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Gillian Beer, Darwin's Plots: Evolutionary Narrative in Darwin, George Eliot and Nineteenth-Century Fiction (1983; Cambridge University Press, 2000), pp. xxxii + 277. £35.00 (hardback); ISBN 0 521 78008 X. £12.95 (paperback): ISBN 0 521 78392 5

In Darwin's Plots, Gillian Beer writes that 'On the Origin of Species is one of the most extraordinary examples of a work which included more than the maker of it at the time knew, despite all that he did know'. Published in November 1859 with a print run of 1,250, Origin shook Victorian Britain. Its conclusions seemed inescapable. Life on earth was not the six-day product of a divine creator, but the outcome of random evolutionary process. Its impact was immediate and immense. Man 'was born yesterday – he will perish tomorrow' declared the Athenaeum. In later life Thomas Hardy declared himself one of its earliest acclaimers, and George Eliot and G. H. Lewes began reading it immediately, concluding within two days that it made 'an epoch'. The next year, in The Mill on the Floss, as Tom Tulliver shoots peas at a blue-bottle, the narrator observed that nature 'had provided Tom and the peas for the speedy destruction of this weak individual'. Through Origin, mid-Victorian concern with kinship, descent and inheritance, God, creation, origins and the place of humanity in nature found new expression, formulated new questions, and wrestled with disturbing and turbulent possibilities.

The year 2000 has seen a timely second edition of *Darwin's Plots*, with a foreword by George Levine and a new preface by Beer. Since its first publication, the 'Darwin industry' has burgeoned industriously. Darwin has become, once more, central to cultural and scientific debate: fine biographies such as Janet Browne's *Voyaging* and Adrian Desmond and James Moore's *Darwin* have appeared; his *Notebooks* were published in 1987; and in 1985 the first volume of his letters and a register and summary of the fourteen thousand known letters to and from Darwin (now online).\(^1\)

Darwin's Plots explores the genesis and language of Darwin's evolutionary ideas, and their relationship to stories and myths within our culture, revealing that Darwin's story was new and transforming, going against the grain and upturning dominant cultural assumptions, but also that it was a multilayered narrative that was deeply embedded in the social and intellectual developments of its time. The final section draws out the implications of evolutionary theory for narrative and for the composition of fiction, providing analyses of George Eliot's and Hardy's imaginative responses to Darwin which are not only compelling but indispensable to our understanding of these writers, and of the development of the novel more generally in the late nineteenth century. Throughout, it raises issues which are no less vital to current debate and interpretation of Darwin than they were when he first challenged his contemporaries.

The nineteenth century is no longer the last century; the twentieth century now separates us from it, a significant rival for the attentions of students that is likely to win in the 'relevance' stakes, as the moving image competes with the written word on undergraduate syllabuses. But nineteenth-century culture – and the science which stands at its centre – is essential to our understanding of the present. Beer begins her new preface 'Darwin has grown younger in

recent years'. And so he has; he is again at the centre of debates on what it is to be human, and on the role of science in understanding what we have come from, where we are going, as the Human Genome Project ripens, and biology is called upon to explain almost every aspect of social existence from social inequalities to health, sexuality and crime. This fascination with biology began with the Victorians.

Darwin's Plots is a classic of its time, now and when it first appeared nearly two decades ago. Appearing as the linguistic turn took its hold on cultural history, and sharing Foucault's focus on discursive formations, it moves deftly between twentieth-century theoretical frameworks and the cognitive parameters from which Darwin's ideas emerged. Early reference to Thomas Kuhn's illuminating discussion of how new scientific ideas emerge with the recognition that 'nature has somehow violated the paradigm-induced expectations that govern normal science', proceeds quickly into the midst of the nineteenth century; the world inhabited by writers and scientists such as George Eliot, Charles Lyell, G. H. Lewes and Claude Bernard, who shared common concerns and, above all, a common and creative language. Darwin was an avid reader (he took Milton on The Beagle), and he emerges as one of the most creative writers of his time, ranking alongside Dickens, Eliot and Hardy.

