

DARWIN, WALLACE, TENNYSON AND SWEDENBORG: RELIGION AND SCIENCE IN THE NINETEENTH CENTURY*

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I hope I need no excuse for speaking about the life and achievements of Charles Darwin in his bicentenary year. Darwin was born early in 1809, on the 12th February (exactly the same day as Abraham Lincoln), and the bicentenary similarly got off to an early start with television programs, books, articles and exhibitions. 2009 also happens to be the 150th anniversary of the publication (in November 1859) of his most famous book, *On the Origin of Species*. That work, which set out in five hundred pages of argument and evidence the theory of evolution by natural selection, accomplished an intellectual revolution which changed the world for ever. Even if we have not read it and have only a shaky notion of the implications of evolution by natural selection, I think we are all of us aware of Darwin's intellectual stature and importance, a fact given emphasis by the presence of his portrait on the modern British ten pound note. As the journal *Naturalist* put it when he died in April 1882:

One must seek back to Newton or even Copernicus to find a man whose influence on human thought and methods of looking at the universe has been as radical.¹

* A lecture delivered at Swedenborg Hall on 9th July, 2009. The Swedenborg Society has for a number of years organized a series of lectures each summer in its Hall at 20 Bloomsbury Way, London WC1 for members of the Society and the wider public about Swedenborg's life and teaching and his influence on later scientists, writers and thinkers in different fields. This lecture was the last of four lectures given in the summer of 2009 and aimed to commemorate the bicentenary of the births of Charles Darwin and Alfred Tennyson and the one hundred and fiftieth anniversary of the publication of Darwin's *On the Origin of Species*. The lecture also attempted to set Darwin and Wallace's theory of evolution by natural selection in the general intellectual context of the time and to illustrate the continuing reception of Swedenborg's thought throughout the nineteenth century.

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¹ *Great Victorian Lives: An Era in Obituaries*, ed. Ian Brunskill and Andrew Sanders (London: Times Books, 2007), 240. The obituary in *The Times* suggested that this judgement may have been premature: *ibid.*, 245.

Alfred Russel Wallace, who shares with Darwin the honor of having pioneered the theory of evolution through natural selection, was fourteen years younger than his colleague. Famous in his lifetime through his varied scientific and other interests, he has been somewhat neglected, perhaps above all because of the later interest he took in spiritualism. Unlike Darwin, who gradually lost his Christian faith, the agnostic Wallace came to adopt a theistic and teleological view not shared by Darwin, let alone by Darwin's later followers. He was also a reader and admirer of the works of Swedenborg.

As famous as Darwin in his own day, the poet Alfred Tennyson, too, was born in 1809. His birthday was the 6th August, so perhaps the bicentenary celebrations have yet to get under way, but I suspect that the Tennyson bicentenary will be a more muted and low-key affair than the Darwin one.² Tennyson took an interest in science, having been introduced by his clergyman father to the *Histoire Naturelle* of Buffon.³ Georges-Louis Leclerc, Comte de Buffon (1707–88), was the Keeper of the Royal Botanical Garden in Paris and was the first naturalist to be an evolutionist. A hundred years before Darwin he realised that the world was much older than was generally accepted in those days and believed in evolutionary change which he attributed to the direct influence of the environment. In 1761 he wrote:

How many species being perfected or degenerated by the great changes in land and sea, by the favours and disfavours of Nature, by food, by the prolonged influence of climate, contrary or favourable, are no longer what they formerly were.⁴

In his great poem *In Memoriam*, published nine years before *Origin of Species*, Tennyson, in the words of the historian G.M. Young:

... gathered up all the doubts of Christianity, of providence, of immortality, which the advance of science had implanted in anxious minds, and

² This proved to be the case. There were several programmes in the first week of August 2009 on BBC Radio 3, but no television coverage and there seems to have been an absence of new books about Tennyson in his bicentenary year.

³ Peter Levi, *Tennyson* (London: Macmillan, 1993), 54.

⁴ Alister Hardy, *The Living Stream* (London: Collins, 1965), 54.

answered them, or seemed to answer them, with the assurance of a pantheistic and yet personal faith in progress.⁵

Young's book, *Victorian England: Portrait of an Age*, was published in 1936. A quarter of a century earlier, the Swedenborgian Edward Broadfield, a distinguished Victorian Englishman of wide culture, in his closing remarks to the International Swedenborg Congress held in Holborn to celebrate the centenary of the Swedenborg Society in 1910, spoke of *In Memoriam* as "rich in New Church [ie Swedenborgian] teaching, of a kind you do not find in Milton and others before him."⁶ Tennyson is known to have read Swedenborg and to have spoken of him. His elder brother Fred, also a poet, and two of his sisters, Mary and Emily, were at one time or another actually members of the New Church.⁷ Tennyson and Darwin knew one another, but perhaps later in life when both were famous and not at Cambridge where they were contemporaries.⁸ Tennyson met Wallace in the early 1880s and there is an interesting record of that meeting and their conversation.⁹

⁵ G.M. Young, *Victorian England: Portrait of an Age* (London: Oxford University Press, 1961), 75.

