Contemporary Proposals about Reading in the Digital Age

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Abstract:
Over the last several decades, the study of reading has become a site where contests over the nature of scholarship and the role of the literary scholar play out in productive ways. Some practitioners of computational corpus analysis (or "distant reading") claim that quantification is bringing a new rigor and focus on "evidence" to literary critical work. In other areas, literary scholars are exploring rich realms of readerly practice by revising, extending, and incorporating the taxonomic methods of fields such as book history, bibliography, and the sociology of reading. Meanwhile, the process of exploring theories of reading has helped scholars refigure their own role in the larger culture. When literary scholars today assert that they build and create as well as critique, and lay claim to their role in textual production as well as reception, they draw on new arguments about the function of the reader more generally. All of these efforts have centered around a fundamental question raised by the advent of new technologies: what are the limits, affordances, and utopian possibilites of human reading?

Recent ideas about reading in literary criticism have centered around a fundamental question: what are the limits and affordances of human reading? Not all of these re-visitings of reading name technology as a central figure, yet they are all to varying degrees shaped by recent cultural attention to the emerging possibilities of machine reading and the reading of digitized and born-digital texts. The image of a reading computer, familiar from science fiction, raises the broader possibility that computers might replace humans -- a possibility that has led both to a new interest in what is most human, embodied, affective, and irreplicable about reading as well as to the pursuit of new insights into what critics variously call algorithmic, machine, or computer reading.

The resurgence of literary-critical interest in reading takes two main paths. Inspired by machines, some critics dream of new reading practices that would leave behind human error and enable interpretation at new scales. This desire for what is imagined to be a post-ideological reading practice, grounded in a renewed formalism and executed by computers, appears not only in the claims of some critics that computational text analysis will replace "anecdotal" criticism with objective evidence, but also in the idea, held by some "post-critical" interpreters, that the critic's ideology can be left aside to allow us to see the manifest or "surface" meanings of the text. But on the other side of this preoccupation with reading, we glimpse not a yearning for objectivity or a vaulting above the scale of human vision, but rather a hope that new technologies, methods, or histories of reading will help us escape the restrictive narrowness and predictable patterns that disciplines and accustomed social formations have impressed upon the literary-critical imagination.

Despite occupying very different scholarly spaces, critics practicing "deformative reading" and critics who re-emphasize a fuller range of attitudes, affects, and purposes of literary reading past and present both orbit around this commitment to reading practices that emphasize human idiosyncrasy and situatedness.

Both paths are drawn together as literary-critical interventions that call themselves, or have come to be called, new practices of "reading" rather than new practices of "interpretation"; the list of such methods includes "just reading," "surface reading," "machine reading," "algorithmic reading," and "distant reading," along with many returns to the very familiar "close reading."[1] We might see this trend as part of a de-escalation of the stakes of literary study, a suggestion that critics should dial back their ambitions from the grand heights of interpretation to the simpler task of understanding the primary, denotative, or surface reading of a text. Alternatively, we might interpret this focus on literary interpretation as "reading" as a bid for a broader kind of reach or relevance for literary study: if "interpretation" emphasizes expertise and affiliates literary study with a twentieth-century professional ethos, "reading" expresses commonality with the ranks of the literate.[2] In emphasizing "reading" over "interpretation," then, literary critics of various stripes may be seeking a new form of public intellectualism. This trend that has also been enabled by and is visible in the increasingly number of professional literary critics who writing for wider-audience online publications as well as for scholarly journals.

In his *Mimesis: the Representation of Reality in Western Literature* (1946; first English translation 1953), Erich Auerbach noted that novels seemed to be undergoing a shift from the grand scales of interpretation and agreement on worldviews (or ideologies or beliefs) characteristic of the Victorian novel to a new focus on small details seen from multiple different perspectives in the modernist novel. For Auerbach, the upheavals of World War I had revealed a fundamental lack of consensus on human beliefs, or even on what it meant to be human; World War II only reinforced the necessity of the "simplification and reduction" that would be necessary if humankind was to recover a common language and shared ground. Similar impulses may be at play in the turn from "interpretation" -- ideological, complex, professional, requiring significant shared values -- to "reading" -- recuperative, surface-focused, human-centered -- that we trace in recent criticism.

