

From Turns to Networks

A Co-Citation Analysis of Rhetorical Agency

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Abstract: This article examines rhetorical agency by using advanced bibliometric methods, arguing for a refined approach that recognizes multiple forms of rhetorical agency. By employing methodologies from information science, this study also illuminates often-overlooked infrastructural dynamics among scholars, specifically in how scholarship has materialized and enforced through textual citations. The analysis supplements traditional historical narratives of theory, introducing a dynamic conceptualization of rhetorical agency as an interconnected network. This paper forwards a multifaceted understanding of rhetorical agency, envisioned as comprising at least five intertwined networks. This article consequently provides a novel approach for analyzing disciplinary history by considering how citationality carries material traces of the past.

Keywords: rhetorical agency, rhetorical theory, bibliometrics, disciplinarity, scholarly communication

The concept of the “turn” has become a central metaphor in understanding intellectual history across numerous humanities disciplines, including rhetorical studies. “Turns” evoke linear progressions of intellectual discovery, suggesting new ideas depart from and replace previous paradigms. However, this metaphor oversimplifies the complexities of scholarly development (Keeling, 2016). “Turns” depend on a view of intellectual history that doesn’t match the actual process of research (Kline, 1985). Keeling argues that the “turn” depends on logical reasoning of neoclassical assumptions that mirror classical physics and suggests new metaphors can help to better understand the complexity of the material world and also narrate better stories about a discipline’s past (Keeling, 2016).

The linearity implied by “turns” highlights the need for alternative frameworks that reflect the complexity of scholarly development. Computational network approaches address this need by offering non-linear, data-driven insights into the dynamic relationships that shape intellectual history. Mueller’s methodologies, for example, use distant reading methods developed in literary studies (Moretti, 2013). Distant reading adopts computational/quantitative methods and large corpora of text to summarize scholarship (Mueller, 2017). Although Mueller’s research primarily argues for the value of networked methodologies for creating scholarship, there have also been scholars who have used approaches like he suggests to move forward and write intellectual histories. The most extensive use of network methods has been Miller’s book-length study that summarized how scholars in rhetorical studies create knowledge, topically, methodologically, and disciplinarily (B. Miller, 2022). Network approaches align with Keeling’s suggestion to situate academic scholarship with non-linear metaphors, and they provide an approach introducing the complexity and reflexivity that she called for.

The network methods popularized by Mueller and Miller can be further enhanced through models from other disciplines. Indeed, their scholarship often resembles bibliometric approaches developed by information scientists that measure academic scholarship. In particular, Miller’s method draws from theory similar to the invisible colleges thesis developed by Diane Crane (1972). Crane suggests that the memberships and attributes of knowledge communities influence the diffusion of ideas and what communities come to know and believe. An invisible college is a group of hidden peers that cohere around relationships rather than topic. By incorporating Crane’s focus on citation networks and well-developed approaches to bibliometric history (Hérubel, 1999; Price, 1963), network approaches offer a robust framework for exploring intellectual histories as dynamic, relational systems that produce topics rather than just seeing academic research as the result of progress.

The remainder of this article builds on the emerging networked approaches to develop new understandings of intellectual history. In it, I develop a method of co-citation analysis, a method common in information science, that has been refined for fields that match the attributes of humanities scholarship (Ardanuy, 2013; Hammarfelt, 2017). My concept of the “disciplinary disruption event” (DDE) provides a way to accommodate known issues analyzing humanities and social science (HSS) scholarship with quantitative analysis. Although my goal is to provide a way of

responding to Keeling to develop better histories for rhetorical studies, this framework likely transfers easily to other HSS research.

In the opening section, I examine how bibliometric methods have been employed by information scientists to trace the intellectual lineage of ideas within the humanities, highlighting the insights and limitations of this quantitative approach. The second section introduces the concept of a DDE, illustrating its potential as an analytical tool for HSS fields, where conventional metrics like the h-index, impact factor, or Eigenfactor often fall short in capturing field-specific dynamics. Following this, I apply the proposed method to an extended analysis of “rhetorical agency,” demonstrating how this approach reveals often invisible relationships within the discipline. In the concluding section, I discuss how this method illuminates significant aspects of contemporary scholarly practices, particularly in the professionalization and evolving norms of academia. Although this work includes sample data about rhetorical agency, my more nuanced discussion what this method means for the field’s intellectual history of rhetorical agency appears elsewhere (Johnson, in press).

Bibliometrics for Humanities and Social Science Literature: A Review

Bibliometric analysis has become well-established in the sciences, but the humanities and social sciences (HSS) have been slower to adopt its approaches due to several challenges. A significant barrier has been the limited scholarly infrastructure available for systematically recording and cataloging HSS research (Borgman, 2015). Unlike the structured, metadata-rich databases that support STEM analyses, HSS research often lacks comprehensive indexing, making it less suited to conventional bibliometric techniques (Franssen & Wouters, 2019). Historically, citation databases such as Eugene Garfield’s Science Citation Index were designed with medicine, law, and the natural sciences in mind (Baykoucheva, 2021; Garfield, 1955). Because of that, most databases reflect assumptions typical of these fields, which tend to have higher citation frequencies, more standardized vocabularies, and shorter citation half-lives than HSS scholarship (Ardanuy, 2013). Consequently, bibliometric tools like the impact factor, h-index, and Eigenfactor are better suited for disciplines with shorter citation half-lives, creating a mismatch when applied to HSS. Moreover, many of the questions that HSS scholars ask are difficult to assess given the most well-developed tools available. Analyzing a

“turn,” for instance, is difficult even when measured with the simplest analytic tools.

Moreover, the misuse of bibliometric methods that incorporate the values of non-humanities fields has generated general mistrust of their use for HSS scholars (Hammarfelt & Haddow, 2018; Nederhof, 2006). One way to counter general mistrust is to develop and discuss bibliometrics appropriate for the HSS as they are being developed. While this article demonstrates an effective approach to HSS bibliometrics, it also ideally helps dispel mistrust for the purpose of developing intellectual tools that support HSS research. Although challenging, bibliometric analysis in HSS is not unachievable. Several distinctive discoveries about HSS scholarship offer valuable directions for adapting bibliometric approaches to these fields (Hammarfelt, 2017). For instance, HSS disciplines place a higher emphasis on books over journal articles (Ardanuy, 2013) and often include citations to primary source materials. HSS citation patterns also tend to cover a broader array of publications and extend over longer periods, leading to a more dispersed citation distribution (Blidstein & Zhitomirsky-Geffet, 2022). Instead of viewing these patterns as limitations, the extant bibliometric studies of HSS scholarship reveal new analytical possibilities, encouraging the development of methodologies tailored to these distinctive traits. These analytical possibilities closely resemble some of the network approaches recently forwarded in rhetorical studies.

Acknowledging the unique aspects of HSS has led to significant advances in bibliometric tools and methods suitable for these fields (Hammarfelt, 2016). Progress has emerged through innovations such as new visualization and mapping techniques, specialized databases for humanities scholarship, and metadata frameworks designed to capture HSS-specific research outputs. These advances provide the foundation for the bibliometric approach explored in this article. DDE Analysis builds on these innovations by leveraging humanities-specific metadata and co-citation networks to visualize intellectual dynamics. Unlike traditional metrics, this approach highlights dispersed scholarly communities, maps shifts in disciplinary boundaries, and identifies core journals within HSS. These elements position DDE Analysis as a method capable of assessing HSS research quality in a way that aligns with the field’s unique attributes.

Co-citation analysis provides an alternative to linear historical models by offering a bibliometric approach to visualize relationships with synchronic variables. Unlike linear diagrams, co-citation network maps consist of overlapping clusters that reveal

relational interactions within a field, usually by source, author, or controlled vocabulary. These visualizations, sometimes referred to as science maps (Chen, 2003), represent co-citations—instances where two references appear together in a bibliography—by coding these pairings as connected points that explain the infrastructure of research (White & McCain, 1998). Each co-cited pair is represented as two data points linked by a vector that encodes both the frequency of co-citation (magnitude) and the direction (from one document to another). This approach acknowledges both the materiality of citations (as proximities within texts) and the conceptual links they imply (through authorship and reader interpretation). By tailoring bibliometric tools to the unique characteristics of HSS, DDE Analysis offers an approach to understanding intellectual histories, fostering greater trust in bibliometric methods that are attuned to the values of HSS.

