Data, Maps, Networks – Digital Approaches to Reading (in) Nineteenth-Century Literature

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Abstract

Recently, there has been a growing number of scholarly attempts to 'read' the 19th century either through digital methods or, more specifically as a precursor to contemporary digital culture. The practice of reading is a category through which the two dimensions of spending time *in* and *with* the nineteenth century can be thought together. A focus on reading, as a way to spend time in/with the nineteenth century makes us aware of both the knowledge systems and methodologies of accessing and processing information, both in literary texts of that period and simultaneously in our own work.

More specifically, my essay is interested in questions of 'readability' and the 'crisis of reading', as self-reflexively pronounced in two nineteenth century novels: Herman Melville's *Moby Dick* and Frank Norris's *The Octopus*. These novels, I argue, prefigure debates that are well-known to us and that materialize in the opposition between what Katherine Hayles has called "hyperreading" vs linear or immersive reading, between the New Critic's formulation of close reading and what Franco Moretti has provocatively called "distant reading", or the postcritical distinction between symptomatic and surface reading. By discussing different strategies of reading, the novels express the uncontrollability in view of increasing information environments. Yet, even if these webs of signification are elusive and at times dangerous, both novels, in a self-reflexive move, express a desire of writing the human reader into this web of signification and therefore to emphasize the significance of reading in an increasingly automated world.

Keywords: History of reading, nineteenth century US literature, information excess, media archaeology, data fiction.

1   In recent years, there has been a growing number of scholarly attempts to read the nineteenth century in connection with digital media, either by employing computational text mining and data visualization tools to nineteenth-century literature, by building digital archives to collect and make accessible large databases of nineteenth century texts or, more specifically, by tracing continuities between nineteenth-century cultural and technological debates and those of contemporary digital culture.

Overlaps between these three approaches attest to multiple and productive levels of conceptual and methodological interdependence. In the following I will identify three prevalent arguments for connecting nineteenth-century research with digital practices: 1) *the accessibility argument*, 2) *the continuity argument*, 3) *the recognition argument*.

2   These different dimensions of critical engagement reflect the twofold project of spending time 'in' and 'with' the nineteenth century, as implied in the title of this issue. They take into account both how we deal with historical data and how history can influence our perspective on the current moment. I will examine these shifting perspectives through a cultural practice that is particularly bound to media change, critical observation, and participation, namely that of reading. Reading serves as a cultural topos and an analytical category through which these two dimensions of spending time can be thought together: reading *in* the nineteenth century as an object of academic inquiry and reading *about* the nineteenth century, as a methodological tool of critical inquiry. A focus on reading, as a way to spend time in/with the nineteenth century, can reveal the interconnections between the knowledge systems and modes of accessing and processing information, between literary texts of that period and our own critical work.

3   In a third step I will scrutinize two epic novels of the nineteenth century, Herman Melville's *Moby Dick* and Frank Norris' *The Octopus*, as literary examples of self-reflexively negotiating conflicting practices of reading in the context of media change and epistemological uncertainty. I read these novels as paradigmatically demonstrating what it means to read in the nineteenth century and to critically (re-)read the nineteenth century from a twenty-first century perspective.

Accessibility of Nineteenth Century Digital Archives

4   Digital literary scholarship often turns to the nineteenth century for pragmatic reasons; I will refer to this as the (1) *accessibility argument*. Due to the lack of copyright restrictions and the profusion of nineteenth-century text material and resulting digital databases, nineteenth-century literature is much more accessible to digital humanities scholarship than that of the twentieth or even twenty-first centuries—even though the lack of machine-readable data and poor optical-character-recognition (OCR) reliability is still a problem in large parts of the corpus.

