

## Writing the Scientist: Biography and Autobiography

David Amigoni, Keele University

---

Scientific biography and autobiography is one of the most obvious, yet paradoxically under-researched, genres for exploring the relationship between literature and science in the nineteenth century (Söderqvist 1). Biography and autobiography are of course *literary* genres in which scientific endeavours, pursued throughout the life of an individual, are narrated. It is clear from Liba Taub's work on extant *bioi* from the ancient world that there were generic continuities between the literary contours of the ancient life philosophical – ancestry, childhood, education, great deeds, virtues, death, and consequences – and the narrative shape of the life scientific in the nineteenth century (24). But there were also many distinctive features that marked nineteenth-century life writing. Anna Seward, the biographer of Dr Erasmus Darwin at the very beginning of the nineteenth century (1804), remarked that 'Generosity, wit, and science, were his household gods' (58). In the idea of the 'household god' Seward laid bare a hybrid complex of ancient and modern generic ingredients: ancient ancestral veneration coupled with an exploration of modern domesticity and manners, and the modern knowledge formations born of scientific reason, observation, and inventiveness. Seward's emphasis on 'wit', or a style of expressiveness, highlights a strand of distinctively *Romantic* thought that started to shape the nineteenth-century life-writing landscape at the end of the eighteenth century (Cantor 219). Samuel Johnson was an eighteenth-century figure, but in *The Life of Johnson* (1791) his biographer James Boswell's emphasis on Johnson's unique subjectivity and the traces of individual inventiveness, inscribed in 'private' letters, notebooks, and recorded conversations, established deep Romantic markers on nineteenth-century life writing. Rather in the way that eighteenth- and nineteenth-century

literary figures left behind manuscripts and letters which informed later generations about the creative process, we can see now that this provided knowledge of how the nineteenth-century scientist thought, observed, and reasoned.

The written life and the forms of publication from which it emerged were vehicles that shaped science's cultural authority in the nineteenth century. This chapter explores the multiplicities of *literature* as not only the narrative vehicle, but also as contested sources of expressive and inventive notation, ranging from formal poetical composition to notebooks and other manuscripts in which the unfolding of thought can be traced. These contributed varied and distinctive accents to the task of 'writing the scientist' in the nineteenth century – accents that shaped narratives about the making of the individual person, their scientific thought and its contribution to scientific legacy, as well as their personal and even domestic relationships: all of these factors had important implications for the status of science itself as a series of increasingly differentiating and institutionally defined fields of inquiry, contributing to the progress of the nation. These fields included chemistry in the early nineteenth century (Humphry Davy), mathematics and mechanics (Charles Babbage), and evolutionary biology (Charles Darwin and T. H. Huxley).

I shall begin with the Darwin family and the publication of a biography to record the life of Erasmus Darwin at the opening of the nineteenth century; and return to the Darwin family in the early years of the twentieth as the Darwinian evolutionary legacy reached a high watermark. I take my selected texts to be noteworthy because of the way in which they were organised by topics which were constitutive of science's claim to cultural authority: thinking as discovery; social mobility and progress; the place of family, religion, and secularity. As I shall show, key institutions of scientific organisation, such as the Royal Society, the Royal

Institution, and the British Association for the Advancement of Science, were contexts that coloured the writing of lives that were offered to populate science's cultural authority. That authority could not be taken for granted and the topics and contexts figure as sources of literary contestation in the shaping of life narratives which were often replies to rival narratives delineating another version of the life in science.

The question of genre and voice is important: my selection of texts interrogates the generic differences between biography and autobiography, acknowledging that it is in no sense simple; while paying close attention to literary textures of voice through which *literariness* itself comes to contest authority. To that end, I argue for a particular critical role for narrative reverie through the autobiography of Charles Babbage, the literary consequences of which are further explored in the more managed autobiographical writings of Charles Darwin and T. H. Huxley. The chapter concludes with a focus on the self-consciously authoritative and field-shaping aspirations of *The Life, Letters and Labours of Francis Galton*, written by his disciple Karl Pearson over a long period (1914-30). This work about the birth of eugenics marked, arguably, the terminus for the fashioning of scientific biography during the long nineteenth century: yet, Galton's autobiography could, I argue, still be an occasion for literary reverie which underlined a critical role for the ludicrous in literature and science.

It is instructive to begin with Anna Seward's controversial *Life of Erasmus Darwin* precisely because, in gesturing to the centrality of science to its subject's life, it then went on to sidestep that very topic. The biography appeared in 1804, following Darwin's death in 1802. While Erasmus Darwin's contribution to the history of science and medicine has come to be recorded in depth in work by Desmond King-Hele and others, his 'household gods' of science and medicine were originally presented in less than luminous detail by Seward's

biography. Robert Waring Darwin, Erasmus's son and Charles's father, asked the Lichfield poet Seward to supply anecdotes about the Lichfield life of the most eminent physician in Britain. As Darwin's friend, Seward had observed at close hand the capacious intellect of the inventor, speculator and poet. Seward went much further and turned her collection of anecdotes into an un-commissioned, indeed unflattering, life which deeply displeased the Darwin family: not only because the anecdotes reflected little on Erasmus Darwin's role as elite physician but chiefly because of Seward's allegation that he was perpetrator against her of the literary crime of plagiarism. As Teresa Barnard's recent study of the writer suggests, Seward's approach to writing the life of a 'great man' was in a state of tension with her own somewhat brittle sense of a hard-won reputation and identity, achieved and defended through her meticulous self-archiving of her letters and poetry (5).

