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The Age of Analogy: Science and Literature Between the Darwins
 Book Proposal

Description

“The Age of Analogy” studies historical fiction's intimate contribution to scientific inquiry. My book changes our understanding of the nineteenth-century by explaining how literary authors and naturalists collaborated in forging a new relational engagement with history, and a new sense of the historical dimensions of present life. Nurtured by imaginative descriptions of the past, from Walter Scott's *Waverley* (1814), to Alfred Tennyson's *In Memoriam* (1850) and the social analysis of George Eliot's *Middlemarch* (1874), the ambitious comparative studies of these authors led to new theories of transformation, a new investment in social history, and a new understanding of how culture shapes daily life. *On the Origin of Species* (1859) is perhaps the most important legacy of this new historical sensibility, which served Charles Darwin in translating the fanciful evolutionary speculations of his grandfather, Erasmus, into the epoch-making theory of natural selection.

My book helps us to recognize the significance of a lived sense of history for the modern imagination. Evidence of the importance of historical experience to modernity is everywhere, from the continued salience of historical genres in literature and film, to the pervasiveness of historical recreations, including Renaissance fairs, battle reenactments, and televised historical reality series. Recreations are a particularly focused genre of living histories in which questions of difference open on to concern for historical accuracy, social idiom, and value. At the same time, they are predicated on basic continuities; in spaces, in material practices, and in social forms. A sense that we live at one end of a changeful history seems essential to modern experience, but this sense of historicity is now only two centuries old. This historical sensibility is perhaps the most important legacy of nineteenth-century retrospective genres, particularly historical fiction, that divided the continuous past into patterns of similarity and divergence. The historian and social philosopher Thomas Carlyle diagnosed the change clearly in 1838: “these Historical novels have taught all men this truth, which looks like a truism *but was as good as unknown to writers of history* ... that all the bygone ages of the world were actually filled with living men, not by protocols, state papers, controversies and abstractions” (emphasis added). Recent historians have noted the importance of this transformation in how the past was understood, a shift described by Mark Salber Phillips as “the historicization of everyday life.” Yet, as Carlyle observes, the striking thing about this new way of engaging history, rooted in the comparison between “living” in the past and present, was that it emerged outside of traditional histories, both in the historical novels he distinguishes here, and in natural histories that explored the continuity between past and present forms of life.

At the close of the eighteenth-century, historians in the United Kingdom relied on three distinct views of the past: Christian traditions of biblical typology and eschatology that looked for analogies between biblical prophecy and historical events; a more secular and Whiggish view of history as the continuous progress of constitutional tradition; and the “stadial history” of the Scottish enlightenment, which analyzed the universal stages of social and economic development that characterized modern and ancient societies. But in the aftermath of the French Revolution and the renewed anxieties of domestic unrest that followed, these unitary historical narratives no longer sufficed. Instead a range of writers, including philologists, anatomists, mythologists, and antiquarians, responded to the crisis in history by experimenting with comparative studies that addressed the significance of chance in the patterns of social and natural history.

The most important innovation of these new historians was to refurbish older Christian philosophies of analogy as the insistently empirical “comparative method.” Until the latter eighteenth century, “comparison” and “analogy” were disparate modes of thought. Comparison was understood as a rhetorical trope, a strategy of *contrast* significant to the important sub-genre of comparison tracts that emerged during the religious and political debates of the seventeenth century and survived into the 1800s. This distinguished comparative thinking from analogy, which was understood as an analysis of *similarity* that was part of a tradition of Christian and moral philosophy distinct from rhetoric. Yet these modes of thought were reconciled when a core community of literary authors (including Scott, Tennyson and Eliot), philologists (including James Burnett, Sir William Jones, and Max Müller) and naturalists (including Georges Cuvier, Geoffroy Saint Hilaire, Richard Owen, and Charles Darwin), together examined the relation between analogy and comparison in order to develop a new approach to the study of historical artifacts. They founded the comparative method: a mode of historical comparison that coordinated *similarity* and *contrast*.

