

Darwinism in Literature

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Charles Darwin's *On the Origin of Species* (1859) and *The Descent of Man* (1871) are often assumed to have been major causes of the crisis of religious belief in Victorian England. In fact, many Victorians were anxious about the condition of their faith well before Darwin published his theory of evolution by natural selection. Indeed, the two poems most often associated with Darwin—Alfred Tennyson's *In Memoriam*, with its vision of 'Nature, red in tooth and claw' (LVI, l. 15), and Matthew Arnold's 'Dover Beach', where the poet hears the 'melancholy, long withdrawing roar' of 'The sea of faith' (ll. 21, 25)—were both written before 1859. Darwin's work issued from a general trend of secularisation and religious questioning. Because of its enormous scientific and intellectual importance it came to seem to define the cultural moment, going on to have a rich and diverse impact on many aspects of culture in the later nineteenth century and after.

Between 1860 and the First World War, Victorian and Edwardian writers explored the spiritual, psychological, ethical and social implications of Darwin's thinking in a wide range of different forms and genres, including realist novels, science fiction, satire, children's fantasy, epic poetry, personal lyrics, sonnets and sonnet sequences, odes, comic songs and plays. Some responded directly to Darwin, others to the wider evolutionary debate refracted through the writings of Herbert Spencer, T. H. Huxley, Samuel Butler and others. Some, like Tennyson and Bernard Shaw, were sceptical, preferring earlier, non-Darwinian models of evolution, including those of the French naturalist Jean-Baptiste Lamarck and Robert Chambers, the anonymous author of the first popular work on evolution in English, *Vestiges of the Natural History of Creation* (1844). Others, including George Eliot, Thomas Hardy and H. G. Wells, saw Darwin's own work as central to understanding humanity's place in nature.

At the end of this period, the catastrophe of the First World War largely eclipsed the more abstract anxieties raised by Darwinism, although writers continued to speculate on the implications of evolution for the future of the human race. However these anxieties resurfaced in America in the 1920s, as a revival of Creationism led a number of states to pass laws forbidding the teaching of Darwinism. Famously, John Thomas Scopes was prosecuted for teaching evolutionary biology in high school in Dayton, Tennessee, in 1925. In this context, American poets such as Robert Frost, Robinson Jeffers and Edna St Vincent Millay returned to the themes that had troubled and energized the Victorians as they grappled with Darwin. Since the 1970s, with a fresh resurgence of religious fundamentalism, heated debates over sociobiology and evolutionary psychology, and the ecological crises of pollution, global warming and the collapse of biodiversity, novelists, poets and dramatists have again returned to Darwinism, both as a discourse central to our culture and as a vital paradigm for understanding nature, including human nature.

Novels and Science Fiction

Darwin's influence pervades late Victorian and Edwardian fiction of all kinds, from fantasies to realist novels. Charles Kingsley plays with evolutionary theories and pokes fun at scientific authority in his children's fantasy *The Water Babies* (1862-63). Darwin's insistence that mankind evolved from ape-like ancestors, and his admission that natural selection could lead as easily to degeneration as to 'higher' forms of life, underlie both Kingsley's comic parable of the evolution of the Doasyoulikes into gorillas and the simian characteristics of Mr Hyde, the personification of the brutish unconscious in Robert Louis Stevenson's Gothic novella *Dr Jekyll and Mr Hyde* (1886). Samuel Butler toys with his readers in his utopian satire *Erewhon* (1872), suggesting that it follows from Darwin's theories that human beings are the means by which machines reproduce themselves and consequently evolve. In his studiously realist major novel *The Old Wives Tale* (1908), Arnold Bennett makes wry allusions to the everlasting purpose of evolution as reproduction and the

survival of the fittest, while in Olive Schreiner's *The Story of an African Farm* (1883), the heroine Lyndall's feminism and her contempt for religious hypocrisy are both underpinned by Darwinism. In *Wives and Daughters* (1864-66), set around 1830, the career of Elizabeth Gaskell's hero, Roger Hamley, is modelled on Darwin's own life. Strikingly in a novel written so soon after *On the Origin of Species*, the characters who take an active interest in science and evolution -- including Hamley, the heroine Molly Gibson and her father -- are also the most humane and have the strongest moral authority.

