THE FRONTIERS COLLECTION

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Foreword: The Debate over Darwinism

The year 2009 did not lack for Darwin anniversary meetings, all over the world. Yet the conference that took place in the northern city of Bradford – where most of the papers collected in this splendid volume were originally presented – marked an especially fitting tribute. For Bradford is really where the story started. Not, of course, the story of how Darwin came to develop his evolutionary ideas, or to compose *On the Origin of Species by Means of Natural Selection* in a way that eventually made those ideas persuasive to the scientific community. What began in the Bradford region is the tradition of creative disagreement about what those ideas mean.

It is too little remembered, even locally, that Darwin was in the village of Ilkley – just 20 minutes north of the city – when the *Origin* was published on 24 November 1859. He first laid eyes on the *Origin* in Ilkley in early November. 'I am *infinitely* pleased and proud at the appearance of my child', Darwin wrote back to his London-based publisher, John Murray. And it was during Darwin's visit that, with the help of the village post office, he launched himself on the hard work of converting or, as one of his friends joked, perverting his peers to the new ideas. Mike Dixon and I have told the full story of Darwin's 9-week stay in our book *Darwin in Ilkley* [1]. Here I want only to sketch the background to Darwin's trip up north at such a consequential moment, and also to examine briefly a part of that initial debate – notably to do with the evolution of mind, the question of purpose or teleology in evolution, and the vexed matter of evolution's political or ideological implications.

What brought Darwin to Ilkley in the autumn of 1859? The answer is straightforward: he came for the 'water cure', or 'hydropathy' as it was more fancily known. This was a fashionable alternative therapy of the day. Devotees of the cure subjected themselves to a regime of cold baths, wet sheets and copious drinking of cold water, combined with simple eating and outdoor walks. By mid-1859 Darwin, then 50 years old and a man who had spent much of his adulthood suffering from a mysterious ailment, had become a fan of the cure, and the visit to Ilkley was his treat to himself for having slaved over the proofs of the *Origin* the previous months. He arrived on 4 October 1859 with his health broken, and left on 7 December feeling, for him, not too bad. '[D]uring great part of day I am wandering on the hills,

and trying to inhale health,' he wrote to the cleric, naturalist and man of letters Charles Kingsley on 30 November. And in mid-December, now back in Kent, he wrote to his brother Erasmus: 'The latter part of my stay at Ilkley did me much good.'

For a couple of weeks at either end of the visit Darwin stayed by himself at Ilkley's grand hydropathic hotel (now luxury flats). In between he was joined by his wife and children, residing with them just down the road from the hotel, in another building which still stands. His family left on 24 November – publication day for the *Origin*. Although Darwin did manage to get some rest, the book was a constant presence throughout the 9 weeks. In Ilkley he made final-final changes to the text, decided on the people who were to receive complimentary advance copies, and even, after publication, made the small but significant changes that went public in January 1860 within the second edition of the *Origin*. It was also here that he awaited the judgement of the scientific world on the book. There were the newspaper and journal reviewers, of course, and the recipients of the advance copies. But no judgement meant more to him that that of his friend and mentor Sir Charles Lyell, who had spent the summer of 1859 reading copies of the corrected proofs.

Darwin's Ilkley correspondence with Lyell, which started almost immediately after Darwin's arrival, preserves a debate that easily ranks as the deepest and most important that Darwin ever engaged in over his book. Lyell was one of the greatest nineteenth-century British geologists, who taught that earthly change has always been a matter of the slow, gradual accumulation of the effects of the small-scale causes of change observed today: wind, rain, earthquakes and so on. Darwin was a Lyellian from the time he was a young man on the *Beagle* voyage; soon after the voyage, the discipleship became a friendship. For Darwin, Lyell towered over other naturalists – he was Darwin's 'Lord Chancellor', as Darwin once put it in a letter – and so Lyell's response meant a great deal, personally but also strategically, in that, Darwin reckoned, where Lyell led, others would follow.