Distant Reading and Computational Text Analysis

At first glance, the basic question posed by computational text analysis -- what can one do with a million books? -- seems remote from concerns about reading in any conventional sense. What might have been a hypothetical scenario in the past, however, has become a pressing problem in practice as literary scholars have grappled with the sheer number of books now made available in digital form through Google Books, the Hathi

Trust Digital Library, and other corpora. The longstanding practice of close reading seems impossible to apply to thousands or millions of texts; instead, attempts to understand literature "at scale" require facility with a set of skills not often to be found in the literary scholar's toolkit: a working knowledge of statistics; an understanding of algorithmic methods; a nuanced view of digital textuality; a commitment to computational modeling and experimentation. Though the obsolescence of close reading has been overstated -- very few scholars practice computational or "distant reading" without combining it with some form of close reading -- large-scale text mining has called into question some of the basic approaches to reading and interpretation that have been grounded historically in the materiality of the printed book and in the limitations of the human mind and body.

Franco Moretti, the leading proponent of "distant reading," has staked out a new formalism based within a Marxist perspective that begins with an attempt to keep the entirety of the literary marketplace in view. Moretti frames his practice of computational text analysis as a way of redressing absences in the canon. Unlike earlier movements in literary studies from the 1970s through the 2000s such as feminist literary criticism and postcolonial theory, which sought to expand the canon to make space for absent voices, Moretti argues that computational approaches allow us to escape questions of canonicity entirely by including all of literary history in our datasets (208). Using methods borrowed largely from the fields of computational linguistics and computer science, some of which dissolve what we think of as discrete texts into "bags of words" that can be searched via algorithm to find topics and concepts that are common across them, this kind of reading seeks patterns in the data to establish evidence-based arguments.[3] According to its advocates, such work, while clearly in an early and experimental phase, can help us discern, often for the first time, shifting concerns across great numbers of texts that span multiple periods. Computational analysis, in this view, can help us understand when a given topic became more frequently discussed; when and how a specific concept shifted in meaning; and how the plots or "shapes" of narratives have changed over time. For example, scholars such as Ted Underwood and Andrew Goldstone have explored past issues of *PMLA* to ascertain when literary critics began to pay more attention to issues of form and structure in literary texts ("What can topic models . ."). Peter de Bolla, in *The Architecture of Concepts*, has used co-location analysis -- the process of examining which words appear most often around other words -- to track the evolution of the concept of "human rights" during the eighteenth century. And Matthew Jockers has attempted to limn the "shape" of basic story plots using his text analysis package "Syuzhet" ("Revealing Sentiment").

Many practitioners of distant reading have embraced a model of hypothesis generation and experimental testing that has sometimes been critiqued as scientific positivism. In the chapter "Evidence" in his 2013 book *Macroanalysis*, for instance, Jockers discusses the scientific method and argues that "literary studies should strive for a similar goal" (6). Suggesting that "massive digital corpora offer us unprecedented access to the

literary record and invite, even demand, a new type of evidence gathering and meaning making" (8), Jockers argues that "what is needed now is the literary equivalent of open-pit mining or hydraulicking." Computational methods, he believes, have the potential to access "the deeper strata from which these nuggets were born, to unearth, for the first time, what these corpora really contain" (9-10).