⁶ *Transactions of the International Swedenborg Congress 1910*, Third Edition (London: Swedenborg Society, 1912), 330. Edward Broadfield (1831–1913) was a prominent member of the British General Conference of the New Church. He played an important role in the civic life of his native city of Manchester, being concerned with education at all levels and a founder of the Victoria University there. He was also a patron of the famous Hallé Orchestra and wrote widely on music: Richard Lines, 'Edward Broadfield: "The Grand Old Man of Manchester"' in *Annual Journal of the New Church Historical Society for the Year 2009* (Chester: 2009): 14–28.

⁷ Levi, *Tennyson*, p. 208. See also "The Conjugal Angel" in A.S. Byatt, *Angels and Insects* (London: Chatto & Windus, 1992). While this is fiction, real characters appear in it, including Emily Jesse (née Tennyson), one of the poet's sisters, his siblings Frederick and Mary, and the poet himself. The other novella in the book, "Morpho Eugenia," is about a naturalist who may have been inspired by either Darwin or Wallace, or both of them.

⁸ William Allingham, *The Diaries*, ed. H. Allingham and D. Radford (London: The Folio Society, 1990), 166–7. Allingham, a close friend of Tennyson, describes a visit by Darwin and relatives to Freshwater on the Isle of Wight in August 1868. Darwin is described as "tall, yellow, sickly, very quiet" and as having his meals at his own times. The following day Allingham visited Tennyson at his house Farringford near Freshwater. Darwin was expected to visit, but did not come.

⁹ Allingham, *Diaries*, pp. 292–4. Allingham took Wallace to visit Tennyson (by then living at Aldworth near Haslemere) in November 1884 and he records the conversation in some detail. I refer to it later in my lecture. There are several other references to Swedenborg in Allingham's *Diaries*.

Charles Darwin was the son of a doctor and the grandson of Erasmus Darwin (1731–1802), one of the great leaders of English intellectual activity in his day who put forward explicitly evolutionary views in his *Zoonomia or the Laws of Organic Life* (1794). Charles's maternal grandfather was Josiah Wedgwood (1730–1795) the potter and manufacturer and Erasmus Darwin's friend and colleague in the Lunar Society.¹⁰ Charles was sent to Shrewsbury School and in 1825, at the age of 16, he went to Edinburgh University to study medicine. At Edinburgh he met RE Grant, his senior by several years, who later became Professor of Zoology at University College, London. While they were out walking one day Grant expressed his admiration for the evolutionary views of Jean-Baptiste de Lamarck (1744–1829). In his autobiography Darwin recalled how he had listened in 'silent astonishment, and as far as I can judge, without any effect on my mind.' He had previously read his grandfather's *Zoonomia*, in which similar views were maintained, without an effect being produced on him. But he continues:

Nevertheless it is probable that the hearing rather early in life such views maintained and praised may have favoured my upholding them under a different form in my *Origin of Species*. At this time I admired greatly the *Zoonomia*; but on reading it a second time after an interval of fifteen years, I was much disappointed, the proportion of speculation being so large to the facts given.¹¹

Note those last words. It was a hallmark of Darwin's work that his theories were backed up by factual evidence painstakingly collected over many years.

Despite his interest in science, Darwin found his medical studies at Edinburgh immensely dull and his father, realising that his son would not make a doctor, decided to send him instead to Cambridge to study for a pass degree in Divinity with a view to his being ordained as a clergyman

¹⁰ Hardy, *The Living Stream*, p. 54. The Lunar Society was so called because its members always met at the full moon so that there would be less risk of attacks by highwaymen as they rode home in the early hours of the morning.

¹¹ *Ibid.*, pp. 59–60.

of the Church of England. He matriculated as an undergraduate at Christ's College in 1828 and took his BA in 1831.¹²

Alfred Tennyson, educated partly at home by his father and partly at the local Louth Grammar School in Lincolnshire (although his brother Fred was sent to Eton), matriculated at Trinity College Cambridge in the autumn of 1827.¹³ It would be interesting to speculate on a possible meeting between Darwin and Tennyson while they were at Cambridge. I do not think there is any evidence at all that they did meet, although the imagination of a Tom Stoppard¹⁴ might be able to construct a fine play around such a meeting and the conversations that might have taken place. They were at different colleges and then, as is still the case today at both Oxford and Cambridge, students were admitted to an individual college and it was the college that provided accommodation, food and tuition. The firmest friendships are usually formed with members of one's own college. Tennyson's greatest Cambridge friend was Arthur Hallam, also at Trinity, a brilliant young man who had been Gladstone's friend at Eton. Arthur became engaged to Tennyson's sister Emily. It was his sudden and tragic death from a brain haemorrhage in Vienna in September 1833 that sent Tennyson into paroxysms of grief and was to inspire his poem *In Memoriam*, not published until 1850. But it was an earlier death, that of his father in early 1831, that ended Tennyson's Cambridge career and he left without taking a degree, although he had left his mark on the university by winning the Chancellor's Medal for English Verse in 1829.¹⁵

Darwin spent much of his time at Cambridge riding, hunting, shooting and collecting beetles. He became a friend J.S. Henslow, the Professor of Botany, and of Adam Sedgwick, the Professor of Geology. It was their influence that was instrumental in removing his parents' objections to his going as a naturalist on board the survey ship HMS *Beagle*, which is what he did after Cambridge instead of becoming a clergyman. It was on Henslow's advice that Darwin took with him on the *Beagle* the great book *Principles of Geology* by Charles Lyell (1797–1875), the first volume of

¹² *Ibid.*, p. 60.

