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Dissertation Prospectus

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Clouds, Graphs, and Maps: Distant Reading and Disciplinary Imagination

In his 2005 Lyman Award lecture, John Unsworth, Dean of the Graduate School in Library and Information Science at the University of Illinois, issued a call for new methods in humanities research. Unsworth briefly differentiates *applied* research and *basic* research before concluding, with an air of optimism, that research in the humanities should be thought to fold together the two types, integrating them as speculative, experimental means of dealing with complex problems. Unsworth's lecture is significant to the project I propose in the following prospectus because it marks an opening gesture in what has been a relatively recent surge of interest in the use of computational methods for the reconstitution of large-scale textual collections. Unsworth argues persuasively that the new methods he calls for contribute pragmatically, enhancing processes that humanities scholars often undertake already, such as the tracing of terms and concepts. Furthermore, such methods contribute theoretically as well, yielding abstract models that, in and of themselves, stand to add conceptually to our knowledge and understanding of patterns and anomalies across a given set of texts and related phenomena. These new methods, then, complement work processes already common in the humanities, while also offering a productive intervention into the more conventional ways of conducting research in the humanities. Unsworth's call presents scholars in Rhetoric and Composition with a particularly timely and salient opportunity: what might we *do* with these methods? And why?

With these open-ended provocations as its starting point, the dissertation I propose couples Unsworth's call for new methods with an impetus drawn from a related project, Franco Moretti's *Graphs, Maps, Trees*. Like Unsworth, Moretti builds a case for the new forms of knowledge generated by abstract visual models; he accounts for these methods under the general heading of "distant reading", "where distance is however not an obstacle but a specific form of knowledge: fewer elements, hence a sharper sense of their overall interconnection" (1). Moretti selectively pairs each type of abstract model with an explanation of the forms of knowledge produced by their integration. Graphs correspond to historical trends; maps render visible geographic locations and geometric relationships; and tree structures explain stylistic evolution.

Unsworth and Moretti approach these methods from the standpoint of literary studies. Their respective arguments for an expanded set of methods for apprehending patterns across texts are grounded in examples demonstrably aligned with the study of literary texts: novels for Moretti; poetry for Unsworth.

In this dissertation, I will attempt to adapt the new methods proposed by Unsworth and executed by Moretti, as well as other researchers, to a well-known corpus in the field of Rhetoric and Composition: *College Composition and Communication*. By developing abstract visual models grounded in the data produced using text-mining and data-mining processes, I argue that we might mobilize an expanded set of heuristics useful for generating knowledge about patterns in the field and also useful for revisiting existing claims about the stabilization and maturation of the discipline since its modern inception more than 50 years ago. To this end, the dissertation will provide a theoretical basis for distant reading methods applied to *CCC*, and it will present a set of abstract

visual models based on clouds, graphs, and maps. This dissertation will also account for implications of distant reading in terms of network sense, the preservation of generalist-scholars, and the relevance of these methods to digital writing pedagogies.

Disciplinary Contexts

If we understand distant reading as a set of practices that allow us to account for emergent and non-obvious patterns across complex sets of phenomena, it has for some time been a part of most academic fields and intellectual pursuits, no doubt. However, because I want to account for a specific set of distant reading practices that combine computational methods, discipline-based data-sets, and abstract visual modeling, I want to differentiate commonplace understandings of distant reading as a generalized or widened perspective from more recent developments, including Moretti's research, which make use of digital technologies for deriving patterns and integrate rigorous theoretical perspectives.

Few scholars other than Moretti have used the phrase 'distant reading' deliberately to name methods involving the production of abstract visual models as new forms of knowledge. As a result, I will account for disciplinary contexts by turning instead to related concepts and a sampling of the most striking disciplinary conversations for this project.

One recognizable starting point for scholars in Rhetoric and Composition as well as those in English Studies more broadly is the New Critical predilection for *close reading*. In the recent *College English* Symposium on "What Should College English Studies Be?," Don Bialostosky expresses skepticism at the New Critical variety of close reading, noting that it causes students to "distrust their initial uptake and sense of how to

respond" to a text (112). Rather than positioning distant reading as a polar opposite to close reading, however, I will instead suggest the need for a more comprehensive approach to differential reading methods. That is, just as Bialostosky seeks to "open a space for considering alternatives to New Critical close reading" (113) motivated by "productive attentiveness" to texts, so must distant reading remain pliable, open to the pragmatic and theoretical needs that will shape these methods in years to come.