Such rhetoric risks aligning literary studies too closely with the tech-addled fantasies of Silicon Valley in which increasing automation leads teleologically towards a better world. While the possibility of being able to analyze large swaths of literary production that have hitherto been lost to history is enticing, the computational models used in such work present multiple concerns. As Jeff Binder has noted, for instance, the popular practice of "topic modeling" tends to smooth out inconsistencies, privilege standardized language, and ignore subtle shifts in language-related norms over time -- such as the historically-contingent notion that words should have stable meanings ("Alien Reading"). To some extent, this kind of "smoothing" of a dataset is a necessary aspect of computational analysis, but it suggests that literary scholars performing computational analyses of digital texts will need to be extremely attentive not just to the computational constraints of their statistical models, but also to the epistemological implications of them.[4] The labor such work requires forms another kind of constraint; despite the availability of millions of digitized books, as of this moment the time, energy, and expertise required to convert existing corpora into the form a particular researcher needs to study a particular set of research questions is significant, and has the effect of skewing work in computational text analysis towards scholars with access to significant financial and institutional resources.

One danger of computational text analysis and a general reliance on data as evidence in literary interpretation is that the underlying assumptions not just of the algorithms, but of the data itself, may be ignored. Most practitioners of such methods are aware of the limits, assumptions and constraints of their data, and many explicitly share their data and explain their models as part of their publications -- it could be argued, indeed, that scholars performing computational text analysis hold themselves to a higher degree of argumentative transparency than is present in most literary criticism. And yet, the idea that data is in some way neutral or that it exists outside of interpretation persists; as Franco Moretti wrote in his influential *Graphs, Maps, Trees*, "quantitative research provides a type of data which is ideally independent of interpretations, I said earlier, and that is of course also its limit: it provides data, not interpretation" (9). As numerous scholars have argued, data is always historically situated and fully implicated in social and cultural milieu, especially (though by no means exclusively) around issues of race, class, and gender (see Gitelman; Earhart). If in some ways computational text analysis represents a return to formalism, these concerns remind us that the modality of the digital does not somehow automatically remove data from historical, social, and culturally situated practices, assumptions, and values. As computational text analysis practices mature -- and the work by Ted Underwood and Andrew Goldstone, among others, is notable in this

regard for its acknowledgement of the constructed nature of data and the situatedness of literary text analysis -- this tension will likely continue to be explored with increasing nuance.

Post-Critical Reading

If distant reading contributes to the field by opening up questions of the scale of evidence, "post-critical" reading practices suggest other ways that we might change our thinking about the nature of evidence. One major proposition about the way literary critics "read" today is that we have become professionally required to over-read or misinterpret. Our accustomed literary-critical prejudices and protocols, this story goes, lead us to read too deeply or too suspiciously, too pridefully and overweeningly; above all, it seems, our reading practices are too human. The protocols of literary reading have come to blind us to what the text before us really has to say to us. For some recent observers, those protocols are the habits of New Historicism, or of cultural materialism, or of Marxism, or of "ideology critique" generally; Foucault, Jameson, and other 1970s and 1980s adaptations of Freud, Marx, and Nietzsche bear much of the blame, recalling Susan Sontag's earlier argument in "Against Interpretation" (1964). In the words of Stephen Best and Sharon Marcus, these theories set the stage for a dominant phase of literary criticism that took the meaning of literature "to be hidden, repressed, deep, and in need of detection and disclosure by an interpreter" (1).[5] For some critics who agree with this characterization of the recent past of literary study, the answer is to move forward towards a "post-critical" reading practice. Some of these critics, like Jane Gallop (2007), seek a return to a time before a hermeneutics of suspicion came to seem dominant, looking backwards to the 1950s when close reading supposedly reigned; still others look even further back to excavate pre-professional models of reading from the nineteenth-century past (Buurma and Heffernan 2013). A search for alternative reading practices as a counter to this worry about overly deep, suspicious, or symptomatic literary interpretation has emerged as one thread of the discussion of reading-as-interpretation in recent years. What unifies them -- more than the rag-bag of methods they claim to displace -- is a sense, sometimes explicit and sometimes implicit, that full-blown "interpretation" opens us up to human error, and that "reading" is therefore a better model for what we should do to literary texts.

