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# Metadata and Relational Architecture: Advancing Arrangement, Agency, and Access with New Methodology

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METADATA AND RELATIONAL ARCHITECTURE:

ADVANCING ARRANGEMENT, AGENCY, AND ACCESS

WITH NEW METHODOLOGY

BY

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OF

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**ABSTRACT**

Traditional archival information infrastructure is problematic because it limits the arrangement and description of any artifact to a single interpretation by a single archivist. This approach of one authority defining artifacts lacks mechanisms to effectively convey the rich and complex discourse in which artifacts were originally composed. While researchers have begun to develop feminist methodologies for working with archives after they have been formed, there has not been much attention paid to developing practical methodologies for creating and sustaining a more fluid and multi-voiced archival infrastructure that is also able to overcome traditionally isolating elements such as physical distance. In this dissertation, I introduce a networked methodology called relational architecture to fill critical gaps in current archival practice. I argue that information infrastructures should be anchored by a point of origin, but continually augmented by building connections among resources with relationships identified by contributing-users.

Developed from archival practice in rhetoric and composition, inspired by open architecture of application programming interfaces (API) like Twitter, and validated by network theory, relational architecture enables a more flexible information infrastructure that is able to position the archivist as the first of many users rather than singular defining authority of traditional archival theory. I contend that relational architecture is more than simply a functional response to big data in archives, or even a best practice for archivists, but instead is an ethical response to the inherent silencing of the "other" at work in traditional archival process and principles. It addresses many

of the gaps in the field's methodology that are described in Gesa Kirsch and Patricia A. Sullivan's *Methods and Methodology in Composition Research* and tackles some of the challenges of methods and digital tools raised in Ridolfo and Hart-Davidson's *Rhetoric and the Digital Humanities* by enabling users to speak back to the code of the information infrastructure itself

I designed and carried out a survey as proof of concept to demonstrate what, exactly, is added to the archive when more users were asked to collaborate in the authoring of the infrastructure itself. Participants contributed folksonomy hashtags (user-generated tags) to digitalized artifacts, and the results of the survey indicate that relational architecture does significantly expand the points of connectivity within the archive. Moreover, this methodology enables the folksonomy hashtags to record knowledge in themselves, thus illustrating and adding diverse ways of doing and knowing in the archives.

These results support my argument that relational architecture builds multiple layers of connection into the information infrastructure itself; allows easy access beyond archival or institutional silos; calls for multiple voices to be documented and valued on the official record; enhances transparency and reproducibly; and documents pathways to track and quantify the ways that different communities build and share knowledge. Applicable most directly to archival practice, these findings also have direct ramifications for Writing Program Administration and other related work in the field.

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**TABLE OF CONTENTS**

# LIST OF TABLES

# LIST OF FIGURES

**CHAPTER 1**


INTRODUCTION


Relational architecture began as my graduate student effort to do a great job on a

seminar project, and has since evolved into an innovative methodology and method to

support greater flexibly and visibility of power dynamics in the archives. That

methodology, "relational architecture," which I developed and now introduce in this

dissertation, is a new approach to archival work that determines that information

infrastructures should be anchored by a point of origin, but continually augmented by

building connections among resources with relationships identified by contributing-

users. The method that I developed to build relational architecture for this dissertation

is called "folksonomy hashtags," and it draws together existing elements within

archival theory, big data, and network theory to build a webbed infrastructure that is

collaboratively authored by a spectrum of users. I report on the success of the

folksonomy hashtag method used in a case study designed as a proof of concept, and

those survey results illustrate the structure and content that is added to the National

Archives of Composition and Rhetoric at the University of Rhode Island by the

inclusion of relational architecture and the folksonomy hashtag method.

I argue that "relational architecture" fills a critical gap in archival practice at the

intersection of archival theory, digital humanities tools, and the power of the interface

to create a more flexible and inclusive archival practice and information infrastructure.