Figure 1 illustrates this process with a sample co-citation map. Carolyn Miller’s “What Can Automation Tell Us About Agency?” is a highly cited research paper in rhetorical studies (2007). Her bibliography includes Aristotle’s *Art of Rhetoric* and Janet Atwill’s “Rhetorical and Political Agency in the Habitus,” which would be coded as a co-citation pair since both appear in Miller’s reference list (Aristotle, 1926; Atwill, 2003). Additionally, Miller cites J.L. Austin and Bruno Latour (Austin, 1962; Latour, 1993), which together produce a network of five co-citation pairs: Aristotle/Atwill, Aristotle/Austin, Aristotle/Latour, Atwill/Austin, and Atwill/Latour. In Figure 1, each point (source) and vector (co-citation) is of similar size, as the frequency for each vector is one (a single instance of co-citation), with each node forming part of three co-citations.

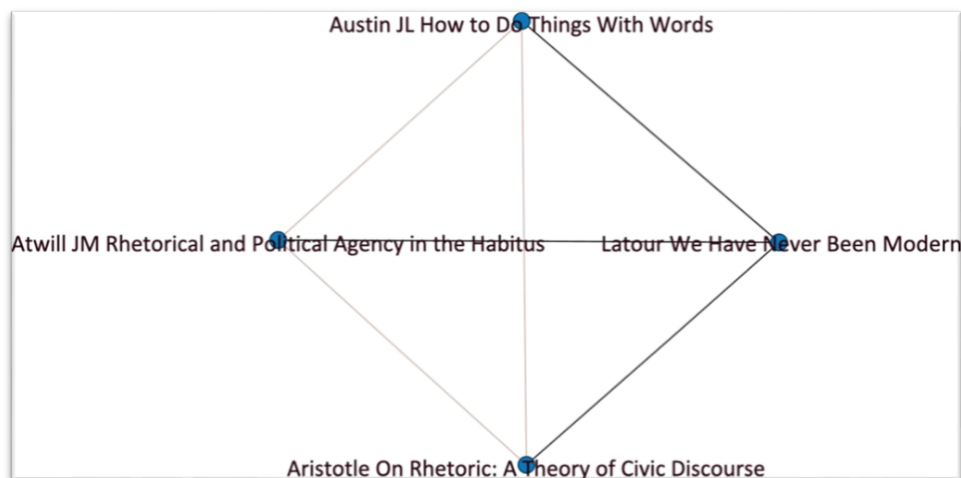


Figure 1 Sample Network

As a visual network, one bibliography will form an equilateral geometric shape because all reference nodes receive the same number of co-citations. When a second source's bibliography is added to the first bibliography, the references produce a more complex networked space with varying frequencies and vectors. For example, Marilyn Cooper's highly cited "Rhetorical Agency as Emergent and Enacted" cites the same Bruno Latour book as Carolyn Miller's article (Cooper, 2011; Latour, 1993; C. R. Miller, 2007). Cooper also cites Miller. The co-citations in multiple sources can be used to produce a graph in which Latour is a link among the citations from two articles (Figure 4). Latour, as a citation, bridges Miller and Cooper, suggesting some sort of coherence in their work. *We Have Never Been Modern* is a shared prop for two performances of agency. The more articles that are examined, the more co-citations are produced, and the more complex the network becomes. In co-citation networks, co-citations that occur more frequently are placed closer together (Small, 1999). The more sources co-cited, the stronger the links, the more closely sources are positioned. In Figure 2, the citation to Miller is more distant and smaller because it interacts less with the documents from the four citations in Cooper's article.

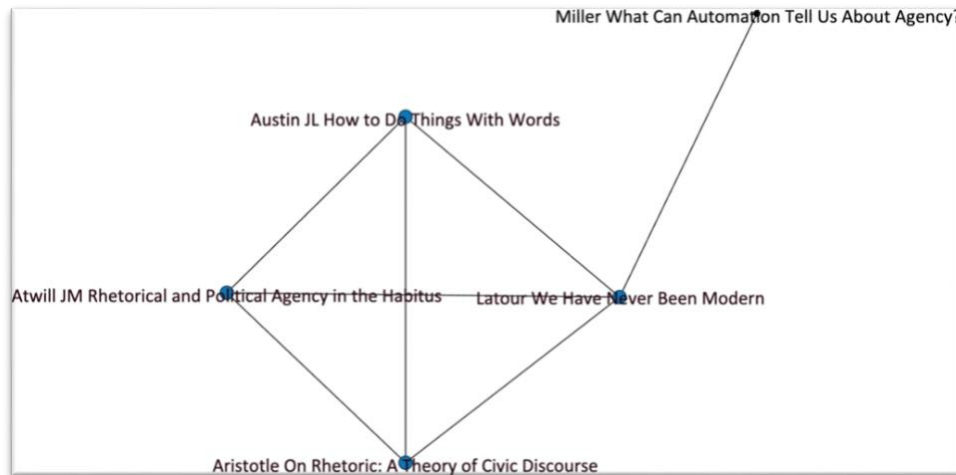


Figure 2 Sample Network

In sources that share many citations across publications, co-citation analysis produces detailed maps gesturing to the invisible colleges of a field. These maps are constructed using vectors and edges, both of which are derived from co-citation frequencies and similarity measures. Vectors represent entities as points in a multidimensional space, calculated using measures such as cosine similarity, Pearson correlation, or the Jaccard index. These measures quantify the degree to which two entities are co-cited,

with closer vectors in the map indicating higher similarity in co-citation patterns. Edges represent the relationships or connections between entities, with their weights determined by the frequency of co-citation. Higher co-citation frequencies result in stronger edges, which are often visualized with greater thickness or intensity. To reduce clutter, edges below a certain co-citation frequency or similarity threshold are typically excluded.

The process of creating co-citation maps begins with collecting citation data from bibliographic databases. A co-citation matrix is then constructed, with rows and columns representing entities (articles, authors, etc.) and cell values indicating co-citation counts. Normalization techniques, such as adjusting for total citation frequencies, are applied to ensure comparability. Similarities between entities are calculated using the normalized matrix, and dimensionality reduction techniques, such as multidimensional scaling (MDS), principal component analysis (PCA), t-SNE, or UMAP, are used to project the entities into a lower-dimensional space for visualization. Edges are added between entities whose similarity or co-citation frequency exceeds a predefined threshold. Although it's beyond the scope of this article, refining a map with those well-established techniques identifies patterns and connections that illuminate the intellectual landscape of a discipline.

Identifying the Network

One of the major barriers for using co-citation analysis for HSS scholarship is that the number of shared citations for a corpus is typically very low in comparison to other fields. However, co-citation analysis can be adapted for HSS and rhetorical studies by addressing the smaller number of co-citations. The DDE Analysis I introduce here is a form of co-citation analysis that identifies a corpus by using field specific knowledge to identify a disruption event that causes field-wide changes in research fields. Disruptions are characterized by activities that stimulate participants and encourage debate about foundational disciplinary theories for a short period of time. Common causes of disruption may include special issues of journals, one-time themed conferences, or a field-wide breakthrough causing a paradigm shift. Each of these types of disruptions tends to increase the speed of citation and the cross-referencing limitations of humanities scholarship. One of the benefits of this approach is that the corpus remains small enough so that it can be analyzed easily with computational tools that don't depend on large citation databases.

The disciplinary disruption I examine in this paper was caused by the one and only Alliance of Rhetoric Societies (ARS) conference in 2003. The ARS conference was a watershed moment when the use of the term “rhetorical agency” became much more common (Hewett, 2003). ARS named and galvanized previous discussions into a more collaborative discussion about “rhetorical agency.” Although the conference itself is not highly cited, which is typical of HSS papers, several conference papers were turned into article publications. Geisler’s report from the conference was titled “How Ought We to Understand the Concept of Rhetorical Agency?” and it was published in *Rhetoric Society Quarterly*, another flagship journal in rhetorical studies. She suggested that despite multiplicity, theories of rhetorical agency ought to assume that “that rhetorical inquiry should make a difference in the world” and that “efficacious action—must itself have agency” (2004, pp. 14–15). Geisler also suggested there were three aspects of rhetorical agency: its illusory nature, the aptitude of rhetorical agents, and the necessary conditions for its exercise. Geisler’s article prompted a response from ARS participants Lundberg and Gunn who published a rejoinder to Geisler’s article. They emphasized the problems of “transparency or transcendence of the moment of communication” and “the instabilities of the Cartesian self, or the self-transparent and self-possessed subject of thoroughly conscious intention” (2005, p. 84). Geisler then responded to accommodate their position. The three papers won the 2006 Kneupper Award for best rhetoric article, further reinforcing the significance of rhetorical agency’s turn in 2003 (Geisler, 2004, 2005; Lundberg & Gunn, 2005). ARS shifted disciplinary history by popularizing and circulating “rhetorical agency” as a critical concept. While the substance of the turn to rhetorical agency might be outside of the interest of bibliometricians, the DDE galvanized intense publication for a short period of time about a shared area of concern.

