1 Darwin's intellectual development: biography, history and commemoration

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An unusual photograph was published in 1973 that claims to show Charles Darwin's ghost taking a midnight stroll through the British countryside (Figure 1.1). The house and garden are not Darwin's old home, Down House, but a neighbouring mansion in the village of Downe in Kent. According to the photographer, he can be seen in hat and cloak with his walking stick and tell-tale beard (Coxe, 1973).[1] The image poses an intriguing visual puzzle that calls into play our personal belief systems: some of us will be willing to find him, others not.

More to the point, the photograph serves as a metaphor about the biographical process. Historical biographers are in the business of capturing ghosts, creating characters, choosing words and arranging documents to bring people alive again, finding images and seeing shapes, however evanescent, and urging readers to perceive fresh and stimulating pictures in the data presented. Of course biographers work within the given historical record. They do not knowingly present fiction, although Virginia Woolf and other literary critics frequently recommended that biographers should use all the skills of a novelist.[2] Like actors, writers need to interpret and shape their character. The dramatis personae that biographers display in their books are necessarily created figures: people may be presented in a number of ways and made to say a number of things. An important question in the history of science therefore relates to the different ways that scientists have been presented through the ages.[3] One of the most evocative examples must surely be the case of Charles Darwin. A rich variety of images of Darwin have emerged over

Darwin, eds. William Brown and Andrew C. Fabian. Published by Cambridge University Press.

FIGURE 1.1 A photograph from the 1970s showing Darwin's ghost. From Antony Hippisley Coxe (1973). *Haunted Britain*. London: Hutchinson. Published courtesy of the heirs of Antony Hippisley-Coxe.

the years since his death in 1882 – an assortment of ghosts that have peopled the historical record (Moore, 1996; La Vergata, 1985; Young, 1988; Colp Jr., 1989; Greene, 1993).

Depending on definition, there have been around 30 or so biographical studies of Darwin since 1882, somewhat more than of Isaac Newton but fewer than of Marie Curie.[4] The number and variety of these writings invite extended historical attention (Churchill, 1982).[5] One leading feature that bears special consideration is the way that the theme of Darwin's intellectual development has been presented. This is an issue that has always held cultural relevance, no less diminished in the present day. For Darwin's fame and intellectual achievement early turned him into an icon of science, even in his own lifetime,[6] and many writers have been eager to explore his route to creativity, his education, his developing self-determination, his reading materials, his inner psychology and those elements of Victorian culture that may have encouraged the formulation

and expression of his views. The most enduring question that these books ultimately address is how did Darwin become the man who wrote *On the Origin of Species*? How did he change from an enthusiastic amateur naturalist to one of the greatest biological thinkers and authors of the modern era? As Frederick Churchill once argued, the answers to such questions have shifted through the decades according to changes in the way that science has been regarded and in response to diversifying cultural concerns (Churchill, 1982). How writers have dealt with Darwin – and Darwin's intellectual development – indicates something of how people thought more generally about science. The question relates readily to research into other iconic figures in science (Friedman and Donley, 1985; Yeo, 1988; Smith and Wise, 1989; Geison, 1995; Ferry, 1998; Koerner, 2000; more recently, Fara, 2002; White, 2003; Pancaldi, 2003). This article describes a variety of 'Darwins' presented in biographies composed since Darwin's death in 1882 and asks how these might reflect changing concerns about science.

It is helpful first to consider the way in which Darwin himself described the path of his mental development. Darwin was notoriously reticent about his inner life, hardly offering any introspective reflections in the manuscript begun in 1873 that he called 'Recollections of the development of my mind and character'.[7] This document was perhaps not originally intended for publication. Even so, it was published in edited form after his death in Francis Darwin's (1887) *Life and Letters of Charles Darwin*. Much has been made of the way that Darwin's sons Francis and William discussed the matter of publication of this text among the family. Francis Darwin, the self-elected editor of Darwin's *Life and Letters*, and his older brother William, bowed to the wishes of their mother, Emma Darwin, over the content of these personal recollections. At Emma Darwin's request, Francis removed several sentences written by Charles Darwin that expressed contempt about certain points of Christian doctrine (Barlow, 1958). It should be noted that many other passages about Darwin's religious beliefs were left intact: this was not total censorship. Yet Emma Darwin did not want to upset those family members and friends who might be offended by Darwin's frank remarks. It should also be mentioned that for publication Francis Darwin moved parts of his father's text around, dividing it across several chapters in the first volume of *Life and Letters*, re-titling one section as 'Autobiography',

and adding other family material as he thought necessary. Darwin's recollections were published in their full and original form only in 1958, an event that forms a later part of this chapter's argument.

