

# Reflecting on Darwin

*Edited by*  
**Eckart Voigts,  
Barbara Schaff  
and  
Monika Pietrzak-Franger**

ASHGATE e-BOOK

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**Angela Schwarz** is Professor of Modern History at the University of Siegen. She has studied history and English, at the University of Duisburg and the University of Reading (England), acquired her PhD with a study on British visitors to Nazi Germany in the 1930s (*Die Reise ins Dritte Reich. Britische Augenzeugen im nationalsozialistischen Deutschland*, 1993). Since her postdoctoral study on popular science in the nineteenth and twentieth century (*Der Schlüssel zur modernen Welt. Wissenschaftspopularisierung in Großbritannien und Deutschland im Übergang zur Moderne, ca. 1870–1914* 1999) she has expanded her fields of research beyond Anglo-German relations, British history and the history of science popularization to include aspects of urban history, history of science and technology, media history including world's fairs as media, and local and regional history. All of her work may be subsumed under the concept of the new cultural history with a strong focus on transnational phenomena. At present she is preparing a volume on the debate on evolution in the public since 1859 (*Streitfall Evolution. Eine Kulturgeschichte*), a monograph on science, technology and the birth of the modern world and another on history in computer games (*Computerspiele und historisches Lernen*).

**Felix Sprang** is Assistant Professor at the University of Hamburg, having studied English, philosophy and biology at the University of Frankfurt and the University of Hamburg. As Aby Warburg Scholar at the Warburg Institute, University of London, he has worked on literary reflections of scientific thought in early modern London (*Londons Fontaine of Arts and Sciences. Bildliche und theatrale Vermittlungsinstanzen naturwissenschaftlichen Denkens im frühneuzeitlichen London*, 2008). His latest monograph, *The Seat of the Sonnet's Soul – Poetic Form and the Unfolding of the volta in Literary History*, in which he addresses aesthetic form from the vantage point of intellectual history, is currently under review. His recent publications include: 'The Rise of the "Life Sciences" and the Dismissal of Plant Life in the Late Eighteenth and Early Nineteenth Centuries', (Göttingen: V & R, 2013. 115-136) *Discovering the Human: Life Sciences and the Arts in the*

*Eighteenth and Early Nineteenth Centuries* (Basingstoke: Palgrave Macmillan (in preparation)); “...so weak is my ability and knowledge in navigation...” Navigating the Stage in Early Modern London’, *Shakespeare Jahrbuch* 148 (2012): 31–53.

**Momme von Sydow** studied philosophy and psychology (with minors in evolutionary biology) at the Universities of Bonn, Durham (UK), and Göttingen. He obtained two PhDs: one in philosophy at the University of Durham, discussing Darwinian metaphysics and its critique, another at the University of Göttingen in psychology on Bayesian hypothesis testing. Fields of empirical and theoretical research include conceptual foundations of Darwinism, optimal information selection, inductive logics, contingency judgments, probability judgments, causal and deontic reasoning, Bayesian reasoning, the rationality of intuition and the psychology of justice. He has criticized the metaphysics of gene-Darwinism and more recently has worked on knowledge-based Bayesian models of hypothesis testing. Since 2006, he has headed his own DFG research projects on the Bayesian logics of knowledge-based hypothesis testing at the University of Göttingen, where he has also been member of the Courant Centre ‘Evolution of Social Behaviour’. He has taught at the Universities of Göttingen, TU Berlin, and Heidelberg. Since 2011, he has been continuing his own research in a project on ‘Bayes logic and Bayes nets’ in cognitive psychology at the University of Heidelberg (associated with CRISP and the Leibniz Prize winner Prof Klaus Fiedler).

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**Nils Wilkinson** received his BA and MA in Literary, Cultural and Media Studies at the University of Siegen where he has been a research assistant since 2009. He is currently writing his PhD on cultural representations of DNA. His main research interests are in gender and queer studies, science fiction, science studies and the nature/culture debate. He has published essays on contemporary English theater (on Ravenhill, Churchill and Ayckbourn).