Seward had come to occupy a central intellectual position in the powerful literary and Anglican circle of the midland city of Lichfield. In fact, the idea of the intellectual circle played an important, indeed slightly eccentric, role in Seward's biography, given the less than flattering attention devoted to Erasmus Darwin's friends, especially the philosopher Thomas Day, and his proprietorial predilection for young, foundling women. Seward's critical ire was also directed at alleged improprieties in Erasmus Darwin's own literary achievements, embodied most famously in *The Botanic Garden* (1789, 1792). The controversy that Seward's biography initiated had at its heart a 'tangled and sequestered scene' (108) (the 'wild, umbrageous valley' on the outskirts of Lichfield purchased by Darwin) which led to an intellectual entanglement between literary and scientific aspirations. According to Seward's account, the idea for *The Botanic Garden* came from her own poetical impulses, inspired by Dr Darwin's enclosed section of the Derwent valley (but not the physician himself, who on the day in question was attending to 'a medical summons' (109)). On reading Seward's

fragment on ‘these HALLOWED VALES’ and its humanised flora, Darwin conceived the idea of the exploration of the Linnaean system through ‘metamorphoses of the Ovidian kind’ (111), inviting her to write the verse, for him to provide the scientific notes. According to Seward, Darwin ‘objected the professional danger of coming forward an acknowledged poet ... all risque of injury by reputation flowing in upon him from a new source’. Yet, while Darwin ultimately set aside these professional anxieties to undertake the entirety of *The Botanic Garden* by himself, Seward charged Darwin with publishing her fragment of verse as the exordium of the first part of the poem: ‘No acknowledgment’, she protested, ‘was made that those verses were the work of another pen’.

If literary circles and coteries were sites for collaborative work on manuscripts (it is unlikely that Erasmus Darwin would have *recognised* himself as a plagiarist), Seward was inclined to claim the status of the Romantic, individual author. Following from this, there is also a sense in which Seward’s biographical criticism presents Darwin’s poetical achievement as running counter to the most vibrant emerging tendencies in poetical expression in the later eighteenth century through her distinction between ‘vivid poetry which does *not* excite sensation, and vivid poetry which *does* excite it’ (131): thus an autumnal mood from *The Loves of the Plants* is compared unfavourably to a sonnet about a November scene by Charles Lloyd, published in the second edition of S. T. Coleridge’s first volume of *Poems* (1797), which is said to ‘thrill our nerves’ (132) in ways that Darwin’s more measured verse does not. Of course, Seward’s predominantly neo-classical frame of critical reference could not deliver precisely the story about ‘the poetry of sensation’ as the harbinger of the modern age which Arthur Henry Hallam would tell through the early poetry of Tennyson in the 1830s. It is striking, above all, that Seward’s focus on the Lichfield life of Erasmus Darwin undertook to tell no particular story about his significance for the nation – in contrast to James Boswell who, in

the Advertisement to the second edition of his biography of Samuel Johnson [1793], claimed to have '*Johnsonised* the land' (8). If science as a source of the nation's story sought to reveal its stepping stones to progress through biography, it needed to look beyond Seward's assertively anti-heroic model.

The relationship between science and its contribution to the nation as reflected in the scientific life was formulated in popular, but contested, schemes of publication between the 1830s and 1850s as a range of organisations, from the Society for the Diffusion of Useful Knowledge (SDUK) to the Religious Tract Society (RTS), used biography for improving and educational purposes. Religion was a central fault line in this contest; and religion was, of course, an enduring source of contestation in nineteenth-century writing about the scientific life. As the research of Aileen Fyfe has shown, competing secular and Christian versions of knowledge classification used biography as a way of establishing a place for science in the hierarchies of knowledge comprising the national culture. Isaac Newton was *the* canonical figure, representing the birth of scientific reason, and a vision of a mechanical universe respectfully subordinate to the truths of revelation (Fyfe 74-9). In Rebekah Higgitt's work on the transmission of Newton's manuscript sources – dealing sometimes with alchemical speculation – from which biographies of the natural philosopher were produced in these new publication contexts, she records the staunchly Anglican-Tory biographer of Newton, S. P. Rigaud, informing William Whewell of Trinity College, Cambridge, in private correspondence in 1836 of the need for editorial and curatorial care in this enterprise for 'if Newton's character is lowered, the character of England is lowered and the cause of religion is injured' (163). The 1830s and 1840s was a key moment of institutional formation for science in which its relationship to the established Church had also to be defended: this was also the moment, as Geoffrey Cantor points out, when Thomas Carlyle's model of heroic

biography, along with narratives of self-helping labour and perseverance, became discourses for shaping stories of national morality and progress (219). It was the formidable Whewell, through his position as ordained Cambridge divine and *savant*, his philosophies and histories of science, as well as his organisational work for the British Association for the Advancement of Science, who coined the new term 'scientist' in 1833. There remained the question of what one ought to embody in order to qualify for this office – embodiment that was both represented and contested through biographies about subjects who advanced both natural philosophy and their own social position in the nineteenth century.

