

### “The Age of Analogy: Scientific and Social History in the Nineteenth-Century Novel”

My research examines the role of literature in shaping the linguistic environment within which evolutionary theories developed in nineteenth-century Britain. In particular, my work explores the relationship between scientific and literary writing; as novelists and naturalists put pen to page, they share in the challenge of formulating new ideas and describing new worlds. This closeness was especially evident in nineteenth-century Britain, where geologists, playwrights, and philosophers moved in the same close-knit intellectual circles, and were reviewed in the pages of the same omnibus journals. Drawing on an interdisciplinary mix of literary criticism, philosophy of science, linguistic theory, and computational analysis, my dissertation argued that the descriptive sciences of the nineteenth century were predicated upon innovations in linguistic technology, innovations furnished by the naturalistic fiction of the historical novel.

There is a rapidly-growing body of scholarship that examines the influence of new scientific theories upon culture, which remains a strong topic of academic interest and a major focus of institutional investment. My research, which builds upon the work of a range of scholars from Gillian Beer to Simon Schaffer, helps reverse that direction of influence, by evaluating how cultural innovations help drive scientific development. The extensive cultural influence of Charles Darwin’s *On the Origin of Species*, for instance, has received substantial critical attention, but my work has shown that nineteenth-century realist fiction established the mode of analogical coordination that propels Darwin’s brief for the theory of natural selection. It is in service of understanding such analogical language that my work takes analogy itself as a major object of inquiry. Analogies – which can be understood as expressions that disclose common relationships between independent elements – drove many of the chief scientific developments of the nineteenth century. In characterizing expressions of analogy as a linguistic technology, I have become increasingly aware that comparative practice has strong implications for the relationship between sense and reference in literary and scientific representation. As a Y Fellow at the University of X, I would make the fullest use of the opportunity to continue to think through the implications of this research and to collaborate with scholars from other disciplines.

The first chapter of my dissertation, a portion of which is forthcoming in *Studies in English Literature*, highlights an epistemic crisis in comparative science, by detailing how the discourse of analogy was severely compromised by skeptical and rhetorical criticism at the close of the eighteenth century. In his speculative poetic and scientific writings, especially *The Botanic Garden* (1791-6) and *Zoonomia* (1794-6), Erasmus Darwin deploys analogy extensively in his theory of mind and poetic meter, but in the same works, he betrays a deep unease about contemporary criticism of analogy’s rhetorical and empirical standing. And in the following three chapters, my research showed how nineteenth-century novels, by folding analogy into historicist narratives that analyze modern conflicts to project visions of past change, refurbished analogy for scientific writing. These chapters explored the novels of three major nineteenth-century figures, Walter Scott, Charles Dickens, and George Eliot, to expose the tacit commitment to comparative historical method that underlies nineteenth-century realist literature. In the novels of Walter Scott, I described how this dynamic engagement between past and present is explicitly theorized on the model of Romantic theories of translation. In the fiction of

Charles Dickens, the friction between historical transformation and social coherence, my work argued, is deployed to express the violent dislocations of modern urban life. Insofar as the perspective of natural history, like social history, can provide insight into character and environment in a novel like *Bleak House* (1852-3), this insight stands as yet another index of the threatening and destabilizing impact of the modern condition. And in the works of George Eliot, particularly *The Mill on the Floss* (1860), *Romola* (1863), and *Middlemarch* (1871-2), I explored the rarified term “disanalogy” to provide a revised interpretation of Eliot’s sympathetic understanding that is rooted in productive error. Finally, my closing chapter shows how this reinvigorated analogical technique, deployed to knit together a comprehensive network of historical process and differentiation, was central to Charles Darwin’s case for natural selection in *On the Origin of Species*.

My time spent at the University of X will provide the opportunity to add two key portions to the book manuscript I am fashioning from my dissertation research. In expanding our knowledge of the influence of literary form upon the construction of new scientific theories, my work offers insight into a range of disciplines that examine how language mediates study of the world. The role of analogy as a linguistic bridge between sense and reference – a function I find at the core of comparative writing – bears strong resemblance to Bruno Latour’s theorization of a “circulating reference” that ties representation to investigation of the world. By elaborating these relationships, I will draw out the implications of my work for the sociology of science and literature, examining the role of analogical language in interdisciplinary exchange. In addition, the argument of my dissertation touched upon a long-standing critical consensus over the coordination of secularization with the rise of the realist novel. In my telling, this coordination between realism and scientific writing relied upon a mode of analogical interpretation with deep roots in religious discourse and hermeneutics. I would like to continue to think through the relationship between my scholarship and the ongoing revision of what Charles Taylor has characterized as the “subtraction argument” of secularity, in which modernity is characterized by an emptying out of religious modes of understanding. My work indicates how secularism, particularly in the anthropocentric fiction of historical realism, is continuous with distinct interpretive traditions of Christian theology.

My dissertation project, along with my scientific and technical background, has also fostered a substantial interest in the using computational techniques to analyze the relationship between scientific and literary writing, research I will continue as a Y Fellow. In one project, forthcoming in the *Proceedings of the Chicago Colloquium on Digital Humanities and Computer Science*, I have used a technique called Latent Semantic Indexing (LSI) to verify some of the key assertions of my dissertation regarding Darwin’s *Origin*. Such quantitative techniques have recently garnered substantial critical attention, for instance, in work by Franco Moretti. By refocusing quantitative analysis upon core questions of meaning, historical specificity, and interdisciplinary influence, I hope to demonstrate the relationship between these new techniques and traditional interpretive questions, offering methods that supplement, rather than supplant, central scholarly concerns. By collaborating with other researchers of the English Department and participating in the intellectual life of the X Humanities Forum, I will have the opportunity to develop my work on this subject, and to refine our understanding of the interdisciplinary exchanges which fuel scientific and literary production.