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# Introduction: Cultural Reflections on Darwin and Their Historical Evolution

Monika Pietrzak-Franger and Eckart Voigts, Braunschweig

We live under the rule of a ‘biocracy’ (Lipp 2001) and we may well be in the middle of a ‘Darwinian revolution in the humanities’ (Carroll 2010). The life sciences have attained an enormous power of discourse in recent years, particularly since the decoding of the human genome and other advances in the field of genetic engineering. Charles Darwin is the figurehead of this biocracy. Richard Dawkins, the iconic proponent of neo-Darwinism in public discourse, began his 2008 series on *The Genius of Charles Darwin* by declaring that evolution is ‘perhaps the most powerful idea ever to occur in a human mind’.<sup>1</sup> A clear indicator of the current interest in Darwin both inside and outside academia is the fact that Darwin – the face on the £10 note – was ranked fourth-influential scientist of all time in *The Scientific 100: A Ranking of the Most Influential Scientists, Past and Present* (Citadel Press 2000). Daniel Dennett goes further:

If I were to give a prize for the single best idea anybody ever had, I’d give it to Darwin for the idea of natural selection – ahead of Newton, ahead of Einstein. Because his idea unites the two most disparate features of our universe: The world of purposeless, meaningless matter-in-motion, on the one side, and the world of meaning, and purpose, and design on the other.<sup>2</sup>

Ever since the advent of sociobiology in the mid-1970s, notably with Edward O. Wilson’s book *Sociobiology: The New Synthesis*, there have been attempts to make biological determinism the major explanatory template for sociocultural fields of human inquiry.<sup>3</sup> More recently, especially with the influential work of Daniel Dennett and Richard Dawkins and the so-called ‘Darwin wars’ (Brown 1999), these trends towards ‘gene centrism’ (Dupré 2003), the transfer of Darwinian paradigms into culture as ‘memetics’ and literature as ‘Darwinian

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<sup>1</sup> Richard Dawkins, *The Genius of Charles Darwin*, Part 1 ‘Life, Darwin and Everything’ (Channel 4, 2008).

<sup>2</sup> This quote occurs fairly early in ‘Darwin’s Dangerous Idea’, the first episode in the TV documentary miniseries *Evolution* (PBS 2003).

<sup>3</sup> The initial debate between adaptationist sociobiology (Wilson, Dennett) and its critics within evolutionary biology (Gould, Lewontin), a debate which quickly turned personal and aggressive, is well documented in *The New York Review of Books*.

literary studies', have made the claims of the fervent, neo-positivist science of some neo-Darwinists, sociobiologists, or evolutionary psychologists first more urgent and subsequently more nuanced.<sup>4</sup>

While these interesting 'Darwinian' approaches to culture have a high heuristic potential, they are often served with an unsavoury conservative revisionism that attacks social constructivism with an essentialist agenda.<sup>5</sup> In general, the debates in this field are loaded with high degrees of emotionalized rhetoric that are frequently picked up in mainstream media. When Wilson and Dawkins squabble over the role of 'kin selection' vs. 'group selection' in evolutionary processes (as they are currently doing), this makes the headlines in the popular press (Thorpe 2012). Exploring this biocentrism both in its scientific and popular versions, this collection of essays offers an overview of the historical evolution of Darwin and his theories as well as of the cultural responses they have inspired. The collection pays special attention to the post-millennial trends in the interpretation of Darwin's work and his scientific persona.

Defying the precepts of time, Charles Darwin has grown younger in recent years (Beer xvii). The 'discovery' of the young Darwin has been accompanied by a heightened interest in his emotion and a parallel re-evaluation of centuries-long (mis)conceptions regarding his theories, which continue to have a stronghold in our cultural imagination. In 'The Changing Face of Darwinism' (2003), Michael Ruse outlines these developments with reference to the evolving portrayal of the scientist in three successive Norton editions of his works. While the 1970 'cover and the frontispiece were based on the well-known photograph of Darwin around seventy years old but looking more like ninety' (306), the Darwin of the third edition is young and 'living technicolor, framed in eggshell blue and gold' (309). Indeed, as Janet Browne has pointed out, there is a clear development in cultural responses to Darwin. While the early, nineteenth-century biographical works envisioned him as an industrious patriarch, loving father and a 'scientific hero' (Browne 2010: 359), the First World War brought to the fore his inner turmoil and turned him into a celebrity of modernist writing (365). After the Second World War, Darwin was associated with secular science and began to be regarded as 'an ordinary mortal who experienced ethical dilemmas and pleasures' (369). Finally, today, what is particularly visible is a more ardent preoccupation not as much with his science as 'with the cultural features that create a scientist' (372). Interestingly, though, Suzanne Gapps, as she examines contemporary tendencies in depicting the