Building upon Bialostosky's call for a corrected record of close reading methods, I will furthermore explain the distinction between close reading and distant reading by contextualizing these practices in terms of hermeneutics and heuristics. I have chosen this framework because I want to advocate an approach to distant reading methods that moves beyond its utility for interpreting texts. That is, much in the same way Bialostosky urges "productive attentiveness" and "critical reading," I want to frame distant reading as a productive, generative, and heuristic set of methods and abstracting practices. Without polarizing hermeneutics and heuristics, instead I want to explore the potential in these concepts as they might help explain the multiple uses of distant reading for scholars in Rhetoric and Composition. To ground my use of 'hermeneutics' and 'heuristics,' I will turn to scholars such as Richard Palmer, Paul Ricoeur, Janice Lauer, Arabella Lyon, Carol Berkenkotter, Gregory Ulmer, and Ann Berthoff.

A second pivotal concept that serves to orient the visual modeling aspects of this work is Johanna Drucker's "Graphesis". Graphesis, Drucker explains, involves "visual epistemology" which "has to be conceived as procedural, generative, emergent, as a co-dependent dynamic in which subjectivity and objectivity are related" (2). Rather than relegate abstract visual models to the domain of positivism, Drucker articulates a "critical

framework" that hybridizes visual epistemology, urging caution against too hastily aligning such work with either the arts or the sciences. Although Drucker does not occupy a central role in the disciplinary commons of Rhetoric and Composition, her work on graphesis is especially significant when read alongside Michael Pemberton's 1993 CCC essay, "Modeling Theory and Composing Process Models." Pemberton offers a brief gloss of the history of graphical aids to theory building in the sciences; he also revisits resistance to cognitive processing models of composition (Flower and Hayes) primarily on the basis that process models risk "seriously falsifying the inherent complexities of writing behavior" (41). While chronicling the checkered reception of writing process models, Pemberton also notes that "[c]omparatively little attention has been paid . . . to the issue of modeling in composition studies, despite its central role in the interpretation of research data and the sheer number of models which exist to describe writing behaviors" (42). Models, as Pemberton frames them, can serve as mediators, helping us work among data and broader, more abstract conceptual frameworks, such as theories and paradigms.

Although Pemberton is primarily concerned with the reception and critique of cognitive processing models for composing, his analysis, despite being fourteen years old, leads to relevant questions for thinking through distant reading and abstract visual modeling: historically, how has Rhetoric and Composition responded to the modeling of processes, situations, activities, and concepts? And how are new and emerging technologies challenging us with an ever more available means for the proliferation of multiple, coordinated suites of models and model-making tools amenable to a wide variety of customizations? To investigate these questions, I will start by re-examining

select models with demonstrable relevance to field, such as Kinneavy's discourse triangle and Flower and Hayes' process model, as well as the disciplinary conversations they incited. I will also explore selected technologies amenable to the development of abstract visual models.

In an effort to trace the reception of particular models in Rhetoric and Composition, I intend to introduce yet another layer of qualification by discussing the applicability of a third concept: abstraction. In "Writing Offshore: The Disappearing Coastline of Composition Theory," Cynthia Haynes seeks to "maneuver us in a different direction" by calling for a rejuvenated role for abstraction and its many paradoxes. Rather than settling for purely argumentative, rationalistic discourse, Haynes would have us branch out beyond reason alone as the ground for all writing pedagogy. She invokes Ann Berthoff's discussion of the ladder of abstraction in "Abstraction as a Speculative Instrument," a 1986 article which gets at the "hazardous" (228) quality of abstraction and its mixed reception in the field. Haynes' discussion of Berthoff's work on abstraction is relevant to this dissertation because distant reading is motivated by the production and circulation of *abstract* visual models, which, as we know from Drucker, must avoid presumptions of objectivity and instead remain open to abstraction or, in Berthoff's words, to the "poetic, expressive, personal, creative, affective, right-brain, non-linear, and holistic activities, behaviors and operations" (228). Because her ideas influenced Berthoff, Susanne Langer's work in *Philosophical Sketches* and *Feeling and Form* will also inform my discussion of abstraction.