The Victorian novelists whose responses to Darwin are the most sustained and suggestive are Eliot, Hardy and Wells. In her essay 'The Natural History of German Life' (1856), Eliot argues that art and literature need to be grounded in the dispassionate observation of their subjects, rather than idealisation or prejudice, otherwise they fail in their most important aim, the broadening of our sympathies. From the 1860s, Eliot's ideal of the novel as a form of social natural history became markedly Darwinian, although like many of her contemporaries she remained doubtful about natural selection itself. Of all her novels, *Middlemarch* (1871-72) embodies most completely her sense of society as an immensely complex ecosystem which can only ever be studied and comprehended in and through its parts. As Gillian Beer notes in *Darwin's Plots* (1983), Eliot and Darwin both used the image of the web to capture the inextricability of relations between living things, including people (156-68). As the narrator of the novel, Eliot casts herself as an unprejudiced scientific observer, so much so that Henry James remarked in his review of the novel that '*Middlemarch* is too often an echo of Messrs. Darwin and Huxley' (cited Beer 139). One of her aims is to discover a secular basis for morality within a social ecology in which individual decisions have multiple causes and unpredictable ramifications. Rather than countermending her earlier emphasis on sympathy, Darwinism deepened it, drawing out the inevitability of moral compromise in a natural world of countervailing impulses and relationships.

In his autobiography, Hardy described himself as having 'been among the earliest acclaimers of *The Origin of Species*' (*Life* 153). Darwinian themes appear throughout his fiction, from Henry Knight's encounter with a fossil trilobite as he falls part-way down a cliff in *A Pair of Blue Eyes* (1873), to Jude and Sue's forlorn attempts to slough off the artificial constraints of custom and religion in *Jude the Obscure* (1895). The different landscapes of rural Wessex each have their own ecology, described—like the woods around Little Hintock in *The Woodlanders* (1886-87)—with the rich detail of a naturalist on the Darwinian model. Different characters are more or less well adapted to these different environments. Diggory Venn, the reddleman in *The Return of the Native* (1878), seems a piece of Egdon Heath itself, coming and going as he pleases, and surviving at ease in the wild landscape, as neither the returning native Clym Yeobright nor the exotic import Eustacia Vye can. For his part, Michael Henchard, the eponymous *Mayor of Casterbridge* (1886), cannot adapt as his younger Scots rival Donald Farfrae can to new social, technological and economic conditions. In this changing environment it is the exotic who out-competes the native. The men and women who inhabit Hardy's Darwinian universe are trapped too in a world of random events over which they have no control. Hardy can seem to be a determinist, but the tragedy for which his novels are famous follows not from the inexorable workings of fate but from a catalogue of chance events, like the random variations which determine the future of evolution within Darwinian biology.

Eliot and Hardy both wrote about the world they knew in their novels, looking at the small towns and rural landscapes of England in the nineteenth century through the lens of Darwinism. Wells took Darwinian fiction in a completely different direction. Like Stevenson's Mr Hyde, the beast-people in *The Island of Doctor Moreau* (1896) are products of modern science—in this case vivisection—who nonetheless embody Darwin's disturbing revelation of humanity's kinship with other animals. More specifically, the fact that we are bound by the same natural laws and processes as the rest of nature led Wells to speculate about the implications of Darwinism for the future of humanity as a whole. In *The War of the Worlds* (1898), he raises the prospect of human extinction,