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<sup>4</sup> See Ruse 1985, 1989; Dawkins 1989; Dennett 1995; Ridley 1995, 1996; Wilson 2000; Gould 2002; Voland and Grammer 2003; Kitcher 2003; Eibl 2004; Carroll 2004, 2010 and the special issues of *Politics and Literature* (2010) and *Style* (2008). For an appraisal of memetics, see also Distin 2005. For a critique of evolutionary psychology and sociobiology, see Rose, Kamin and Lewontin 1984; Rose and Rose 2000; Buller 2005.

<sup>5</sup> See Voigts-Virchow 2006 who polemically calls this heuristic reductionism 'drosophilology'. For further criticism see the essays by Sprang, Richter, Gutmann and Wilkinson in this volume.



scientist on the Internet (2009), points out his pervasive portrayal as an ‘archetypal, heavily bearded Victorian sage’ (French 2009: n. pag.); an icon of unattainable grandeur and intellect. To some extent, Darwin’s public profile indicates the persistence of C.P. Snow’s dichotomy of the ‘two cultures’, first articulated in his Rede lecture on 7 May 1959 (Snow 1960), in spite of attempts to use passages like this to erase this divide. At the same time, however, academic and popular spaces become increasingly engaged with the affective Darwin (Keynes 2001; Levine 2006; Colp 2008; Padel 2009; Richardson 2013). Yet, Darwin’s scientific persona is not the sole, or most important, point of reference for contemporary debates.

Like no other scientific theory, evolution has fundamentally changed our understanding of the world and determined research questions in the sciences as well as the humanities. As the massive media coverage in the Darwin year 2009, which marked the bicentenary of his birthday, shows, disciplines such as psychology, economics, cultural and literary studies have appropriated Darwin’s theories as a means of interpretation and considerably extended its relevance. The BBC Darwin Season included a series of special events on radio and TV and Cambridge University hosted one of many Darwin festivals at universities around the globe.<sup>6</sup> *On the Origin of Species* had a notable new ‘150th anniversary’ edition – with a specially commissioned cover by top-selling Brit-artist Damien Hirst. A five-CD audio book was significantly read by Darwin hardliner and popularizer Dawkins, and a ‘graphic adaptation’ saw Darwin’s major work visualized in comic-book format (Darwin 2009a 2009b; Keller 2009). Darwin figured prominently in the popular media – in TV documentaries such as David Attenborough’s *Charles Darwin and the Tree of Life* (BBC 1, 2009) or Dawkins’s *The Genius of Charles Darwin* (Channel 4, 2008) and especially in Jon Amiel’s Hollywood movie *Creation* (2009).<sup>7</sup> This adaptation of *Annie’s Box: Charles Darwin, His Daughter and Human Evolution*, the Darwin biography published by his great-great grandson Randal Keynes in 2001, is notable not just for hopping on the ‘young and benign Darwin’ bandwagon, providing a ‘humanized’, or, as some might argue, ‘sanitized’ image of the scientist as caring father, but also for initially failing to find

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<sup>6</sup> Events included ‘Dear Darwin’, a series of open letters of contemporary ‘ancestors’ as diverse as geneticist Craig Venter and director Jonathan Miller, Ruth Padel’s personal four-part radio series *Darwin: My Ancestor* and *The Essay: Darwin’s Children*, on the transdisciplinary impact of Darwin, which includes a programme by Jonathan Gottschall on Darwin and literature.

<sup>7</sup> See the three-part BBC 2 series *Darwin’s Dangerous Idea*, narrated by Andrew Marr, which copied its name from Dennett’s book. See also the eight-hour series also called *Darwin’s Dangerous Idea* (PBS/WGBH 2001), narrated by Liam Neeson, especially the first, two-hour biofictional episode ‘Darwin’s Dangerous Idea’, or the pioneering BBC miniseries *The Voyage of Charles Darwin* (1978). The Melvyn Bragg-hosted four-part documentary *Darwin: In Our Time* (BBC Radio 4, 2009) was also broadcast as part of the bicentennial celebrations and is currently available on the BBC website.