Biographies of Sir Humphry Davy, who made great strides in the fields of electricity, chemistry and the technological application of science in the century's first decades, and who died in 1829, constitute an important case study. Davy crowned his career as President of the Royal Society in 1820, the most eminent office in British science, a position which had been held since the late 1770s by the aristocratic Sir Joseph Banks. Davy, the son of a wood-carver from Penzance, Cornwall, came from origins that made his story one of social, as well as scientific, advancement. These progresses were first inscribed into biographical narrative in 1831 by John Ayrton Paris, Fellow of the Royal Society, a London physician (a member of the Royal College) with professional connections to Cornwall, and who had attended the charismatic Davy's lectures at the Royal Institution. Paris was able to appeal to the full institutional authority of the Royal Society to validate his narrative before the public, dedicating it to H. R. H. Prince Augustus Frederick, Duke of Sussex, President of the Royal Society from 1830-2: a validation through which one can glimpse something of the professional rivalry between the two leading, and most nationally prestigious, scientific institutions. Davy's Presidency of the Royal Society was not a happy one; he was much criticised. Paris used the biography of Davy to subtly promote the virtues of Dr William

Wollaston – edged out of the Presidency of the Royal Society by Davy after a matter of months in the role – through comparisons between the temperaments of the two men that worked to the disadvantage of Davy (1:296-7).

Paris's narrative authority was, however, explicitly 'corrected' by John Davy in 1836. A military physician and Humphry Davy's younger brother, the new biographer made a sustained case against Paris's alleged carelessness and inaccuracy, while there was clearly also a broader resentment at the condescending tone adopted by Paris. Thus, Chapter VII of John Davy's work records that 1807 was an important year in the history of chemical science, when Humphry Davy successfully used his researches in electricity to decompose fixed alkalis through his experiments with potash. John Davy points out that Paris's biographical account of the process of discovery (1: 274-5) used only the Royal Institution laboratory register to note a final sequence of experiments, concluding that Davy commenced his work on 11 October and obtained his 'great result' on 19 October (Davy 1:384). Paris represented Davy's power as vested in 'rapidity', tending to an actual recklessness in moving between experiments to 'grab' data (Paris 1:144-5). In contrast John Davy argued, based on access to his brother's notebooks, that the researcher's thinking on this theme went back to 1800 at least (1:378): in other words, while only a very few might have first-hand experience of 'the operations of the laboratory and the exciting nature of original research', these valued 'private' sources of expression could give a valued insight into the true nature of the scientist's 'previous views, and the analogies by which he was guided' (1:383). These notebooks revealed the workings of 'a young mind with avidity for knowledge and glory commensurate' (Davy 1:384). Thus, access to valued 'private' sources tended to assist family members in securing authoritative roles in the nineteenth-century business of writing the

scientist – we shall see more of this tendency when we come to look at the lives of Charles Darwin and T. H. Huxley written at the end of the century by their sons.

John Davy crafted a biographical portrait in which every occurrence contributed to the continued elevation of Humphry Davy's national fame and esteem: even the near fatal illness which afflicted him following his successes of 1807 underlined how much his country was indebted to him, following as he did in a line including Bacon and Boyle (1:389). In promoting Humphry Davy's contribution to the nation, John Davy subtly revised the image of Humphry Davy 'fixed' by Paris: as a man forever associated with the wild but backward-looking regional fringe of Cornwall. Thus, in his representation of Davy during his life-threatening illness of 1807, Paris claimed that 'no Swiss peasant ever sighed more deeply for his native mountain than did Davy for the scenes of his early years' (Paris 1:290). For John Davy, not only was there no evidence for this romantic account of his brother's illness, but there was no justification for allusions to the Radcliffian gothic which Paris explicitly invoked in his account of Humphry Davy's Cornish childhood (Paris 1:10). John Davy was careful to emphasise a Cornwall that had kept pace with a modernising nation through intellectual and transport networks: but Paris equated the chemist's reputation with a romantic literariness which, when taken in connection with accounts of a chaotic pre-marital domestic life and a lecturing style that tended to oratory and vanity (Paris 1: 136-7), hardly bolstered the scientific reputation. Of course, Humphry Davy composed poetry in the 1790s, knowing both Wordsworth and Coleridge: Paris states early in his biography that his subject would have become the 'first' of poets had he not become a chemist (1:40); a sentiment that may echo Coleridge's own assessment of Davy in *Sibylline Leaves* (89-90). It is notable that John Davy mentions this only very late on in the concluding 'character encomium' section of the second volume (2:391-4), in which letters about the affections of friendship to Coleridge,

passed to John Davy by Wordsworth, are included. If John Davy's biography played down his brother's romantic literary affiliations to counter the effect of Paris's hints at romantic excess, Davy's epigraph ('The affections are their own justification') was from his friend Wordsworth's first 'Essay upon Epitaphs': Davy's biographical narrative was, self-consciously, designed to be a dignified yet affectionate epitaph to his brother's contribution to science *and* human life.