In their 2009 "Surface Reading: An Introduction," which opened a special issue in the journal *Representations* on "The Way We Read Now" Marcus and Best note the rising critical interest in "modes of reading that attend to the surfaces of texts rather than plumb their depths" (1-2). (The special issue evolved out of a conference titled The Way We Read Now: Symptomatic Reading and Its Aftermath, which took place May 1-2 at Columbia and NYU. The conference sought to grapple with responses to what it framed as the legacy of Jamesonian symptomatic reading, and included a keynote by Fredric Jameson himself.) Eve

Kosofsky Sedgwick's work on "reparative reading" represents some of the earliest and most exciting thinking in this strain. Writing in the late 1990s in an essay expressively titled "Paranoid Reading and Reparative Reading, or, You're So Paranoid, You Probably Think This Essay Is About You," Sedgwick suggests that the practice of a "hermeneutics of suspicion" in recent decades, while in many ways a "very productive" critical habit, has calcified into a critical orthodoxy. A default suspicious interpretive lens, she argues, can unintentionally limit critics' abilities to see the particular, and therefore to "unpack the local, contingent relations between any given piece of knowledge and its narratological/epistemological entailments for the seeker, knower, or teller" (*Touching Feeling*, 124). For Sedgwick, suspicious or paranoid reading becomes a problem when it is routinized or required; it such circumstances, it becomes a less sensitive instrument for discerning the operations of the literary or cultural text. For Sedgwick too, it is crucial that the hermeneutics of suspicion is suited to some context but not others; "the force of any interpretive project of *unveiling hidden violence* would seem to depend on a cultural context in which…violence would be depreciated and hence hidden in the first place" (*Touching Feeling,* 140). Sedgwick thus doesn't deny that diffused modern power might be operating beneath the surface of a text or cultural practice, structuring its surface; instead, she notes that an emphasis on the totalizing operations of power might strengthen forces we wish to dissipate or distract from the more pressing project of addressing the imbalances or injustices they produce. Sedgwick notably moves away not just from an interpretive method that reveals what is hidden, but from a metaphorics of visuality and visibility towards a collection of metaphors pitched toward other senses.

Other critics followed, defining literary criticism's interpretation problem variously, and offering various solutions. In *The Limits of Critique* (2015), Rita Felski, like Best and Marcus, identifies an over-emphasis on critique -- for her, identical to "the hermeneutics of suspicion" -- as the problem with literary criticism. Unlike Best and Marcus, however, she advocates for a turn to a wider range of affective responses to literature and an open realignment of literary critics with everyday readers. D.A. Miller -- whose earlier work *The Novel and the Police*, like Sedgwick's own *Epistemology of the Closet,* might be seen as itself as textbook "hermeneutics of suspicion" -- put forward an argument about returning to a newly "minoritized" close reading in *Jane Austen, or The Secret of Style* (2003). And Heather Love's work on practices of description in the humanities and social sciences in the second half of the twentieth century takes a different tack, shifting the weight of how we tell the story of literary study to emphasize past practices that sometimes have seemed preparatory or not central (Love, 2013). Like the computational critics mentioned above, with whom they might not immediately seem to have a great deal in common, these critics variously aim to restore a sense of objectivity, immediacy, or even-handedness stripped, they suggest, from literary interpretation by the forms of ideology, argument, and evidence favored by the New Historicists and cultural materialists of the 1980s and 1990s.

