Review Article

Computation and Close Reading

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The emergent field of computational literary studies has made some of its biggest claims through the rhetorical force of numbers—numbers being not just the quantification processes that make data out of text, but the sheer number of texts analyzed in typical studies. Distant reading, to cite the title of Franco Moretti's 2013 book, initially presented itself as an alternative to close reading that would enable large-scale analyses of the literary archive, heretofore unimaginable by individual literary scholars. Computational literary studies and other formulations of these methodologies—other proposed names include computational formalism or quantitative literary studies—emerged through the "big data" discourse of the first two decades of the twenty-first century. Big data, like any academic or corporate fashion, is more a discursive construct than a concrete set of practices and approaches. This particular discourse—one that often invokes industry and university partnerships, interdisciplinary and research team efforts, expensive shared resources, the possibilities of funding from governmental agencies, and more—offered literary scholars a way to participate in the epochal shifts that have already altered numerous research methods and created new subfields in biology, chemistry, psychology, among many other areas of study. Participating in this shift would enable scholars to pursue literary questions at multiple scales and to recover lost institutional prestige and rebuild connections with other fields, especially those in the social sciences that had once also employed close reading but have increasingly transitioned to quantitative methods.

The creation of large archives or libraries of digitized texts made the big data

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discourse finally compatible with literary studies. These archives, which were primarily products of already-existing big data efforts within the commercial space, finally presented to computational literary studies an appropriate object for large-scale computation. It was thus literary history, rather than the study of literary works as such, that has become the dominant mode of analysis in computational literary studies. It was this methodological shift, made possible by the marriage of big data techniques and machine learning with well-organized collections and digital libraries, that brought digital humanities, and especially computational literary studies, to the foreground. This environment and its new discursive context changed the reception of methods that were once regarded as potentially interesting but too marginal to represent any broader "turn" in literary studies. Once literary studies was able to fully take part in the computational present, to attract interest from a range of participants including graduates and even undergraduates, to enable partnerships with computer scientists and the new class of workers known as data scientists, the situation had changed and these approaches, once termed "humanities computing," were suddenly taken seriously. Prior attempts, which had generally been directed toward single works or single authors for both technical and field norm reasons, never gained much traction. Computational literary studies has emerged with some of the same quantitative methods in hand, but with the changed discursive situation it has now been received as a more serious endeavour.

In his now canonical definition of distant reading, especially as this loosely construed reading methodology relates to his larger project on world literature, Moretti makes it clear that his use of distance concerns the costs of the generation of knowledge about literature and literary history and not necessarily a metaphorical relation to the text as such:

> Distant reading: where distance, let me repeat it, *is a condition of knowledge*: it allows you to focus on units that are much smaller or much larger than the text: devices, themes, tropes—or genres and systems. And if, between the very small and the very large, the text itself disappears, well, it is one of those cases when one can justifiably say, Less is more. If we want to understand the system in its entirety, we must accept losing something. We always pay a price for theoretical knowledge: reality is infinitely rich; concepts are abstract, are poor. (Moretti 48-49; emphasis in original)

Moretti thus conceptualizes distance as not just the aggregation of texts, but also those potential smaller features contained with texts. This aspect of distant reading has sometimes been lost in accounts of the digital humanities and computational literary studies. When critics of these methods, and practitioners as well, gesture toward broad claims about periods, genres, national literatures, or even world literature, they are typically highlighting those dimensions that become visible only in those larger units that subsume the text. Smaller units such as those expressed within the paragraph or sentence structure of a single text, Moretti claims, might also become sources of literary knowledge. But these units, as should be clear, only become meaningful when compared to collections of other decontextualized smaller

units extracted from other texts. While Moretti's local concern is world literature, distant reading, as articulated here, is essentially what we might call a "big data" method. The smaller units are not understood as part of a whole in which the whole is book, but rather the whole of the modelled system. The interpretive pipeline of extracting, counting, modelling, and comparing these smaller units does not care about the text, and however effective it may be for "understand[ing] the system in its entirety," it is uniquely unsuited to the task of generating insight about individual texts. Making arguments based on statistical significance generally requires much more data than can be extracted from any single text.