5   Digital humanities projects such as Ryan Heuser and Long Le Khac's semantic study on nineteenth-century British novels, the international collaboration *Oceanic Exchanges* that traces global information networks in nineteenth-century newspaper repositories, as well as Lincoln Mullen's *The Spread of U.S. Slavery, 1790–1860*, are just some examples of many fascinating computational approaches to nineteenth-century literary and cultural material, of which an increasing amount has been digitized and made accessible in digital archives. Online databases of nineteenth-century material include the [Walt Whitman Archive], the [African American Women Writers of the 19th Century], or subscription-based databases like the *Gale Primary Sources and*

Historical Documents. Apart from digitization projects and quantitative text analysis, however, the digital humanities also comprise another important field, one that Camille Roth has called the "humanities of the digital," which describes humanities' critical approaches to digital phenomena (616). This third field will be of particular interest to this paper, perhaps counter-intuitively, since to study the digital *in* the nineteenth century may sound anachronistic. Yet, the nineteenth century has become a prime source of interest for explorations in Science and Technology Studies and Critical Digital Studies, as exemplified by Maurice Lee's *Overwhelmed: Literature, Aesthetics, and the Nineteenth-Century Information Revolution*, Alan Liu's *Friending the Past: The Sense of History in the Digital Age*, Alexander Starre and Ruth Mayer's joint article "Media/Knowledge: American(ist) Epistemic Formats 1900/2000," and Sebastian Herrmann's work-in-progress *Data Imaginaries in the 19th Century*.

Continuities, Analogies, Precursors

6   One could argue that these studies do not focus on digital culture per se and follow a media archaeology approach, as defined by Erkki Huhtamo and Jussi Parikka as "challeng[ing] the rejection of history by modern media culture and theory alike by pointing out hitherto unnoticed continuities and ruptures" (3). Accordingly, a second reason the nineteenth century may be particularly interesting for digital studies perspectives is the *continuity argument*, one directly derived from a media archeological perspective. This is an argument that I myself have built on and developed during my research on the history of network concepts in US literature. Although the word "network" was not used as often as it is today, nineteenth-century literature can been regarded as the beginning of a network epistemology (scholars like Alexander Galloway, Hartmut Böhme, and Sebastian Gießmann would even locate the beginning of thinking in networks a lot earlier).

7   The nineteenth century saw a major boost in globalization with the proliferation of railroad infrastructure as well as communication technology, the rise of mass media, and the political formation and negotiation of the United States as a democracy. These developments initiated a discussion about interconnected structures, decentralization, expansion, and participation that have shaped the ways in which we talk about the global information age. Not only networks, but also for example knowledge and recording systems such as data collection and maps play a role in this context. Armin Nassehi, in *Muster: Theorie der digitalen Gesellschaft* has argued that recent advances in digitalization are embedded in sociocultural developments that ultimately lead back to the management of complexity in earlier epochs. In that sense, the development of public social statistics in the nineteenth century can be viewed as an early form of digital data management

8   Much nineteenth-century writing resonates with digital concerns. A large number of late nineteenth-century naturalist narratives, for instance, can be classified as 'data fiction.' They engage with the new data paradigm in the nineteenth century, brought

about by the rise of the social sciences and statistics that facilitated new advances in probability calculation and the nineteenth century desire for 'objectivity.' Ed Folsom claims that "Whitman's work – itself resisting categories – sits comfortably in a database" (1573). He sees a structural analogy between digital networks and Whitman's rhizomatic organization, his generic volatility, and his catalogue aesthetics. Both information and narrative, Maurice Lee holds, "are hard to disentangle," as they constitute crucial and complementary knowledge systems in nineteenth-century novels (1). Information, reaching a saturation point, had to be displayed and managed in new ways. It is not surprising, therefore, that the nineteenth century also saw a boom in data visualization in connection with statistical data mapping. Both the rise of statistics and innovations in data visualization and cartography lead to what Michael Friendly has described as the "Golden Age" of data visualization between 1850 and 1900 (13–14).