The self-written scientific life necessarily avoided epitaphic finality: for this very reason, scientific autobiography could be more engagingly uneven in tone and form. This was the case with Charles Babbage's *Passages From the Life of a Philosopher* (1864) which, in the words of its author, did 'not aspire to the name of an autobiography. It [the work] relates a variety of isolated circumstances in which I have taken part' (1994 vii). The disconnected 'passages' which the narrative recounts relate to Babbage's varied career as a mathematician, theorist of the factory system, statistician of life-assurance, and inventor of the so-called 'Difference Engine', usually represented as the first computer. As such he was a *savant* who moved originally, and influentially, in the world of scientific and philosophical institutions led by Humphry Davy's Royal Society, to which he wrote an open letter in 1822, extolling the virtues of the Difference Engine for the business of producing error-free tables for the Board of Longitude. To this extent, Babbage was committed to scientific analysis that improved the efficiencies of an industrialising and trading Britain: he was the author of *On the Economy of Machinery and Manufactures* (1832) and he claimed, in *Passages*, that in adapting Adam Smith's principle of the division of labour, he was the first fully to grasp the idea that its successful implementation cut the *cost* of production (1994 328). However, Babbage's refusal to claim the coherence of autobiography for his text may be seen in large part as a consequence of his failing to achieve continuity of office and output in the changing

world of nineteenth-century science. His penultimate chapter (XXXV) records a long list of failures to secure office, bearing witness instead to appointments made on the basis of patronage. His failure to be appointed to the Mastership of the Mint in 1849 – an office that, as he was painfully aware, had been occupied by Isaac Newton – was because he ‘had no political interest’ (Babbage 1994 358).

In some sense, appeals to literary form and allusiveness had, for the duration of his career, been a paradoxical part of Babbage’s armoury, defending his ‘practical science’ of mechanical philosophy and mathematics against the condescension of politically powerful ordained science. His *The Ninth Bridgewater* (1837), a kind of riposte to William Whewell’s series of endowed treatises advancing the claims of natural theology, known as ‘the Bridgewater Treatises’, was subtitled *A Fragment* in ways that echoed literary Romanticism’s dialectic of blindness and insight. The fragmentary arguments on which it was based (which included gestures towards evolutionary speculations) were provocatively framed by, and in oppositional ‘reply’ to, an epigraph from Whewell’s first *Bridgewater Treatise* denying that ‘mechanical philosophers’ had any insight into the profound, revealed truths organising the universe.

Such literary playfulness also performed an oppositional role in Babbage’s *Passages*: for example, his account of his ‘Experience Amongst Workmen’, a narrative about his visit to manufacturing districts in Leeds and Bradford (Chapter XVII), records his meeting with an informed, working-class mechanic who holds out his ‘brawny hand’ (1994 170) in delight at meeting the author of *On the Economy of Machinery and Manufactures*. The worker leads him to inspect a large ironworks wherein he could enter ‘a large tunnel through a rock which had originally been intended for a canal: but that ... was now used as an air-chamber, to

equalize the supply of the blast furnaces' (Babbage 1994 171). Babbage's journey into the great chamber of intensely hot, pumped air, contrasting sublimely with the cool air of the night outside, becomes increasingly mythic and allusive as he ventures into 'this Temple of Aeolus' as though he was the Greek Cynic philosopher Diogenes. The 'truth' of the cavern, which is intense in the heat of 'tons of air ... driven without cessation by the untiring fiery horse', leads him to think of the Old Testament story of 'Shadrach, Meshach and Abed-nego' (Book of Daniel, Chapters 1-3), protected from the heat of Nebuchadnezzar's furnace by their belief in one true God, or, as Babbage will have it implicitly, science.

This becomes an occasion for an allusive foray into the heat and chill of public, yet ultimately transient, theological and parliamentary controversy among those who, for Babbage, were implicit producers of hot air during the 1850s; and the extent to which reputations might be consumed by the 'heat' of publicity or frozen out of view before reaching the attention of posterity. Referencing the Anglican heresy pronounced against the Christian Socialist cleric F. D. Maurice, and the (in 1864) unfulfilled career of the Conservative statesman Benjamin Disraeli, 'refrigerated by his *friends*', Babbage self-consciously uses this 'reverie' to claim that the writing of his life will 'give each of them his last chance of celebrity preserved in the modest amber of my own simple prose' (1994 171-2). All of this is framed by the self-promoting irony through which it is Babbage's name which is recognised by the brawny-handed working mechanic who has read *On the Economy of Machinery and Manufactures*.

In episode after episode, Babbage demonstrates the authorial and inventive act as a *calculated* mastery over nature's extremes, exemplified in his measured descent into the crater of Vesuvius (1994 160-5). These are, in a sense, allegories of science's capacity to harness those extremes in technology. Babbage styles his own inheritance and enduring identity as that of

an inventor of tools (1994 2). Nonetheless, the centres of power of nineteenth-century science were being realigned by 1864, towards the increasingly authoritative biological sciences of evolution. In talking about his ancestral tool-makers at the beginning of his text, Babbage indicated that he would not have recourse to the ‘philosophic, but unromantic, views of our origin taken by Darwin’ (1994 1). Yet, it was those ‘unromantic views’ of Darwin’s on the origins of life that would, precisely, help to shape a paradoxically *humane* and naturalistic image of the scientific life inscribed in Darwin’s biography.

Between May and August 1876, Charles Robert Darwin, author of the revolutionary *On the Origin of Species* (1859), broke from his ongoing scientific labours (on self- and cross-fertilisation in plants) for an hour each afternoon to write ‘Recollections of the Development of My Mind and Character’, a text that has come to be known as ‘The Autobiography’. While the bulk of the text, reflecting on early recollections, the *Beagle* voyage, and an ensuing life in science, was written in 1876, Darwin continued to write additions to his text in the six years that remained of his life, including a sketch of the character of his father, Robert Waring Darwin. Familial legacy became increasingly important: in 1879, Darwin wrote a life of his grandfather, Erasmus Darwin, which aimed to correct the rather negative and eccentric portrait left by Anna Seward in 1804 with which I began this chapter. Charles Darwin embarked on this autobiographical and biographical activity chiefly for his family: he conceived that it would be of interest to his children and their children, given his regret at the *absence* of an autobiographical articulation of his own grandfather’s life (Barlow 21).