What marks Martin Paul Eve's *Close Reading with Computers* as distinct from almost all other recent works in computational literary studies is his focus on a single work of contemporary fiction: David Mitchell's *Cloud Atlas* (2004). Eve, an accomplished scholar of contemporary literature, literary theory, and criticism, and of digital practices in both publishing and criticism, upends many of the expectations of computational literary studies and provides an alternative model for this work that avoids some of the pitfalls of prior research and presents itself as much more aligned with scholarly practices within literary studies. It is a smart and self-aware contribution to the field, with as much to say about what these new methods make possible as its primary object of analysis. This choice of object, as we discover in the course of reading Eve's book, is motivated by several fascinating features found both within the text of Mitchell's novel and in its material production as a book. In many ways, *Cloud Atlas* is an ideal text for such an exercise. It is, as Eve argues, "a novel about the archive and its reception, a text about mediated object transmission. In many ways *Cloud Atlas* is a novel about textual scholarship and historiographic interpretation, parodying the ways in which texts are received, corrupted, remediated, and circulated over time on the historical scale" (144). *Cloud Atlas* also exhibits an incredibly wide internal variety of language and genres, much more than would be found in almost any other single-authored text. Its formal structure is intricate, with alternating narrative voices and a nested temporal ordering that one of Mitchell's characters describes as a concertina, which is especially well suited to the sort of structural analysis that is typical of computational literary studies. Eve helpfully provides a summary of Mitchell's complexly organized novel, its publication history, and an excellent visualization of its organization. The introduction also provides a gloss of many of the key methods and debates within the digital humanities and computational literary studies. In taking up several of these debates, Eve makes a compelling argument for the use of computer-aided approaches to literature in ways that do not obsolete or supersede existing reading practices. Eve joins several other critics in addressing the problem of close reading at the present moment as the sole province of literary studies. Like Heather Love, who sees the possibility of a "renewed interdisciplinary exchange" (374) in rejection of depth for description in revising close reading practices, Eve wants to add "computational formalism" as a supplement to hermeneutics in order to make literary studies less hermetic, less isolated than it is

at present.

The implicit project of *Close Reading with Computers* is to revitalize close reading in literary studies by positioning scholars even "closer" to the text than they would be without the use of computational instruments. Eve says of his project that "through computational reading […] this book goes 'back to the text'" (11). This going "back to the text" involves a reframing of the text that alters the commonly held assumptions about "the text" in computational literary studies, for, with few exceptions, computational literary studies has treated the text as decontextualized units that are utterly detached from the book. Eve demonstrates, rather convincingly, that this does not need to be the case. In eschewing both machine learning and more traditional quantitative social science measures such as tests of significance, Eve enacts a series of deformances of *Cloud Atlas* that are tentative, modest, and exploratory in nature. In addition, he generally places his data-derived arguments about *Cloud Atlas* within existing scholarship on David Mitchell and on contemporary fiction. This effort is another move that has not thus far not been widely adopted in computational literary studies; Eve writes of his goal: "what I aim to achieve in this book is a series of close-reading exercise that use computational techniques but that, in so doing, alienate neither the reader from the text nor the findings from mainstream literary criticism" (11). This particular choice brings up an important aspect of computational literary studies at the present moment: it typically presents itself as operating outside of existing bodies of literary scholarship, even when making broad claims about literary history that contest many other existing claims. Eve's challenge, then, is manifold: he wants to reimagine close reading by bringing quantitative results to bear on these practices and in the process make the results meaningful in terms of extant criticism.