Histories of Everyday Reading

At the same time as algorithmic and post-critical scholars have recast literary interpretation as reading, the everyday practices of both everyday and professional readers have taken on new interest. Literary critics have turned to the methods of bibliography, history, and sociology in addition to literary-critical and literary-historical methods to ask how readers in the past and present have theorized and practiced reading. Bibliography and book history's familiar disciplinary focus on the material forms of books considered as objects has expanded to include accounts of the socially networked relations involved in the production, circulation, reading, and remixing of texts (McKenzie). And a new attention to the bodily, affective, subjective experiences of individual readers has accompanied this expansion (Gettelman, Ablow). Literary critics and historians have analyzed both fictional and non-fictional representations of readers and reading, investigated what people do with books aside from reading them (Price 2012), and have explored history of reading beyond the codex, from early modern ephemera to the Kindle screen, Twitter feed, and Word document (Kirschenbaum). Recent work in public journalism to digital sociology has speculated on and analyzed statistics about the impact that e-books and e-readers have had on lay and professional readers, while media theorists and historians are beginning to study the inter-digitation of print publication with digital forms of production, marketing, circulation, and consumption. And a new attention to how we pay attention to texts connects scholarship on distracted reading in the age of new media (Raley, Jacobs) to the discontinuous reading of early modern worshippers (Stallybrass) and the graphical reading practices of eighteenth-century consumers of fiction (Barchas).

The history of everyday reading, though it has developed as a very historical and materialist field, drew equally from high theory in its early days. During the later 1960s, 70s, and 80s structuralist and post-structuralist approaches inspired new ideas about readers and reading; in *S/Z* and *The Pleasure of the Text*, Roland Barthes theorized the reader along with Michel de Certeau's *The Practice of Everday Life* (1980; English translation 1984), while critics like Wolfgang Iser and Stanley Fish developed reader-response theories. In most of these writings, the reader was an ideal figure, imaginary being, or textual construct. During the same years, historians and literary scholars harnessed these theories to existing bibliographic work on printer networks, circulation statistics, and the material production of books to begin to develop evidence-based, theoretically sophisticated studies of how readers interacted with books as individuals and in groups.[6] The results included Janice Radway's groundbreaking sociological study of women romance readers, *Reading the Romance* (1984); Donald McKenzie's *Bibliography and the Sociology of Texts* (1986), Roger Chartier's *The Order of Books: Readers, Authors, and Libraries in Europe Between the 14th and 18th Centuries* (1994), Anthony Grafton's and Heather Jackson's work on marginalia, Jonathan Rose's *The Intellectual Life of the British*

Working Classes (2001), and Peter Stallybrass's work on the materiality of reading, and Elizabeth McHenry's *Forgotten Readers: Recovering the Lost History of African American Literary Societies* (Duke UP 2002). The writing of two historians -- Robert Darnton's 1986 "First Steps Towards a History of Reading" (1986) and Jonathan Rose's "Arriving at a History of Reading" (2004) -- marks the growth and flowering of the history of reading as an interdisciplinary field composed of work in history, bibliography, sociology, and literary criticism. Other recent, more purely quantitative work seeks to use reviews from GoodReads and Amazon to gauge reader response, while projects like The Reading Experience Database compiles records of reading derived from journals, diaries, published and unpublished letters, and other print and manuscript materials between 1450 and 1945.[7]

Students of reading have also turned back to investigate the history of the discipline of literary study, tracking continuities and discontinuities between past readers and our present literary critical practices. While some of the "post-critical" scholarship discussed above seeks alliances outside the profession of literary criticism, other recent work turned to the history of professional reading to learn more about the role of reading in the academic profession; Ann Blair's *Too Much to Know: Managing Scholarly Information before the Modern Age* (2010) has much to say about the history of technologies, note-taking, and memory aids used by professional readers, while Deidre Lynch's *Loving Literature: A Cultural History* (2015) investigates the way the imperative to "love" literature became lodged at the heart of professional literary work. Lynch's book also takes up another crucial (and sometimes sidelined) question about the goals of reading, pinpointing the historical moment when past literature transitioned from being read primarily by rhetors looking for models to draw on as they wrote new work to being studied by antiquarians eager to amass knowledge of a (national) literary history for its own sake.