In the text available to Victorian readers, Darwin became very real. His recollections were packed with delightful stories about family life, his travels and subsequent career. However, a number of modern scholars have noted how this lively domestic information did not adequately reflect the abundance and reach of his mental life. It seems almost as if he was unable to find in himself anything particularly special or unusual, and that he thought of himself as an amiable and ordinary young man who, by luck and hard work, had turned himself into a natural historian and author. Perhaps this tone of voice is partly explained by the fact that he was writing for his future grandchildren, where family anecdote and reinforcement of diligence and application might have been presumed important. Recent research also suggests that the motif of Samuel Smiles' self-made man was crucial in shaping Darwin's memory of himself (Browne, 2002). Some scholars remark on Darwin's bleak description of the deterioration of his artistic sensibilities, or compare his writing style to that of a taxonomist, holding himself up on a pin to observe and describe. Others look in vain for any moment of epiphany, as might be found in classics of the genre such as Rousseau's *Confessions* or John Henry Newman's *Apologia pro Vita Sua*. Either by chance or design, Darwin left the field open for a great deal of speculation by historians about his intellectual development.[8]

Even so, Darwin there acknowledged his early love for natural history and his passion for collecting natural history specimens, which in later life he came to understand as an urge that might have been satisfied by collecting anything, even postage stamps or biscuits (Barlow, 1958).[9] His delight in collecting mineralogical specimens as a boy in Shrewsbury, his awakening interest in Edinburgh in the larger theoretical explanations underlying natural history and his pleasure in beetle-collecting while at Cambridge University were described by him as key parts of his youth (Figure 1.2). He stated that his time at Edinburgh and Cambridge Universities was wasted as far as the curriculum went. The continuing publication of the *Correspondence of Charles Darwin* can now add a great deal more substance to this account and reveals a much more sophisticated picture of the young undergraduate.[10] Evidently to create a self-portrait

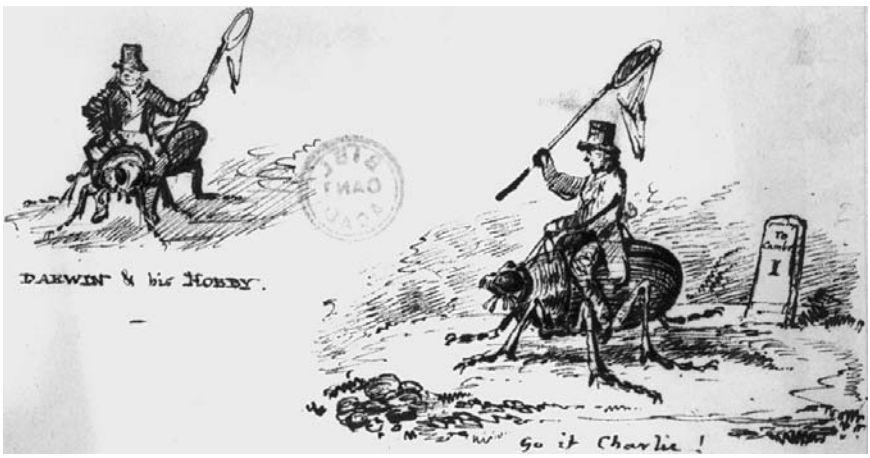

FIGURE 1.2 This caricature of a young Charles Darwin riding a beetle was drawn by fellow beetle collector Albert Way in 1832. It is captioned 'Go it Charlie!' By permission of the Syndics of Cambridge University Library.

of carefree innocence was significant to Darwin. He wanted to tell his story in a particular way. He believed – as indeed we still do today – that the *Beagle* voyage was the turning point of his life. It was the voyage that made him what he became. As he said in these recollections: 'The voyage of the *Beagle* has been by far the most important event in my life and has determined my whole career' (Barlow, 1958).