a distributor in the US.<sup>8</sup> Significantly, popular media representations of Darwin often occur in the context of satires on creationism rather than evolutionism.<sup>9</sup> His work is accepted as path-breaking and his personality only mildly satirized in Jenny Diski's *Monkey's Uncle* (1994) and Terry Pratchett's *Darwin's Watch* (2005). He has also inspired a barrage of artworks and exhibitions in the context of the anniversary, from the massive exhibition *Darwin* (American Natural History Museum, 2005–2009), which travelled to the most important natural history museums worldwide, to small-scale projects such as Beauvais Lyons' excellent fake art satire 'The Association of Creative Zoology' or Carol Church-Brown's 'Singing Darwin'. Alongside these a number of gallery exhibitions demonstrated Darwin's influence on the arts of the last two centuries, with *After Darwin: Contemporary Expressions* (Natural History Museum in London, 2009), *Darwin: Art and the Search for Origins* (Schirn Kunsthalle in Frankfurt, 2009) and the Warsaw exhibition *All Creatures Great and Small* (2009–2010) exploring artists' take on Darwin and, in particular, his *The Expression of Emotions in Man and Animals*.<sup>10</sup>

Spanning the reception history of Darwin's ideas, Richter (in this collection) argues that it has always been intertwined with a number of anxieties evoked by three central topoi: the non-benign character of nature, the human-animal contiguity and the a-teleological character of natural selection. These have continuously formed a ground on which to project current sociocultural, political and biological problems. This said, the profoundness and contradictoriness of Darwin's texts accounts for the plethora of interpretations they have received within and outside of academia. A survey of events in honour of the scientist listed on the site of the International Darwin Day Foundation (2009) shows that apart from the general celebrations, two types were of particular consequence: 1) events that attempted to establish contemporary significance of Darwin's legacy across academic disciplines, and especially, his influence in humanities and 2) events that highlighted Darwin's popular cultural resonance today.<sup>11</sup> Current academic preoccupations evince similar trends.

There clearly has been a flood rather than an ebb in the interest in Darwin. The new millennium witnessed a veritable deluge of publications reframing his life and texts: biographies (Browne 2002, 2003; Keynes 2001; Leone 2009; Tort 2001; Colp 2008), compilations of his letters and selections of his diaries (Keynes 2001; Orel 2000; Secord 2008; Burkhardt et al. 2008), companions to his works (Hodge and Radick 2002; Ruse and Richards 2009) and lavishly illustrated coffee-table books

<sup>8</sup> Producer Jeremy Thomas blamed this on the influence of creationist religion in the US, see Singh 2009. For a discussion of Amiel's adaptation, see Pietrzak-Franger 2012.

<sup>9</sup> See for example his appearance in popular TV animation: Moral Orel, *Adult Swim* 2005–2008; *The Simpsons*: 'The Monkey Suit', 14 May 2006.

<sup>10</sup> For a discussion of these exhibitions and their take on Darwin's ideas concerning emotion, see Pietrzak-Franger, 2013.

<sup>11</sup> See Pietrzak-Franger, 2013.

(Eldredge 2005; Kort and Hollein 2009). There has also been a number of popular publications about Darwin and his family, as well as an abundance of literary (neo-Victorian) rewritings of his life (McDonald 1999; Nichols 2003; Drayson 2002; Chase-Riboud 2003; Darnton 2005; Burch 2005; Padel 2009; Chevalier 2009).<sup>12</sup> In fact, Letissier (2010: 74) may be right in claiming that contemporary bioethical shocks and traumata are frequently displaced into discussions of the unsettling effects of Darwinian science in the mid-19th century.

Darwin has also figured prominently in the well-established context of 'science and literature' approaches since the 1980s (Shuttleworth 1998, Schor 2000, Roof 2007, Clayton 2003, Levine 1988, 2006), within which this publication is positioned. The year 2009 also brought a number of re-evaluations of his position within the disciplines of philosophy and theory of science (Gilson et al., Ruse). The major focus of these publications was the impact that Darwin's thought has had on future generations. The present publication can be subsumed under the first category, with the distinction that it clearly focuses on the post-millennial tendencies and can therefore be understood as supplementary to the existing works on the subject.