¹³ Levi, *Tennyson*, p. 46.

¹⁴ Tom Stoppard, born in 1937, is a Czech-born British playwright.

¹⁵ Levi, *Tennyson*, pp. 46 and 80.

which had been published in 1829.¹⁶ Tennyson also, it should be noted, read Lyell's book in 1837.¹⁷ It was Darwin's reading of Lyell's *Principles* which above all prepared the way for the thoughts that would be generated by his experiences on the voyage of the *Beagle*. Lyell thought that the earth's features had been shaped over a very long period of time. The captain of the *Beagle*, Robert FitzRoy, wanted a gentleman to accompany him on the trip, a civilian of equal social standing who would alleviate the tedium of the voyage and diminish the isolation of command.¹⁸ And what better role could there be for such a companion than as a naturalist studying the fauna and flora of the exotic lands they would visit? FitzRoy, the nephew of the Duke of Grafton and related on his mother's side to Lord Castlereagh who had been Foreign Secretary at the end of and after the Napoleonic Wars, has his own claim to fame. He became a Vice-Admiral, the Governor of New Zealand and, as the first head of the Meteorological Office, may be regarded as the "father" of weather forecasting. As a Christian with increasingly fundamentalist views, he came to disagree strongly with Darwin on evolution. Always prone to depressive illness, FitzRoy took his own life, like his relative Castlereagh before him, by slashing his throat with a razor on 30th April 1865 at his home in Upper Norwood.¹⁹ The news of the assassination of President Abraham Lincoln earlier that month may have helped trigger a final bout of depression.²⁰

The voyage of the *Beagle* lasted nearly five years, from December 1831 until October 1836. It gave Darwin three important experiences which made a lasting impression on him and triggered his thought in the direction of evolution by natural selection. In Patagonia he was involved in the excavation of the fossil remains of the giant land sloths and also of the great *Glyptodon*. In doing so he saw that the sloth skeletons were similar to those of the smaller tree sloths and those of the *Glyptodon* to the modern

¹⁶ Hardy, *The Living Stream*, p. 60.

¹⁷ Levi, *Tennyson*, p. 197.

¹⁸ John and Mary Gribbin, *FitzRoy* (London: Review, 2003), 86.

¹⁹ Upper Norwood stands on a hill about eight miles south of London. The Crystal Palace which had housed the Great Exhibition in Hyde Park in 1851 was rebuilt in an enlarged form near Upper Norwood in 1854. It was destroyed by fire in 1936. Upper Norwood is now a suburb of Greater London. A commemorative plaque was affixed to FitzRoy's house in recent years.

²⁰ Gribbin and Gribbin, *FitzRoy*, pp. 280–283.

armadillo. The question formed in his mind: could the living animals be descended from the same stock as the extinct ones? In South America he marvelled at the adaptations of so many animals to their surroundings, in particular the beautiful protective colors of the insects of the Brazilian rain forests. Finally, and perhaps most importantly, he recognized how the birds and reptiles on the several Galapagos Islands differed from one another and from the similar mainland types. He pondered the question: was it not more likely that they had gradually diverged in form over long periods of time than that they were created as slightly different types on the various islands?²¹

Back in England he started his famous notebook "for the collection of facts which bore in any way on the variation in animals and plants under domestication and in nature." In 1838 he read (for amusement, as he put it) Thomas Robert Malthus's *Essay on the Principle of Population*.²² Being well prepared from his long observation of animals and plants to appreciate the struggle for existence which goes on everywhere, it struck Darwin that under such circumstances favorable variations would tend to be preserved and unfavorable ones to be destroyed. He did not put pen to paper until 1842 when he wrote a brief abstract of his theory in 35 pages and expanded it into one of 230 pages in the summer of 1844. The latter paper he sent to Lyell who begged him to publish it, warning him that if he delayed much longer he would surely be forestalled by someone else.²³ That very nearly happened, as I will show shortly, but in the meantime Darwin went on collecting more and more facts in support of his theory. In 1839 he had married his cousin Emma Wedgwood and they were eventually to have ten children, three of whom died young, causing Charles and Emma much grief. In 1842 he moved to Down House near Bromley in

²¹ Hardy, *The Living Stream*, pp. 62–3.