In this he spoke truly. There were a number of factors he singled out. Darwin spoke warmly of the role that Charles Lyell's book on the *Principles of Geology* (1830–3) played in the development of his scientific ideas during the *Beagle* voyage, providing him not only with information against which to gauge his own observations and theories, but also with an interpretive method that focused on the slow accumulation of many small changes (Figure 1.3). When placed in a chronological framework that stretched over unimaginable eons of time, these small changes could add up to large effects. In Lyell's hands this was a pioneering geological approach. In Darwin's mind, it became a powerful way of thought that could be applied to the whole of the natural world, to biological as well as geological phenomena, and equally also to the human domain. This one idea became the touchstone of Darwin's scientific approach,

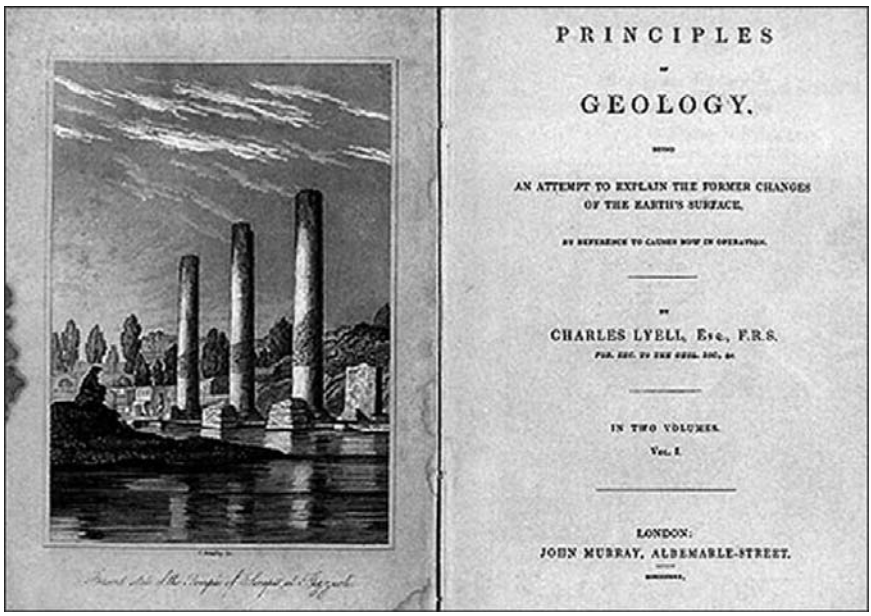

FIGURE 1.3 Darwin took a copy of Charles Lyell's *Principles of Geology* (1830–3) with him on the *Beagle* voyage. By permission of the Syndics of Cambridge University Library.

an intellectual commitment that dominated his work during the voyage and persisted in ever-deepening form through the rest of his career, especially underpinning the central argument of *On the Origin of Species*.[11] There were many other aspects of Lyell's work that were important to him (Herbert, 2005). Later, after his return from the *Beagle* voyage, Darwin valued Lyell's friendship highly. Lyell's impact on Darwin's mind and character indeed can hardly be overstated. He readily acknowledged:

> I have always thought that the great merit of the *Principles* was that it altered the whole tone of one's mind and therefore that when seeing a thing never seen by Lyell one yet saw it partially through his eyes.
>
> (Barlow, 1958)

In these autobiographical recollections Darwin also spoke of the impact of visiting the Galápagos archipelago, a visit that unsettled his assumptions about the fixity of species, and of his adventures in South America, galloping across the pampas in search of animals and plants, or digging

FIGURE 1.4 A Victorian engraving of a Galápagos tortoise. *Illustrated London News*, 13 July 1850. Author's copy.