After ARS, the term “rhetorical agency” was much more common. Between 2005 and 2017 (the data collection window of this study), seventy articles directly cited the Lundberg, Gunn, and Geisler discussion. Rhetorical agency was further reinforced by the highly cited articles “What Can Automation Tell Us About Agency?” and “Rhetorical Agency as Emergent and Enacted” (Cooper, 2011; C. R. Miller, 2007). Both reference the ARS articles, and both have become major starting points for continuing the discussion about agency. Miller’s article has been cited 167 times and Cooper’s has been cited 231 times as of this writing. Both articles contain sentences that include the word “rhetorical agency” which been duplicated precisely in numerous other publications. As of the end

date of my data collection window (2017), Google Scholar had recorded over 3,000 publications mentioning rhetorical agency, many of which can be linked to the ARS publications either directly or through publications that link to it directly. ARS may have lasted for only one conference, but it supported a turn by foregrounding “rhetorical agency” and encouraging participants to direct how the concept should be understood.

Despite the importance of those articles, most well-developed bibliometric tools struggle to analyze or visualize a linear turn in rhetorical agency, despite the significance of the conference. For example, the most common article-level citation metric is calculated simply through the number of citations, generally over a one-, two-, or five-year period. Because of the half-life of significant STEM research, this number easily climbs into the thousands, especially for articles that include large numbers of co-authors. The resulting visualizations from this sort of analysis depicts linear influence of citation counts over duration.

Unfortunately, as noted earlier, the half-life and dispersion of citations to HSS sources is significantly smaller, making it difficult to identify meaningful differences even in articles that are highly influential. Figure 1 graphs the increasing number of documents each year that cite the award-winning articles. The total is only seventy, which is a relatively small number in comparison to STEM studies. Figure 2 graphs the increasing number of citations in those seventy articles. Each figure suggests that interest in rhetorical agency rises over time, as though every citing article was informed by previous articles. That total is only 200 citations. These two charts imply that rhetorical agency as a concept became more important after ARS, but the inference is quite weak and could easily be a Type I or Type II error because of the smaller size of a typical HSS corpus.

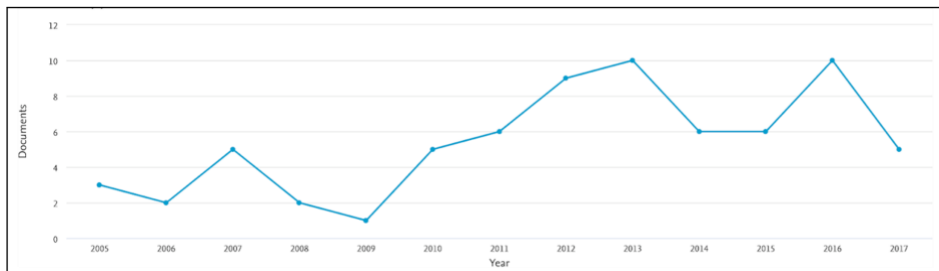


Figure 3 Number of Documents Citing Agency Articles

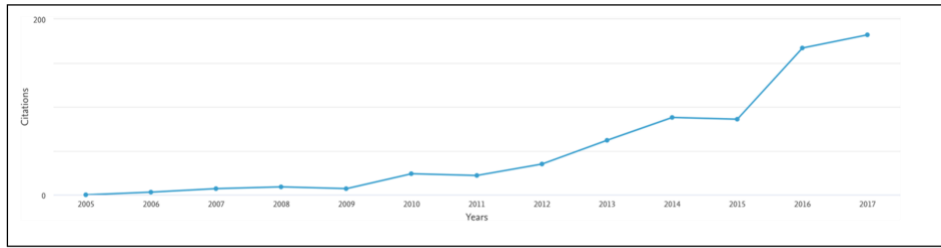


Figure 4 Number of Citations to Articles Citing Figure 3 Articles

Figure 3 and Figure 4 are extremely simple methods that I provide as an example, and there are other methods for charting the impact of particular sources. Figure 5 adds a single variable that complicates the notion of rhetorical agency's linear turn by noting the publication venue of citation. The seventy citing documents were published in numerous sources, the most common ones being *Philosophy and Rhetoric*, *Communication Theory*, *Rhetoric Review*, *Rhetoric Society Quarterly*, *Quarterly Journal of Speech*, *College Composition and Communication*, and the *Review of Communication* (Figure 5). These seven journals vary significantly in scope, editorship, and production time. Publishing an article for the readers of *Communication Theory* is very different than publishing an article for the readers of *Rhetoric Review*, for example. Moreover, adding another factor to analyze, which is typically one of the methods for reducing the sheer amount of data in STEM citation data removes all indicators of a turn to rhetorical agency. One way to interpret the lack of indicators would be to assume that there was never a turn to rhetorical agency, despite a large consensus of authors indicating that there was one. Another way to interpret the findings is that the same shortcomings that have made it difficult to analyze HSS with bibliometrics are continuing to misrepresent HSS data.

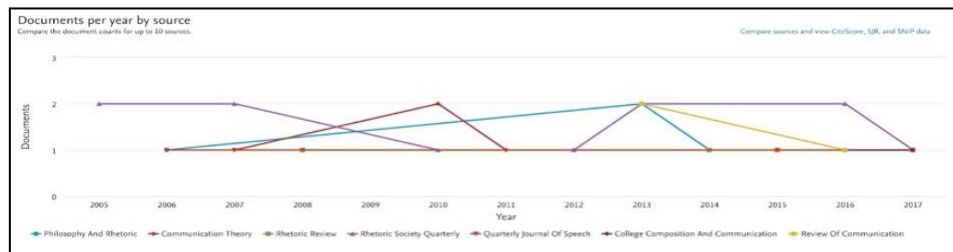


Figure 5 Documents Citing Agency Articles by Year and Source

What is needed to meaningfully identify intellectual turns is a method that identifies influence in a way that informs HSS research. Within HSS, that influence has mostly been identified through careful historiographies. While narrative historiographies are beneficial, they also have drawbacks those weaknesses can be

addressed through methods that deploy measures for validity and reliability, as most bibliometric methods do. At the very least, bibliometric methods can supplement historical narratives of intellectual history to tell a richer story about the events of the past. Historical narrative can adopt bibliometric methods so that intellectual history can be interpreted for the complexity that scholars like Keeling, Mueller, and Miller have called for.

In the following, I analyze co-citations that were triggered by ARS to demonstrate an alternative approach for understanding the intellectual history rhetorical agency. The rhetorical agency corpus generated a huge number of citation points, which was one of the primary reasons the corpus was limited to the seventy articles citing ARS. The reference lists of the seventy sources citing Geisler/Lundberg/Gunn included 5585 unique citations. Even after sampling from Scopus, over 60% of the citations saved in their database needed to be edited for accuracy. In the final list of citations, the Geisler article was cited in 43 sources, while the Lundberg/Gunn response was cited in 47. Geisler's reply to Lundberg/Gunn was referenced a total of 9 times. After the combined ARS articles, the most co-cited authors (not publications) were Michel Foucault (53 citations), Kenneth Burke (48 citations), and Barbara Biesecker (38 citations). Viewed this way, Geisler, Lundberg and Gunn, Foucault, Burke, and Biesecker were influential points in the citation network. Figure 6 is co-citation network that replaces the linearity of turns with a gravitational physics of discourse.

Co-Citation Analysis of the ARS Conference

The resulting co-citation visualizations point to new ways by of understanding rhetorical agency through relational networks. Near the top of Figure 6, for example, Diane Davis' *Inessential Solidarity* from 2010 is grouped together with Marx and Engels' *The German Ideology*, which has editions published as early as 1938 (2010; 1970). In contrast to linear historical timelines, co-citations depict time as subject to interactions between authors, both alive and dead (Small, 1973). A linear timeline is replaced with an "inertia of fields," a slower-moving subjectivity emerging from a set of documents (White & McCain, 1998, pp. 342–343). In these spaces, time doesn't move forward but in relation to citations that are charted first as part of a social space and only second as a function of time. As new texts enter the co-citation space, the interactions and times continue to change along with the newly introduced relationships. This co-citation visualization emphasizes layers of

interaction, and it visualizes webs of potential rhetorical agencies, positioned for activation within a network.