In fact, the autobiography that Darwin wrote would become a public document when it became the prefatory frame of Darwin’s posthumous biography, published by his son, Francis, in 1887; at which point the life of the scientist was increasingly embedded within a

public industry of life writing that characterised the 1880s which saw developments such as the inauguration of the massive *Dictionary of National Biography* (Francis wrote the entry on his father for Leslie Stephen's monumental project). The late Victorian biographical industry sought to satisfy a burgeoning public appetite for the lives of noteworthy authors, politicians, and, increasingly, scientists as celebrities. It produced tension within the Darwin family, where there was profound disagreement about the wisdom of publishing the autobiography: Darwin's vehement rejection of Christianity (he condemned eternal punishment for non-belief as 'a damnable doctrine') inevitably generated family anxieties and conflicts (Barlow 12). On the other hand, the print infrastructure serving public interest in the life and views of the scientist, which had grown exponentially since the time of the Davys, gave rise to a more urgent role for late-nineteenth-century family members in the management of the biographical, public image. Francis Darwin, having been his father's scientific assistant for eight years, became his father's biographer, while Leonard Huxley, son of Thomas Henry Huxley, the great public leader of the evolutionary controversy, wrote the biography of his own father.

Francis Darwin took it upon himself to manage the autobiographical image bequeathed by his father. This included the publication of numerous letters and notebooks. Extracts from Darwin's now-famous 'Transmutation Notebooks', from 1837, made their first appearance as transcription and facsimile in the second volume of the biography (Darwin 2:4-5). In time drafts of scientific manuscripts were published, such as the early case for evolution by natural selection set out in the so-called 'Essay of 1842'. Inaugurating this 'trail' of scientific speculations Francis published Charles's 'Autobiographical Chapter' in the first volume of the *Life and Letters*. He appeased his mother and sister (Henrietta) by editing out the reference to 'damnable' Christian doctrine. Nonetheless, this did not detract from Darwin's

‘Recollections’ as a powerfully coherent narrative, organised around the central life event of the *Beagle* voyage, which produced a complex image of human motivation at the same time as the very origin of human exceptionalism was scrutinised by the speculations. For Darwin was simultaneously able to present the pleasures of, and desire to pursue, scientific investigation which would ‘add a few facts to the great mass of facts in Natural Science’ (Darwin 1:65), thus satisfying ‘an ambition to take a fair place among scientific men’; while also projecting intense humility. Darwin can form ‘no opinion’ whether he is ‘more ambitious or less so than most of my fellow-workers’. Moreover, the scientific allure of the *Beagle* voyage had to be offset against the feeling of being ‘out of spirits at the thought of leaving family and friends’ (Darwin 1:64) for so long. For Darwin’s image is also domestically resonant: marriage and the arrival of children follow the *Beagle* voyage; and the acquisition of a family home in a carefully chosen venue of quiet rusticity (Downe, Kent).

Darwin’s autobiography, in Victorian fashion, tells a story of gains and losses. The most ‘lamentable’ loss is that of the ‘higher’ aesthetic sense for painting, music, and poetry in later life. Towards the end of the text, recalling an earlier love for the poetry of Milton and Wordsworth, Darwin claims now to be ‘nauseated’ (1:101) by Shakespeare, having become ‘a kind of machine for grinding general laws out of large collections of fact’. What is notable is Darwin’s paradoxical resort to metaphor to style this scientific, anti-aesthetic self that became, in the long view, a challenge to find the ‘poetry’ in Darwin’s writing, despite this self-perception. It is also a metaphor that perhaps projects a sense of literature as a land of lost content, and as such also perhaps constitutes an elision of the role of literary expression in more embattled cultural and intellectual contexts. Darwin’s humane and sympathetic image, tinged with literary (but not religious) regrets has been an enduring one (Levine); but it still required vigilant management as Francis saw off rival biographers and fugitive

religious statements that seeped out of his father's uncensored correspondence into febrile public contexts (Amigoni).

While Charles Darwin pursued his evolutionary speculations in rural isolation, protected by his family, Thomas Henry Huxley was the public controversialist who asserted and defended the new evolutionary ethos in the service of new scientific, governmental, and educational institutions before his death in 1895. Huxley was the crucial figure bringing the authority of scientific knowledge to bear on an increasingly complex 'social organism' and its rules of governance and opportunities for education. Leonard Huxley, his son and a school master at Charterhouse, took on the responsibility for recording the public life, though 'impersonally' as he put it in a Preface that played down the family investment. The 'impersonal' imperative derived from the fact that the son had occasionally to search for proportion and consistency in his father's self-image when curating his writings into an authoritative 'life and letters'. Huxley was a reluctant autobiographer whose final published self-testimony had been extracted from him by the late Victorian vogue for the celebrity life story. It first appeared in the unlikely setting of Louis Engel's predominantly musical and artistic *From Handel to Hallé: Biographical Sketches* (1890) and in it Huxley expressed a strong distaste for and scepticism about the authority of autobiographical expression. Leonard recalled this scepticism as a context for discovering in the disordered mass of his father's papers, 'an [earlier] entirely different sketch of his early life, half-a-dozen sheets describing the time he spent in the East end [of London, during his medical training] with an almost Carlylese sense of the horrible disproportions of life' (Huxley 2:231). In borrowing the literary, protesting, and prophetic idioms of Thomas Carlyle's voice, the young T. H. Huxley fostered an autobiographical experiment in an accent of grotesque 'disproportion' that the public scientist

had suppressed, though Leonard published extracts at the beginning of the biography (Huxley 1:15-16).