resulting from a conflict with a technologically far more advanced Martian civilisation. Wells's Martians bear out the realisation that the 'higher' aesthetic and moral characteristics on which humanity prides itself are of only limited value in the struggle for life. Wells makes the same point in his earlier futuristic novella, *The Time Machine* (1895), in which the Time Traveller, transported to the year 802,701, discovers a new race of humans called the Eloi who are beautiful and childlike. He is horrified to discover that humanity has not evolved in one direction only, however, and that the Eloi are little more than livestock to the brutish and terrifying Morlocks, who live in the remains of mines and tunnels below ground. Wells's futuristic fantasy is as much about class politics as it is about science, but it is underpinned by a Darwinian understanding of evolution as the branching of the tree of life, driven by competition and analogous to domestic breeding. His futuristic speculations would be continued in a new geopolitical context by Olaf Stapledon, whose extraordinary future history *Last and First Men* (1930) reaches two billion years into the future, tracing humanity's evolution through no fewer than fifteen transformations into new species.

Few twentieth-century novelists were as profoundly shaped by Darwinism as the Victorians had been. Recently, however, there has been a revival of interest, fuelled both by the revival of religious fundamentalism as a political force and by the debates between leading Darwinians—including Edward O. Wilson, Richard Dawkins, Daniel Dennett, Stephen Jay Gould and Mary Midgley—over how far Darwinism implies genetic determinism. In 'Morpho Eugenia', the first of the two novellas which make up *Angels and Insects* (1992), A. S. Byatt returns to Victorian England to stage a debate as to the religious and moral implications of Darwin's ideas, while constructing a complex and disturbing analogy between an aristocratic household and an ant colony. In Ian McEwan's *Saturday* (2005), Darwin and Darwinism play a complex and ambivalent role. On one side, the novel's hero Henry Perowne, a brain surgeon, understands human agency in strictly biological terms. On the other side, his daughter Daisy, a poet, has set him to read *The Voyage of the Beagle* as part of his humane education. For McEwan, nature is Darwinian, but Darwin is also a part of our culture, which for Daisy at least is a redemptive force. McEwan revisits the profound questions that Eliot and Hardy explored over a hundred years before, as Perowne works his way towards a new understanding of moral responsibility in a world of organisms whose biology has such a powerful influence on their behaviour.

Poetry and Drama

Like novelists, poets began to respond to Darwin's ideas almost as soon as they were published. Four of the most substantial and challenging poems inspired by Darwin were written in the 1860s. In 'Caliban upon Setebos' (1864), Robert Browning puts a Darwinian natural theology into the mouth of a half-evolved savage. For Browning, either Darwinian biology or natural theology must be false, otherwise we are faced with a God as brutal as Caliban himself. Tennyson takes a similarly grim view of the implications of Darwinism in 'Lucretius' (1868), in which the Roman philosopher's materialism and his growing awareness of his own animalistic desires drive him to suicide. In his 'Ode to the Spirit of Earth in Autumn' (1862), on the other hand, George Meredith celebrates the prospect of a new paganism, in which we can accept our place as an ephemeral part of an eternal nature while living out our biological nature to the full. At the same time, in *Modern Love* (1862), Meredith warns against the casual exploitation of other people that would become typical of a certain strain of Social Darwinism. Instead, he suggests, happiness and moral maturity can only come from accepting that the desires and needs of others—particularly women—have the same grounding in nature and so the same justification as our own.

The questions raised by and asked of Darwinism in these early poems have continued to exercise poets ever since. From the 1870s until the turn of the century, many poets including Tennyson, A. C. Swinburne and latterly Meredith himself resolved the religious anxieties provoked by Darwin by pinning their hopes to the more teleological models of evolution that competed with Darwinism

within late Victorian biology, including the Lamarckian inheritance of acquired characteristics, driven by the will, and orthogenesis or evolution along predetermined lines. Others, including James Thomson in his dark allegory *The City of Dreadful Night* (1874), and Hardy in a number of his early lyrics, accepted Darwin's own account of evolution. For them, as for Browning and Tennyson, natural selection implied either that there was no God or that He was utterly amoral. Current American poets such as Philip Appleman and Robert Pack have drawn the same conclusions. Where they have settled more or less happily for atheism, Pattiann Rogers has sought to resolve this problem in poems such as 'The Possible Suffering of a God during Creation' (1986), suggesting that God may share the pain that follows inevitably from a process of creation over time.