In the following analysis, the 5585 citations to the Kneupper articles were coded as a list of co-citation couplets and their frequencies (the number of times the couplet occurred in the corpus.) That list was reduced by eliminating co-citations that did not have at least five citations to each half of the couplet, which reduced the data set to “citation classics:” “highly cited papers which are an important reference point in a research field” (Martínez et al., 2014). Mapping and clustering techniques from information science were used to graph the coded citations into five distinct groups. The 56 citation classics were plotted in a network diagram with a unified clustering and mapping technique developed by Waltman, Van Eck, and Noyons. The clustering involved identifying similarity in the frequency of co-citations in relation to the number of citations in the reduced corpus (Waltman et al., 2010, pp. 630–631). The process produced five clusters of rhetorical agencies, pictured in Figure 6, which codes the five clusters with blue, red, purple, green, and yellow. Each node in the chart represents a citation. The size of the node indicates citation frequency from the entire corpus. Lines (vectors) between nodes indicate a co-citation. The length of vector indicates frequency of co-citation: nodes that were more frequently co-cited were placed nearer each other. The vector lengths were computed with ratios of individual co-citation frequency to the total number of co-citations in the corpus. The higher the individual ratio, the closer the nodes appeared on the chart.

My analysis here is mostly descriptive. This method identified five distinct clusters of sources that reference the rhetorical agency articles. Each of these clusters have a notable amount of citation overlap among articles. The clustering and mapping produced groups of articles and books that were similar due to the co-citation calculation, but the technique did little to interpret why sources were frequently co-cited. Although this article is largely methodological, I present a thicker interpretation of the network elsewhere (Johnson, in press).

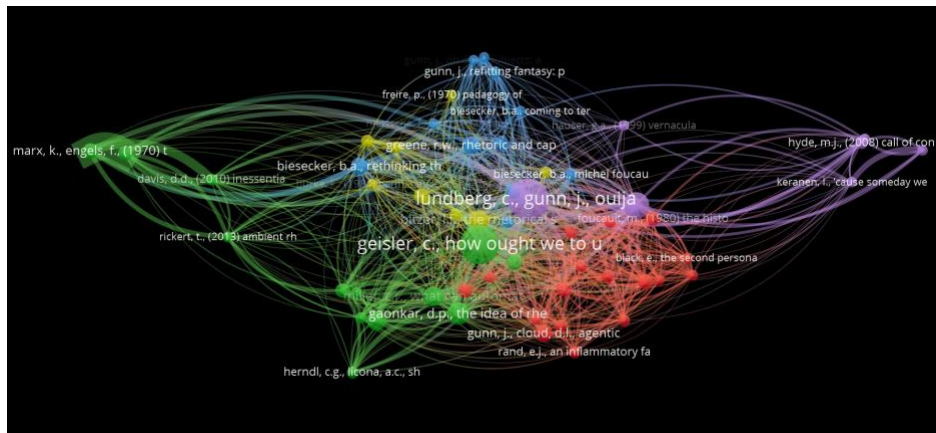


Figure 6 Rhetorical Agency Network

Cluster 1

Cluster 1 includes works by public intellectuals such as J.L. Austin, Judith Butler, and Michael Warner, focusing on rhetorical agency as it relates to embodied capacities and interdisciplinary scholarly networks. Many citations referenced public intellectuals with broad cross-disciplinary appeal rather than scholars primarily associated with rhetoric in Communication, Writing Studies, or English Departments. Sources in this cluster frequently addressed performative theory near in-text references. For example, Benjamin D. Powell’s “Neural Performance” cites several Judith Butler books and discusses “connections between the performance of mirror neurons in the brain and the performance of mirror neurons by the body” (2007, p. 107). Kellie Sharp-Hoskins refers to Butler in “Imagining Pedagogical Agency” while exploring how the terms “students” and “teachers” enact rhetorical agency (2015, p. 170). Erin J. Rand’s “An Inflammatory Fag and a Queer Form” connects rhetorical agency to the forcefulness of words and actions, citing Butler and Kenneth J. E. Graham’s *The Performance of Conviction: Plainness and Rhetoric in the Early English Renaissance* (1994).

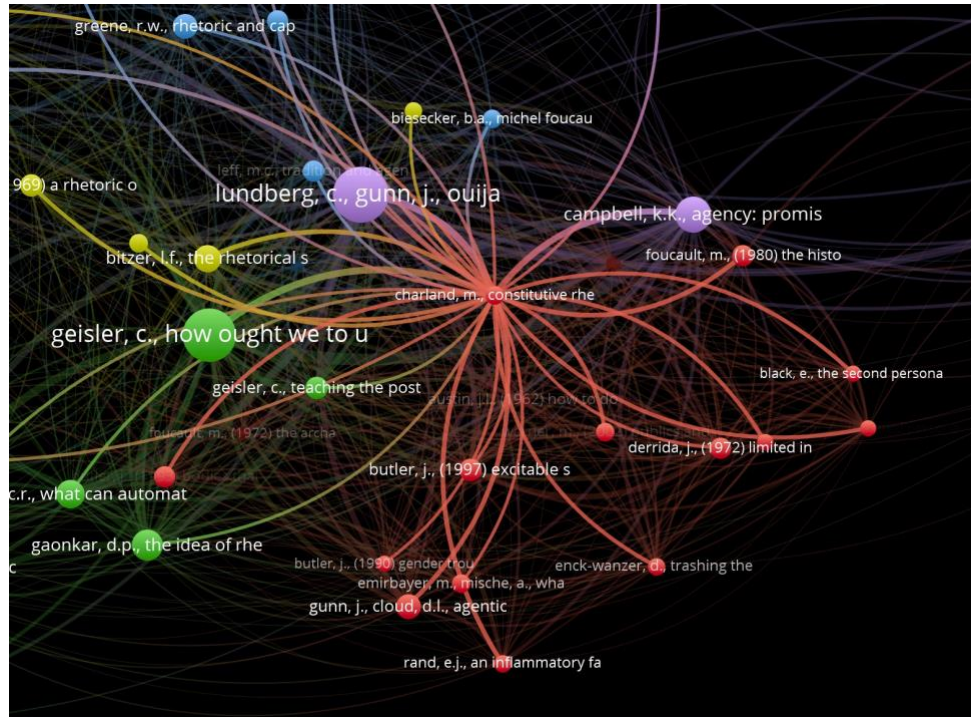


Figure 7 Cluster 1

The cluster also includes references to Edwin Black’s “Second Persona” (1970) and Philip Wander’s “Third Persona” (1984). These foundational articles are used to link performance theory with rhetorical studies more closely tied to Communication Departments. For instance, Sine N. Just and Tanja J. Christiansen’s “Doing Diversity: Text–Audience Agency and Rhetorical Alternatives” notes that Butler’s ideas on interpellated subjects and the constitutive outside align with Black’s second persona (implied audiences) and Wander’s third persona (excluded or silenced positions) (2012, p. 329). Additional sources, such as Lisa Keränen’s *Scientific Characters* (2010), include footnotes describing how persona theory from Black and Wander has been reinterpreted to signify an audience created by a text (182). Similarly, Gunn and Cloud reference Wander’s work, situating it within a “decades-long investment” in retheorizing rhetorical agency (2010, p. 55).

Cluster 2

Cluster 2, shown in Figure 6, is characterized by prominent co-citations of articles authored by Biesecker, including "Rethinking the Rhetorical Situation from within the Thematic of 'Différance'" and "Michel Foucault and the Question of Rhetoric" (1989, 1992) These works are frequently co-cited alongside Greene's "Rhetoric and Capitalism" (2004) and Gunn's articles "Refitting Fantasy" and

"On Dead Subjects" (2004b, 2004a), which explore psychoanalysis within rhetorical studies.

Sources in Cluster 2 exhibit co-citation patterns that include references to Derrida, Foucault, Lacan, Marx, and other European critical theorists. Co-citations often combine these theorists' works with articles by Biesecker, Greene, and Gunn. For example, Just and Berg's "Disastrous Dialogue" references Derrida and Biesecker in the context of agency and meaning (2016, pp. 38–39). Hartelius's "Models of Signification and Pedagogy in J. L. Austin, John Searle, and Jacques Derrida" also cites Derrida and analyzes rhetorical agency (2013, p. 26). Similarly, Accardi's book chapter on agency includes citations to Biesecker's work (2015, p. 4).