9   Notwithstanding the allure of tracing historical precedents of digital culture, the continuity argument risks oversimplification and reduction. Despite analogies in rhetoric, attitudes, and cultural responses, the nineteenth-century "information age" has its specific set of circumstances that cannot always be mapped onto the current age. Consequently, Lee warns that

> *the question of continuity versus change bears on all historical thinking but is especially weighty when assessing our digital revolution, which too often is viewed as a radical break. Proponents of continuity can go too far when they argue that daily newspapers are like the internet, or epistolary networks function like social media, or the telegraph is like Twitter. But nineteenth-century commentators believed that their era's vast productions of print and data would expand knowledge, increase efficiency, advance democracy, and enrich community life, even as they worried about information overload, unregulated communications, fake news, shrinking attention spans, and the decline of privacy. Our informational dreams and nightmares have a surprisingly deep past, for if physical pages are not digital texts and Poole's and Reuters are not Google, nineteenth-century discussions of information often feel familiar because they are part of a long revolution. (7)*

Recognizing the Present in the Past

10   Lee points to an important distinction, namely one between continuity and the experience of familiarity or, as I would phrase it, that of recognition. The nineteenth century speaks to us because it prefigures and paves the way for some of the technological debates prevalent today. Also, it serves as a comparative instance that both reminds us of (partly recurrent) social and cultural patterns of meaning-making vis-à-vis data-based epistemologies, while simultaneously bringing into sharp focus the particular nature of current debates. Nineteenth-century technological discourses, for example, were specifically connected with questions of empire (both in Europe

and the United States), religion (especially in the context of Transcendentalist thought), and democracy. Although these aspects certainly still play a role in current big data rhetoric, they do so in rather different ways and with unique implications. Therefore, a contrasting view reveals just as many important discontinuities between the nineteenth century and today as a perspective based on continuities.

11   When, in the following, I shift the focus from the continuity argument to the *recognition argument*, I do not suggest that they are unrelated. In fact, they contain several overlaps and interdependencies. The discovery that the rise of statistical thinking in the nineteenth century has in many ways foreshadowed recent self-optimization practices, for example, also leads to the realization that the political and cultural functions in these respective practices are dissimilar. After all, neoliberal optimization pressures did not influence the 'statistical self' of the nineteenth century to the same degree they do today. The continuity argument suggests that digital culture already has its starting point in the nineteenth century, a view proposed by Nassehi and others, while the recognition argument places more emphasis on the act and position of observation.

12   The recognition argument, then, assumes that even though the data world of the nineteenth century may be fundamentally dissimilar from that of the twenty-first century, a historical view may still help recognize certain practices and concerns as well as put individual experiences in historical perspective. For example, we can easily identify with the fear that one person cannot read everything that has been published, captured by this cartoon "An extensively read News paper" (Fig. I). We can witness how these experiences are renegotiated in digital media, as for example through questions about participation, information management, and individualism. The nineteenth century, it seems, speaks to us in a particular way, perhaps because it is similarly invested in the possibilities and precariousness of democracy, the vulnerabilities of the individual, as well as exhibiting a fascination and a growing skepticism toward empiricism and practices of quantifying subjective experience.

Figure 1: "An extensively read News paper," D. C. Johnson, 1834

Reading (In) the Nineteenth Century as Academic Inquiry

13   With an emerging book market and the rise of a mass readership in the nineteenth century, reading became one important form of leisure and a contested topic of discussion. Reading was situated at the crossroads of major political, social, cultural, technological, and aesthetic debates—in fact, not unlike today. Andrew Piper argues that the early nineteenth century not only saw an abundance of social practices and spaces around the book, but that this bibliographic culture was informed by a bibliographic imaginary contained within books themselves. Romantic narratives, Piper argues, reflect the discourses about book and reading culture in which they participate. Elements of both the continuity and the recognition arguments are evident in his analysis. Like Jerome McGann, who argues that the digital has made us rethink the history of books, Piper claims that