In recent decades critics have become interested in how past writers and readers have represented readers and reading, particularly in the nineteenth-century, when rising literacy rates made reading a truly widespread activity. Kate Flint's *The Woman Reader* examines the gendering of reading in nineteenth-century texts; Patrick Brantlinger's *The Reading Lesson: The Threat of Mass Literacy in Nineteenth-Century British Fiction* (1998) looks at how novels internalized and represented the cultural threat they were sometimes thought to constitute; Matt Rubery interprets Victorian heroines' reading of newspapers in *The Novelty of Newspapers;* and Garrett Stewart examines in *The Look of Reading: Book, Painting, Text* (2006). Others, including Lisa Zunshine, Brian Richardson, and Blakey Vermeule, have sought to analyze the history and present of the cognitive dimensions of reading.

Deformative Reading

Computational text analysis is often premised upon scientific principles of experimentation that analyze large-scale textual corpora to uncover previously unknown, invisible, or under-remarked-upon patterns in texts across broad swaths of time. Known colloquially and collectively through the terms "distant reading, "macroanalysis," "culturonomics," and "cultural analytics," this approach is predicated on an empirical search for patterns within a corpus of texts. This approach tends to assume or assert that a computational model of a corpus of texts can act as a good-enough representation of those texts. Other forms of computational text analysis, however, have a rich history and are premised upon very different assumptions. "Deformation," or "deformative reading," for example, is a playful method that aims to deliberately *transform* the texts it engages. Deformative readers explore textual corpora not to unearth facts and patterns but rather to deliberately mangle those very facts and patterns, to interfere consciously with the computational artifact and to replace the imperatives of distant reading -- hypothesis and experiment -- with a new set of priorities that include alteration, randomness, and play. This form of research aims to align computational research with humanistic principles by laying bare the social, political, historical, computational, and literary constructs that underlie digital texts. And sometimes, it simply aims to highlight the profound oddities of digital textuality. This work, which has been carried on for decades by scholars such as Jerome McGann, Johanna Drucker, Bethany Nowviskie, Stephen Ramsay, and Mark Sample, has been called by many names -- McGann terms it deformative criticism, Johanna Drucker and Bethany Nowviskie call it speculative computing, and Steve Ramsay calls "algorithmic criticism." Though there are minor differences between all of these conceptions, they represent as a whole a form of computational reading (or mis-reading) that reject positivistic methods and embrace the humanistic values of ambiguity and play.

Early deformative reading practices developed alongside -- and in fact were sometimes deliberately indistinguishable from -- emerging forms of electronic literature in the 1990s and 2000s. In "Deformance and Interpretation," their 1999 piece published in *New Literary History*, Lisa Samuels and Jerome McGann outline their concept of "deformative criticism," a hermeneutic approach to digital textuality that seeks to analyze poetry by "expos[ing] the poem's possibilities of meaning" through techniques such as reading the text backward and otherwise altering and rearranging the sequencing of its words. "Deformative" moves such as these, McGann and Samuels argue, "reinvestigate the terms in which critical commentary will be undertaken" (116). Many critics working in this vein argue that deformance is in keeping with the principles of conventional interpretation, in that all interpretation reformulates the sources under discussion in the act of interpreting them. As Stephen Ramsay has put it, "any reading of a text that is not a recapitulation of that text relies on a heuristic of radical transformation" in which the critic has "paraphrased, elaborated, selected, truncated, and transduced" the source text (16).

Johanna Drucker extends this line of thinking about textual transformation in her work, writing that through "speculative computing" a text can be understood "not as a discrete and static entity, but a coded provocation for reading." Drucker notes that computational analysis, especially that of a deformative kind, contains "echoes of deconstruction . . . but shifted into problems of modeling and representing such activities within an electronic space" (20). Drucker situates her work within the traditions of the Situationist International, Oulipo, and "pataphysics" (25); she argues that speculative computing can create imaginary solutions and generative possibilities for meaning, rejecting along the way "the positivist underpinnings of the Anglo-analytic mode of epistemological inquiry" (27).