For Huxley, a highly skilled rhetorician, literary inventiveness provided a code for interpreting ‘the horrible disproportions of life’. Huxley opened his later life autobiographical narrative with a tale about the denial to him at birth of ‘mellifluous eloquence’, though it is more socially combative than Darwin’s lamentation at the loss of an aesthetic sense:

I am not aware that any portents preceded my arrival in this world, but, in my childhood, I remember hearing a traditional account of the manner in which I lost the chance of an endowment of great practical value. The windows of my mother’s room were open, in consequence of the unusual warmth of the weather. For the same reason, probably, a neighbouring beehive had swarmed, and the new colony, pitching on the window-sill, was making its way into the room when the horrified nurse shut down the sash. If that well-meaning woman had only abstained from her ill-timed interference, the swarm might have landed on my lips, and I should have been endowed with that mellifluous eloquence which, in this country, leads far more surely than worth, capacity, or honest work, to the highest places in the Church and State. But the opportunity was lost, and I have been obliged to content myself through life with saying what I mean in the plainest of plain language, than which, I suppose, there is no habit more ruinous to a man’s prospect of advancement.

(Engel 122-3, Huxley 1:3)

What characterises this birth myth is its hybrid status: Huxley describes it as a ‘traditional account’ of loss, rather than a completely fabricated event, so there is no reason to doubt the reported presence of the bees (they are, in the language of the naturalist, making their advance as a colony), or of the nurse’s swift action in denying them access to the room, and the baby Huxley’s lips. But it is the bees’ designs on the baby’s lips, of course, that renders

the story traditional and mythic. The story alludes to a myth of Greek antiquity that lips touched by bees were sweetened by honey, and would, thereby, be the source of ‘mellifluous’ poetry. The English ‘mellifluous’ derives from the Latin compound for ‘flowing like honey’. Thus, Huxley’s story, written in 1889-90, is one of the lesser known contributions to what Marion Thain, in her study of the poetry of Michael Field, has described as ‘apian aesthetics’, or those multiple fin de siècle contexts in which decadent associations between bees, honey, and sensuous, eloquent poetry were woven. Thain points out that the ‘resonance achieved a much more precise intellectual currency around the middle of the nineteenth century with Matthew Arnold’s popularisation of the phrase “sweetness and light” in *Culture and Anarchy*’ (141). Huxley concludes that the denial of ‘mellifluous eloquence’ initially blocked his access to influential positions in the Church and the State; it is the inheritance of ‘literary’ eloquence that has been blocked at the same as its status as cultural capital is critiqued. Huxley aligns himself with Leslie Stephen’s school of rationalist ‘plain speaking and freethinking’, and almost certainly against the former Oxford Professor of Poetry, champion of Hellenic eloquence, and state functionary (Inspector of Schools) Matthew Arnold. Huxley’s rhetoric returns ‘sweetness and light’ to its original, satiric, Swiftian context, while putting it into battle against Anglican privilege and the classics-based model of literacy that continued to validate a route into governance.

Huxley’s self-conscious playfulness as an autobiographical rhetorician constituted an opening to popular biographers, a category of life writing explored by Bernard Lightman (2007) in his work on late Victorian scientific popularisers. Figures such as Grant Allen (who wrote a brief biography of Darwin in 1885, obtaining the co-operation of Francis Darwin to do so) re-energised at the very end of the century the popular trend of widening access to the life of the scientist that had first emerged between the 1830s and 1850s. The scientific journalist and

populariser Edward Clodd wrote a brief life of Huxley for the series entitled ‘Modern English Writers’ in 1902, notably placing Huxley among writers rather than scientists. Clodd had worked with Huxley on educational causes for many years and was a rationalist and agnostic who used the brief, condensed biographical model to extend energetically his mentor’s combative rhetorical legacy in ways that Leonard Huxley’s more sober and exhaustively detailed authorised performance could not. In this context, Clodd wrote what members of Huxley’s own family recognised and approved as a ‘handbook to evolution and the agnostic position’ (Collier). In authorising this position, Clodd appealed to a literary frame of reference, invoking Arnold: under the title *Thomas Henry Huxley*, Clodd added the epigraph ‘Who saw life steadily, and saw it whole’, applying it to his subject. This epigraph derives, of course, from Matthew Arnold – a quotation from his poem of c. 1848, ‘To A Friend’ (Arnold 105). This was one of a number of self-conscious moves that Clodd made to re-align Thomas Henry Huxley with an Arnoldian inheritance. Huxley’s patchy early education was treated in both Leonard Huxley’s and Edward Clodd’s biographies. However, Clodd added an Arnoldian supplement stating that Huxley’s ‘boyhood was a cheerless time. Reversing Matthew Arnold’s sunnier memories:—

No “rigorous teachers seized his youth,  
                   And purged its faith, and tried its fire,  
 Shewed him the high, white star of truth,  
                   There bade him gaze, and there aspire”.