Contents

“The Age of Analogy” studies a network of scientists and historical writers who collaborated to sharpen the methods of comparative science as a new narrative mode, and charts the lasting impact of these methods on how we think about history, society, and nature. The introduction sets out the central argument of the book, and explains how the emergence of comparative historicism informs ongoing debates about the interrelation of literature and science, the development of evolutionary theory, and the significance of nineteenth-century historicism. The chapters of my book develop through a series of case studies, with initial and closing chapters that discuss Erasmus Darwin and his grandson, Charles. These naturalists bracket a discussion of the evolution of comparative historicism from 1789 to the mid-1800s, with intervening chapters that pair different comparative disciplines with the writers who helped shape their vocabulary. The interstitial chapters examine three imaginative writers who studied comparative practices to hone a new vocabulary for historical understanding – Walter Scott through his engagement with forensic antiquarianism, Alfred Tennyson in his concern for comparative anatomy, George Eliot in her study of German historiography. And these chapters sustain a running discussion of changes in the comparative sciences – philology, anatomy, and mythology – that coordinated this relational approach to history. The literary forms these writers developed, particularly the historical novel, provided a narrative language for comparative historicism and permanently altered our relationship to prior life.

My first chapter takes up the speculative science and epic poetry of Erasmus Darwin to foreground an eighteenth-century crisis in historical understanding and in the status of analogy. In works like his massive scientific study *Zoonomia* (1794) and his epic poem *The Botanic Garden* (1791), Darwin argued that analogy was both central to scientific inquiry and a powerful tool for the poetic imagination. *The Loves of the Plants* (1789), is particularly beguiling in the way it invites readers to identify their own desires and motivations with the amorous plants Darwin describes, a sympathetic strategy that quietly drew the reader into the experience of a common evolutionary history. Though this analogical vision inspired a subsequent generation of naturalists and poets to look for a more effective way to describe natural patterns, Erasmus Darwin's works, written in advance of the comparative synthesis, failed to give a compelling account of evolutionary change.

The second chapter takes up Walter Scott's close collaboration with a network of antiquarians and collectors, particularly the linguist and early ethnologist John Leyden. His journeyman years of collection, collaborative authorship and publishing, and his growing interest in translation and comparative philology, developed through the *Tales of Wonder* (1801) and *Minstrelsy of the Scottish Border* (1802-3), conditioned the comparative textual imagination of

Scott's later historical fiction, and his engagement with other comparative sciences, particularly antiquarianism, which I understand as a precursor to the science of anthropology. Scott's most important influence, I argue, was in popularizing a new investment in comparative historicism, sustained in novels like *Waverley* (1814) and *Ivanhoe* (1820) by the juxtaposition of historical narratives and imagined experience. Scott's novels generated an influential version of social history – contrasting political history with “history from below,” detailing the interrelationship of present and past societies, exploring material differences in fashion and technology – that drew from his substantial involvement with contemporary comparative science, as both head of the Royal Society of Edinburgh and an avid antiquarian and philologist.

In my third chapter, I explore the verse form of Alfred Tennyson's *In Memoriam* (1850) as an attempt to reconfigure historical comparison as a template for recuperative grief. Drawing on manuscript sources, I explore Tennyson's decades-long effort to evoke and work through the legacy of his deceased friend, Arthur Henry Hallam. *In Memoriam* finds its major success in its insistently comparative and historiographic verse form. Tennyson's object was greater than restoring contact with a vanishing past, as he sought to bring the world of the living into a serial relationship with the dead, drawing on recent developments in geology, astronomy, and anatomy to fashion a version of natural theology that emphasized the continuity between our world and possible others.

My fourth chapter explores Eliot's initial work as translator and critic, both in translating David Strauss and Ludwig Feuerbach and as *de facto* editor of the *Westminster Review*, to help explain her extraordinarily broad perspective on comparativism as it functioned in linguistics, biblical criticism, biology and astrophysics. I revisit the obscure term “disanalogy” to understand why Eliot's sympathetic realism is rooted in productive error. Personal knowledge in Eliot's fiction, particularly as produced in *Middlemarch* (1871-2), is found in failed dramas of reconciliation that emphasize the tenuous gains of sympathetic understanding. For this reason, Eliot's fiction has a deep suspicion of all presupposed systems of understanding. As her later essays make clear, the famous critique of Casaubon's “key to all mythologies” and Lydgate's “primitive tissue” comprehends all comparative sciences that presuppose a single unifying principle, from Goethe's “primary plant” to Darwin's “origin of species.”