²² Thomas Robert Malthus (1766–1834) was a clergyman of the Church of England and a pioneer of the science of political economy. In his *Essay on the Principle of Population* (1798) he argued that population (growing geometrically) would soon increase beyond the means of subsistence (which grew only arithmetically) and that checks in the form of poverty, disease and starvation were necessary. In the second edition of the *Essay* (1803) he modified his conclusions and suggested that the regulation of greed and sexual activity would act as more acceptable checks on population growth.

²³ Hardy *The Living Stream*, pp.63–4.

Kent²⁴ where he lived for the rest of his life as a country gentleman, managing his estate and continuing with his researches and his writing. At this point I must introduce our third protagonist, Alfred Russel Wallace. Born in genteel poverty on the 8th January 1823 in Usk in Monmouthshire, he was the eighth of the nine children of a non-practising lawyer who had dabbled unsuccessfully in publishing and then tried schoolteaching and librarianship. By the time Alfred was five years old the family was living in Hertford and here he was sent to the Grammar School. When he was 12 his father could no longer afford the fees, so Alfred stayed on for another two years as a pupil-teacher, supervising and teaching the younger boys. In 1837 he came to London, learning woodworking skills in a builder's yard where one of his brothers was an apprentice. In his spare time he attended the 'Hall of Science' off the Tottenham Court Road, a sort of social club where free lectures were offered. Here he encountered the doctrines of the social reformer Robert Owen.²⁵ These views helped to form his social conscience and stayed with him for the rest of his life. Then followed a period working with his elder brother William, a freelance land surveyor. This was the period of the great railway expansion and together they travelled the country. The open-air life suited Alfred and he learned to use surveying instruments and to make mathematical calculations, but he also started to study fossils and to collect butterflies and beetles.²⁶

After his father died in 1843 he obtained a position as an usher at a private boarding school in Leicester and this job not only gave him free board and lodging with the headmaster but left him plenty of leisure time for reading. He was fortunate in being able to borrow books from the Leicester Library. In Leicester he met Henry Bates (1825–92), an apprentice hosier who also had an interest in natural history, and they became firm

²⁴ Bromley is now a suburb of Greater London, a few miles to the south-east of Upper Norwood (see note xviii). Down House is in the country a little to the south of Bromley. It is now owned by English Heritage and is open to the public.

²⁵ Robert Owen (1771–1858), philanthropist and social reformer, was a wealthy owner of cotton-spinning mills in Manchester and later in Scotland. There he set up a model village organized on co-operative principles and was a pioneer of infant education. He left Britain in 1821 for some years and set up a model community, New Harmony, in Illinois.

²⁶ Tim Severin, *The Spice Islands Voyage: in Search of Wallace* (London: Abacus, 1998), pp. 48–51 for a succinct account of Wallace's early life. See also Michael Shermer, *In Darwin's Shadow: the Life and Science of Alfred Russel Wallace* (Oxford: Oxford University Press, 2002) for a fuller account.

friends. Both were to achieve later fame with parallel careers as naturalists.²⁷ Unlike Darwin, Wallace had no connection with the learned scientific world, but four of the books he read were to have a profound impact. Like Darwin and Tennyson, he read Lyell's *Principles of Geology* and this taught him not only that the world was very old but also that scientific explanation should be based on observable facts. He also read a now-forgotten but then wildly popular book called *Vestiges of the Natural History of Creation* published in 1844. It was issued anonymously, but its author was Robert Chambers, an Edinburgh bookseller. He was not a scientist, but had cobbled together an account of the then published scientific literature on evolution, including Buffon, Erasmus Darwin and Lamarck. It was full of inaccuracies (Darwin considered that "his geology strikes me as bad and his zoology far worse"), but it *did* reach a wide lay readership (including Queen Victoria, Abraham Lincoln, Gladstone and John Stuart Mill) and it had a profound effect on literature, particularly on Tennyson's *In Memoriam* and on works by Ralph Waldo Emerson and George Eliot. It planted in Wallace's mind the idea of organic evolution.²⁸

The third book that had a deep impact on Wallace was Malthus's *Essay on the Principle of Population* which Darwin had read a few years earlier.²⁹ It is significant that this book should have been read by the two men who independently were to formulate the theory of evolution by natural selection. But the book that had an even more immediate effect was Baron von Humboldt's *A Personal Narrative of Travels in South America*. This fired his enthusiasm and he proposed to Bates that they should travel together to the Amazon to collect specimens of plants, insects, birds and animals. They would keep some for themselves, but finance their expedition by selling the others to wealthy collectors. Somehow they got the money to together for the voyage and set sail for Brazil in 1848.³⁰ Many years later

²⁷ Severin, *The Spice Islands Voyage*, pp. 77–80.

²⁸ A.N. Wilson, *The Victorians* (London: Arrow Books, 2003), pp. 95–6.

²⁹ Severin, *The Spice Islands Voyage*, p. 78.

³⁰ *Infinite Tropics: An Alfred Russel Wallace Anthology*, ed. Andrew Berry (London and New York, Verso, 2002), pp. 9–11. Alexander von Humboldt (1769–1859) was a German naturalist and explorer who had travelled extensively in South America between 1799 and 1804. Wallace had also read Darwin's *Journal of Researches into the Geology and Natural History of the Various Countries Visited by HMS Beagle* (1839), usually referred to as *The Voyage of the Beagle*.