The letters that flowed between Lyell and Darwin throughout October and November 1859 record a searching, wide-ranging, no-holds-barred discussion of Darwin's proposals in the *Origin*. In the way that good mentors are, Lyell was encouraging and helpful in all kinds of ways. But he was no evolutionist, and so pressed Darwin very hard indeed on his arguments for an evolutionary theory that, in its emphasis on the gradually accumulating effects of processes observable today, was alarmingly Lyellian. Not least troubling about the theory for Lyell, a devout Christian, was whether the theory assigns God an implausibly small role in the species-making process. Famously, or notoriously, natural selection makes God a hypothesis of which we have no need – except, maybe, as the being who created the laws of nature behind natural selection. For Lyell, by contrast, plant and animal species were God's handiwork, down to the finest detail. As he had written near the close of his *Principles of Geology* (1830–1833): '[I]n whatever direction we pursue our researches, whether in time or space, we discover everywhere clear proofs of his Creative Intelligence, and of His foresight, wisdom, and power'.

In the Ilkley correspondence between Darwin and Lyell, one issue that brought these concerns about divine knowledge and foresight into the open was the question

of evolutionary progress. Over and over again in his letters to Darwin, Lyell asked, in different ways, whether evolution by natural selection can by itself satisfactorily account for how a planet that, at one time in the past, was populated by animals no more intelligent than Lepidosiren (primitive South American fish), eventually came to support animals as intelligent as Lyells. As Lyell appreciated, natural selection is a theory of what happens when ordinary processes of reproduction meet the ordinary struggle for life. But, asked Lyell, is not the shift from something as simple as a fish to something as complex as a human extraordinary – so much so that its explanation must involve something more than ordinary processes? Perhaps, Lyell, went on, we need to make appeal to some further, extraordinary principle – a complexifying principle, a principle of progress – programmed into life from the beginning. On such a view, evolution becomes not the chancy, undirected business it was for Darwin, but the gradual unfolding or realization of God's plan, with the emergence of Man at the end as the goal, the *telos*.

Needless to say, such a view is anathema to Darwinians. They will be glad to learn that, in reply to Lyell, Darwin did not let them down. To accept the theory of natural selection as explaining the fish-to-man shift, said Darwin, all one needs to accept is that (1) some individuals are more intelligent than others, (2) at least some of that variability in intelligence is inherited, and (3) being more intelligent is an advantage in the struggle for life. Provided these conditions are met – and, Darwin thought, they obviously are – then natural selection can accumulate intelligence, with no limits. As Darwin summarized to Lyell, there is 'no difficulty in the most intellectual individuals of a species being continually selected; & the intellect of the new species thus improved. . .'

So: no spooky surplus principles needed. But Darwinian readers should not cheer too loudly for their hero quite yet, for Darwin went on, by way of offering Lyell persuasive evidence of selection's power to increase intelligence, to suggest that the process can be observed now 'with the races of man; the less intellectual races being exterminated. . .' Such passages in Darwin's writings, published and private, make for uncomfortable reading in the twenty-first century, and it is tempting to overlook them. But anniversaries should be occasions for reflecting both on what we now approve of in Darwin and what we find incorrect or even repellent.

Let us continue, however, with the fish-to-man letter; for Darwin goes on to give Darwinians something to cheer about – a statement as strong as the most ardent ones could wish for affirming Darwin's opposition to spookiness in science. He wrote to Lyell: 'I would give absolutely nothing for theory of nat. selection, if it requires miraculous additions at any one stage of descent . . . I think you will be driven to reject all or admit all.' It is worth thinking about that last line, on reading through the chapters that follow, about everything from the possibility of Darwinising Lamarckian change, the prospects for Darwinian medicine, the problem of the ethical treatment of our fellow animals. To Darwin, acceptance of his theory was all or nothing; one was either with him all the way, or against him all the way. Yet in the end, he got Lyell to come with him only most of the way (Lyell never fully admitted humankind into the ordinary-evolutionary picture). For us, more than

a century and a half later, and whether we are religiously inclined or not, it remains an open question whether we wish to go all the way with Darwin – and ,if we do wish to go all the way, a no less open question as to where that commitment will take us.

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