Close Reading with Computers joins with other recent publications that also seek to demonstrate ways to bring close readings of literary works alongside the output of computational transformations. While Andrew Piper's *Enumerations: Data and Literary Study* (2018) partakes in some of what Eve proposes as a revised close reading, Piper's close and distant readings are not sustained and seldom carried on beyond a few paragraphs linking together, to take one example, an insight about social networks visualized through character co-occurrences with a reading of the multiple social worlds found in a novel. Though Piper uses some similar methods as those found in Eve's book to compare vocabulary distributions across an individual text, these are in service of explicating various ways in which one might find proxies for plot structure rather than model genre or authorial style. The book is remarkable for Eve's generally sharp focus on a single text and for his simplified methods, an approach that stands in contrast with the big data methods and large textual archives used by the majority of other scholars in computational literary studies. The formal complexity of *Cloud Atlas* and its several textual variants render it an especially interesting object for extended study and less of an unusual or even idiosyncratic choice. "In its plurality," Eve writes, "*Cloud Atlas* is a fantastic playground in which to test a range of answers to many questions" (15). Questions are indeed central orga-

nizing rhetorical devices for Eve, and they appear throughout *Close Reading with Computers*. These questions are frequently updated and modified as he encounters new evidence from his computational experiments and analyses. The questions are also frequently, but not always, answered with these quantitative methods.

Following an introduction, the book features three major chapters, each of which takes up a related set of computational methods to examine different formal aspects of *Cloud Atlas*. A shorter fourth chapter, "Interpretation," takes up some of the threads from the prior chapters without introducing new evidence, followed by a final short conclusion that returns to some of the stage-setting discussion of reading methodologies invoked by the digital humanities first invoked in the introduction. Eve also provides two appendices: a thirty-page "Appendix A" that details the textual variants of *Cloud Atlas* as well as links to digital repositories containing data used throughout the book as "Appendix B." Chapter One, "The Contemporary History of the Book," examines sources of textual variance in *Cloud Atlas* within two primary branches of the text: the delayed US manuscript line, which leads to the Random House Kindle edition, the "E edition" printed in the USA by Random House, and the source of the French edition and film script; and the UK manuscript line, which leads to the "P" edition printed in the UK by Sceptre, and the Japanese, German, and Italian editions. These editions within what Eve calls the "extremely messy worldwide dissemination pattern" are intriguing from a computational perspective because it would be otherwise quite challenging to track the numerous differences introduced by editors and by Mitchell's own revisions. One of the more compelling visualizations appears in this chapter, as Eve demonstrates the narrative reordering by contrasting the organization of narrative blocks in the "E" and "P" editions. Chapter Two, "Reading Genre Computationally," concerns the "microtectonic, subsurface shifts of linguistics" that Eve shows can be detected as differences among the multiple and varied sections of *Cloud Atlas* and, as he argues, register the distinct genres and styles used in these sections. This chapter makes use of stylometry, the modelling of authorial style through word frequencies, and part of speech tagging to identify the trigrams or patterns of three parts of speech (for example, proper noun singular, third-person singular present verb; or, to use tagged codes, NNP, NNP, VBZ) that might best group together the sections sharing the same genre and style. These concerns suggest that this chapter might generate the most useful evidence for close reading, but in the narrative unfolding of Eve's research, we learn about some limitations of stylometry for this sort of task. The ultimate test, the degree to which these methods can group sections of the novel together that we already know belong together, tells us the least about *Cloud Atlas* of all the other methods found in the book. Though he concludes the chapter stating that these methods are "a move toward specificity, a questioning of the unique content of each chapter and how it differs from the others" (95), it is not entirely clear that this specificity—in particular, the trigram patterns of language—is important to our understanding of the individual genres or the novel as such. This seems especially crucial in understanding a novel that works so hard to invent

and perverse language through, for example, dialect, in the "Sloosha's Crossin' An' Ev'rything' After" section, and genericization, such as the brand names appearing constantly in "An Orison of Sonmi-451."