Victorian science was not only a system for understanding the natural world, but was a series of human interventions in social and political debates. Debates now about Darwin's theory of evolution stem from his ambivalent use of language; his ambivalent treatment of agency, teleology, and the idea of progress, which his reason banished but his language continued to readmit. His uncertainty is ours, and it is Darwin's uncertainty which Beer not only allows, but celebrates. In his early autobiographical fragment, written in 1838, Darwin emphasized that as a child he had been 'a very great story-teller'. At the heart of his narrative lay hesitation, imprecision; the vital springs of further stories, and at the heart of Darwin's Plots lies the importance of Darwin's doubt, the power of his uncertainty in developing a theory of evolution that was about chance and coincidence. Darwin himself became troubled by his own theories, and in his later work he began to incorporate more directional ideas into his evolutionary theory, taking up Herbert Spencer's idea of the 'survival of the fittest' by the fifth edition of Origin (1869), and explaining differences between human sexes and races according to established social and racial hierarchies in The Descent of Man (1871). As Beer demonstrates, in this work Darwin moved from biology to anthropology as he shifted his focus from natural to sexual selection, bringing ideas of beauty into the evolutionary drama. 'Was she beautiful or not beautiful?' begins Daniel Deronda, a narrative taken up with questions of race and inheritance. Darwin's cousin, Sir Francis Galton, founder of eugenics, or human selective breeding, recorded being inspired by Origin, and in Britain and America in the closing years of the century, New Women novelists such as Sarah Grand and Charlotte Perkins Gilman drew on Darwin's and Galton's ideas in order to argue for the vital role of women in regenerating the white race of Western civilization. Beer writes in Darwin's Plots, 'evolutionary theory implied a new myth of the past: instead of the garden at the beginning, there was the sea and the swamp. Instead of man, emptiness - or the empire of molluscs. There was no way back to a previous paradise: the primordial was comfortless'. New Women argued that through their judicious control of reproduction,

there might be a way forward, a way of regaining paradise lost.

The grafting of ideas of health and fitness onto appearance and race would have ultimately dismal results in the twentieth century, culminating in the atrocities of the holocaust. More recently, as Beer notes, Richard Dawkins has extended the myth of Darwin's commitment to a pervasively deterministic world deep into microbiology with the theory of The Selfish Gene. E. O. Wilson, founder of sociobiology, and evolutionary psychologists, notably Steven Pinker. reductively apply Darwinian ideas to all aspects of human consciousness and behaviour; in 1975 Wilson demanded that human society be run on the basis of a 'genetically accurate and hence a completely fair code of ethics'.2 By contrast, Richard Lewontin's genetics stress the significance of environment, arguing that 'context and interaction are of the essence', and Stephen Rose and Stephen Jay Gould stress the complex nature of life, substituting variety and diversity for biological determinism: Gould writes 'we grasp at the straw of progress (a desiccated ideological twig) because we are still not ready for the Darwinian revolution.'4 Daniel Dennett has allowed a space for collaboration in nature, but like Dawkins, insists on the gene's relentless drive to reproduce itself, emphasising evolution as a process consisting of 'nothing but a set of individually mindless steps succeeding each other without the help of any intelligent supervision.'5 As Beer demonstrates, Darwin's language showed him to be a believer in co-operation as much as struggle, as the Russian Anarchist Peter Kropotkin argued in the 1890s. Hardy saw the same, writing in 1910

few people seem to perceive fully as yet that the most far-reaching consequence of the establishment of the common origin of all species is ethical; that it logically involved a readjustment of altruistic morals by enlarging as a necessity of rightness the application of what has been called 'The Golden Rule' beyond the area of mere mankind to that of the whole animal kingdom. Possibly Darwin himself did not wholly perceive it, though he alluded to it.