Bates was to publish an account of this expedition and he is famous for what is called “Batesian mimicry,” the resemblance of certain animals, especially insects, to their natural backgrounds, and the fact that certain edible species of butterfly resemble those avoided by predators. “Batesian mimicry” is a powerful argument in support of evolution by natural selection.³¹ The expedition very nearly ended in disaster. On the way home the ship caught fire and had to be abandoned. Wallace was rescued, but his specimens were lost.³² Fortunately, he was insured for the sum of £200 and this enabled him to live in London for a year while planning his future.

Not deterred by this experience, he set off again in 1854, this time for what were then the Dutch East Indies (the modern Indonesia). He stayed for eight years in what he called “the Malay Archipelago” (the title of the book he published in 1869), collecting no less than 125,000 specimens³³ and making fundamental contributions to ethnology, zoology and biogeography, i.e. the geographical distribution of fauna. “Wallace’s Line,” as it is still called, delineates the boundary in Indonesia between the Australasian and Oriental fauna. He also formulated the “Sarawak Law” concerning the distribution of living things,³⁴ but his stay in the Far East is famous above all for the bombshell he dropped on Darwin in 1858.

Recovering from a fever on the island of Ternate in February that year, Wallace drafted a lucidly written essay of four thousand words which stated the theory of evolution by natural selection which Darwin had been pondering for many years, but which he had not published. It was entitled “On the Tendency of Varieties to Depart Indefinitely from the Original Type.” It can still be read with interest and profit by the lay person as well as by the specialist.³⁵ Lamarck had thought that progressive changes in species had been effected by the efforts of animals to increase the development of their own organs and that the results of these efforts were inher-

³¹ *Infinite Tropics*, p. 88.

³² *Ibid.*, p. 13. Bates had parted company with Wallace soon after their arrival in South America and stayed in the Amazon region until 1859.

³³ *The Dictionary of Nineteenth-Century British Philosophers*, ed. W.J. Mander and Alan P.F. Sell (Bristol: Thoemmes Press, 2002), Vol. 2, p. 1156.

³⁴ *Infinite Tropics*, pp. 36–50 and 108–124.

³⁵ *ibid.*, pp. 52–62.

ited by their offspring. For instance, it was thought that the long neck of the giraffe was attributable to the efforts of giraffes to reach foliage on higher shrubs and trees by constantly stretching their necks for this purpose. This sounds like one of Rudyard Kipling's *Just So Stories* written many years later, although he did not write one about the giraffe.³⁶ Wallace had no difficulty in dismissing the theory and showing that:

. . . because any variations which occurred among its antitypes with a longer neck than usual at once secured a fresh range of pasture over the same ground as their shorter-necked companions, and on the first scarcity of food were thereby enabled to outlive them.³⁷

He goes on to mention how those races of fauna "having colours best adapted to concealment from their enemies would inevitably survive the longest" and also refers to the checks and balances in nature, i.e. powerful wings accompanying weak feet, or great velocity making up for the absence of defensive weapons. Species in which an unbalanced deficiency occurred would not continue long in existence.³⁸

Wallace sent his essay to Darwin with a covering letter asking him to send it on to Sir Charles Lyell. Wallace and Darwin had been in correspondence for some time, but Wallace had given no hint of his theory of natural selection. The letter and its enclosure took three months to reach England, arriving at Down on the 18th June. Darwin was flabbergasted. Here was twenty years' work gone in a flash. He had been upstaged by this unknown naturalist. Darwin wrote to Lyell:

. . . your words have come true with a vengeance—that I should be forestalled . . . I never saw a more striking coincidence; if Wallace had my MS. Sketch written out in 1842, he could not have made a better short abstract!³⁹

³⁶ *The Just So Stories* were first published in London by Macmillan in 1902.

³⁷ *InfiniteTropics*, p. 60.

³⁸ *Ibid* p. 61.

³⁹ Hardy, *The Living Stream*, p. 65.

Lyell and Joseph Hooker (1817–1911), later Director of the Royal Botanic Garden at Kew in succession to his father, persuaded Darwin to have his manuscript and Wallace's read together at the meeting of the Linnaean Society⁴⁰ on 1st July 1858 and that is what happened.⁴¹ Neither Wallace nor Darwin was there. Wallace was on the other side of the world and Darwin was attending the funeral of his youngest son who had been stricken with scarlet fever a few days after the arrival of Wallace's letter and had died on the 28th June.