To further support a patient, nuanced theorization of distant reading, the concept of scale or scalability also plays a significant part. Pemberton introduces a simple figure

to explain scale in his discussion of modeling theory; his line graph polarizes the local and the global, where the local is partnered with data and the global is matched with paradigm. Models and theories, according to his linear scale appear near the middle, in the space where such things mix together and form hybrids. In a similar effort to address problems of scale, Bruno Latour, in *We Have Never Been Modern* and *Reassembling the Social*, withdraws from the over-simple distinction between the global and the local. For Latour, attempts to account for scale are improved by a deliberate effort to flatten out matters while also recognizing that, whatever the scale, actors (subjects, objects, and events) are local at all points. Even when studying relationships, the entities themselves are always local or must be understood as such.

Scale is also relevant where this dissertation examines mapping as a distant reading method, for in geography, scale is ordinarily set up as a mathematical ratio between an abstract unit of measurement on the map and its relative unit of measurement in the space represented by the map. Cartographic conceptions of scale and scope, such as those overviewed by Mark Monmonier in *How To Lie With Maps*, will be useful for clarifying the meanings of these terms as they apply specifically to the abstract visual models generated by methods of distant reading.

Because this dissertation makes a case for distant reading as a set of abstracting and visual modeling practices, this work involves a methodology that is, by nature, both exploratory and applied.

In more grounded terms, the methodology draws on text-mining, data-mining, bibliometrics, and the quantification of raw data derived from *College Composition and Communication*. These methods, however, are inseparable from the production of the

clouds, graphs, and maps that serve as the bases for distant reading in the application chapters, or chapters three through five. Furthermore, where methodology is concerned, I will be incorporating theoretical perspectives to buttress applicable conceptual rationale and frameworks. By way of analysis, I will be examining arguments made about the nature of the discipline and discussing the basis for such claims. These and other strategies define the project methodologically, albeit from a speculative, anticipatory starting point.

Implicitly, this dissertation offers a mild form of critique of the discipline at-large as it calls attention to sketchy and irregular treatments of data and methods for collecting, assembling, and rendering accessible ordinary data related to programs, professional affiliations and memberships, conferences, graduation rates, job placement, course offerings, and so on. Because methods of distant reading rely upon field-wide data, the limited availability of such resources is somewhat magnified by these efforts. By implication, this dissertation argues for an improved set of disciplinary databases—shared, accessible stores of data that would function as a resource for a wide variety of research ventures, including distant reading methods.

This dissertation is significant because, while modest in its scope, it enacts a set of methods that have yet to be employed systematically in Rhetoric and Composition. Journals in the field continue to offer web sites that merely mirror the content of the print version of the journal. However, by adopting methods of distant reading, the digital interconnection of all of the field's journals would bear a tremendous addition to the bases for claim-making about the field. Beyond matters of disciplinarity, the production of these knowledge models—in the form of clouds, graphs, and maps—stands to

reconfigure many of our most basic presumptions about what it means to conduct text-based research and what is involved in presenting text-based research beyond strictly discursive modes of representation.

While the methods themselves are new and significant, so too are the ideas I am proposing related to network sense and the suitability of distant reading to the continuation of generalists in the field (an idea I credit to Louise Phelps in the qualifying exams defense). Much conversation has been played out in recent years using the ever more commonplace term "network", and yet, I would argue that we have considerable work to do before the casual references to networks as connective phenomena catch up, in practice, with our own research, writing, and teaching sensibilities. In other words, while there has been much hullabaloo about networks, I see the need for still more work on this front, and I think distant reading and the associated abstract visual models present promising alternatives for materializing network phenomena across various scales in such a way that we and our students will better understand the immense importance of the tracing of associations, which is more possible now, given digital technologies, than it has ever been before.

Chapter Abstracts

I. A Theory of Distant Reading for Rhetoric and Composition

This chapter offers an overview of the dissertation, building upon the concepts of distant reading and related methods used to construct abstract visual models. Following Unsworth's call for new methods, we have an opportunity in Rhetoric and Composition to examine these methods, experiment with them, and trace out the paths of inquiry they open for us. Taking as its impetus Franco Moretti's work in *Graphs, Maps, and Trees*,

and also the research currently underway with the NORA Project, the opening chapter will describe existing projects in the humanities that employ distant reading methods and then discuss, through a series of questions, just what such methods might contribute to our understanding of the discipline.