As well as these strictly theological questions, Darwinism raises other problems for religious faith that have troubled poets. As Jeffers observed in 'The Inhumanist' (1948), Darwin played a crucial role in decentering humanity within the universe as a whole. After Darwin, humanity is 'an idiot on a crumbing throne', merely 'This momentary guest of time, this ape...', as John Addington Symonds put it in his sonnet sequence 'An Old Gordian Knot' (1880) (VII, ll. 4, 11). Much of Jeffers's poetry, like Meredith's, both confronts us with and seeks to reconcile us to our newfound insignificance by celebrating the vibrant beauty of the universe and the continuity of natural processes. In the same way, Jeffers and Meredith do their best to make acceptable the fact that, after Darwin, immortality seems less plausible than ever, implying as it does a break in the natural process of descent with modification. Hardy grapples with this problem too in his deeply moving elegies for his wife Emma, 'Poems of 1912-13' (1914), using poetry to create a realm in which he and his readers can suspend their disbelief and imagine that death is not the end.

The interrelated themes of human animality and sexual desire raised by Tennyson and Meredith in the 1860s have again continued to fascinate poets. Meredith's insistence on the naturalness of sexual desire whether or not it is sanctioned by society is picked up by Millay in her sonnet sequence *Fatal Interview* (1931) and by Thom Gunn in *Moly* (1971) and elsewhere. On the other hand, Constance Naden mocks the tendency of evolutionists from Darwin onwards to jump to conclusions about human sexuality in her series of comic lyrics 'Evolutional Erotics' (1887). A number of recent poets, including Pack, Appleman, A. R. Ammons and the Welsh poet John Barnie, move from a Darwinian understanding of humans as animals to an exploration of the catastrophic effect of human expansion and industry on the rest of the natural world. Many poets too, from Hardy and Meredith, through Jeffers and Frost, to Ted Hughes and Amy Clampitt, have realised that Darwinism changes our perspective not only on ourselves as animals but on other animals too. Since Darwin, poems about animals have increasingly become poems about Darwinism, focussing at once on our kinship with the rest of nature and on the unbridgeable gap that nonetheless remains between human beings and other, non-linguistic animals.

The themes that have dominated the poetry of Darwinism—religious anxiety and human animality—have dominated the stage history of Darwinism too. In the nineteenth century, Darwinism was rarely explored directly in the theatre, although it stands behind plays such as Ibsen's *Ghosts* (1881), with its dark probing of heredity, and Strindberg's *The Father* (1887), in which the hero likens the warfare between men and women to the struggle between two species. The first major playwright to grapple with Darwinism at length was Shaw, who mounted a Lamarckian challenge to Darwinism, first in 'Don Juan in Hell', the semi-autonomous third act of *Man and Superman* (1903), and then again at much greater length in the preface and five interconnected plays that make up *Back to Methuselah* (1921). In this largely futuristic fantasy, Shaw imagines that, through a biological mutation brought about by the progressive force of Creative Evolution, human beings will start to live to be hundreds of years old and so evolve beyond our current infantile preoccupation with power and sex. Curiously for a play that claims to be the 'beginning of a Bible for Creative Evolution' (lxvii), the evolved ideal that it portrays appears sterile and unattractive. This irony is surely deliberate. Although it may seem to undermine

Shaw's propaganda, it is consistent with his suggestion that humanity has not yet evolved sufficiently to appreciate its own best interests.