Other frequently cited works in Cluster 2 include Greene's and Gunn's articles, with citations appearing in studies such as Bost's discussion of Marxist and new materialist theories of rhetoric (2016) and Jenkins and Cisneros's article addressing alternative conceptions of rhetoric as "living labor" (2013, p. 85). Johnson's "How Student Writers Develop: Rhetoric, Psychoanalysis, Ethics, Erotics" incorporates psychoanalytic theories of subjectivity and cites Gunn's work (2011).

The co-citation network in Cluster 2 also includes references to Lundberg and Gunn's article, which appears in multiple sources within the cluster. Gunn's later articles frequently reference his own earlier work, advocating Lacanian psychoanalysis for understanding tropes and rhetorical agency. Co-citations within this cluster suggest substantial overlap among the sources, with frequent direct responses between articles.

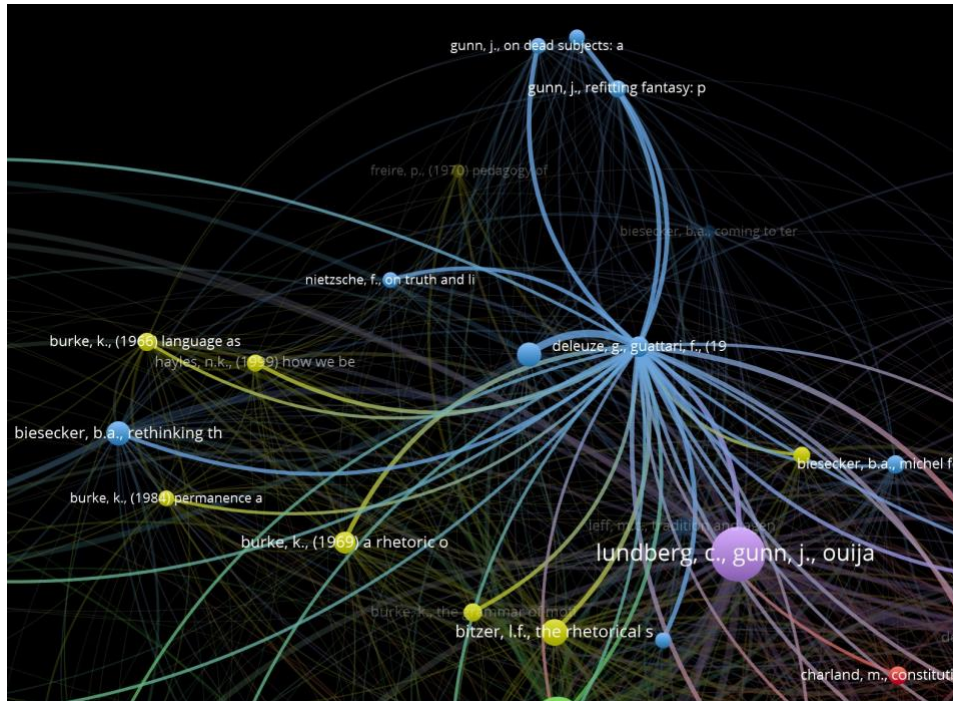


Figure 8: Cluster 2

Cluster 2 includes works by writers from Communication, Writing Studies, and English Departments. While the cluster contains occasional references to broader theoretical texts, such as Deleuze and Guattari’s *A Thousand Plateaus* and Nietzsche’s “On Truth and Lies in a Nonmoral Sense” (1987; 2006), co-citations primarily center on works by Biesecker, Greene, and Gunn. The sources within the cluster largely cite each other, contributing to a dense network of interrelated scholarship that develops a unique approach to rhetorical agency.

Cluster 3

Cluster 3, shown in Figure 9, consists of sources frequently referencing posthumanism. Notable works in this cluster include Miller’s “What Can Automation Tell Us About Agency?” (2007), which examines agency in relation to machines, and Cooper’s “Rhetorical Agency as Emergent and Enacted” (2011), which explores the concept of agency by drawing on Bruno Latour’s posthumanist frameworks. Latour’s *Reassembling the Social* (2005) is a prominent co-citation within this cluster.

Co-citations in Cluster 3 indicate a focus on agency as distributed among both humans and non-humans. Miller describes agency as encompassing both human and non-human forms, including machines and natural forces (2007, p. 143). Similarly, Cooper argues for a model of rhetorical agency that considers

humans and non-humans as actors within shared environments (2011, p. 424). These perspectives are further explored in Rivers and Derksen’s “Ecologies of Deception in Psychology and Rhetoric,” which references both Miller and Cooper to analyze rhetorics of deception within distributed ecological contexts (2015, p. 637).

Other frequently cited sources in Cluster 3 include Rose and Walton (2015), who critique existing humanist concepts of agency, citing Miller’s work to propose alternative frameworks. The cluster’s co-citation network reveals an emphasis on the interaction between human and non-human actors, as well as on reconceptualizing agency as an ecological and shared phenomenon.

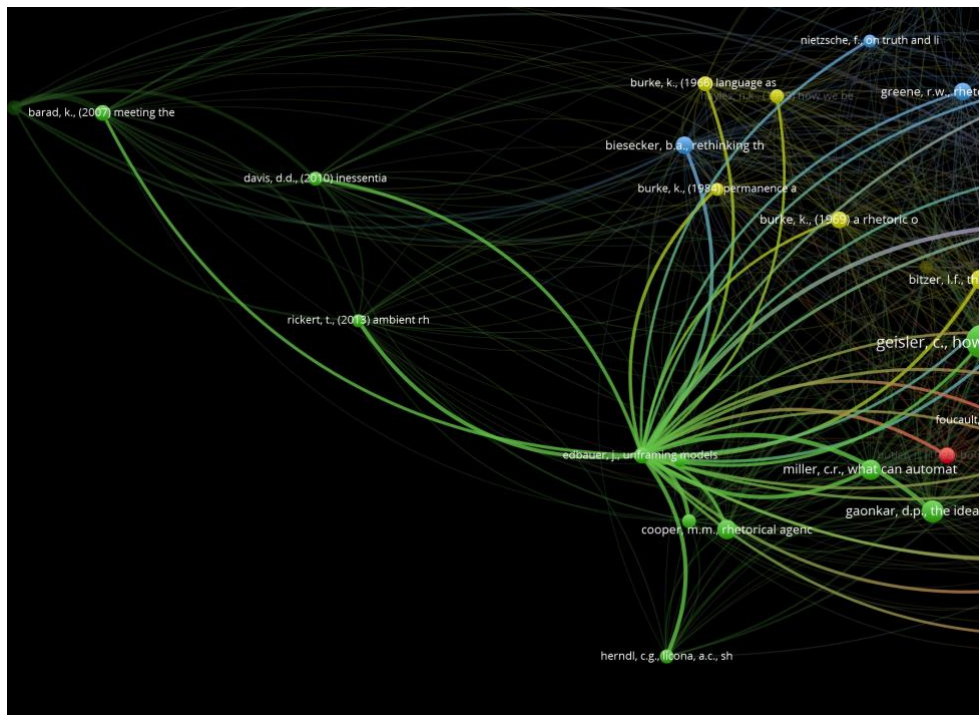


Figure 9: Cluster 3

Cluster 3 primarily includes citations from English and Writing Studies scholars rather than Speech or Communication disciplines. The sources in this cluster are often associated with English and Writing Departments, with many co-citations referencing Geisler’s earlier article rather than responses by other scholars. The timeline of publications in this cluster spans primarily from 2013 to 2017, distinguishing it from the temporal range of other clusters (Figure 10). Co-cited works in Cluster 3 also show differences in publication dates, with later sources emphasizing posthumanist theories of agency (Figure 11).