> *[M]any of the most pressing communicative concerns facing us today are not unique to the digital age but emerged with a particular sense of urgency during the bookish upheavals of the romantic age [...]. What did it mean to reimagine a literary work as residing not in a single book but as part of an interrelated bibliographic network? What was the cultural status of the copy and how did it relate to a larger reformulation of notions like novelty and innovation? What did it mean to process an existing yet largely forgotten cultural heritage from one medium to another? How was one to contend with the growing availability of writing, where such availability was increasingly understood to be a problem? Finally, what did it mean to imagine creativity as an act of intermedial making, as a facility with various modes of communication simultaneously? (7–8)*

Similar changes in communication and knowledge technologies in the digital age have given rise to numerous concerns, worries, and anxieties. Piper concludes that "by attending to communicative *practices* as well as technologies, then, we can begin to see not only that contemporary concerns with networking, copying, processing, sharing, overhearing, and adapting were also romantic ones, but that they came into being during the romantic age" (8).

14   As Karin Littau shows in her history of reading, such anxieties involved the fear of "bibliomania," of getting too involved in reading, as in too physically involved (5); of having too much stimulus in reading, as in sensory overload (46); and of course they included worries about the "wrong," namely female readers (20). Kate Flint and Belinda Jack have demonstrated how the figure of the woman reader has evoked strong anxieties within patriarchal society over the distribution of and access to power.

15   Such cultural anxieties about reading, many of which are mirrored in current discourses about information saturation (e.g. concerns over reading comics, digital media content, and playing computer games), expose the cultural norms and values that

underlie our media and communication systems. Simultaneously they produce their own normative systems of control. At times of immense media change, cultural reading anxieties often yield systems of what Lee calls "information management" (4). Just as we can see an increasing number of "reading guides" published in the past years, nineteenth-century authors, out of their concerns over the right way to read, issued recommendations for "good reading," as Ralph Waldo Emerson does in "Books" (53).

16   The related concept of 'readability' is widely discussed today, for example in linguistics, as a textual feature that determines the degree to which the text can be understood. As reader-response theory has argued, the readability of a text emerges not only from the materiality of the text itself but rather from the interaction between text and reader. Deconstruction, on the other hand, has emphasized the unreadability of texts by way of challenging the possibility of hermeneutics and pointing to misunderstanding as a possible condition of communication. Another dimension of readability emerges in discourses on machine reading. Machine readability presupposes a completely different set of requirements than does human readability, for example strict adherence to a formalized syntax that does not allow for any ambiguity.

17   One of the major questions about the future of reading is to what extent humans will still be part of the reading process. The question is often explored through the opposition between hyperreading vs. linear or immersive reading. In *Shallows: What The Internet is Doing to Our Brains*, Nicholas Carr warns against declining literacy that supposedly results from the decrease in immersive print reading and the rise of digital reading. Other critics regard media change as part of a natural evolution in the cultural practice of reading. To speak with Katherine Hayles, some of our resistance to both hyperreading and machine reading may be attributed to the high cultural value we as literary scholars have ascribed to *close reading* (56). Close reading, both in its elitist formulation by the New Critics and in the deconstructive reading practices of the 1970s, has come under attack by the proponents of "surface reading," as formulated by Stephen Best and Sharon Marcus and further developed by Rita Felski and Elizabeth S. Anker in their concept of "postcritique." 'Surface reading' critically reevaluates the 'symptomatic reading' of the past 30 to 40 years by taking into consideration the materiality of texts, their presences, and the role that affect plays in the reading process.