More specifically, I contend that the archival *infrastructure* is not as many users imagine it—modern, flexible, and adaptive—but instead is regimented and antiquated, unintentionally reproducing hegemonies with code that reduces complex artifacts to binaries and static definitions. Building on the seminal "Politics of the Interface" article by Selfe and Selfe as well as more recent scholarship by Sano-Franchini; Johnson; Graban, Ramsey-Tobienne; and McPherson regarding the power of the digital humanities, I recommend relational architecture as a practical methodology to engage directly with the power of the interface in archives to expand and enrich both the user experience and the infrastructure itself. Furthermore, relational architecture specifically embeds an ethical response to these challenges because it changes the gaze of the users from the artifact as endpoint to artifact as dynamic node of discourse within a collaboratively authored network.

I recommend the folksonomy hashtag method that I also developed because it uniquely articulates a network by using these tags (such as keywords, phrases, or other user-driven associations) to build the information infrastructure network from the ground up to add and amplify new connections as more contributing-users join the conversation. The result is a collaboratively authored network that is spatially anchored by traditional theory but permanently evolving, officially inscribing the contributions of all users to record a multiplicity within archives and allowing researchers to trace how communities build and share knowledge. Relational architectures in archives differs from previous efforts to integrate user contributions directly into the system itself when it puts the user and archivist on equally valued footing, complicating the binary that Oliver Glassey defined in archival systems as

"top down" (traditional hierarchy) versus "bottom-up approach in which the classification categories are built directly by and for the users" (2).

This dissertation makes a distinctive contribution to the field by recognizing that existing data structures do not make evident the "invisible hands" that Morris and Rose and others have argued act are rhetorical influences in the archives, and then filling that gap with a practical methodology. This approach presents the archive to the user as the *product* of the act of composing by the archivist, but also enables others to engage with the composing *process* as well, to counteract what Kirsch described as

> our limited ability to comprehend the reality and experiences of others; the impossibility of stepping outside our point of view, body, and experiences (see Lu and Horner; Brandt et al.); and the concomitant danger of using our experiences to naturalize, authenticate, and validate our own experiences while silencing those of others (415).

By highlighting the structure of the archive, illuminating the human hands at work, and enabling a multi-authored record at the level of the infrastructure itself, relational architecture notably empowers the community to contribute in order to challenge and complicate the singular power of the archivist.

Relational architecture also challenges the dominance of controlled vocabularies and taxonomies like that of the Library of Congress (LOC). Described on their own website as the "worldwide standard" in subject headings—the definitive categories traditionally used to build taxonomies—the Library of Congress offers a variety of

tools to access, but not contribute to, their "lists of controlled subject access vocabulary and thesauri" (Library of Congress, *Thesauri and Controlled Vocabularies*). In the introduction document that accompanies the thirty-eighth edition of *Library of Congress Subject Headings*, LOC authorities explain how to use the "headings included in this list [that] were obtained by creating a file consisting of all subject heading and subdivision records in verified status in the subject authority file at the Library of Congress" (Library of Congress, *Introduction to LCSH* vii). The list is updated as needed when the LOC encounters new genres, and the LOC introduction states that "Because the list has expanded over time, it reflects the varied philosophies of the hundreds of catalogers who have contributed headings" (Library of Congress, *Introduction to LCSH* viii). Their language of authority, control, and catalogers indicates centralized power that is held by a select few, is inaccessible to outsiders, and is unable to support multiplicity.

This approach of hierarchical organization certainly made sense given the technology available when the LOC subject headings were originally published in 1909, much as the principles that support the archival theory also match the technology that was available when the Dutch Manual was published in 1898 (Barritt) and Dewey Decimal system library catalogue system was published in 1876 (Weinberger). These were all practical responses to the need to organize huge amounts of artifacts in a time when paper and pencil were the only technologies available. But in conjunction with the archival principles of *respect des fonds* (provenance, the circumstances surrounding the collection) and *respect pour l'ordre primitif* (the original order of the collection) (see Millar; Kirsch and Rohan), these systems also

relied on closed taxonomies determined by a single archivist to classify and isolate artifacts. These approaches assume the infallible judgement of the person who authors the taxonomy, and they require artifacts to assume the assigned category as *the* singular definition of its location and its nature. Once assigned, mechanisms might be in place to revise and reassign the subject headings, but LOC and other systems rely on the uniformity of vocabulary to maintain order and organization.