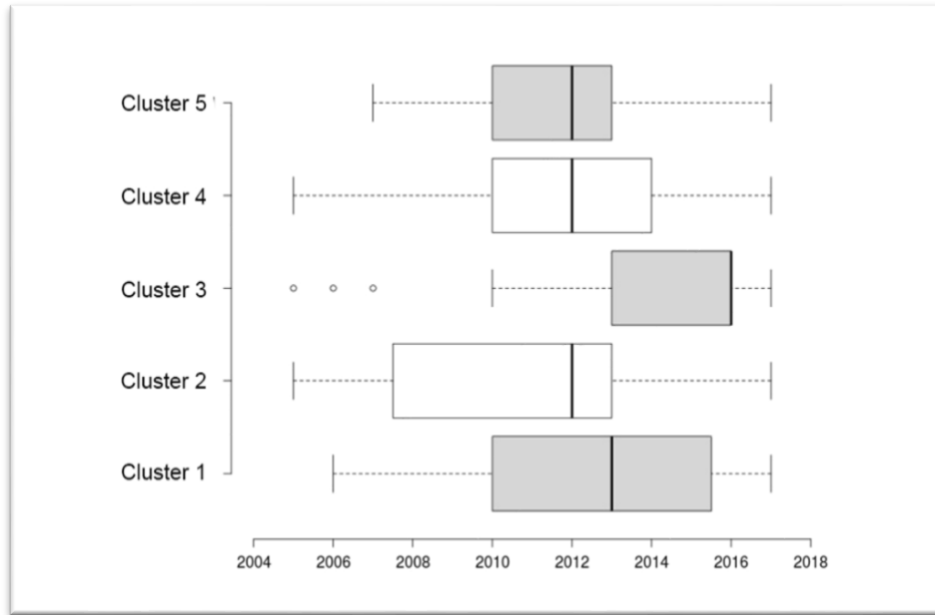


Figure 10 Dates of Citing Documents

	Cluster 1	Cluster 2	Cluster 3	Cluster 4	Cluster 5
Upper whisker	2017	2017	2017	2017	2017
3rd quartile	2015.5	2013	2016	2014	2013
Median	2013	2012	2016	2012	2012
1st quartile	2010	2007.5	2013	2010	2010
Lower whisker	2006	2005	2010	2005	2007
Total data points	104	72	71	92	41

Table 1 Dates of Citing Documents

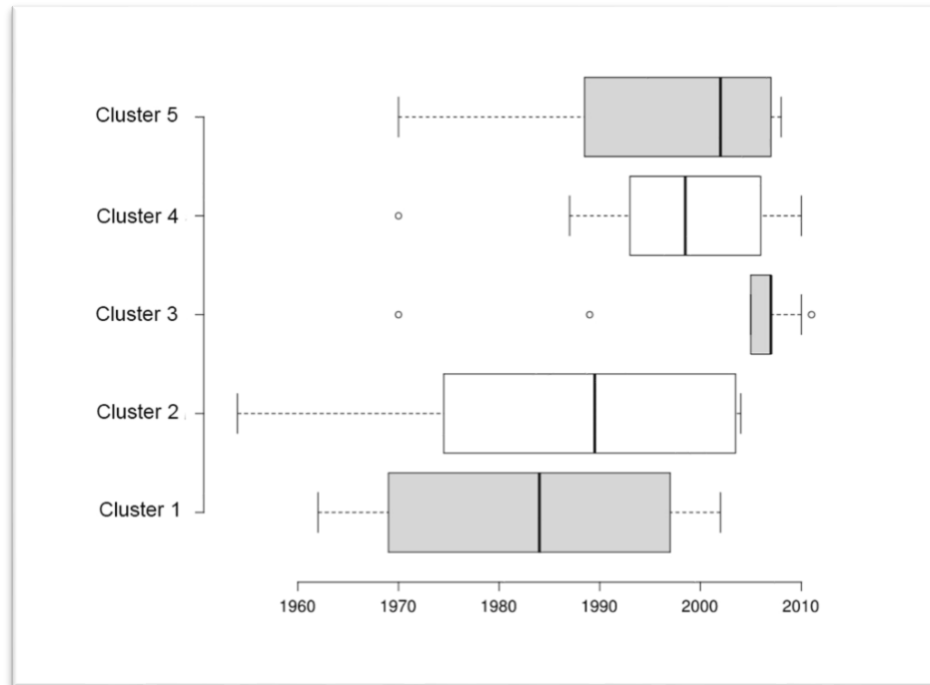


Figure 11 Dates of Documents Cited

	Cluster 1	Cluster 2	Cluster 3	Cluster 4	Cluster 5
Upper whisker	2002	2004	2010	2010	2008
3rd quartile	1997	2003.5	2007	2006	2007
Median	1984	1989.5	2007	1998.5	2002
1st quartile	1969	1974.5	2005	1993	1988.5
Lower whisker	1962	1954	2005	1987	1970
Total data points	13	12	9	10	8

Table 2 Dates of Cited Documents

Cluster 4

Cluster 4, shown in Figure 12, is characterized by frequent citations to Kenneth Burke’s scholarship, including *Language as Symbolic Action*, *A Rhetoric of Motives*, *Permanence and Change*, and *A Grammar of Motives* (1935, 1966, 1969b, 1969a). The citing documents in this cluster often reference Burkean concepts while developing theoretical discussions of rhetorical agency. Prominent works in Cluster 4 include Daniel’s “The Event That We Are,” which discusses terministic screens and identification in the context of rhetorical theory (2016), and Rickert’s *Ambient Rhetoric*, which draws on Burke to explore issues related to human subjectivity and agency (2013).

The specificity of references to Burke varies across the citing documents in Cluster 4. Some works mention Burkean terms briefly, while others devote significant text to detailed discussions of his ideas. For example, Rickert's *Ambient Rhetoric* includes an extended analysis of Burke's concepts and their interpretations by other scholars, citing works such as Hawhee's *Moving Bodies* (2009). Fleckenstein's *Vision, Rhetoric, and Social Action in the Composition Classroom* uses Burkean concepts to build theoretical frameworks, often defining terms like "verbal antinomy" in the context of rhetorical analysis (2009, p. 116).

Cluster 4 citations include a range of approaches to engaging with Burke's work. Some sources use Burke's ideas to develop methodological approaches, while others treat Burke as an archival or literary source. Co-citation patterns in this cluster suggest connections between works from scholars in Communication and Writing Studies, and English Studies, reflecting Burke's influence across these disciplines. Burke citations also appear in foundational contexts, similar to those in other clusters, as references that illuminate theoretical discussions or introduce new problems.

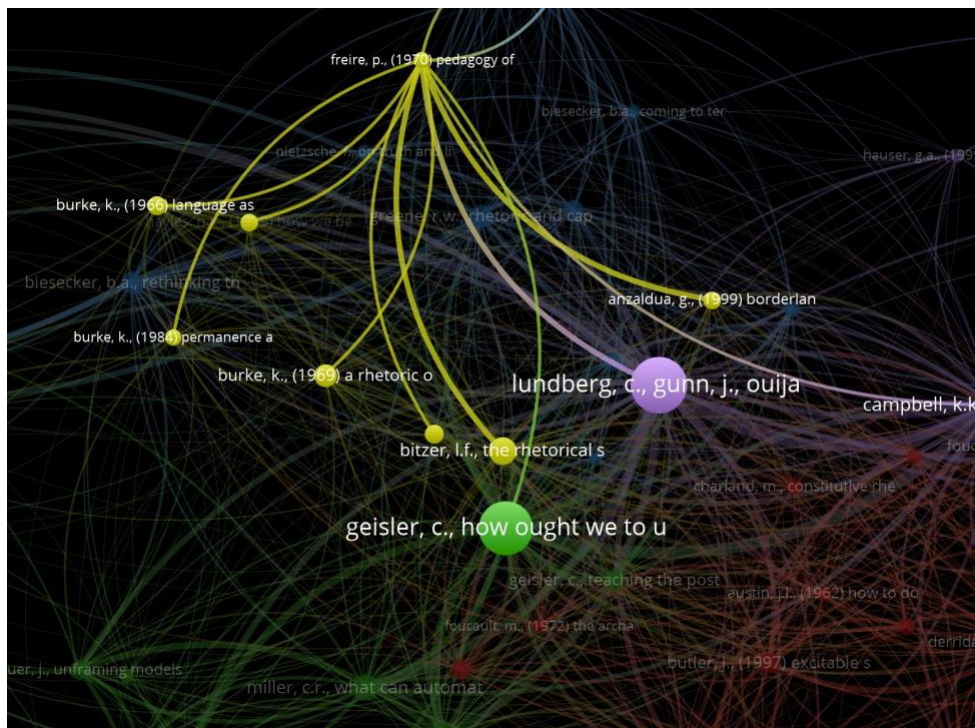


Figure 12 Cluster 4

This co-citation analysis of Cluster 4 reveals that Burke's scholarship often serves as a flexible framework for discussing rhetorical agency. Removing Burke citations from the dataset results in redistribution of the remaining co-citations to three of the

other clusters, without significantly altering the overall groupings. This indicates the wide-ranging influence and variability of Burke's role within the rhetorical agency network.