Yet Eliot failed to gauge the expansiveness of Darwinian science. In my final chapter, I show why Charles Darwin, an avid reader of Scott's novels and student of comparative science, succeeded where his grandfather failed, translating his theory of evolution into the network of narrative comparison and analogy that sustains his “one long argument” in *On the Origin of Species* (1859). The comparative network of the *Origin*, woven between the warp and woof of analogies and disanalogies, shows how these patterns of similarity and difference emerge as the legacy of a shared evolutionary history. The *Origin* was only an “abstract” of Darwin's evolutionary science; in order to place the new program on a strong footing in the work that followed, Darwin returned to Erasmus's work, and the uncanny sexuality of his botanic studies. Charles Darwin makes this strategy explicit in *On the Various Contrivances by which British and Foreign Orchids are Fertilised by Insects* (1862), which demonstrates that the key to evolutionary inquiry is the study of natural intent and botanical “contrivance.” In doing so, he extended sympathy over historical distance – central to Scott's historical realism – into the natural world. To understand orchids and the insects that pollinated them, Darwin argued, we must tactically impute human motivations and desires to their intricate behaviors. In this way, I answer the longstanding question of Erasmus Darwin's influence over his grandson's work, and so provide a family portrait of the evolution of comparative historicism both within literature and science, and between the Darwins.

Readership

“The Age of Analogy” addresses important concerns for nineteenth-century literary scholars, comparatists, historians of science, and for the looser affiliation of scholars interested in the sociology of science and the history of technology. Foremost, it casts new light on the important relation between literature and science in the nineteenth century, and will be of interest to any student of the Darwins or of the British novel.

Related Works

No other study examines comparative historicism as a crucial feature of the wide reorientation of nineteenth century science toward question of history and “deep time.” Charles Darwin is both a central figure to the history of science, and to the subfield of literary studies known as “science and literature,” which was founded by important studies of Darwin’s cultural influence, especially work by Gillian Beer (1983) and George Levine (1988). Yet while these influential studies emphasized the impact of poetry on Darwin’s thinking, and Darwin’s impact on contemporary fiction, I show Darwin’s work was more profoundly shaped by contemporary historical fiction. By these means, I contribute to Darwin studies a new understanding of how he used historical fictions to translate the speculative legacy of his grandfather (a question of growing concern forth both historians and literary scholars), in support of recent work by Elizabeth Grosz (2004), Jonathan Smith (2006), and Gowan Dawson (2007) on the context of Darwin's thinking.

My book looks beyond the study of science and literature, engaging larger questions about the relation between Romantic and Victorian writers, the place of the novel as over against other literary forms like epic and elegy, and the value of book history in studying how print can mediate the complex dialogue between literary authors and scientists. Comparative historicism places the interaction between the historical novel, Romantic historicism, and natural science within larger currents of historicism generally and evolutionary science in particular. In place of James Chandler’s emphasis on the importance of legal philosophy to this historicist turn (1998), or Ian Duncan’s case for the significance of the enlightenment sciences of man (2007), or Adelene Buckland’s more narrow focus on geological historicism (2014), I emphasize the much larger influence of the historical novel in sharpening a break with earlier models of history and organizing comparative historicism as a consensus method for nineteenth-century thinking about nature and society.

For theorists of comparative literature, my book provides a new way of understanding comparatism’s deep engagement with nineteenth-century natural science, as I freshly articulate the ability of comparative study to explore both similarity and difference. If, as I argue, comparatism took its modern form as a mode of historical analysis in dialogue with natural history, this underlines its power to elucidate patterns in nature, history, and society at all levels of scale, complementing work by Franco Moretti (2000), Wai Chee Dimock (2006), and Natalie Melas (2007).

“The Age of Analogy” also contributes to the history of science a textured account of how naturalists and non-scientists collaborate in the production and dissemination of natural knowledge and their formative influence on how we engage “history” itself. In studying the nineteenth century as a collective engagement between authors, artifacts, and audiences, I contribute to the sociology of knowledge and the history of science a description of how printing technologies and literary forms actively shaped networks of scientific and social practice, in dialogue with studies by Adrian Johns (1998), Bruno Latour (1999), and Stefan Helmreich (2009).

Manuscript Details

My manuscript is approximately 115,000 words long and currently includes fifteen black and white illustrations. A portion of Chapter One has appeared as an article in *Studies in English Literature*.