Although published in the *Proceedings of the Linnaean Society of London*, Wallace and Darwin's papers made no great impact. It was not until the publication of *On the Origin of Species* in November 1859, with its marshalling of an immense number of facts in support of the theory, that the thinking world was convinced of the reality of evolution.⁴² Wallace was only thirty-five when he wrote his famous essay. Darwin was nearly 51 when he published *Origin of Species*. In 1908 the Linnaean Society held a meeting to mark the fiftieth anniversary of the Darwin-Wallace papers. Darwin had been dead over a quarter of a century, but Wallace was still alive and he was there to assess their respective contributions. In the course of his address he said this:

The idea came to me as it had come to Darwin, in a sudden flash of insight; it was thought out in a few hours—was written down with such a sketch of its various applications and developments as occurred to me at the moment—then copied on thin letter paper and sent off to Darwin—all within one week. I was then (as often since) the "young man in a hurry"; he, the painstaking and patient student seeking ever the full demonstration of the truth that he had discovered, rather than to achieve immediate personal fame.⁴³

⁴⁰ The Linnaean Society of London was founded in 1788 after James Edward Smith had brought the collections of the great Swedish naturalist Carl von Linné (Latinized as Linnaeus) there. It is still active today and is Britain's oldest biological society. Linnaeus (1707–78) is famous for founding the binomial system for the scientific naming of animals and plants. He was professor of medicine and botany at Uppsala University from 1741. Linnaeus married Sara Elisabeth Moraeus, daughter of Johan Moraeus, a cousin of Emanuel Swedenborg, in 1739: Lars Bergquist, *Swedenborg's Secret* (London: Swedenborg Society, 2005), 62.

⁴¹ Hardy, *The Living Stream*, p. 65.

⁴² *Ibid.*, p.66.

⁴³ *Ibid.*, p. 68.

When Wallace published, seven years after Darwin's death, his own account of evolution by natural selection he called it *Darwinism*, thus coining an expression that has entered our language. But Wallace's acknowledgment of the achievements of his senior should not lead us to ignore his own role. The twentieth-century zoologist Sir Alister Hardy wrote this:

For all the patient labour in preparing the case and for its masterly presentation Darwin must get the greater credit, but for brilliance of insight Wallace, I believe, should get the palm . . . When we think of the theory of natural selection we must never forget the name of Alfred Russel Wallace.⁴⁴

The originality of Darwin and Wallace's theory of evolution by natural selection has been demonstrated and, like so many new ideas of fundamental importance, it is beautiful in its simplicity. It is often said that it came like a thunderbolt to destroy the faith of pious Victorian Christians who believed in the creation story in Genesis as literal historical truth and, in particular, that humanity was uniquely formed in God's image. While it is true that the faith of some was shaken, the intellectual foundations of a literal belief in the truth of the Genesis story had begun to crumble long before Darwin and Wallace. We have seen how evolutionary ideas were abroad in the eighteenth century. We can pray in aid Swedenborg here who, although, as far as I am aware, he was not conversant with evolutionary theories, interprets the early chapters of Genesis, particularly chapter 1 about the creation of the world, as myths embodying higher spiritual truths about mankind's intellectual and spiritual development.

In his important book, *Narrative, Religion and Science: Fundamentalism versus Irony, 1700–1999*, published in 2002, the literary scholar Professor Stephen Prickett says this:

No intellectual revolution happens all at once, but the traditional belief in the uniqueness of humanity was already being treated with great scepti-

⁴⁴ Ibid., pp.66–7.

cism by the middle of the eighteenth century, 100 years before Darwin, who did no more than administer the *coup de grâce*.⁴⁵

The last phrase of that sentence seems to me to be an understatement of the role of both Darwin and Wallace, but the general point is well made. Prickett continues:

But the frisson that is supposed to have shaken the entire religious world loses some of its chill when we read actual eye-witness accounts of the clearly very confused debate between Huxley and Bishop Wilberforce at the Pitt-Rivers Museum⁴⁶ [in 1860], or notice that neither FD Maurice nor John Henry Newman, two of the most influential theologians of the day, and far more significant figures than the meretricious “soapy” Sam Wilberforce, seem to have been disturbed either publicly or privately, by the new biological theory.⁴⁷

Frederick Denison Maurice, the Broad Church Anglican theologian, was a close friend of Tennyson and godfather to one of his sons, and also, according to the report of the Swedenborg Society for the year 1859–60, responsible for the indirect dissemination of what the report called “New Church truths,” i.e. teachings found in Swedenborg, within the Church of England.⁴⁸ Tennyson spoke for the age when in *In Memoriam*, published in 1850 nine years before *Origin of Species*, he wrote:

⁴⁵ Stephen Prickett, *Narrative, Religion and Science: Fundamentalism versus Irony, 1700–1999* (Cambridge, Cambridge University Press, 2002), 131.

⁴⁶ The debate was actually held in the Oxford University Museum of Natural History. The Pitt Rivers Museum, founded by the archaeologist and anthropologist Lieutenant-General Augustus Pitt Rivers, in 1884, is the adjoining building. Vice-Admiral Robert FitzRoy was one of those who took part in the debate. Holding a Bible in his hand, he denounced Darwin’s theory as contrary to the First Chapter of Genesis, saying that he had often expostulated with his old friend about this: Gribbin and Gribbin, *FitzRoy*, p. 268. Samuel Wilberforce was the Bishop of Oxford.

⁴⁷ Prickett, *Narrative, Religion and Science*, p. 132.