Cluster 5

Cluster 5 includes scholarship focused on medical rhetoric and rhetorical agency, with frequent co-citations of works by Keränen and Hyde. This cluster examines rhetorical agency within hospitals and other medical settings. Prominent works in Cluster 5 include Keränen's "Cause Someday We All Die': Rhetoric, Agency, and the Case of the "Patient" Preferences Worksheet," which explores decision-making processes for dying patients (2007), and Hyde's "Medicine, Rhetoric, and Euthanasia: A Case Study in the Workings of a Postmodern Discourse," which examines rhetorical considerations around euthanasia (1993). Swacha's work on rhetorics of aging highlights how rhetorical frames shape understandings of agency in medical contexts (2017). Citations in Cluster 5 often discuss rhetorical agency as a critical component of communication in medical environments. Keränen's article addresses the complexities of agency at the bedside of dying patients, describing how agency is enacted and negotiated in these settings (2007, p. 198). Hyde's work focuses on decision-making processes in euthanasia, considering how agency is distributed among stakeholders (1993). Swacha adds to this discussion by analyzing how aging rhetorics establish frameworks for understanding human agency in medical and social contexts (2017).

Cluster 5 also includes citations that discuss rhetorical agency more broadly, providing insights relevant to medical settings. For example, Campbell's "Agency: Promiscuous and Protean" emphasizes the dependence of agency on the environment and context of symbol users (2005). Keränen cites Campbell to analyze how dominant discourses in bioethics can undermine the moral agency of patients, physicians, and surrogate decision-makers (2007, p. 202).

Co-citations within Cluster 5 suggest that contributors to this group frequently draw on rhetorical theories of agency to address decision-making processes in life-and-death situations. This cluster highlights the importance of understanding rhetorical agency as it operates in medical contexts, shaping communication and decision-making frameworks.

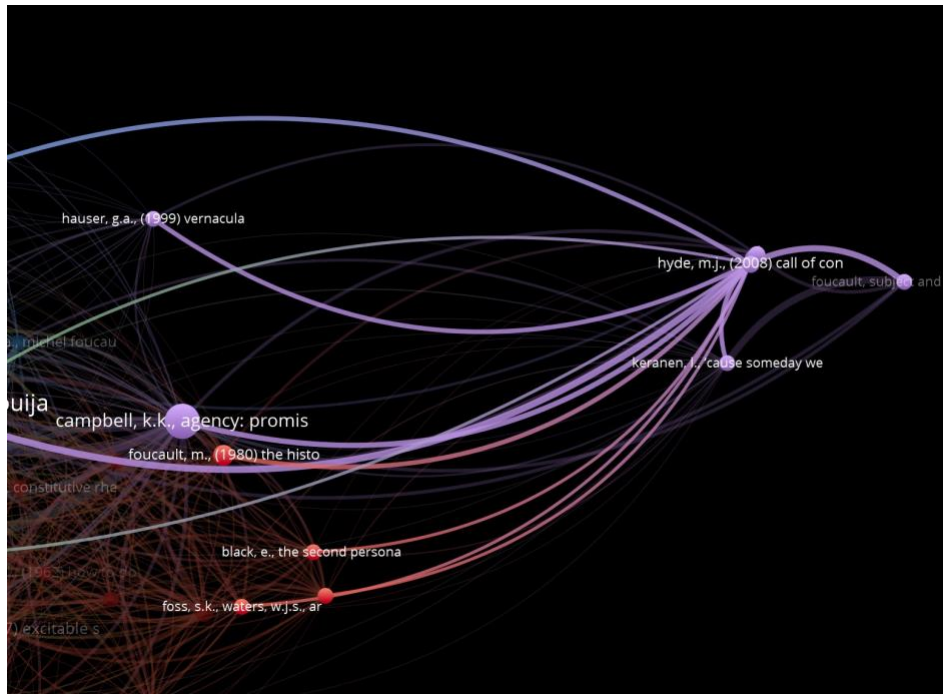


Figure 13 Cluster 5

Conclusion

This article has introduced DDE Analysis as a bibliometric tool for examining the dynamics of HSS scholarship. By applying this method to a case in rhetorical studies, it has demonstrated how DDEs can generate sustained scholarly interest and form citation networks that reveal the contours of emerging research ideas in HSS that are built through relationships rather than progress. Unlike citation patterns in STEM fields, where significance is often tied to volume, this research has shown that in HSS, smaller citation clusters can serve as valuable indicators of intellectual activity, signaling the emergence of new subfields and the growth of scholarly networks. By extending datasets to include the bibliographies of citing sources and employing co-citation analysis, DDE Analysis uncovers the interconnectedness of intellectual contributions, maps relationships between works, and visualizes the evolving landscape of HSS scholarship.

More specifically, my case analysis five distinct clusters that demonstrate how rhetorical agency is conceptualized through multiple relational networks. Cluster 1 focused on performative theory and interdisciplinary networks, highlighting works that address rhetorical agency in terms of embodied capacities and public intellectual discourse. Cluster 2 emphasized critical theory, featuring co-citations that integrate psychoanalysis and European

theoretical traditions, particularly works engaging with Derrida, Foucault, and Lacan. Cluster 3 examined posthumanist perspectives, illustrating how agency operates as a distributed phenomenon among humans, non-humans, and ecological systems. Cluster 4 was characterized by references to Kenneth Burke's scholarship, demonstrating the flexibility of his concepts in addressing rhetorical agency across different contexts. Cluster 5 addressed rhetorical agency within medical settings, focusing on its enactment and negotiation in life-and-death decision-making processes. These clusters collectively underscore the diversity of approaches to rhetorical agency, illustrating how intellectual networks evolve through shared themes, disciplinary crossovers, and field-specific disruptions.

The co-citation analysis approach developed here goes beyond merely identifying related works. It reveals the conceptual connections and shared themes that underpin scholarly dialogues, providing a map of the intellectual terrain of HSS. This method highlights how ideas progress, subfields evolve, and scholarly networks take shape, offering a comprehensive view of the dynamics of HSS scholarship. In an academic landscape where understanding the intricate complexities of the humanities and social sciences is increasingly critical, DDE Analysis and co-citation mapping emerge as powerful ways of charting the field's intellectual diversity and vitality.

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References

- Accardi, S. (2015). Agency. In P. Heilker & P. Vandenberg (Eds.), *Keywords in Writing Studies* (pp. 1–5). Utah State University Press.
- Ardanuy, J. (2013). Sixty years of citation analysis studies in the humanities (1951–2010). *Journal of the American Society for Information Science and Technology*, 64(8), 1751–1755.
- Aristotle. (1926). *Art of rhetoric* (J. H. Freese, Trans.). Harvard University Press.
- Atwill, J. (2003). *Rhetorical and political agency in the habitus*. Alliance of Rhetoric Societies, Evanston, IL.
- Austin, J. L. (1962). *How to Do Things with Words*. Clarendon Press.

- Baykoucheva, S. (2015). From the Science Citation Index to the Journal Impact Factor and Web of Science: Interview with Eugene Garfield. In S. Baykoucheva (Ed.), *Managing Scientific Information and Research Data* (pp. 115–121). Chandos Publishing.
- Biesecker, B. (1989). Rethinking the rhetorical situation from within the thematic of “Différance.” *Philosophy & Rhetoric*, 22(2), 110–130.
- Biesecker, B. (1992). Michel Foucault and the question of rhetoric. *Philosophy & Rhetoric*, 25(4), 351–364.
- Black, E. (1970). The second persona. *Quarterly Journal of Speech*, 56(2), 109–119.
- Blidstein, M., & Zhitomirsky-Geffet, M. (2022). Towards a new generic framework for citation network generation and analysis in the humanities. *Scientometrics*, 127(7), 4275–4297.
- Borgman, C. L. (2015). *Big data, little data, no data: Scholarship in the networked world*. MIT Press.
- Burke, K. (1935). *Permanence and change; an anatomy of purpose*. New Republic.
- Burke, K. (1966). *Language as symbolic action: essays on life, literature, and method*. University of California Press.
- Burke, K. (1969a). *A grammar of motives*. University of California Press.
- Burke, K. (1969b). *A rhetoric of motives*. University of California Press.
- Campbell, K. K. (2005). Agency: Promiscuous and protean. *Communication and Critical/Cultural Studies*, 2(1), 1–19.
- Chen, C. (2003). *Mapping scientific frontiers: The quest for knowledge visualization*. Springer-Verlag.
- Cooper, M. M. (2011). Rhetorical agency as emergent and enacted. *College Composition and Communication*, 62(3), 420–449.
- Crane, D. (1972). *Invisible colleges: Diffusion of knowledge in scientific communities*. University of Chicago Press.
- Daniel, J. R. (2016). The event that we are: Ontology, rhetorical agency, and Alain Badiou. *Philosophy & Rhetoric*, 49(3), 254–276.
- Davis, D. (2010). *Inessential solidarity: Rhetoric and foreigner relations*. University of Pittsburgh Press.