*Reflecting on Darwin* is also complementary to the set of recent works which pivot around the historical evolution of the popular and scholarly reception of Darwin and his ideas (Engels 2008, Ruse 2009). Like them, it asks to what extent our culture has managed to discover 'other' sides of the scientist. Referencing contemporary literary and visual culture, it follows the impulse given by Larson and Brauer (2009) and Smith (2006) and inspects the impact of Darwin's ideas across a variety of media. It thus also adds to the discussions introduced by Beer (1983) and continued by Dawson (2007), Glendening (2007) and Schmitt (2009), with the distinction that, in contrast to these publications, it shifts the focus from the early debates on Darwin(ism) to contemporary context, thereby offering an overview of the developments in the critical responses to him and his ideas.

The book thus reflects on the evolution of cultural responses to Darwin from the early circulation of his ideas to the post-millennial debates. This longstanding popularization and commercialization of evolution theory as well as its ever increasing mediatization present an ideal context for diachronic trans-historical and interdisciplinary approaches. Hence, the crucial question we ask in this collection is: what is Darwin's significance today? How far is his importance today premised on and anchored in his early reception? What is his role in contemporary popular discourses, and to what extent can his theories be productive in building contemporary epistemologies? How have particular cross-disciplinary and popular discourses and media apparatuses formed, displaced or stabilized the various concepts of humankind in the framework of evolutionary theory? We ask how naturalism, determinism and Darwinism – the eugenics of the 19th century and

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<sup>12</sup> See Voigts, forthcoming, Letissier 2010, Heilmann and Llewellyn 2010, and Ann Heilmann's paper in this volume.

the genetic coding of the 20th century as well as their conceptual clusters – are positioned, embodied and staged in various media configurations and media genres.

These questions and concerns may be part of the recent endeavours of ‘neo-Victorianism’, which seeks to explore ‘a series of metatextual and metahistorical conjunctions as they interact within the fields of exchange and adaptation between the Victorian and the contemporary’ (Heilmann and Llewellyn 2010: 4). This collection is not limited to reflections on Darwin within historical fiction or the neo-Victorian trends since the 1970s. All of the essays, however, address a stance towards Victorianism that confirms the neo-Victorian canon as outlined by Heilmann and Llewellyn (2010: 4): ‘To be part of the neo-Victorianism we discuss in this book, texts (literary, filmic, audio/visual) must in some respect be *self-consciously engaged with the act of (re)interpretation, (re)discovery and (re)vision concerning the Victorians*’ (emphasis in original). In the case of Darwin, this self-conscious revision asks the key question formulated by Letissier (2010: 73), of ‘how the return to Darwin’s writings and, more widely, to Darwin’s scientific and cultural contexts, relays present occupations amongst contemporary readers.’ This includes both the persistent presence of the Darwinian system of thought, whether in biophilosophy and sociobiology, as examined by Gutmann, Richter, von Sydow and Wilkinson, or in contemporary films and novels (Heilmann, Schwarz, Sprang), or in earlier reflections on Darwin in proto-modernism and modernism (Scholz, Griem), from the philosophy of science (Richardson) to popular juvenile periodicals (Petzold).

*Reflecting on Darwin* is thus a unique collection of papers that outlines the impact of Darwin and his thought across contemporary (popular) media and in academic debates as well as anchoring these developments in the long history of critical and cultural responses to his work. It both mirrors and inspects the complex tendencies in the post-millennial reflection on Darwin and Darwinism, thus offering a valuable source of information for contemporary and future scholars. It distinguishes itself from other works on the market by providing a pan-medial and cross-disciplinary overview of contemporary tendencies rather than inspecting one particular area of Darwin’s influence. Through this approach, it hopes to address the plurality of ways in which Darwin has been rewritten and appropriated. This focus also makes it possible to meta-discursively take up the questions of our positioning vis-à-vis Darwin and the Victorian era, that is, questions which have been at the centre of recent debates in Victorian and neo-Victorian studies. For the first time, the volume will discuss Darwin from the vantage point of the post-bicentenary deluge of Darwin publications. It will review the tendency to whitewash and purify Darwin, culminating in the Darwin bicentennial celebrations, often with a clear anti-creationist agenda. It is also an aim of this collection to analyze and deconstruct the reverse tendency to hold Darwin morally culpable for masculinist domineering in science, for rampant laissez-faire capitalism, or for social Darwinism.