Chapter Three, "Historical Fiction and Linguistic Mimesis," contains some of the more innovative methods and moves the furthest away from close reading. This chapter also places *Cloud Atlas*, in terms of computational close readings, alongside two other texts that serve as sources and comparisons for Mitchell's novel: Herman Melville's *Moby-Dick* and "Benito Cereno." What is most innovative in this chapter is also least like close reading; in order to detect anachronistic language in the novel and through a series of transformations, Eve extracts all the vocabulary from *Cloud Atlas*, filters those words found in Melville's *Moby-Dick*, those words that would have been available to Melville by the publication date of 1851, and then searches for words that would not have been available to Mitchell's fictional author of the "The Pacific Journal of Adam Ewing," a text that purports to have been written sometime between 1851 and 1910. This third chapter also includes a list of words that that are, as Eve describes them, "unusual to the modern ear" (116). He was able to produce this list with another filtering process, using the *Contemporary American Corpus of American English* (COCA) to identify "historical" sounding language. The fourth chapter, "Interpretation," opens by restating the three major claims of the previous chapters:

> (1) that *Cloud Atlas* is a novel about the manipulation of the archive; (2) that *Cloud Atlas* is a novel that draws attention the specific against the general, or, at least, to the oscillation between these poles that is a part of historical knowledge-making; and (3) that *Cloud Atlas* deploys a slimmer range of mediated forms (both generic and linguistic) than we might believe, using a single narrow, yet also expansive, century to achieve its representation of a millennium-or-more's worth of imagined history and future. (129)

As these are higher-level conclusions, it might be difficult to assess the degree to which they depend upon specifically computational evidence. Eve has also complicated this task by drawing together other modes of evidence generation, including traditional close reading, and this "Interpretation" chapter serves mostly to validate these claims through close readings. No metrics, no summary statistics, no tests of significance appear alongside the close readings. What instead follows are a series of close readings that work in tandem, but not exactly in a dependent relation, with his quantitative evidence.

Single-Text Computational Criticism

In using a single text, Eve both pushes strongly against the current of the present and turns computational literary studies back to its prehistory. There are many good reasons for bringing computational methods to bear on a single text. Conflicts and disagreements between generations of scholars have generally been centered

on single texts. Introducing and demonstrating the value of new methods of reading tend to turn to individual works. Despite the now decades-long turn away from author-centric debates, these histories and the arguments connected to them make readings of a single text compelling to the profession as well as to students and the general public. When undergraduates first learn how to use computational methods, many want to turn to specific works or authors that they have already studied. They have gained some expertise after reading and writing about these works and may feel more able to assess any returned results in terms of this expertise. It is the case that well before the advent of the digital humanities and certainly computational literary studies, quantitative studies of single texts or authors were much more common. The groundbreaking collection *Literary Computing and Literary Criticism* (1989), edited by Rosanne G. Potter, includes many such studies: Nancy M. Ide analyzes the distribution of "images" from a collection of keywords in Blake's *The Four Zoas*, Julia Waggoner maps characters and affect in Milton's *Samson Agonistes*, and Eunice Merideth examines gendered dialogue in three works by Henry James. While some of these earlier efforts were devoted to authorial studies, a number asked more general formal questions through their quantitative analysis of a selected text. These are questions that students using computational methods in literary courses today are eager to ask. The broader questions examined in book-length studies or even many articles in computational literary studies today are of interest to field experts, but the knowledge required to engage with these questions and understand the stakes of potential findings is quite high.

It is not just the required broad knowledge of multiple literatures, but also methods and access to technologies, that present roadblocks to interested scholars. The prioritization of complexity and the valuing of scale within computational literary studies risks restricting the field to scholars with access to computational and storage resources and extensive training. Computational approaches in many fields favour complexity, which might be because of the institutional structures that reward complex methods, grant-funded research, and collaborative crossdepartmental and institutional teams. Perceived value and academic capital certainly might be acquired by those using computationally difficult problems, both in terms of the size of input data and raw execution time. The discourse of "big data" almost always invokes some aspect of high-performance computing and sophisticated data storage and retrieval systems. An interesting counter to these forces, and one that seems fitting to describe Eve's project, would be the recent turn to what has been called minimal computing. Minimal computing, while more typically connected to the design and presentation of information in the form of scholarly archives and websites, can also be used to name a methodological orientation that favors simplicity and prioritizes sustainability. Jentry Sayers glosses the minimal in minimal computing as such:

> To me, minimal computing immediately suggests minimal design, especially as it pertains to workflow and communication. Following the Unix philosophy of DOTADIW ("Do One Thing and Do It Well"), minimal design applauds and even fetishizes simplic-

> ity; it boils practice down to necessities. (Sayers)

This preference for minimal design, Sayers argues, is adopted primarily in service of making the methods and output of scholarly research accessible to a broad range of participants: "Given its associations with open software and hardware, minimal computing may be defined as a reduction in barriers to entry and access." While the discourse around minimal computing in the digital humanities has privileged the presentation of projects, especially in using simple, open source, and uncomplicated workflows for publishing content on the web, the ethos of minimal computing can be found in the use of minimal computational transformations. Reducing complex pipelines that ingest and process gigabytes and terabytes of data to key constitutive computational elements, such as segmenting, normalizing, and counting word and phrase frequencies has the capacity of becoming minimal—*minimal*, after all, as a suppletive superlative derives its meaning from that which is considered sufficient, the generally accepted, the best practice. In using well-established techniques such as Burrows's delta, part of speech tagging, and the creation of simple word frequencies, and applying them to a single text, Eve deploys a minimal and generally reproducible workflow that can be evaluated by field experts and students alike. This returns computational literary studies to a simpler time, and might offer an alternative path for those involved in the teaching pipeline that presently lacks training in the quantitative methods that Eve invokes in his conclusion.

Single-text computational criticism also has another virtue: while the selection criteria for the text is certainly open to critique, this approach manages to sidestep the thorny problems involving the concepts of literature and culture and the issue of bias within datasets that are taken to serve as their samples. In her article "Why You Can't Model Away Bias," Katherine Bode has identified these issues as one of the major problems facing quantitative approaches to literary history. Because of the broad claims involved in making claims about literary history as such, it is incredibly important to make sure that the methods are sound, in both statistical and political terms. Interpreting data derived from a single text generally will not involve the amplification of inequalities and historical literary judgements and selection biases. This is not always true, as the comparison, whether close or distant, of historical texts to quantitative models of historical contexts will necessarily involve these same issues. Eve maintains a sharp awareness of these risks and his reflective analysis as he historicizes the present is commendable. Without such critical consciousness, however, similar quantitative studies might think that by not wading into discussions of literary systems, they have avoided the political dimensions of engaging in cultural analysis.

Closeness in Computational Literary Studies

The metaphor of depth and surface, naturally, provides much of the tension for seeing our way through the field and the microscope and telescope provide handy metaphors for unpacking both methods and objects. Discussions of computational literary studies became more prominent during a number of other debates about the ongoing value of close reading in literary studies. The turn to quantitative data as evidence has enabled some to think of computational literary studies as part of an interest in postcritique, especially by those sharing Bruno Latour's concern with the appropriation of some forms of antipositivist critique that have called into question the claims of empirical science.

Computational literary studies methods have also been grouped together with the descriptive turn and other methods of what some critics have called surface reading by forsaking interpretive modes that seek to uncover latent, repressed, and obscured evidence from textual sources. In its focus on aggregated textual evidence, computational literary studies has been positioned as especially capable of making grounded claims from texts. Eve thus describes what he practices as "close-textual digital microscopy" (19) as opposed to other articulated versions of computer-aided methods making use of scopic or visual metaphors including "distant reading" (Moretti) and "macroanalysis" (Jockers). For Eve, it is the evidentiary function of textual evidence in terms of argumentation that defines close reading: "Close reading seeks, in most cases, to press linguistic detail in the services of literary argument and interpretation" (9). This has been, and will continue to be, key to the acceptance of this sort of work within literary studies. We thus find Matthew Jockers describing his macroanalysis as working hand-in-hand with close reading, providing access to a background or context, literary history: "the macroscale perspective should inform our close readings of the individual texts by providing, if nothing else, a fuller sense of the literary-historical milieu in which a given book exists. It is through the application of both approaches [close reading and macroanalysis] that we reach a new and better-informed understanding of the primary materials" (Jockers 28). Eve shares this mixed-methods ethos, although he frames it from the opposite end of this pairing: "close reading does not function independently of a more distant surrounding context" (146). Where Jockers neglects texts for context and remains almost exclusively focused on the "literary-historical milieu," Eve makes a considerable effort to keep a close focus on both the text and its context, insofar as it pertains to *Cloud Atlas*.