for fossils, or seeing the stars from the high passes of the Andes (Figure 1.4). He experienced a major earthquake and (from a distance) saw a volcano erupt, two astonishing examples of geology in action that similarly unsettled his assumptions about the stability of the Earth. He spoke of the experience of seeing indigenous peoples in their native countries, in particular the shock of seeing the local inhabitants of Tierra del Fuego, who to Darwin appeared to live on the edge of barbarity. The shock was deepened by the fact that the *Beagle* carried three members of the Yahmanh tribe who had been captured during the previous *Beagle* voyage and taken to England by Captain Robert FitzRoy for a Christian education (Figure 1.5). The three were being returned by FitzRoy to establish an Anglican mission station. As the *Beagle* men saw it, the three Fuegians on board ship had acquired all the attributes of civilised peoples. Darwin could not help but compare them to their literal relatives on the shore. He was stunned. In the written

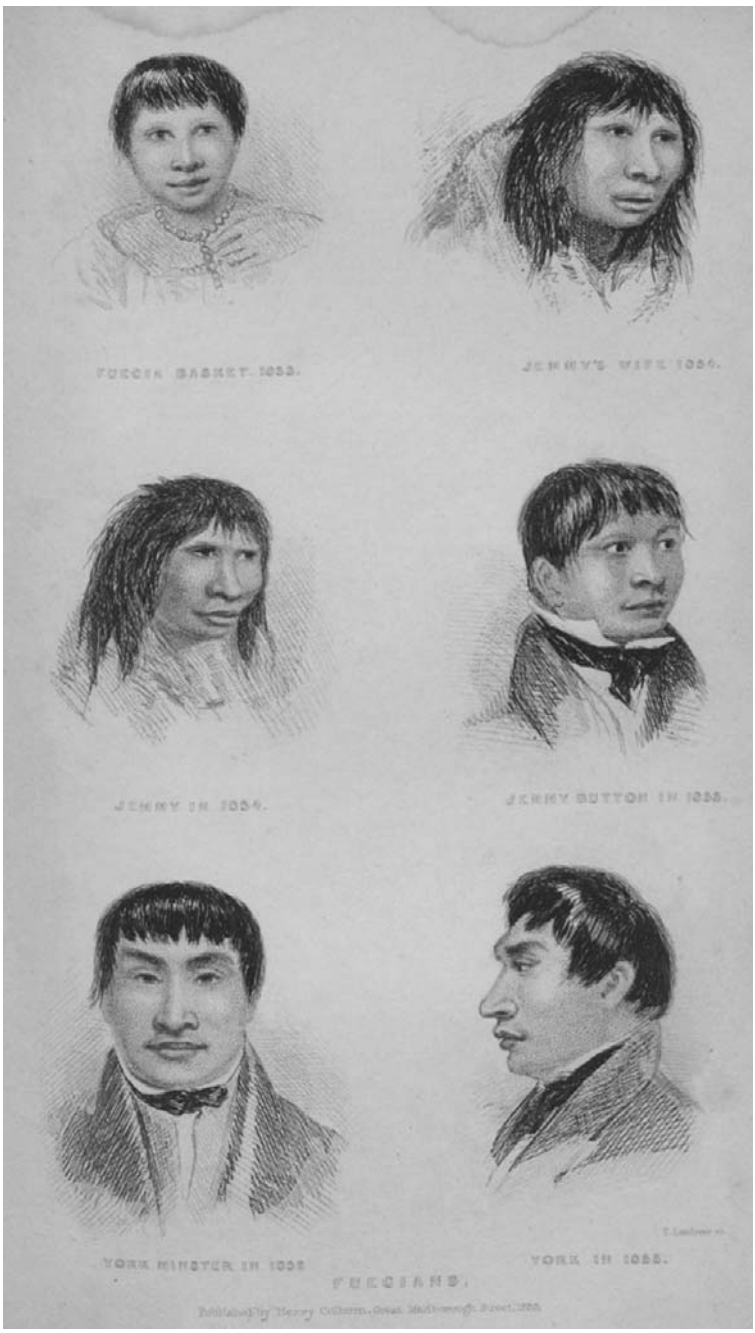

FIGURE 1.5 Three of the four Fuegians whom Robert FitzRoy, captain of the *Beagle*, captured on an earlier voyage of the *Beagle* and took to England. FitzRoy intended to resettle them in Tierra del Fuego in a Christian mission station. From FitzRoy, R. (1839). *Narrative of the Surveying Voyages of His Majesty's Ships Adventure and Beagle, between the Years 1826 and 1836*. London: Henry Colburn. Wellcome Library, London.

record he remarked several times on the transient nature of civilisation and the unity that underlay the varieties of mankind (see especially Desmond and Moore, 2009).