18   The implications of 'surface reading' largely resonate with current debates on 'distant reading.' Proclaimed by Franco Moretti as a data-driven form of literary analysis, distant reading moves away from a hermeneutic, qualitative understanding of texts toward quantitative, correlation-based recognition of patterns. In the liminal space between data and narrative, however, meaning-making is still largely dependent on human interpretation. Or, as Hayles puts it,

> *Rather than natural enemies, narrative and database are more appropriately seen as* natural symbionts. *[…] Because database can construct relational juxtapositions but is helpless to interpret or explain them, it needs narrative to make its results meaningful. Narrative, for its part, needs database in the computationally intensive culture of the new millennium to enhance its cultural authority and test the generality of its insights. (176)*

Reading is always intricately connected with technology. This may be why at times of massive technological change, the *cultural* practices of reading are under immense scrutiny and pressure. Media change can issue an acute sense of threat to the repositories, practices, and values attached to established cultural orders because the question of readability touches upon a fundamental connection between ourselves and the world and on our agency to act upon this world.

The Failures of *close reading* in Melville's *Moby Dick*

19   Let me turn to two nineteenth century novels that both, although in different ways, reflect on their own readability, specifically by negotiating the relationship between narrative and data—a debate that resonates with recent discussions on the role of *close reading* in an age of big data and computational literary studies. Melville's *Moby Dick* and Norris' *The Octopus* reflect the emergence of the information society through their encyclopedic form. *Moby-Dick*, in particular, invites multiple and contradictory readings, thereby revealing the insecurities of nineteenth-century reading practices. As critics have noted, the novel's length and its formal unmanageability are captured in the image of the large, obscure animal. So it makes sense that the novel's narrator Ishmael, in his quest to locate the whale, turns to books before he embarks on the *Pequod*. Reading the whale becomes both a nautical and an intellectual matter. "I have swam through libraries and sailed through oceans," Ishmael declares (116) as he ponders his preparation to come to terms with this creature. The ocean can be seen as as analogy to big data masses, endless, elusive, open, requiring careful navigation, indeed expressing what might be taken as a concept of information technology in terms of maritime imagery.

20   *Moby Dick* is about the difficulties, complexities, and the failure of (its) reading. Its venture of finding the whale is simultaneously an exploration into the potentials and pitfalls of different modes of reading. Ishmael's bureaucratic method of reading the whale through classification systems is ironically commented on in the meticulously detailed "Cetology" chapter. This chapter is not narrative, it *is* a database, a potentially open-ended list of whale types and body parts. Samuel Otter, in an essay programmatically called "Reading *Moby Dick*," suggests that the novel self-reflexively asks us "to consider what kind of a book it is" (69), and that the "Cetology" chapter, with its references to whale parts as "books," is equally a reflection on the material conditions of knowledge systems and the complexities of definitions and classifica-

tions (70). According to Lee, the lists and classifications in *Moby-Dick* add to its "untamable aesthetic" that functions to "mock […] efforts to understand the world through systems, taxonomies, and facts" (1). It nevertheless puts the reader under pressure through its sheer abundance of information. Both information and narrative, Lee holds, "are hard to disentangle," as they constitute crucial and complementary knowledge systems in this novel (1). Lee's revisionist argument reputes the often held assumption that literariness is quite distinct from information:

> *Neither of these domains is internally coherent: interpretation and immersion can inhibit each other; bureaucracies are often opaque. Nor are they mutually exclusive: beauty can be instrumental; data spark feelings and intuitions. Much of what follows challenges hard distinctions between the literary and the informational, in part because differences between the two are less about ontological status (for instance, the type of text in question) and more about modes of understanding and practice (how we think about and what we do with a text). To say that the literary and the informational are porous, overlapping, and contingent is not to deny meaningful distinctions between them but rather to suggest that their relationship is most productively approached, not with formal analysis and brightly lined categories, but through the messy work of history. (4–5)*

21   The difficulties that many readers face when reading the novel are paralleled by Ishmael, who in his retrospect narration still is not able to produce a coherent narrative. Having gone into all possible details in describing the whale, Ishmael still feels overwhelmed: "How, then, with me, writing of this Leviathan?" he asks (349). The problem seems to be mainly one of scale. The whale is too big to be represented as a whole, too large to be summarized. In that respect, the whale-as-a-text also has to be large, extensive: "Such, and so magnifying, is the virtue of a large and liberal theme!" (349). Ishmael understands that abstract systematization and analytical atomization, as performed in the "Cetology" chapter, prevents him from seeing the whole thing. A mighty topic such as the whale may require a reading at a different scale. Perhaps, the sea even requires a form of distant reading. "The Mast-Head" chapter extensively discusses a detached form of reading, from the highest point of the ship:

> *There you stand, a hundred feet above the silent decks, striding along the deep, as if the masts were gigantic stilts… There you stand, lost in the infinite series of the sea, with nothing ruffled but the waves. … For the most part, in this tropic whaling life, a sublime uneventfulness invests you; you hear no news; read no gazettes, extras with startling accounts of commonplaces never delude you into unnecessary excitements. (133)*

22   Reading the sea from a distance allows for abstraction but also, perhaps, a fuller view of oneself. Individual data are irrelevant, as larger patterns emerge and allow for a

more complete picture. Melville evokes the Romantic sublime here, but the chapter also mocks the possibility of a sublime self-experience. Ishmael satirically describes how the detached perspective can actually be isolating and deceptive:

> *Lulled into such an opium-like listlessness of vacant, unconscious reverie is this absent-minded youth by the blending cadence of waves with thoughts, that at last he loses his identity; takes the mystic ocean at his feet for the visible image of that deep, blue, bottomless soul, pervading mankind and nature. (136)*

The personal risks inherent in the mast-head view might be taken as a critique of distant reading. Melville's ironic commentary prefigures William Davis's diagnosis of the "data sublime," the awe and excitement we experience when faced with quantitative magnitude, which ultimately creates the false security of self-control. The distant reader, in *Moby Dick*, buys into the illusion of seeing everything, mistaking models for reality, by neglecting the ocean's depths that are only visible from a closer perspective.

23   Captain Ahab, in contrast, favors a different mode of reading data. In Chapter 44, "The Chart," Ahab studies a map in order to locate the whale through careful calculation. The narrator, half-mockingly, half-amazed, remarks that

> *to any one not fully acquainted with the ways of the leviathans, it might seem an absurdly hopeless task thus to seek out one solitary creature in the unhooped oceans of this planet. But not so did it seem to Ahab, who knew the sets of all tides and currents; and thereby calculating the driftings of the sperm whale's food; and, also, calling to mind the regular, ascertained seasons for hunting him in particular latitudes; could arrive at reasonable surmises, almost approaching to certainties, concerning the timeliest day to be upon this or that ground in search of his prey. (167)*

Ahab's empirical, data-driven reading of the whale relies on the principles of probability and approximation. The whale becomes a data point in the competing flows of the elements, all of which can be anticipated and visually represented. Ahab's calculation is not exact, his reading of the whale can only be an appropriation, but it seems good enough—at least, he manages to eventually locate the whale with this method.

24   Yet, just like the typological and the distant reading of the whale, the mathematical reading still fails. In the end, Ahab may have found the whale (or the whale has found him) but he has not *understood* the whale, its autonomy, its will. For all the critical evaluations of different reading practices, the novel only offers one small possibility for successful reading. In Chapter 68, "The Blanket," Ishmael describes the consistency of the whale's skin as "an infinitely thin, transparent substance" (245) that, in dried form, he uses as bookmarks for his whale books. Again, he draws on

the figure of the whale as a book when he remarks that "it is pleasant to read about whales through their own spectacles, as you may say" (245). This kind of reading is a particular form of close reading, one could say. It is a reading that is deliberately mediated: you cannot get beyond the skin of both whale and book, both of which contain mysterious markings. But at least the medium is informed by the materiality of the object of inquiry. The simultaneity of both material immediacy and mediated abstraction yields a more balanced approach to reading the whale, a reading that is aware of the limits of its own scope and method.