Although I have set up something of a dichotomy between big data methods and computational readings of single texts, these are not in fact oppositional approaches. Eve provides several examples of what we might think of as versions of big data methods applied to the single text. Literary studies, ever hermeneutical, tends to find the meaning of the part expressed in the whole. To understand the significance of some quantitative finding within the text frequently will require comparison with

something outside of the text. There is no real possibility of enclosure within reading, either human or computer. As we read, we construct comparisons. Consider the frame of intertextuality: does this phrase or expression or character seem like an allusion to other literary works? When we are reading a regional or an historical work, we might be recalling what we know about this space, place, and time. Eve's use of other models and data sources, such as the *Oxford English Corpus*, the *Contemporary American Corpus of American English*, and the *Merriam-Webster* website, shows some interesting possibilities of combing and leveraging knowledge about literary history, knowledge perhaps even derived from big data, archive-driven approaches, with potentially interesting findings from *Cloud Atlas*. The best example of this would be the previously described methods that Eve uses to detect Mitchell's anachronistic and noncontemporaneous uses of language within the historical sections of the novel. As Mitchell's text is composed of novel sections purporting to represent different voices and genres from different historical moments, understanding the construction of a historical authorial voice is a particularly compelling application of culturally-derived information. What Eve finds in this collection of anachronistic language, however, is much more interesting than slips and mistakes: Eve produces compelling evidence that Mitchell's imagined past is an outlier, and in one particularly noticeable dimension: his use of excessive, in terms of higher frequencies than contemporary sources, colonial and racist language. This leads to Eve's excellent arguments about Mitchell's historical imagination and the work of this novel in the present.

Conclusion

The stakes, quite simply, are not that high in a close reading of a single novel using computational methods. This is because even if some of the textual evidence, as Eve claims, cannot be seen through human rather than machine close reading, the claims are either contestable with other non-computer-aided close readings or not applicable beyond this highly local case. Close reading with computers thus might succeed in revising close reading and returning computational literary studies back to the text, but it is necessarily limited. To say so is to invoke those aspects of what Jeffery Williams called "the new modesty" in relation to literary studies. Williams did not invoke specific computational methods, but in his inclusion of "distant reading" alongside other reading practices generally considered postcritical, such as surface reading and new formalism, he yokes together the claims or maybe even what we could call the findings produced through computational work to the "subdued" methods of these other practices. If Eve's book might be said to be modest in its reading of Mitchell's novel, how might we understand its revision of close reading practices and digital humanities methods?

The distance in some of these readings thus functions more as a relation to the

context than the text. This makes a great deal of sense. Literary scholars should make use of historical contextual word embeddings, semantic models of language that provide measures of similarity for individual words that generally require at a minimum hundreds of textual sources, to examine historical texts. Computational methods have primarily been presented as able to do something that human readers cannot, to address "the great unread" of literary history, as Franco Moretti, after Margaret Cohen, terms this capability, and they seem somehow unwieldy and overly complicated instruments for the task of analyzing a single novel. They are, however, incredibly useful for what Friedrich Schleiermacher termed grammatical interpretation, which is to say the interpretation of "the characteristics of discourse which are common to a culture" (7). Grammatical interpretation works hand-in-hand with what he calls technical interpretation, the understanding of the singular text or author. This distinction in modes of interpretation comes to mind when considering the possibility of similar projects on other authors and other texts. The formal features of *Cloud Atlas* that made the novel an exciting playground for Eve are not widely shared among other works; stylometry and comparative discourse analysis have limited applicability for textual worlds constructed through a single voice, genre, and historical moment. Yet Eve's work with this singular novel makes possible new ways of thinking and new modes of literary and cultural analysis that combine together sources of knowledge at scales both large and small.