Relational architecture reframes these static systems, augmenting the accessibility previously reserved for subject headings while still respecting the power of *respect des fonds* to represent more fully the complexity in which the original artifacts were composed. An artifact coming into the LOC, for example, would be assigned a name, genre heading, handful of catalogue keywords, and physical location in a strict taxonomy. Relational architecture builds on top of that record, allowing a variety of users to build multiple points of connection to other artifacts based on those users' understanding of relationships between artifacts. The resulting contributions form a network able to transcend the restrictive genre headings and diffuse the central authority of a LOC archivist or subject list. The result is a continuous and collaborative authoring of the system that enables multiple kinds of knowledge, naming, and understanding to be built into the infrastructure itself.

Inviting that kind of participation and multiplicity, however, also invites the possibility for chaos and senseless noise to descend. Relational architecture draws partly on network theory to make sense of the potential cacophony, using tools like hubs, degree, and preferential attachment (Caldarelli and Catanzaro) to more easily quantify the nature of the voices, to parse influence, and to understand application in

the nature of the connections. Scholarship indicates that even networks from large open-source communities (like the Internet itself) demonstrate a "well-defined interplay between the overall goals of the community and the underlying hierarchical organization play a key role in shaping its dynamics" (Valverde and Solé 1) (also see Biazzini et al.; Nastase and Strube; Hwang et al.). In order words, relational architecture will not collapse into chaos because the same patterns that govern how individual move through accession (the processing and organization of an archive) are still at work here, but with the added benefits of multiple kinds of people to author the system, so that users are then getting the benefit of organization without the drawbacks of hegemony.

Though even these tools may not be enough to tidy up the mess I seem to be inviting on the National Archives of Composition and Rhetoric, I contend that relational architecture is still necessary to do the complex, complicated, and collaborative practice and scholarship of composition studies that we—the field of composition studies—are already undertaking in the work that Andrea Lunsford describes in her Chair's Address at the 1998 Conference on College Composition and Communication. She writes of the field:

- We are **strongly interdisciplinary**: we blur disciplinary boxes; we blur genres. As examples of our interdisciplinarity, I could point to many of you here in the audience today, and certainly to today's award winners, Christina Haas and Linda Flower, and Fred Standley.

- We are **non-hierarchical** and **exploratory, intensely collaborative**. Again, I could point to the large number of us who insist on sharing authorship, on formulating in our scholarship as well as in our teaching alternatives to rigid hierarchies.

- We are **dialogic, multi-voiced, heteroglossic**. Our classroom practices *enact* what others only talk about; they are sites for dialogues and polyphonic choruses.

- We are **radically democratic** and **quick to use new technology democratize reading and writing** for ourselves and our students.

- We are **committed to maintaining the dynamic tension between *praxis* and *theoria***, between the political and the epistemological. Our students, of course, help us in this endeavor, for they keep us firmly situated in the experience of the classroom community, no matter how far into the thickets of theory we may explore

<div align="right">(76, bold mine, italics in original)</div>

Relational architecture provides a methodology to support this rich conversation, much of which is recorded in Susan Miller's *The Norton Book of Composition Studies,* in which scholars, researchers, and practitioners argue that

our research will benefit by continuing to be inclusive—of a diverse population of learners, taught by a diverse population of teachers, using approaches that

allow for a diversity of ways of learning—with new knowledge gathered from

diverse sources and with diverse methods. (Freedman 1050)


Whether extending agency to feminist, writers, or others who "writers need a concept

of agency in order to write a page, make a claim, or extend an idea" (Reynolds,

"Interrupting Our Way to Agency" 897), or learning "to write by learning the uses of

chaos, which is to say, rediscovering the power of language to generate the source of

meaning" (Berthoff 649), relation architecture pays attention to examine more directly

how "selves, knowledge, discourse, readers, and writers are indeed socially

constructed" (Trimbur 603).