Frank Norris' *The Octopus* and the Illegibility of Data

25 Frank Norris' *The Octopus* features a protagonist, a young poet named Presley, who lives with the wheat farmers of the San Joaquin valley in California in order to write the "great poem of the West" (40). Yet, he fails to do so, as he cannot quite grasp the vastness of the West—a problem that can be described as one of navigating different scales of knowledge.[1] I argue that the question of scale, and of being able to traverse between data and narrative, also influences the reception of text. As Martin Lüthe argues, *The Octopus* can be read as a novel about an emerging mass media and the rise of a networked media capitalism. It therefore makes sense to read *The Octopus* as a novel about the question of readability. In Norris's novel, the question of individual agency is strongly dependent on the ability to read and therefore act upon the abstract forces of corporate power.

26 The central conflict of the novel, the struggle between the wheat farmers and the fictional P. and S. W. railroad corporation over freight rates, is in fact carried out initially through the mediated practice of reading documents. That the farmers only very rarely communicate directly with the railroad but rather do so through text reflects the corporation's level of abstraction. Mark Seltzer has called this "the naturalist machine" (25), a self-propelling automaton that is literally intangible and—I would argue—unreadable. In a meeting of the farmers, Magnus Derrick provides the latest newspaper and legal documents about the freight rates:

> *"The conditions of settlement to which the railroad obligated itself are very explicit."He ran over the pages of the circular, then read aloud:*
> *"'The Company invites settlers to go upon its lands … and intends in such cases to sell them in preference to any other applicants and at a price based upon the value of the land without improvements,' … And here," he commented, "in Section IX. It reads, 'The lands are not uniform in price, but are offered at various figures from $2.50 upward per acre… Usually land covered with tall timber is held at $5.00 per acre, and that with pine at $10.00. Most is for sale at $2.50 and $5.00."*
> *"When you come to read that carefully," hazarded old Broderson, "it – it's not so very reassuring. 'Most is for sale at two-fifty an acre,' it says. That don't mean 'all,' that only means some." (117–18)*

This passage illustrates the problem of reading, of close reading, as a means to individual empowerment. The farmers collectively read the pamphlets issued by the railroad and interpret its meaning. The text allegedly provides very "explicit" data about prices on the surface, but the railroad corporation masks its deceptive strategy through an overwhelming use of information that requires practices of scanning rather than of close reading. The data are not connected within a clear narrative but rather diffused in legal language that distracts from and at the same time retains its own power. The shift between specification and vague generalization combined with the text's grammatical use of the passive voice leaves the readers uncertain about responsibilities, procedural expectations, or agencies. The text almost reads itself, rather than being read by the farmers, as the large amount of data afford an automated process of machine reading. The reading process is automated, as the text specifies quantities in a manner inimical to the qualitative experience of human reading. The farmers, however, see through the deceptive strategy of the corporation. Broderson's call for a closer look turns into suspicion of the real intentions of the railroad. However, it does not really help to remove the ambiguity of the text, nor does it change the power relations or give him agency. One of the farmers, Annixter, learns later on that the corporation will not sell him the land at all—no matter whether or not he has read and/or understood the text. The real problem is not the intelligibility of the text but the intelligibility of the corporation.

27   Like other naturalist texts, *The Octopus* reflects the emerging scientific data paradigm in ambiguous ways. Norris's characters are eager to access data, yet they are frustrated by the unattainability of knowledge through reading data, particularly because the data seems unreliable. At the same time, the narrative that the farmers derive from the data is not very reassuring either because it is just as insubstantial and disembodied as the data itself. The farmers are not in a position to turn data into a meaningful narrative. They only get a sense of suspicion regarding the readability of corporate complexities. Ultimately, the farmers' inability to read the corporation leads to their obsolescence and even death.