The past few years have seen several calls for a renewed critical consciousness on the part of scholars making use of computation. This call comes at least in part from some of the truth claims made from quantitative research, and also from the opacity with which some of this work has been presented to others working within literary fields. "Tool criticism" has emerged as one such mode of self-inquiry; as Karin van Es, Maranke Wieringa, and Mirko Tobias Schäfer describe it, "reflection on the interaction between the researcher and the tool" (25). Van Es and her colleagues desire this increased reflection in order to expose the non-neutrality of tools and the assumptions that remain latent within algorithms, parameterization, and tool choice. While some might see this additional level of reflection as an additional burden on computational literary studies, it is the crucial impact of these tools on the results—indeed, even the presentation of output as "results"—that necessitates putting tools themselves under the microscope along with the objects of inquiry. Eve's entire book could be characterized as an extended reflection on method. The questions he raises and his commentary as he revises these questions evidences a high degree of awareness of the subjective framing of his research and the limitations he encounters as he turns these questions into structured experiments, or "operationalizes" his questions, to borrow a term popularized by Moretti. The fourth chapter provides the best of example of a tool critical approach. One might wish that Eve had just gone through this process work backstage, as it were, and given his readers a smooth presentation of evidence in the process of generating his arguments, but this disclosure of misconceptions and missteps is key—and not just in service to anticipating criticism of his project, but in

making this research humanistic.

The book is at times defensive about its methods and works to anticipate criticism at several points. After explicating the possible application of authorship attribution or stylometry on *Cloud Atlas*, Eve writes: "In some ways, though, using these methods is more of a performance stunt than a help with close reading" (80). Eve is explicitly modest in his claims, both those driven by computational work and those produced as a result of his close readings and interpretations. He invokes this modesty in the final words of his introduction as he positions himself as holding a "reflexive stance on the limitations of my various methods" (24). This modesty includes recasting failures as sources of knowledge: "[algorithmic] failure, in such cases, becomes intensely productive as it reveals the fault lines of difference within a text" (66). In the case of a tool that Eve assumed would measure word popularity in terms of use but actually measured only queries of this word with the tool, his modesty in the face of failure can also be used to dismiss, without undue attention, experiments incapable of generating useful knowledge: "This is an excellent example of a humanities hypothesis for an experiment failing […] This is one of the methodological risks of close reading with computers: when we do not understand the composition and collection of underlying data sources on which we draw for comparative evidence, we can be led astray" (112).

Despite Eve's many successes and his few modest failures in this book, we might want to reject the need to ground computational literary studies in close reading, for much of what happens in *Close Reading with Computers*, and indeed some of his most compelling examples of computer-aided research, cannot properly be called close reading. To be sure, there is much textual scholarship and formalism taking place, but these practices do not function like close reading, nor do they need its support to make plausible claims about literary works. The same could be said for the "Interpretation" chapter that offers compelling close readings that do not necessarily need the support of quantitative evidence. Eve, though, is aware of the issues involved in separating method from interpretation and that final short chapter "Interpretation" takes this problematic as a framing structure: "I have already undertaken interpretation throughout this work; the data alone do not speak. In separating this chapter into its own domain, I run a structural risk of severing the digital work from its hermeneutic contexts" (129). Eve does do a significant amount of interpretive work in both domains of his book, and yet, some separation between his close and computational readings remain. His quantitative answers to his questions seem fully justified on their own terms, within their own domain. It might be perfectly fine, in short, to use computational methods that do not advance close reading but work in support of other sources of knowledge about a text or provide insights on their own.

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