Chapter one will also account for selected claims made about the discipline and examine the forms of evidence used to substantiate such claims. Doing so, however, is not meant to suggest that distant reading is a save-all method to absolve all other methodological quandaries; rather, offering a sampling of claims about the discipline and an examination of the evidentiary bases for such claims will serve as a justification for the complementarity of distant reading and abstract visual modeling to existing techniques for inferring patterns, trends, and propensities in the discipline. Furthermore, rather than reducing distant reading and abstract visual modeling practices to a mode of representation, I will argue for an understanding of these practices that conceives of them foremost as heuristic. Distant reading and abstract visual modeling should be generative and inventive, mobilizing scholars into emerging lines of inquiry rather than serving only as a different way to represent and interpret data pertinent to the field.

II. Disciplinary Patterns: Abstraction, Modeling, and Scalability

The second chapter snakes through four conceptual labyrinths. This is the place where I intend to pin the work of the dissertation to particular concepts while incorporating the scholarly precedents for such thinking. Four concepts will be surveyed in this chapter: abstraction, visual modeling (graphesis), scalability, and patterns. I will approach each concept in terms of scholarly precedents and its significance for the specific distant reading methods I apply in chapters three through five. For abstraction, I

will begin with an analysis of the function of the article abstract as a precedent for distant reading. Article abstracts, as an underexamined genre, offer a concentrated version of the article. They are not meant as a substitute to the article; however, their presence is seldom questioned and never presumed to detract from the importance of reading the scholarly article itself. As this chapter progresses, I anticipate turning from a discussion of article abstracts to a discussion of *abstraction* as it is theorized by Susanne Langer, Ann Berthoff and Cynthia Haynes, and as a set of conceptual, theoretical practices that explore shifting frames of reference. Haynes argues that the field has a tenuous relationship with abstraction. What does this mean for the deliberate production of abstract visual models?

Next, I intend to account for the relevance of visual modeling to methods of distant reading. I plan to introduce visual modeling through the work of Johanna Drucker in her essay, "Graphesis," and also through the work of Edward Tufte, whose approach to information design is decidedly rhetorical and objectivist (much like the C-B-S communication model derided by Lanham). To conclude this chapter, I will discuss the concept of scalability, read through Pemberton, Latour, Anderson, and resources from geography, such as MacEachern and Monmonier. Finally, I will account for the concept of pattern, read through Moretti and Tyler Volk, as an over-arching premise that knots the other three together, merging them as a basis for distant reading. These four concepts—abstraction, visual modeling, scalability, and pattern—I contend, are imperative for the employment of the new methods corresponding to distant reading.

Chapters three through five are organized according to the three types of abstract visual models demonstrated in this dissertation: clouds, graphs, and maps.

III: Clouds: The Discipline as a Confluence of Words

The third chapter will focus on tagging practices as they apply to the development of *CCC Online Archive*. Beginning with an account of the debate between taxonomies and folksonomies, I will set up this chapter by suggesting the need for scalable, customizable classification systems for research. As counterpart terms, taxonomies designate relatively inflexible, hierarchical classification schemes for organizing texts and things, while folksonomies are emergent, participatory, and dynamic classification systems. Understood in this way, folksonomies are a deliberate move away from grand databases, or the ominous counterpart to Lyotard's grand narratives. Generally, this chapter will provide a brief overview of tagging practices as they have emerged relatively recently in association with blogging and social bookmarking applications. I will explain the significance of tags, not only as words and phrases are assigned to archival objects, but also as emergent constellations of semantic data are gathered into tagclouds, visual arrangements of words and phrases clustered in such a way that they function very much like an article abstract. Tagclouds are a significant development because Web 2.0 technologies make them very easy to create. Furthermore, depending on whether they are derived by computational methods to show a confluence of keywords from a sample of text or whether they are assigned by users on the basis of glancing impressions, tagclouds offer a wide variety of means for introducing scalable indexing systems, classification schemes, and loose, associative organizations (a labyrinth of semantic trails) to selected materials, as this chapter will show.

The discussion of tagclouds will also address the function of folksonomic tagging practices for digital archiving initiatives. Here I will discuss archives using the analogy

of architecture. Specifically, I want to account for "how archives learn" from tagging practices much in the same way Stewart Brand accounts for how buildings learn.

IV: Graphs: What *Counts* as Disciplinary?