28   There is one small glimpse of hope in the novel, though. In a self-reflexive manner, *The Octopus* also envisages the text's potential to empower individuals. When Presley dismisses his plan to write the great poem of the West, he instead writes a poem called "The Toilers," a political poem about workers, about the people rather than about an abstract ideal. Presley's friend Vanamee urges him that "'The Toilers' must be read *by* the Toilers. It *must* be common" (377). This comment frames the issue of readability as a fundamentally political one that has to do with distribution and address. The question of "who can read this," for Presley, as for the Progressivist muckraker Norris himself, eventually comes down to the question of "who has access to read this"?

29   Though individual characters have restricted access to knowledge, the novel does provide the narrative means for readers to bring systemic abstraction down to the

level of individual experience. Arguably, it is *not* Presley's Romantic concept of subjectivity that manages to render the experience of the West but dramatization provided by the novel itself. By providing one, character-driven means to transform data into narrative, *The Octopus* demonstrates to its readers that it can provide the 'larger view' that Presley, in the beginning of the novel, so desperately seeks. If Presley's toilers and Norris's readers are at able to retain agency in the face of increasingly inscrutable information, it is because they are able to retrieve *literary* knowledge that allows them to both connect and move beyond the limited scale of their own experience.

Moby Dick and *The Octopus* as Novels of the Information Age

30   Both Melville's *Moby Dick* and Norris's *The Octopus* address the anxiety of losing control in view of large-scale abstract information systems, both of which are naturalized in the form of giant sea creatures. These 'data kraken,' to employ a current metaphor used to describe the overpowering nature of data systems, in many ways enter and determine the outcome and aesthetics of these texts. By discussing different strategies of reading, the novels are almost postmodernist in exposing their own indeterminacies. Although the narrators cannot control the respective narratives they create, they can still resist being completely engrossed–perhaps because they are able to turn data into narrative. Even if the data kraken are elusive and at times dangerous, both novels, in their own self-reflexivity, write the human reader into the textual networks and therefore to emphasize the significance of reading in an increasingly overwhelming flood of data.

31   Nevertheless, neither novel can be described as accessible. Although, in *Moby Dick*, Ishmael manages to tell his story, it is largely inconclusive, fragmented, eclectic, excessive, and overwhelming. Thus the narrative performs the very information saturation that it depicts. Similarly, *The Octopus*, in its large scope and its information-laden style, is difficult.

32   The nineteenth century crisis of reading and readability can teach us a lot about media change in that era, but it also reveals the historical roots of current media discourse. It can urge us to read both the nineteenth century and the current age in conversation with each other. There might be risks involved in such projects, of course, risks of too hasty projections and of clumsy analogies. Just as quantitative reading practices involve risks of inaccuracy and misconceptions, the specific forms of distant reading I have proposed here might lead us astray—but they might also help us discover unexpected patterns, networks, and narratives that have gone unnoticed at a smaller scale.

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Notes

[1] For the question of scale in *The Octopus* see Lewis. See Dorson for a discussion of scale in the context of the novel's negotiation of monopolies.

About the Author

Regina Schober is Professor of American Studies at Heinrich-Heine-University Duesseldorf. She is author of *Unexpected Chords: Musicopoetic Intermediality in Amy Lowell's Poetry and Poetics* (Winter, 2011) and co-editor of *Network Theory and American Studies* (with Heike Schäfer and Ulfried Reichardt, *Amerikastudien/American Studies*, 2015), *Data Fiction: Naturalism, Narratives, and Numbers* (with James Dorson, *Studies in American Naturalism*, 2017), *The Failed Individual: Amid Exclusion, Resistance, and the Pleasure of Non-Conformity* (with Katharina Motyl, Campus, 2017), and *Laboring Bodies and the Quantified Self* (with Ulfried Reichardt, 2020). She recently completed a book manuscript entitled *Spiderweb, Labyrinth, Tightrope Walk: Networks in US-American Literature and Culture*. She was assistant professor at Mannheim University and visiting scholar at the University of California, Santa Barbara. Her research interests include literary and cultural negotiations of networks and data, critical digital humanities, cultural negotiations of failure, theories of intermediality and adaptation.

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