(2)

Thus, Clodd uses Arnold’s ‘sunny’ eloquence from ‘Stanzas From the Grand Chartreuse’ in order to ‘reverse’ the poem’s memory of the rigorous education experienced by aspiring youth. A literary appropriation enables Clodd to develop his own eloquent rendering of the

biological ‘curriculum’ (7) experienced on the exploratory sea voyages undertaken by Darwin, Huxley, and Hooker, which had ‘schooled’ these scientists in nature’s essential medium of water: ‘life had its origin in water, and therein the biologist finds his most suggestive material. Darwin and Joseph Hooker had passed through a like curriculum’.

Thus, at the very beginning of the twentieth century at the point where the Darwinian revolution had reached a high watermark, popular biographies of evolution’s champions could articulate the foundations of biological knowledge, and the spaces of nature where one might be schooled in it. Literariness could function as an inventive source of expression: but it could also be used to authorise, as in the case of Clodd’s use of the Arnoldian ‘seeing life steadily and whole’ epithet, the ‘wholeness’ of a research paradigm and its fitness to direct social thinking.

Perhaps the terminal point of the Victorian life and letters tradition for writing the life of the scientist was a monumental attempt to consolidate the authority of the new field of biological population management, or eugenics. In writing *The Life, Letters and Labours of Francis Galton* Karl Pearson blended many aspects of the tradition outlined in this chapter. Compiled by Pearson in the role of impersonal scientific heir to Galton, his benefactor, as the Director of the Galton Laboratory at University College, London, it was nonetheless full of filial respect and indeed love for a man who had come to be seen by Pearson as a father. Punctuated by the cataclysms of twentieth-century European war and its preparations (the first volume appeared in 1914, the second in 1924, and the final volumes in 1930), the biography painstakingly recorded a life of scientific achievement that blended Darwin’s evolutionism (Galton was Darwin’s cousin: they shared a grandfather in Erasmus Darwin) with Babbage’s conviction about the centrality of computation and statistics in designing

social policy. If it was now population, mate selection, and the weeding out of the ‘unfit’ instead of the economy of manufacture that was this science’s new object of national salvation, a variety of literary language and metaphor still had a legitimating role to play. As Pearson observed in outlining the mission of the Galton Laboratory in a quasi-religious, visionary discourse:

The garden of humanity is very full of weeds, nurture will never transform them into flowers; the eugenicist calls upon the rulers of mankind to see that there shall be space in the garden, freed of weeds, for individuals and races of finer growth to develop the full bloom possible of their species.

(3B:220)

There is something unsettling about a metaphorical advocacy of the weeding of races, published in 1930, that reaches back for its source into Galton’s life, recorded in a Victorian biographical monument.

However, as I have argued throughout this chapter, Victorian scientific biography and autobiography were inscribed in multiple literary accents. In *Memories of My Life*, the autobiography published by Francis Galton just three years before his death in 1911, Galton’s memories of being a student at Cambridge in the 1840s recall a scene involving the ‘formidable’ (60) Dr Whewell, Master of Trinity, the man who gave birth to the office and nomenclature of the ‘scientist’, as he recited Milton’s *Paradise Lost* to the woman who would become his first wife. It constitutes another, quite different perspective on the mechanics of mate selection and the preservation of the fit:

All male animals, including men, when they are in love, are apt to behave in ways that seem ludicrous to bystanders. ... I fancied I could almost hear the rustling of his stiffened feathers, and did overhear these sonorous lines of Milton rolled out to the lady *à propos* of I know not what, “cycle and epicycle, orb and orb”, with hollow o’s and prolonged trills on the r’s.

Galton’s voice here rediscovers sources of youthful humour which satirized the scientific standing of Whewell and other professors. This was humour which he and many Cambridge undergraduates, as Janet Browne has demonstrated, would have consumed from student magazines (174-5, 183-7). In Book VIII of *Paradise Lost*, which Whewell ‘performs’ and which Galton interprets as a bizarre mating ritual, Raphael addresses Adam, urging him to overcome his doubts and to look for evidence to God’s great book of Nature: he can see its revealed workings in the movements of the planets, ‘cycle and epicycle, orb and orb’. Trilling his r’s, Whewell imagines himself to be impressing his lady admirer by drawing on Milton to write an orthodox Bridgewater Treatise, sonority underlining God’s epic: whereas, for Galton, Whewell seems to be performing an early draft of Darwin’s theory of sexual selection *avant* the *Origin of Species*. In mixing these sources, Galton’s accent makes the scene ‘ludicrous’: a *Punch* cartoon rather than a chapter from nature’s epic. There are many layers to Galton’s autobiographical voice here: the Miltonic grand style; youthful humour from the 1830s and 1840s; Darwin’s defining statement of evolutionary scientific naturalism from 1859; the satiric humour of the magazine culture that greeted and filtered it during the 1860s and beyond. In any event, it is a more complex voice than Pearson’s priestly biographical sermon, speaking on behalf of Galton’s project and the institutions that sought to shape public policy in its name.

As I have argued in this chapter, if the Romantic emphasis on subjectivity and voice marked all nineteenth-century life writing, including the writing of scientific lives, then researchers in

the field of literature and science studies need to pay closer attention to the multiple ways in which voices work in these still somewhat neglected texts. This is not simply because such a method gives us more complex, multi-faceted images of individual scientific lives – though undoubtedly it can do that. More importantly, the voices give us insight into the way in which the sources comprising ‘the life’ interacted with the scientific institutions and discourses of public value that enabled science to claim its authority. Literature played a crucial role in the construction of this authority; but it could also, through forms of reverie and humour, play a role in critically exposing the foundations on which it was built.

