

## PART II

# *Deep Time*

A traveler stands on a desolate shore beneath a dying, red sun. His journey has taken him more than 30,000,000 years into the future when the only signs of life are lichen and a monstrous sea slug. Nothing remains of humans or their works. Extinction has taken all except for these last denizens at the edge of a dead sea. The planet itself has ceased to rotate and grown cold. His heart sickens at the death pangs of his world. To H. G. Wells's *Time Traveler*, as to many of his real-life compatriots in the nineteenth century, this end was implicit in the universe science had revealed. The incomprehensible sweep of time that brought humans onto the scene would one day take them off to extinction.

The crisis brought on by the recognition that the world was older than 6,000 years was certainly one of the defining issues of the Victorian era. Stephen Jay Gould has drawn attention to the discovery of what he calls "deep time" in the late-eighteenth and early-nineteenth centuries. Gould identifies James Hutton and Charles Lyell as two of the heroes of deep time in geology, and he nominates Darwin for the same honor in the life sciences. The concept of deep time opened an unsettling vista to the Victorians, a sense of time far beyond human comprehension, stretching back to the dim origins of the planet and forward to the cold embers of the sun. According to Gould, "Deep time is so alien that we can really only comprehend it as metaphor" (*Time's Arrow* 3) – hence, the usefulness of Wells's fiction. As a way to grasp the immensity of time, few visions have been more powerful than *The Time Machine* (1895).

Victorian unease about deep time is an early episode in our culture's ongoing struggle to come to terms with a disenchanting conception of eternity. Religious or ritual conceptions of time, which frame eternity in cyclical terms, seem to have always existed. Gould invokes Mircea Eliade's well-known discussion in *The Myth of the Eternal Return* to describe this perennial metaphor, but he does not acknowledge how wedded cyclical visions are to religious world views. Gould posits "time's cycle" as one pole

of a neutral dichotomy that takes historical, linear time – what he calls “time’s arrow” – as its other extreme. This is a powerful formulation, but the attempt to describe the two poles as logical (and recurrent) alternatives leads Gould to underplay the Victorian religious context. For most of Darwin’s contemporaries, what was disturbing about deep time was that it presented a materialist alternative to the dominant Christian narrative, which featured a circular but redemptive vision of humanity’s fall from grace and salvation at the world’s end.<sup>1</sup>

With few exceptions, it was not until the twentieth century that our culture found ways to describe time’s cycle without religious overtones. In the third part of this book, I explore a genomic model of time that reframes cyclical temporality in openly secular terms, what I have called “genome time.” But genetics is not the only current science transforming our temporal awareness. Although genomics was one of the early influences, today the sciences of climate change and the Anthropocene are reshaping our relation to temporality as well.<sup>2</sup> As I mentioned in the Preface, Gould takes cyclical time as science’s natural posture toward phenomena that “cycle in simple repeating (or oscillating) series because they are direct products of nature’s timeless laws, not the contingent moments of complex historical pathways” (*Time’s Arrow* 196). Even after Darwin, most Victorians would not have been comfortable with such a disenchanting vision of time’s cycle as a direct product of “nature’s timeless laws.”

The literary response to Darwin’s *Origin of Species* (1859) was varied. Some authors, like George Eliot and Thomas Hardy, engaged with evolutionary ideas with sophistication. Gillian Beer has charted the reciprocal influence of Darwin and Victorian realism in the development of narrative works that produced an evolutionary understanding of life. George Levine has pointed to the shared emphasis on gradual almost imperceptible change over time, the continuum of life, the interconnectedness of all beings, and the role of chance in shaping our destinies. More recently, Anna Neill has argued that great Victorian novels by Dickens and George Eliot differed in their treatment of evolutionary themes from popular fiction. Neill draws on Bruno Latour’s actor-network theory to maintain that major Victorian realists, with their expansive networks of relations, had the room to register the subtle interconnections of objects, people, and institutions, which allowed them to model the kind of gradual transformations over time that Darwin emphasized. The burden of this critical work has been to demonstrate that the realistic novel contained some of the most nuanced cultural responses to Darwin in the nineteenth century.

Another body of texts responded to evolution in sensational and often polemical ways. Frequently relying on genre conventions that violated realistic norms, a large group of novels brought notions like evolution and survival of the fittest to the public in exaggerated or distorted terms. In sensation novels, utopias, science fiction, imperialist adventure stories, and New Woman novels, the public came to terms with Darwin's dangerous idea through the mediation of fiction. As a group, these texts tamed Darwin's ideas and helped readers cope with a secular vision of deep time. Although they confronted the public with vivid depictions of the immensity of the evolutionary time scale, they tempered the brute materialism of natural selection with a more comforting vision, compounded out of hope for the progressive improvement of the species through the inheritance of acquired traits or by planned programs of eugenics. In effect, they made the endless eons tolerable by giving them a teleology and a method. Perfection of the human species was the teleology, and eugenics the method. Restoring a goal to evolution helped cushion its impact, even if the goal was secular rather than sacred, and identifying a supposedly "scientific" method for reaching that goal – eugenics – mitigated the sense of human insignificance in the face of a meaningless eternity.

By now it is well understood that both goal and method were tainted by racism, class prejudice, gender bias, and imperialist ideology. Much recent commentary has focused on these issues, which are unavoidable, but my main reason for concentrating on Victorian genre fiction is its bearing on the field that in the early-twentieth century would become genetics and still later genomics. The novels in this section revel in topical concerns such as the inheritance of acquired characteristics, eugenics, and the mutability of species. More than canonical works of realism by George Eliot, Trollope, Gaskell, or Hardy, Victorian genre fiction dramatizes issues that would bedevil the public response to genetics throughout the twentieth century and on into the twenty-first.

Neo-Victorian fiction in our day has responded to this legacy in fascinating ways. As participants in a culture shaped by both late-twentieth-century biology and Victorian literature, neo-Victorian novelists capitalize on aspects of both intellectual moments. Further, the authors of neo-Victorian novels such as A. S. Byatt, Andrea Barrett, and David Mitchell feel free to exploit the resources of realistic narrative *and* nineteenth-century genre fiction. When combined with an implicitly self-reflexive posture, this body of literary reflections on the past constitutes an equally important response to the temporal complexities of our moment.