- Deleuze, G., & Guattari, F. (1987). *A thousand plateaus: Capitalism and schizophrenia*. University of Minnesota Press.
- Fleckenstein, K. S. (2009). *Vision, rhetoric, and social action in the composition classroom*. Southern Illinois University Press.
- Franssen, T., & Wouters, P. (2019). Science and its significant other: Representing the humanities in bibliometric scholarship. *Journal of the Association for Information Science and Technology*, 70(10), 1124–1137.
- Garfield, E. (1955). Citation indexes for science: A new dimension in documentation through association of ideas. *Science*, 122(3159), 108–111.
- Geisler, C. (2004). How ought we to understand the concept of rhetorical agency? Report from the ARS. *Rhetoric Society Quarterly*, 34(3), 9–17.
- Geisler, C. (2005). Teaching the post-modern rhetor continuing the conversation on rhetorical agency. *Rhetoric Society Quarterly*, 35(4), 107–113.
- Graham, K. J. E. (1994). *The performance of conviction: Plainness and Rhetoric in the Early English Renaissance*. Cornell University Press.
- Greene, R. W. (2004). Rhetoric and capitalism: Rhetorical agency as communicative labor. *Philosophy & Rhetoric*, 37(3), 188–206.
- Gunn, J. (2004a). On dead subjects: A rejoinder to Lundberg on (a) psychoanalytic rhetoric. *Quarterly Journal of Speech*, 90(4), 501–513.
- Gunn, J. (2004b). Refitting fantasy: Psychoanalysis, subjectivity, and talking to the dead. *Quarterly Journal of Speech*, 90(1), 1–23.
- Gunn, J., & Cloud, D. L. (2010). Agentic orientation as magical voluntarism. *Communication Theory*, 20(1), 50–78.
- Hammarfelt, B. (2016). Beyond coverage: Toward a bibliometrics for the humanities. In M. Ochsner, S. E. Hug, & H.-D. Daniel (Eds.), *Research Assessment in the Humanities: Towards Criteria and Procedures* (pp. 115–131). Springer International Publishing.
- Hammarfelt, B. (2017). Four claims on research assessment and metric use in the humanities. *Bulletin of the Association for Information Science and Technology*, 43(5), 33–38.

- Hammarfelt, B., & Haddow, G. (2018). Conflicting measures and values: How humanities scholars in Australia and Sweden use and react to bibliometric indicators. *Journal of the Association for Information Science and Technology*, 69(7), 924–935.
- Hartelius, J. (2013). Models of signification and pedagogy in J. L. Austin, John Searle, and Jacques Derrida. *Review of Communication*, 13(1), 23–47.
- Hawhee, D. (2009). *Moving bodies: Kenneth Burke at the edges of language*. University of South Carolina Press.
- Hérubel, J.-P. V. M. (1999). Historical bibliometrics: Its purpose and significance to the history of disciplines. *Libraries & Culture*, 34(4), 380–388.
- Hewett, B. (2003). Interview with Professors Andrea Lunsford and Michael Leff about the Alliance for Rhetoric Society (ARS). *Kairos*, 8(2).
<https://kairos.technorhetoric.net/8.2/interviews/arsinterview/index.htm>
- Hyde, M. J. (1993). Medicine, rhetoric, and euthanasia: A case study in the workings of a postmodern discourse. *Quarterly Journal of Speech*, 79(2), 201–224.
- Johnson, N.R. (in press). Rhetoric Re-View: Five Approaches to Rhetorical Agency. *Rhetoric Review*, 44(1),
<https://doi.org/10.1080/07350198.2024.2425479>
- Just, S. N., & Berg, K. M. (2016). Disastrous dialogue: Plastic productions of agency–meaning relationships. *Rhetoric Society Quarterly*, 46(1), 28–46.
- Just, S. N., & Christiansen, T. J. (2012). Doing diversity: Text–audience agency and rhetorical alternatives. *Communication Theory*, 22(3), 319–337.
- Keeling, D. M. (2016). Of turning and tropes. *Review of Communication*, 16(4), 317–333.
- Keränen, L. (2007). “Cause someday we all die”: Rhetoric, agency, and the case of the “patient” preferences worksheet. *Quarterly Journal of Speech*, 93(2), 179–210.
- Keränen, L. (2010). *Scientific characters: Rhetoric, politics, and trust in breast cancer research*. University of Alabama Press.
- Kline, S. J. (1985). Innovation Is not a linear process. *Research Management*, 28(4), 36–45.

- Latour, B. (1993). *We have never been modern*. Harvard University Press.
- Latour, B. (2005). *Reassembling the social: An introduction to actor-network-theory*. Oxford University Press.
- Lundberg, C., & Gunn, I. (2005). “Ouija board, are there any communications?” Agency, ontotheology, and the death of the humanist subject, or, continuing the ARS conversation. *Rhetoric Society Quarterly*, 35(4), 83–105.
- Martínez, M. A., Herrera, M., López-Gijón, J., & Herrera-Viedma, E. (2014). H-Classics: Characterizing the concept of citation classics through H-index. *Scientometrics*, 98(3), 1971–1983.
- Marx, K., Engels, F., & Marx, K., and Arthur, C.J. (Ed). (1970). *The German Ideology*. International Publishers.
- Miller, B. (2022). *Distant readings of disciplinarity: Knowing and doing in composition/rhetoric dissertations*. Utah State University Press.
- Miller, C. R. (2007). What can automation tell us about agency? *Rhetoric Society Quarterly*, 37(2), 137–157.
- Moretti, F. (2013). *Distant reading*. Verso.
- Mueller, D. N. (2017). *Network sense: Methods for visualizing a discipline*. University Press of Colorado.
- Nederhof, A. J. (2006). Bibliometric monitoring of research performance in the Social Sciences and the Humanities: A Review. *Scientometrics*, 66(1), 81–100.
- Nietzsche, F. (2006). On Truth and Lies and Lies in a Nonmoral Sense. In K. A. Pearson & D. Large (Eds.), *The Nietzsche Reader* (pp. 114–123). Blackwell.
- Powell, B. D. (2007). Neural performance: Reconsidering agency as the embodiment of neural nets. *Text and Performance Quarterly*, 27(2), 107–123.
- Price, D. J. de S. (1963). *Little science, big science*. Columbia University Press.
- Rickert, T. J. (2013). *Ambient rhetoric: The attunements of rhetorical being*. University of Pittsburgh Press.
- Rivers, N. A., & Derksen, M. (2015). Ecologies of deception in psychology and rhetoric. *Quarterly Journal of Speech*, 101(4), 633–654.
- Rose, E. J., & Walton, R. (2015). Factors to actors: Implications of posthumanism for social justice work. *Proceedings of the*

33rd Annual International Conference on the Design of Communication, 1–10.

- Sharp-Hoskins, K. (2015). Imagining pedagogical agency: Shifting from students and teachers to elements and relations. *Rhetoric Review*, *34*(2), 164–180.
- Small, H. (1973). Co-citation in the scientific literature: A new measure of the relationship between two documents. *Journal of the American Society for Information Science*, *24*(4), 265–269.
- Small, H. (1999). Visualizing science by citation mapping. *Journal of the American Society for Information Science*, *50*(9), 799–813.
- Swacha, K. Y. (2017). Older adults as rhetorical agents: A rhetorical critique of metaphors for aging in public health discourse. *Rhetoric Review*, *36*(1), 60–72.
- Waltman, L., van Eck, N. J., & Noyons, E. C. M. (2010). A unified approach to mapping and clustering of bibliometric networks. *Journal of Informetrics*, *4*(4), 629–635.
- Wander, P. (1984). The third persona: An ideological turn in rhetorical theory. *Central States Speech Journal*, *35*(4), 197–216.
- White, H. D., & McCain, K. W. (1998). Visualizing a discipline: An author co-citation analysis of information science, 1972–1995. *Journal of the American Society for Information Science*, *49*(4), 327–355.