⁴⁸ *Annual Report for the Year 1859–60*, p., 24. While this report mentions the Broad Church movement in the Church of England, it has nothing to say about the publication of *On the Origin of Species*. Frederick Denison Maurice (1805–72) is best remembered as one of the pioneers of Christian Socialism (he founded the Working Men’s College) and for his supposedly heterodox views which led to his dismissal from his professorships at King’s College, London. In later life he was Knightsbridge Professor of Moral Philosophy at Cambridge. William Raeper in *George MacDonald* (Tring: Lion, 1987), 240, says that Maurice’s reading included Swedenborg, although he quotes no source for this.

DARWIN, WALLACE, TENNYSON, AND SWEDENBORG

Are God and Nature then at strife,
That Nature lends such evil dreams?
So careful of the type she seems,
So careless of the single life;⁴⁹

A few lines later come the words:

“So careful of the type?” but no,
From scarped cliff and quarried stone
She cries “A thousand types are gone:
I care for nothing, all shall go.”⁵⁰

Shortly after this passage appear the famous words “nature red in tooth and claw.” But Tennyson ends his long poem with a wedding, always a hopeful and redemptive event, and the final stanza of the poem is upbeat:

That God, which ever lives and loves,
One God, one law, one element,
And one far-off divine event,
To which the whole creation moves.⁵¹

Darwin certainly lost his own Christian faith, while his wife Emma continued to maintain orthodox religious views. But he was a reluctant agnostic, to use the term coined by his disciple Thomas Henry Huxley, not a militant atheist like some of his modern followers. He came to believe that “The Books of the Old Testament were no more to be trusted than the sacred books of the Hindoos.” This was not only because of its “manifestly false history of the world.” but because of “its attributing to God the feelings of a revengeful tyrant.”⁵² It would be impertinent to suggest that

⁴⁹ Stanza LIV in *Poems of Tennyson 1830–1870* (London: Oxford University Press, 1912), 392.

⁵⁰ *Ibid.*, p. 393 (Stanza LV).

⁵¹ *Ibid.*, p. 448. The final section of *In Memoriam* is an epithalamium, or wedding ode.

⁵² AN Wilson, *God's Funeral* (London: John Murray, 1999), p.184, quoting from William Irvine, *Apes, Angels and Victorians* (London: Weidenfeld & Nicholson, 1956), p. 85.

Darwin's religious anguish might have been assuaged had he read Swedenborg, but in the concluding words of his book *The Descent of Man and Selection in Relation to Sex* (1871), in which for the first time he deals with the human race, he wrote:

Important as the struggle for existence has been, and even still is, yet as far as the highest part of man's nature is concerned, there are other agencies more important. For the moral qualities are advanced either directly or indirectly, much more through the effects of habit, the reasoning powers, instruction, religion, &c., than through natural selection; . . .⁵³

Wallace, never an orthodox Christian, came to have a more sympathetic view of the spiritual nature of humankind. The clue to this may be found in the article Wallace published in a new, but short-lived, journal the *Anthropological Review* in 1864 entitled "The Origin of Human Races and the Antiquity of Man Deduced from the theory of Natural Selection." In this essay he argued that with the arrival of man, "a being in whom that subtle force we term *mind*, became of greater importance than mere bodily structure," there was now a being apart from all others, because he is freed from the laws of natural selection which "irresistibly modify all other organic beings."⁵⁴

Alongside his many and varied scientific, social and political interests, Wallace was sympathetic to spiritualism and was much criticised for this. He was, together with other leading scientists, a member of the Society for Psychical Research, founded in 1882 (the year of Darwin's death) to investigate spiritualism and other psychic phenomena, and took an active interest in its affairs. Tennyson was also a member, as were Gladstone, Prime Minister at the time, and Balfour, who became Prime Minister at the beginning of the twentieth century, and, from across the Atlantic, the philosopher and psychologist William James.⁵⁵ Wallace mentions

⁵³ This passage was quoted in Darwin's obituary in *The Times: Great Victorian Lives*, pp. 264–7.

⁵⁴ Alister Hardy, *The Divine Flame* (London: Collins, 1966), pp. 35–8.

⁵⁵ Wilson, *The Victorians*, p. 439 and (generally) Deborah Blum, *Ghost Hunters*:

William James and the Search for Scientific Proof of Life After Death (London: Century, 2007). The Society for Psychical Research continues to this day and publishes a quarterly journal.