These experiences and many others made an indelible impression. Darwin always acknowledged that the *Beagle* voyage was the most formative event in his life. Indeed, it could almost be said that he spent the rest of his life exploring questions that first arose in his mind during those voyaging years, an intellectual journey that took him onwards to the *Origin of Species*, *The Descent of Man*, and beyond. As Darwin described it in the opening pages of the *Origin*, his *Beagle* experiences had stimulated for him the problem of species. In his autobiography, however, there are no finches, no eureka moment on the Galápagos archipelago.

Instead he said that, on his return from the voyage, he began on the entirely Baconian plan of collecting facts. This too is a fascinating example of the reshaping of memory according to contemporary norms of scientific practice. In Victorian eyes, the name of the seventeenth-century philosopher Francis Bacon was routinely applied to scientific proposals that emerged in an inductive manner from a wide body of facts – the process in itself guaranteed that the proposal was a reliable indicator of a natural truth. In his old age Darwin had many reasons to emphasise his use of an acknowledged scientific methodology. However, his writings from this period tell a different story. To be sure, Darwin did collect many facts about biological change, as evidenced by the now famous notebooks filled by him during the years 1837–9 with a torrent of information and queries about living beings and their possible origin (Barrett *et al.*, 1987), and by the copious correspondence and reading programme that he undertook through the same years and beyond.[12] Current scholarship nevertheless indicates that this information gathering was driven by energetic theorising. Darwin's mind glittered with a wide variety of different possible theories. Nor did he confine himself to the biological world. He read voraciously in the social sciences, anthropology and philosophy. With historical hindsight we can see that this was one of the most remarkable periods of his life – a time of extraordinary intellectual excitement and creativity. To call this 'Baconian' was retrospective lip service to nineteenth-century philosophical convention.[13]

Still, this is the story as Darwin told it. My question is how do the biographers tell it? We can now see that the voyage turned him into a well trained expert. It gave him self-discipline and the tools of his trade, including the ability to make extensive written records. It generated self-confidence, a growing reputation in the eyes of expert naturalists, and provided a network of colleagues and contemporaries who were eager to welcome him into the world of science. His naval connections helped him to distribute his specimens to the major institutions of the day and to plan a broad-based series of publications. More significant for the future of biology, the voyage also opened to him the world of the intellect. Darwin returned to England with a mind bubbling over with fresh ideas. The voyage provided him with countless opportunities to dwell on large, all-embracing questions while learning how to gather precisely focused details. It was truly transformative.

The founding document in the Darwin biographical tradition was the *Life and Letters* (1887), prepared by Darwin's son Francis: this is the same publication in which Darwin's 'autobiography' was first published. This was followed by *More Letters* (1903), edited by Francis and A. C. Seward. Not long afterwards Francis Darwin also produced a single volume on the life of his father, drawing on the material presented in those more comprehensive works. Because these volumes were closely connected to the family, and emphasised family papers and personal correspondence, they were naturally assumed to present an authoritative picture of Darwin. Without wishing to downplay the role of many significant obituaries, especially those that sought to cast Darwin as a hero in science, it seems clear that Francis Darwin's *Life and Letters* served as the primary resource for writers for more than a century after Darwin's death. This enduring printed image of Darwin therefore bears some comment.

Francis Darwin brought personal knowledge, literary ability and scientific understanding to the *Life and Letters of Charles Darwin*, and his volumes, although formulated according to an entirely conventional Victorian genre, were in fact significant in revealing something of the private man. The bulk of the volumes comprised letters, as was to be expected, and these offered behind-the-scenes insight into Darwin's work and preoccupations over a long lifetime. Yet Francis worked hard