It was in Origin, the focus of Darwin's Plots, that Darwin tried hardest to fit new ways of thinking to language, pushing at its boundaries, troubling categories, but also succumbing to meanings that were not entirely his own. In spite of the work of historians and sociologists of science such as Kuhn, Bruno Latour, and Donna Harraway, scientific knowledge continues to be perceived as objective, permanent. Darwin's Plots offers the single most effective challenge to these ideas. And it does so by demonstration, by cumulative argument, exploring the possibility and the difficulty of thinking, and communicating, new ideas in old language. Beer goes further than 'social constructionists', reminding us that 'discourse can never be expunged from scientific enquiry', while allowing a role for the individual scientist. As she makes clear, Darwin 'did not invent laws. He described them ... and his description is necessarily conditioned by the assumptions and beliefs condensed in the various kinds of discourse active at the time he was writing.' What connects cultures, disciplines, ideas, ultimately, is not just common concerns and anxieties, but language in all its richness and imperfection: 'though the events of the natural world are language-free, language controls our apprehension of knowledge, and is itself determined by current historical conditions and by the order implicit in syntax, grammar, and other rhetorical properties such as metaphor, as well as by the selective

intensity of individual experience' (46). In showing us how Darwin's language works, Beer also brings home the value of literary skills to non-literary texts and readers, and enriches our understanding of what constitutes literature.

I have found *Origin of Species* placed in the literary sections of bookshops, but Beer does not seek to claim Darwin for literary studies, to move the contents of one category to another, rather to bring to light the vital connections between science and culture. Her later work, *Open Fields: Science in Cultural Encounter* (1997) continues this democratic and crucial enterprise, focusing on scientific writing, and this time extending her powerful scrutiny to physics and chemistry. Beer is interested in exchange, dialogue, translation, transformation, and misprision, in what happens on boundaries, on peripheries, in the material which resists containment, the interdisciplinary and the *undisciplined* which spill out from categories and realise their limitations.

Beer has changed the map of English literature and considerably influenced and enriched the history and philosophy of science, leading through powerful argument and example. *Darwin's Plots* tapped a rich vein for scholarship, and in its wake excellent new studies emerged, which include work by David Amigoni, George Levine, Daniel Pick, Elinor Shaffer, Sally Shuttleworth, and Jenny Bourne Taylor. Also following in Beer's footsteps, research students devise exciting new projects on the boundary between science and culture, and undergraduates in English studies encounter Darwin first hand. *Darwin's Plots* pulls science back to the centre of culture, and contains salutary lessons for the twenty-first century. It is not only essential reading for the students and scholars in the disciplines that make up the humanities; it would also help scientists to realize that their own projects can neither be understood nor realized in purely scientific terms. Science and the humanities are vitally connected, interdependent. This is what the inhabitants of the nineteenth century knew so well, even if it had been forgotten by the time of the Two Cultures controversy of the middle of the last century. In the twenty-first century, we should know better.

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Notes

- 1. The Correspondence of Charles Darwin, 1821–1882 (Cambridge, 1985–). Volume 12, edited by Frederick Burkhardt, Duncan Porter, Sheila Ann Dean, Paul S. White, and Sarah Wilmott, takes us to 1864, and was published in July 2001. A Calendar of the Correspondence of Charles Darwin, edited by Frederick Burkhardt and Anne Schlabach Burkhardt (1985; 2d ed. CUP 1994).
- 2. Edward O. Wilson, *Sociobiology: The New Synthesis* (Cambridge MA: Harvard University Press, 1975), 575. More recently, as Beer notes, Wilson has moved towards a new interest in variability: see *Naturalist* (Washington, DC, 1994) and *Consilience: the Unity of Knowledge* (London, 1998).

- 3. Richard Lewontin, The Genetic Basis of Evolutionary Change (New York, 1974), 318.
- 4. Stephen Jay Gould, Life's Grandeur: The Spread of Excellence from Plato to Darwin, 29.
- 5. Daniel C. Dennett, Darwin's Dangerous Idea: Evolution and the Meanings of Life (New York, 1995), 511.