Modern dramatists interested in addressing the impact of Darwin's thought directly have faced the problem of how to represent this impact, which is often abstract, on stage. One approach has been to dramatise key moments in the history of the debate itself. In *Inherit the Wind* (1955), Jerome Lawrence and Robert E. Lee draw on court proceedings and the newspaper reports of H. L. Mencken to dramatise the Scopes trial, thinly disguised and with one eye to the restrictions on freedom of ideas under McCarthyism. In *Re: Design* (2007), Craig Baxter dramatises Darwin's own correspondence with the American evolutionist and theist Asa Gray. In a more complex version of the same approach, Timberlake Wertenbaker stages a play-within-a-play in *After Darwin* (1998), where the audience watch actors rehearsing for a play written by one of the characters about Darwin's relationship with FitzRoy, the captain of the *Beagle*. The dialogue within this play centres on questions of religion, while the interaction between the actors, the writer and the director raises further questions about the moral and psychological implications of seeing the world through Darwin's eyes.

The other main approach to staging Darwinism has been to create a fantastical scenario in which debates can take place which could not in the real world. This is Shaw's technique in 'Don Juan in Hell', where characters including Don Juan and the Devil debate the correct interpretation of evolution and its implications. Within *Man and Superman*, this scene constitutes the hero John Tanner's dream. In *Darwin's Flood* (1994), Snoo Wilson uses the pretext of showing Darwin's dream on the night of his death to stage a surreal spiritual, philosophical and erotic encounter between Charles and Emma Darwin, Nietzsche, Christ and Mary Magdalene. In *Darwin in Malibu* (2003), Crispin Whittell takes Shaw's model in the other direction, imagining a posthumous reunion between Darwin, T. H. Huxley and Samuel Wilberforce, the Bishop of Oxford, intent on converting the dead Darwin to Christianity.

Prose: Science Writing and Literary Criticism

Darwinism not only influences literature. It is formulated and communicated through texts that are themselves a form of literature. Non-fictional prose is often marginalised within literary histories, while science writing is marginalised even within prose. Yet as recent critics such as Gillian Beer and George Levine have shown, Darwin's own prose is manifestly literary. The concept of Natural Selection itself is a metaphor, an analogy drawn from the selection of domestic animals for breeding. So is the famous struggle for life. The argument in *On the Origin of Species* is both logically sound and rhetorically artful. The mass of detail Darwin assembles works to grind down his opponents' arguments. At the same time, expecting his readers to challenge him at every turn, Darwin pre-empts them by pointing out the objections to his own argument, only to demonstrate clearly and finally why they do not stand up. All told, *On the Origin of Species* is one of the most sustained and compelling arguments in English literature.

Darwin was modest about his own literary abilities, but he is increasingly being claimed as an important prose stylist. More than Darwin himself, T. H. Huxley acquired that reputation in his own lifetime. Like his friend and occasional opponent Matthew Arnold, Huxley was one of the most elegant and engaging prose writers of the late Victorian period, as well as one of its most effective controversialists. Later Darwinists too made their mark as accomplished essayists, including Julian Huxley, J. B. S. Haldane and Stephen Jay Gould. Of the leading Darwinians alive today, Richard Dawkins is probably the most accomplished prose writer. Like Huxley, Dawkins is both a masterly explicator of evolutionary biology and a compellingly pugnacious anti-theological polemicist.

Where some critics have focussed on the literary qualities of Darwinian prose, others have sought to turn Darwinism itself into a literary critical method. Taking a lead from Edward O. Wilson, critics such as Joseph Carroll have argued that evolutionary psychology can provide the key to literary interpretation. The working assumption underlying this school of criticism is that the arts are both products of evolution themselves and adaptive mechanisms helping to ensure human survival. As yet, these intriguing speculations have not yielded any very concrete critical method, beyond pointing out apparent correlations between literary texts and the expectations of evolutionary psychology. While a Darwinian method of literary criticism looks unlikely to succeed, however, an awareness of Darwinian themes in literature sheds light on a vast range of texts which themselves shed light on the Darwinian condition.

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