Motivated by contemporary ethical and ecological anxieties, the first section offers an overview of historical developments in cultural responses to the topical

issues of Darwin's theory: human nature, affinity between humans and primates and the question of inheritance. In "I differ widely from you": Darwin, Galton and the Culture of Eugenics', Angelique Richardson concentrates on the issues of scholarly exchange as she provides a detailed analysis of Darwin's response to the ideas developed by Francis Galton. Richardson argues that while the life writings of both scientists evince a high degree of mutual respect and admiration, they also expound the two cousins' differing views on the nature/nurture problem. Richardson's elucidation of these divergences spotlights centuries-long misconceptions and overgeneralizations concerning Darwin's endorsement of eugenics. Tracing a transformation in Darwin's reception of Galton's theories, Richardson sheds new light on his scientific thought, thereby deepening our understanding of mid-Victorian environmentalist and hereditarian approaches to human development. Her reading thus also offers a novel contextual framework for late Victorian fiction that engages with these issues.

Late nineteenth-century literary reception and negotiation of scientific theories of inheritance is the focus of Susanne Scholz's article. Referencing the modes of popularization of evolutionary theory and its social and economic contexts, Scholz argues that the question of biological determinism and personal autonomy were played out on the terrain of human physique: the face became a veritable 'visual signature at the intersection of the biological and the social' at the turn of the century. While scientists like Galton set out to produce visual typologies of the nation, literature offered a viable space where to question this new visibility and the novel methodologies that underlined it. The medium provided an arena for a negotiation of the interrelationship between biological forces and humanity. Taking as her key example Thomas Hardy's work, Scholz shows to what extent such reconfigured notions of individual and collective identity and agency percolated into the literary medium, where they were re-evaluated and their ideological allegiances exposed and questioned.

Jochen Petzold continues this preoccupation with literature's reflection on modern scientific notions. He is specifically concerned with the popular evolution of Darwin's thought into the 'ape theory' and its circulation in the juvenile periodicals. Spanning a broad context of this transformation, Petzold concentrates on the manner in which the medium fashioned the interrelationship between humans and primates only to outline two dominant tendencies of this depiction: an overt denunciation of the common kinship between them and a less straightforward, if equally potent, xenophobic doctrine of the hierarchy of human races.

In 'Gender Trouble as Monkey Business', Julika Griem continues to explore the implications of this affinity in the culture of European modernism. Sensitive to the metamorphoses in cultural depictions of apes, the article traces issues of gender and race implicit in such literary and filmic texts as Leonhard Stein's short story 'Der Gorilla' (1920), Joseph von Sternberg's film *Blonde Venus* (1932) and Isak Dinesen's novella 'The Monkey' (1933). Griem's exhaustive analysis of the representational patterns characteristically used in the texts makes her assert the

inevitable metamorphoses of modernist media practices where ‘traditional forms of narrative containment [...] yield[ed] to a textual enactment of the power of simian mimesis’. These four studies historically ground and thematically reference the following chapters, thus providing a necessary context in which to understand contemporary semantics of Darwin’s thought.

They are followed by two sections which concentrate on the function of Darwin in contemporary popular culture and theoretical debates concerning his post-millennial influence. As Beer, Levine, Browne and others have made abundantly clear in discussions of the ‘literariness’ of Darwin, he utilized the literary technique of entwining meticulously detailed storylines that he was familiar with from his readings of George Eliot and other novelists. Our contributions expand the scope of this research into the mutual influence of Darwin and various media technologies by engaging with his contemporary contextualization.

In ‘Neo-Victorian Darwin’, Ann Heilmann analyses post-millennial literary takes on the (proto-) Darwinian figure of the evolutionary explorer. In her overview of Andrea Barrett’s *The Voyage of the Narwhal* (1998), Chase-Riboud’s *Hottentot Venus* (2003), Ruth Padel’s *Darwin: A Life in Poems* (2009) and Tracy Chevalier’s *Remarkable Creatures* (2009), Heilmann explores the intricacies accompanying a gendered construction of Darwin in particular and scientific personae in general. She argues that these texts not only raise concerns about the ethics of scientific endeavours but also (informally) contribute to the history of ideas by celebrating women’s involvement in science.