Graphs use basic quantifiable measures to display historic trends. In this chapter, I intend to argue for the graphical presentation of data that might help us re-examine questions about the genesis, evolution, and maturation of the discipline. Simple citation counts, for example, yield graphs that follow a power law: relatively few scholars are cited frequently while most are cited only occasionally. Graphing this data makes it possible to study slight changes in such trends across time.

Still, what do we make of these patterns? What basis do we have for thinking through the contribution that graphs might make to understandings of disciplinarity? Selected perspectives from English Studies, such as Stevens and Williams' article in the Winter 2006 issue of *Critical Inquiry*, "The Footnote in Theory," and in Rhetoric and Composition, such as Maureen Daly Goggin's *Authoring A Discipline*, will help me establish the precedents for counting and graphing in an effort to develop historical insights. To explore the implications of specific graphs based on simple citation counts, I will also make the argument, with help from Chris Anderson's explanations in *The Long Tail*, to the relevance not only of the most frequently cited scholars and sources but also the importance of sorting through the increasingly vast body of low-frequency citations or, that is, a set of journals filled with articles whose citations are unique.

V: Maps: Cartographies of Rhetoric and Composition

Chapter five will discuss abstract visual models that make use of maps and other forms of cartographic representation. Beginning with a brief account of the convergence

of writing studies with interests in geography, I will explore the limits of what kinds of metadata are suited to mapping. For *CCC Online Archive*, the use of mapping is specifically tied to matters of author location and the programs from which contributing authors have taken graduate degrees. But what would be the value in producing a map of all of the place-names mentioned in the journal over the past fifty years? Would a map such as this simply confirm what we already know about the geographic orientation of much of the scholarship in *CCC* or in any other journal with relevance to the field for that matter? Might anything resulting from such a mapping project surprise us?

Mapping as a distant reading method enables us to see geographic (location based) and geometric (relationship based) patterns. In addition to looking at the specific uses of mapping as a method of distant reading for *CCC Online Archive*, I will argue for an expanded set of mapping practices that might be deployed to explore disciplinarity. This chapter will include an overview of efforts by compositionists to "map" the discipline (or specific programs and other abstract entities), such as those collected in the "Alternative Maps" section in *Composition in Four Keys*. I will also turn to scholarship from the intersection of writing and geography, such as Nedra Reynolds' *Geographies of Writing*, and from geography, such as Mark Monmonier's *How To Lie With Maps* and Denis Woods' *The Power of Maps*, in an effort to work through just how much map-making knowledge we must have to blend Rhetoric and Composition and geography in the interest of an expanded range of *map-writing* practices.

This chapter will also account for efforts to map existing graduate programs; to map scholarly production, circulation, and distribution; and to maps non-geographic elements by placing them in spatial relations as a way to conceptualize complex

problems. The pivotal role of increasingly flexible cybercartographic technologies will also have bearing on this chapter.

VI: Generalists, Network Sense, and Pedagogies of Distant Reading

The final chapter will consider the implications of distant reading for disciplinary understanding and also for a broader set of matters involving disciplinary definition and the apprehension of disciplinary patterns. I will account for the implications of distant reading and abstract visual modeling in terms of network sense, the preservation of the generalist-scholar in the field, and the application of such methods to common pedagogical considerations, such as helping students come to a fuller awareness of the interconnected, networked qualities of their writing.

Network sense is a concept I develop stemming from Christina Haas' discussion of the impact of writing technologies on what she calls 'text sense', or "a mental representation of the structure and meaning of one's own text" (118). Network sense names an advanced digital literacy whose command is not limited to a sense of the text itself but expands to include the ways in which the text is entangled with a broad set of forces (an actor-network) beyond the text, involving matters of semantic associations, historical orientations, and locations and relationships. Network sense provides us with a strong defense for methods of distant reading and the forms of knowledge they proliferate.

A second implication of distant reading very much related to network sense is the preservation of generalist-scholars in the discipline. In other words, distant reading counterbalances trends toward specialization and professionalization, making specific

forms of knowledge available so that everyone in the field can follow the immense volumes of scholarship produced with each passing year.

Finally, the concluding chapter will briefly present a case for generalizing methods of distant reading to other scholarly resources, such as the archives of all of the major journals. Although the dissertation is focally concerned with the application of abstract visual modeling to knowledge of Rhetoric and Composition, these practices also have pedagogical bearing. If network sense and the sustained viability of generalists are two promising consequences of distant reading, our work with students might make use of these methods as well. The final chapter will briefly offer suggestions *how*.

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