While deformance tends to emphasize its break with traditional literary criticism, others interested in text transformation emphasized continuities with earlier, non-computational literary-critical methods. Stephen Ramsay, in his work on "algorithmic criticism," shares Drucker's opposition to the rationalized, positivistic assumptions of the scientific method, embracing instead randomness and play. Ramsay argues that "the narrowing constraints of computational logic -- the irreducible tendency of the computer toward enumeration, measurement, and verification -- is fully compatible" with a criticism that seeks to "employ conjecture . . . in order that the matter might become richer, deeper, and ever more complicated" (16). Because the algorithmic critic navigates the productive constraints of code to create the "deformative machine" from which she draws insights, the "hermeneutics of 'what is' becomes mingled with the hermeneutics of 'how to'" (63).

Deformative reading may represent an important path forward for scholars who are intrigued by the promise of algorithmic tools but who wish to avoid engaging positivist models of knowledge generation. The use of such tools for deformative analysis helps escape some of the problems that humanities scholars have identified with digital tools -- namely, that involve the absorption of "a host of protocols for information visualization, data mining, geospatial representation, and other research instruments . . . from disciplines whose epistemological foundations and fundamental values are at odds with, or even hostile to, the humanities" (Drucker, 2012, 85-86). As Drucker argues, the "very assumptions on which" such tools have been designed suggest that "objects of knowledge can be understood as self-identical, self-evident, ahistorical, and autonomous ("Humanistic Theory"). Deformative readings, by contrast, openly and explicitly acknowledge of the socially constructed nature of information and embrace a spirit of play with digital artifacts.

The Contested Futures of Scholarly Reading

Over the last several decades, the study of reading has become a site where contests over the nature of scholarship and the role of the literary scholar play out in productive

ways. Some practitioners of computational corpus analysis (or "distant reading") claim that quantification is bringing a new rigor and focus on "evidence" to literary critical work. In other areas, literary scholars are exploring rich realms of readerly practice by revising, extending, and incorporating the taxonomic methods of fields such as book history, bibliography, and the sociology of reading. Meanwhile, the process of exploring theories of reading has helped scholars refigure their own role in the larger culture. When literary scholars today assert that they build and create as well as critique, and lay claim to their role in textual production as well as reception, they draw on new arguments about the function of the reader more generally. All of these efforts have centered around a fundamental question raising by the advent of new technologies: what are the limits, affordances, and utopian possibilites of human reading?

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[1] On reading as a metaphor or substitute for literary interpretation, see Leah Price, "Reading: The State of the Discipline" and Audrey Jaffe, *The Victorian Novel Dreams of the Real.*

[2] This expression of affiliation with wider reading publics also manifests in a trend towards academic literary critics writing about literature for a wider audience in online publications like *The Los Angeles Review of Books* and *Public Books*, a kind of writing that has come to be highly valued by some segments of the profession (if not by some university promotion and tenure committees).

[3] See Jeffrey Binder's "Alien Reading: Text Mining, Language Standardization, and the Humanities" for an in-depth description of how topic modeling works.

[4] As Jeff Binder notes, "a model that exactly accounts for every nuance of a dataset tends to be too complex to be useful--to take an image from Jorge Luis Borges, it is like a map that is as large as the territory it represents" (208).

[5] As Audrey Jaffe and others point out, however, the Best and Marcus position sets aside one Victorian mode of reading – the dynamic of secrecy and revelation – for another, the claim to strip away interested, biased interpretation to reveal an unsullied "reading" of a surface.

[6] It is important to note that studies of reading, often combining quantitative methods with qualitative work in archives, have a longer history; Q. D. Leavis's *Fiction And The Reading Public* (1932) and Richard Altick's *The English Common Reader: A Social History of the Mass Reading Public, 1800-1900* (1957) are two landmark examples.

[7] One example of work incorporating data from contemporary reviews is Stefan Dimitrov, Faiyaz Zamal, Andrew Piper, and Derek Ruths's "Goodreads vs Amazon: The Effect Of Decoupling Book Reviewing And Book Selling." See the Reading Experience Database at http://www.open.ac.uk/Arts/RED/