Swedenborg affirmatively in various articles, rejecting the denigration of a critic who had described Swedenborg as a victim of “delusion and imposture” in the *Journal of Science* in 1885.⁵⁶ A year earlier the diarist and minor poet William Allingham, a close friend of Tennyson and also a reader of Swedenborg, recorded a conversation with Wallace (they were neighbors in Surrey at the time) in which Wallace gave an account “essentially Swedenborgian, of the state of spirits in the next world—but he does not take Swedenborg for a prophet.”⁵⁷ By that I take it that Allingham meant that Wallace had no connection with or interest in the Swedenborgian New Church. Later that same year Allingham took Wallace to visit Tennyson at his house “Aldworth” near Haslemere. He noted the conversation in his diary. Wallace, always a radical, criticised the hereditary peerage and the House of Lords, not long before the Poet Laureate himself accepted a peerage, but both men seemed to agree that the Commons also needed reforming. They also discussed spiritualism at some length and seemed to be on the same wavelength on this topic.⁵⁸

Fifteen years after Wallace’s meeting with Tennyson the Swedenborgian writer George Trobridge in his little book *Swedenborg and the Modern World* (1899) noted that Wallace’s summary of his views on the continuance of life after bodily death accorded well with Swedenborg’s teachings.⁵⁹ Two of Swedenborg’s works are known to have been owned by Wallace, *God, Creation, Man*, a popular version of *Divine Love and Wisdom* published in 1905, and *Earths in Our Solar System*, and he also possessed a biography by J.S. Bogg and another by J.V. Hultkrantz.⁶⁰ These were published in 1911

⁵⁶ Martin Fichman, *An Elusive Victorian: the Evolution of Alfred Russel Wallace* (Chicago and London: University of Chicago Press, 2004), pp., 112–4.

⁵⁷ Allingham, *Diaries*, p. 290.

⁵⁸ *Ibid.*, pp. 292–4.

⁵⁹ London: James Speirs, 1899, pp. 39–51. Trobridge refers to Wallace’s *Miracles and Modern Spiritualism*, 3rd edition (London: George Redway, 1896). George Trobridge (1851–1909) was an English Swedenborgian and a prolific writer. He was an artist and art teacher, being appointed headmaster of the Belfast School of Art in 1880. He wrote a popular life of Swedenborg which is still in print.

⁶⁰ Fichman, *An Elusive Victorian*, p. 112. The books referred to are: *God, Creation, Man* (London and New York: Frederick Warne, 1905), *The Earths in Our Solar System* (London: Swedenborg Society, 1894), J.S. Bogg, *An Illustrated Life of Swedenborg* (London and New York: Frederick Warne, 1911) and J.V. Hultkrantz, *The Mortal Remains of Swedenborg* (Uppsala: The University Press, 1910).

and 1910 respectively and show Wallace's keen intellectual interests that continued throughout his long life. He died in November 1913 when he was almost ninety-one. In 1908 he had been awarded the Order of Merit, that very high and selective honor instituted by King Edward VII.⁶¹

Darwin, on the other hand, had no state honors. He had been recommended for a knighthood after the publication of *Origin of Species*, but he had been denied it following objections from the Anglican hierarchy, led by Bishop Wilberforce.⁶² But he was buried in Westminster Abbey and Wallace was one of the pall-bearers.⁶³ Tennyson died in October 1892 and he was also buried in the Abbey, in Poets' Corner next to his friend and fellow-poet Robert Browning. Wallace was buried at Broadstone in Dorset where he had lived for his last years, but he too is commemorated in Westminster Abbey by a plaque placed next to Darwin's⁶⁴ But let Tennyson have the last word, in lines from his "Ulysses" (1842) which seem to apply equally to our three great Victorians and to our Swedish seer:

And this grey spirit yearning in desire
To follow knowledge, like a sinking star,
Beyond the utmost bound of human thought.⁶⁵ □

⁶¹ Shermer, *In Darwin's Shadow*, p. 292.

⁶² Blum, *Ghost Hunters*, p. 36.

⁶³ Severin, *The Spice Islands Voyage*, p. 285.

⁶⁴ Shermer, *In Darwin's Shadow*, pp. 296–7.

⁶⁵ *Poems of Tennyson 1830–1870*, pp. 182–3.

The discord between science and religion began to escalate in Europe and North America in the late 18th century when geological discoveries seemed to indicate that the Earth was much older than suggested by the Bible. When Charles Darwin published his theory of evolution by natural selection and his beliefs in the descent of man, many advocates of conservative religious viewpoints found his ideas... It is not clear how far his reading of the theory still has teleological overtones or presupposes a direction of evolution towards greater complexity and perfection. What is clear is that in his application of the theory to humanity there is virtually no difference between Darwin himself and what has come to be [Show full abstract] denigrated as 'social Darwinism'. The nineteenth-century emphasis on harmony between science and religion was in some ways a response to the Enlightenment. The most radical, anti-clerical phases of the intellectual movement to expand the influence of human reason never gained much of a foothold in America. In the context of the earlier generation's commitment to certainty, Darwin's theory of natural selection was both religious and scientific heresy. With its attention to constant change and minute variations within species pools, the scientific "heresy" produced new paths for research spurring investigation into vast eons of time, exploration of broad expanses of geography, and close attention to details in individual creatures. (Anthem Nineteenth-Century). by Darwin, Tennyson and Their Readers: Explorations in Victorian Literature and Science is an edited collection of essays by Gillian Beer, George Levine and other leading scholars, exploring the interaction between literature and science in the works of Darwin, Tennyson, Huxley and other major figures of the Victorian age.