Literature as a site of critique is further explored by Felix Sprang in ‘(Mis-) Representations of Darwin’s *Origin*’. In his survey of cultural (mis)interpretations of Darwin’s ideas, Sprang argues that they arose from Darwin’s profoundly complex, if purposefully ambiguous, construction of his theories. He regards Darwin’s *Origin* as a rich meta-theoretical text, which encourages a rethinking of the notions of human progress, agency and development and sees various misconstruals of evolutionary theory as nested in the problematic, if linguistically viable, merger of the ideas of ‘development’ and ‘progress’. Contemporary literature, so runs his argument, can sensitize its readers to these misconceived equations and challenge the notion of evolution as progress. Novels such as John Banville’s *The Sea* (2005) and Sebastian Barry’s *The Secret Scripture* (2008) offer a critique of progress and undermine the belief in the teleological character of evolutionary processes thus urging a revalorization of the popular take on Darwin’s thought and the outlook on life it has inspired.

The question concerning the dissemination of scientific knowledge, undertaken by Sprang, is also the chief preoccupation of Angela Schwarz’s ‘Evolution for Better or for Worse? Science Fiction Literature and Film and the Public Debate on the Future of Humanity’. In her overview of two decades of science fiction, Schwarz scrutinizes the propensity to familiarize audiences with new technologies and offer a testing ground for novel theories. Her inspection of filmic and literary conceptualization of perfected human life, chief preoccupations of biotechnology and genetic engineering, allows her to measure their effectiveness in extending

but also intervening into the established scientific discourse. With their specific agendas, the studies compiled in this section further the inquiry into the media transposition and transformation of Darwin(isms).

The final section of this publication examines the impact of Darwin's thought on contemporary theory. Richter's question: 'Why has Darwin become a pop star as well as a key player in current theory formation?' allows her to outline the tendencies in his current reception in humanities. Spanning the range of these preoccupations, which she enriches with a discussion of recent trends in literary theory, Richter sees epistemological potential in a cultural theory that would draw on the a-teleological character of evolution, which centres on 'transformation, difference and unpredictability'. In this, she offers impulse to a development of methodological frameworks that would go beyond the tunnel-vision of some approaches within 'Literary Darwinism'.

In 'Ordering Darwin', Nils Wilkinson offers reflections on Darwin's usefulness for contemporary negotiation of cultural and scientific norms. Referencing Andreas Anter, Philipp Sarasin and Michel Foucault, he sets out to inquire whether 'evolutionary theory can be made fruitful to poststructuralist thought'. Wilkinson's journey across theoretical fields leads him to conclude that rather than gropingly holding to the pre-conceived notions of nature and nurture, we should redirect our attention to the question of ordering regarded as a cognition-based production of categories and our position within them. He sees, in the marriage of evolutionary principles of variation and contemporary epistemological and ethical questions preoccupying the humanities, the potentiality of a new approach, which would shift focus from the long-standing 'monotheistic' grand narratives to the 'polytheistic' celebration of difference.

In 'The Limits of Sociobiology', Mathias Gutmann inspects the premises of contemporary sociobiological approaches and their explanatory frameworks underlying the questioning of 'human nature'. Gutmann argues that in today's climate of theory formation, it is necessary to re-think whether biological descriptions provide a meaningful basis for the explanation of cultural achievements. He concentrates on a family of sociobiological approaches which explicitly claim to have provided an empirically sound and comprehensive basis for the explanation of the cultural self-expression of humans.

Momme von Sydow extends the discussion of the applicability of Darwin's theories to the processes of knowledge acquisition and learning. At the heart of Darwinian metaphysics, he argues, is the assumption that all learning processes are Darwinian. However, whereas defining these as blind-variation-and-external-retention can yield testable definitions, such a non-tautological definition, he believes, may render Darwinian metaphysics false or restrict its domain of applicability. On this background, von Sydow investigates parallels in treating the problem of tautology in two Darwinian processes: biological mutation-and-selection and psychological trial-and-error reinforcement-learning.

Richter, Wilkinson, Gutmann and v. Sydow not only offer a general overview of contemporary cross-disciplinary appropriations of Darwin's theories but also



look into hitherto rarely explored areas of his influence. Overall, in its three sections (historical, popular, scholarly) the collection provides a discussion of contemporary appropriations of Darwin and links them to the interpretative trends long in existence. *Reflecting on Darwin* thus offers the first study of the post-millennial multi-media and cross-disciplinary responses to Darwin and his ideas.

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