While relational architecture does not offer a clean or easy way to archival work

or practice, it does make visible the technologies that Selfe warns "may be the most

profound when they disappear, but it is exactly when happens that they also develop

the most potential for being dangerous" (435). As a methodological approach, it also

enables all users to " 'talk back' rather than talk *also*" (Royster 38), to "find

reasonable ways to negotiate so that we can all thrive reasonably well in the same

place" (Royster 39), and to pay "some attention to technology, [so that] we may learn

lessons about becoming better humanists, as well" (Selfe 435). Relational architecture

is not easy, but it creates a sustainable and flexible space in which to "exchange

perspectives, negotiate meaning, and create understanding with the intent of being in a

good position to cooperate, when, like now, cooperation is absolutely necessary"

(Royster 38).

In short, relational architecture provides the theoretical framing and practical structural support to do the work of a field that is interdisciplinary, non-hierarchical, exploratory, intensively collaboratively, multi-voiced, heteroglossic[1], radically democratic, and committed to a dynamic tension between *praxis* and *theoria*. Relational architecture in part does so by positioning users as collaborators within a feminist network, embodying Kirsch and Royster's desire to seek to move beyond the original feminist framework of rescue, recovery, and (re)inscription (647) and working alongside the new tools for reflexivity and locatability developed by Finnegan, Graban, Gries, and others.

The networked system challenges traditional archival theory, which allows only for information based on provenance in vertical and hierarchical connections (Millar; Pearce-Moses) and fails to record any information about the knowledge or meaning which might be embedded in the artifact's context or articulated by the artifact itself. Relational architecture enables users to trace artifacts as elements of a collective in the same vein as elements from genre theory (Bawarshi; Millar), cultural archives (Foucault), actor-network-theory (Latour, "On Actor-Network Theory"), and ecologies (Edbauer). Folksonomy hashtags empower users as contributing-users, recording their knowledge in visible trails that mark the significance of their perspectives on par with that of the archivist. Naming those contributions as folksonomy-derived helps to position the archivist's contributions as equally authored

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[1] P. R. White makes a "two-way distinction between the monoglossic utterance (the undialogized bare assertion) and the heteroglossic or dialogistic utterance in which some engagement with alternative positions and/or voice is signaled" (265). For more on heteroglossia, see Robinson; Murphy; Zappen, Gurak, and Doheny-Farina; Bakhtin.

by human hands, highlighting that there is rhetorical power embedded in the structure itself.

Relational architecture as methodology, and with this hashtag method in particular, integrates into the infrastructure itself the reflexivity and locatability that Graban, Kirsch and Royster and others remind us are key to research in rhetoric and composition. Just as Kirsch and Royster seek to move beyond the original feminist framework of rescue, recovery, and (re)inscription to pursue implications for contemporary scholarship, pedagogy, and praxis by developing feminist archival methods (647), my hope that is that relational architecture can visualize and formalize what they describe as the "critical importance of addressing interstitial needs as we draw relationships between the known, the unknown, and what we may never know" (658).

Relational architecture reinforces the values and conventions of rhetoric and composition by considering and making arrangement, agency, and access an integral part of the "official" discourse of the archives. This is the strength of approaching archival work as a rhetorician; to recognize the meaning-making power of information infrastructures in and of themselves. Making visible both the construction of frameworks of the archives and the authorization of the content means users might then be able to utilize artifacts to do more than simply develop historical narratives but also to ask questions such as how, what, and why cultural forces are re-produced or re-appropriated, and better enable all actors within the system to proceed with Kirsch and Royster's call for an ethos of care, introspection, and attention to context in rhetorical research (664).

Chapter 2, "Relational Architecture: The Ethics of Articulating Power in Archival Infrastructures," explores the justification for this work in detail, and argues that revealing and grappling with the power of the archivist and the infrastructure is an ethical response to existing practices that have historically privileged a singular dominant interpretation and authorization of artifacts at the expense of other voices, experiences, and ways of knowing. Relational architecture allows users to push back against this silencing, empowering members of a variety of communities to share equal authorization of both the content and structure of the archive.