## Bibliography

### Primary Texts

Arnold, Matthew. *The Poems of Matthew Arnold* (Longmans Annotated English Poets). Ed. Kenneth Allott. London: Longmans, 1965.

Babbage, Charles. *The Ninth Bridgewater: A Fragment*. London: John Murray, 1837.

———. *Passages From the Life of a Philosopher* [1864]. Ed. Martin Campbell-Kelly. London: William Pickering, 1994.

Barlow, Nora. *Autobiography of Charles Darwin*. London: Collins, 1958.

Boswell, James. *Life of Johnson* [1791]. Ed. R. W. Chapman. Oxford: Oxford UP, 1980.

Clodd, Edward. *Thomas Henry Huxley*. New York: Dodd, Mead, 1902.

Coleridge, Samuel Taylor. *Sibylline Leaves: A Collection of Poems*. London: Rest Fenner, 1817.

Collier, Ethel G. Letter to Edward Clodd, 9 March 1902. BC 19c Clodd/Hux/C: Clodd Collection, Brotherton Library, University of Leeds.

Darwin, Francis. *Life and Letters of Charles Darwin*. 3 vols. London: John Murray, 1887.

Davy, John. *Memoirs of the Life of Sir Humphry Davy*. 2 vols. London: Longman, Rees, Orme, Brown, Green, and Longman, 1836.

Engel, Louis. *From Handel to Hallé: Biographical Sketches*. London: Swan Sonnenschein, 1890.

Galton, Francis. *Memories of My Life*. London: Methuen, 1908.

Huxley, Leonard. *Life and Letters of Thomas Henry Huxley*. 3 vols. London: Macmillan, 1901.

Paris, John Ayrton. *The Life of Sir Humphry Davy*. 2 vols. London: Henry Colburn and Richard Bentley, 1831.

Pearson, Karl. *The Life, Letters and Labours of Francis Galton*. 4 vols [1-3B]. Cambridge: Cambridge UP, 1914-30.

Seward, Anna. *Life of Erasmus Darwin* [1804]. Ed. Philip K. Wilson, Elizabeth A. Dolan, and Malcolm Dick. Studley: Brewin, 2010.

### Secondary Texts

Amigoni, David. 'Between Medicine and Evolutionary Theory: Sympathy and Other Emotional Investments in Life Writings by and About Charles Darwin'. *After Darwin: Animals, Emotions and the Mind*. Ed. Angelique Richardson. Amsterdam-New York: Rodopi, 2013. 172-92.

Barnard, Teresa. *Anna Seward: A Constructed Life*. Farnham: Ashgate, 2009.

Browne, Janet. 'Squibs and Snobs: Science in Humorous British Undergraduate Magazines Around 1830'. *History of Science* 30 (1992): 165-97.

Cantor, Geoffrey. 'Scientific Biography in the Periodical Press'. *Science in the Nineteenth-Century Periodical*. Eds Geoffrey Cantor et al. Cambridge: Cambridge UP, 2004. 216-37.

Fyfe, Aileen. *Science and Salvation: Evangelical Popular Science Publishing in Victorian Britain*. Chicago: U of Chicago P, 2004.

Higgitt, Rebekah. 'Discriminating Days? Partiality and Impartiality in Nineteenth-Century Biographies of Newton'. *The History and Poetics of Scientific Biography*. Ed. Thomas Söderqvist. Aldershot: Ashgate, 2007. 155-72.

Levine, George. *Darwin Loves You: Natural Selection and the Re-enchantment of the World*.

Princeton: Princeton UP, 2006.

Lightman, Bernard. *Victorian Popularizers of Science: Designing Nature for New Audiences*.

Chicago: Chicago UP, 2007.

Taub, Liba. 'Presenting a "Life" as a Guide to Living: Ancient Accounts of the Life of

Pythagoras'. *The History and Poetics of Scientific Biography*. Ed. Thomas

Söderqvist. Aldershot: Ashgate, 2007. 17-36.

Thain, Marian. *'Michael Field' (1880-1914): Poetry, Aestheticism, and the Fin de*

*Siècle*. Cambridge: Cambridge UP, 2007.

### **Further Reading**

Gagnier, Regenia. *Subjectivities: A History of Self-Representation in Britain, 1832-1920*.

New York: Oxford UP, 1991.

*Humphry Davy and His Circle* [Davy Letters Project]. <<http://www.davy-letters.org.uk>>.

Accessed 17 October 2015.

Knight, David M. 'From Science to Wisdom: Humphry Davy's Life'. *Science in the*

*Romantic Era*. Aldershot: Ashgate, 1998. 283-294.

Lightman, Bernard. 'The Many Lives of Charles Darwin: Early Biographies and the

Definitive Evolutionist'. *Notes and Records of the Royal Society* 64:4 (2010): 339-

58.

Morrell, Jack, and Arnold Thackray. *Gentlemen of Science: Early Years of the British*

*Association for the Advancement of Science*. New York: Oxford UP, 1981.

Rosenberg, John D. 'Mr Darwin Collects Himself'. *Nineteenth-Century Lives: Essays Presented to Jerome Hamilton Buckley*. Eds Laurence S. Lockridge et al. Cambridge: Cambridge UP, 1989. 82-111.

White, Paul. *T. H. Huxley: Making the Man of Science*. Cambridge: Cambridge UP, 2003.