.uk/content/frameset?viewtype=text&itemID=CUL-DAR91.114-118&page seq=1>.
8. <http://darwin-online.org.uk/content/frameset?viewtype=text&itemID=CUL-DAR262.23.11&page seq=1>.
9. <http://darwin-online.org.uk/content/frameset?viewtype=text&itemID=CUL-DAR112.B57-B76& pageseq=1>.
10. <http://darwin-online.org.uk/content/frameset?viewtype=text&itemID=CUL-DAR262.23.10&page seq=1>.
11. <http://darwin-online.org.uk/content/frameset?viewtype=side&itemID=CUL-DAR158.1-76&page seq=29>.
12. <http://darwin-online.org.uk/content/frameset?itemID=CUL-DAR126.-&viewtype=text&page seq=1>.
13. <http://darwin-online.org.uk/content/frameset?viewtype=side&itemID=CUL-DAR91.4-55&page seq=1>.
14. <http://darwin-online.org.uk/content/frameset?viewtype=text&itemID=CUL-DAR125.-&page seq=1>.

15. <http://darwin-online.org.uk/content/frameset?viewtype=side&itemID=CUL-DAR26.1-121&pageseq=104>.
16. <http://darwin-online.org.uk/content/frameset?viewtype=text&itemID=CUL-DAR125.-&pageseq=1>.
17. <http://darwin-online.org.uk/content/frameset?viewtype=text&itemID=CUL-DAR140.3.1-159&pageseq=1>, transcribed by Robert Brown, p. 79.
18. <http://darwin-online.org.uk/content/frameset?viewtype=side&itemID=CUL-DAR158.1-76&pageseq=57>.
19. <http://darwin-online.org.uk/content/frameset?viewtype=text&itemID=CUL-DAR119.-&pageseq=1> (22r, 23r, 24r).
20. <http://darwin-online.org.uk/content/frameset?viewtype=text&itemID=CUL-DAR140.3.1-159&pageseq=1> transcribed by Robert Brown, p. 69.
21. <http://darwin-online.org.uk/content/record?itemID=CUL-DAR139.12.17>.
22. <http://darwin-online.org.uk/content/frameset?viewtype=side&itemID=CUL-DAR123.-&pageseq=113>.

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