Relational architecture enters into conversation with other researchers in the digital humanities that explore what these new methodologies and methods can mean for researchers and the production of knowledge. Authors in Ridolfo and Hart-Davidson's *Rhetoric and the Digital Humanities* speak about the how technology changes how communities think about the production of knowledge, and that, even at the algorithm level, interpretation is inalterably tied to that production (Brown Jr. 30); how computers reproduce hegemony if coders and users alike do not stop to interrogate meaning-making frameworks (Sano-Franchini 50), and that digital humanists must resist such reductions with cultural rhetorics (Sano-Franchini 53). These authors argue that infrastructure and metadata should be recognized as rhetorical, and thus require more tools and conversations to illuminate these forces at work in collectively, and particularly scholarly, meaning-making.

One of the chapters in *Rhetoric and the Digital Humanities*, written by Graban et al., makes the strongest call for new digital humanities methodologies regarding archival work. Relational architecture speaks directly to their article, "In, Through,

And About the Archive: What Digitization (Dis)Allows," that demands more recognition of location, migration and access in particular as rhetorical and charges the field to develop a more ethical approach to archival work that positions these forces as deliberately articulated factors in the archives (223), and to "support multiple functions beyond searching and cataloging, towards *managing knowledge*" (241, italics in original).

Relational architecture very much engages with this idea of managing knowledge, and more specifically, sharing the power embedded in the management of that knowledge. As Cushman and Green relate in a separate piece, the power of portrayal resides in the very information infrastructure that determines what will be shown and what will be hidden, requiring further engagement with that infrastructure itself in order to truly change the hegemony of traditional archival theory. In their undergraduate classroom, they state that their students working with the archives of the Cherokee Nation "begin to see praxis as the *phronesis* it is: ethical action that adheres to conventions of behavior that are set forth by stakeholders" (181). In this case, relational architecture is a methodological *phronesis*[2], an ethical collaborative authoring of the infrastructure that mitigates power of access, arrangement, and agency previously reserved for the privileged.

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[2] Warnick defines *phronesis* as "practical wisdom, or wisdom applied to and made manifest in action…The functions of *phronesis* are to use the products of *techne* wisely, to deliberate well about what is good and advantageous, and to command right action" (305–6). She quotes Stewart's definition of definition of *techne* as "a certain habit of producing under the guidance of true reason" (Warnick 304). Relational architecture is *phronesis* because, as she writes, "The uses to which these products [of *techne*] are put in activity and living are the concern of *phronesis*" " (305). (also see R. R. Johnson; Sullivan)

Chapter 3, "Relational Architecture and Metadata: A Collaboratively Authored Methodology Updating Access, Arrangement, and Agency in The Archives," unpacks the theoretical justification for relational architecture, situating the methodology within traditional archival theory and research practice within rhetoric and composition. It argues for the recursive nature of the relational architecture in which users are continually asked to contribute their interpretation of relationships among artifacts. I use Kirsch and Sullivan's definitions of methodology and method respectively (terms originated by Sandra Harding) to differentiate between relational architecture (as theoretical framework) and folksonomy hashtags (as tool to enact the framework) as I explain how these new elements build onto existing archival theory to augment, rather than erase, existing infrastructures and archival records.

I report back on the origins for this research and position relational architecture as methodology within the existing scholarship, particularly in contrast to research that brings new methods without reconsidering the methodological framework first. Though these methods, such as Oriana Gatta's "word tree," do provide tools to visualize connections between existing keywords, they do not to tackle the issues of access, arrangement, and agency in the infrastructure itself. Though she (and others) certainly achieve their self-described goals, they are still effectively reading and reacting to the archives rather than directly intervening in the authoring of the infrastructure. Others address the potential for new technology and methodologies like actor-network-theory to challenge how researchers work *in* the archives (Fredlund, McGann, and Sidler), but not how users work *on* the archives themselves, even as

more discussion unfold regarding metadata practices (Duval et al.) and social metadata for libraries, archives, and museums (Smith-Yoshimura and Shein).

This chapter makes the argument for a multiplicity of authors and kinds of information to build the supporting data infrastructure, and in so doing, to record a more comprehensive picture of the complex discourse in which the artifacts were originally composed and distributed. Relational architecture augments the *respect du fonds* that governs traditional archival practice, taking into account the origin and circumstances surrounding the collections of artifacts (Millar) because it builds more points of connectivity[3] to other artifacts, and does not try to replace or rewrite existing connections. Relational architecture provides a mechanism by which the community can engage with the archive as *contributing*-users while still allowing for the authority of the archivist to remain intact as the *originating*-user. The chapter also lays the groundwork for the folksonomy hashtag method used in the case study in the next chapter.

Chapter 4, "What Do You Call It?: A Case Study In Building A Collaboratively Authored Network With Relational Architecture And Folksonomy Hashtags In The National Archives Of Composition And Rhetoric," offers an example of relational architecture practiced through user-generated folksonomy hashtags for a set of artifacts from the National Archives of Composition and Rhetoric (NACR). In it, I focus specifically on the research protocol developed for a survey for which I recruited 45 scholars in the field of rhetoric and composition to provide keywords and

---

[3] I use the word "connectivity" throughout this dissertation as Newman uses it to indicate the "*existence* of paths leading between pairs of vertices" (189, italics mine), rather than as a measure of robustness as it is routinely used in graph theory. Robustness measures the smallest number of nodes or edges that can be removed before resulting in a disconnected graph (see Dekker and Colbert).

associative phrases for 20 artifacts available on a Qualtrics survey. I describe the protocol that I developed and deployed, reflect on methodology and tools, and analyze the contributions and demographics to unpack the making of knowledge within the community of users of the NACR. This work brings transparency to the "writing" of the archives, expanding and tracking meaning-making during the indexing process. Challenging that traditional position of the archivist establishing intellectual control, relational architecture adds to a growing body of work subverting linear knowledge production (Hirsu), complicating the coding of artifacts (Sheridan et al.), and unpacking the meaning making potential of search engines themselves (Granka; J. P. Purdy).

I use the results of the survey to embed what Ritter called "archival ethnography" which "privileges the position of the archivist as community interloper" and interpreter (Ritter 461) alongside Yancey's declaration that "we value moments depends on how we connect them to other moments (Yancey, "Made Not Only in Words" 297). If, as Yancey writes, good writing is entirely dependent on context and local culture (312), then the "good writing" of the archives also requires context and local culture, something which a single individual recording a record cannot possibly hope to achieve. I use the results of the survey to build a graphic visualization of the network that results from the folksonomy hashtags contributed by 45 survey participants, pulling out one artifacts in particular to illustrate what is added to the record and the infrastructure when the archivist is allowed to contribute personal-professional tags, and how those stand in contrast to the submissions from participants representing other communities and ways of knowing.

Chapter 5, "Flexible Framing, Open Spaces, and Adaptive Resources: A Networked Approach to Writing Program Administration," suggests a networked approach to the work of the WPA. It argues that archival theory is directly relevant to WPA-like work for two reasons. First, WPAs generate a lot of stuff, documents and other ephemera that require careful indexing and describing if current and future users will be able to effectively locate and utilize the available resources. Archival theory provides practical and theoretical frameworks so that WPAs can use to organize all that stuff in meaningful and flexible systems. Second, archival theory is also relevant to the organization of the non-artifact resources, like programs, activities, and assessment praxis. Relational architecture specifically offers an open and collaborative organizational framework with which WPAs are able to more fully provide those flexible framing, open spaces, and adaptive resources at archival and structural levels. More generally, archival theory offers an approach for WPAs to grapple with the stuff as well as the rhetorical influences of organizing the stuff.

Relational architecture's value for a myriad of applications including WPA-like work is that it elevates archival practice from a static taxonomy to a networked information infrastructure driven by user contributions. Applied specifically to archives, whether in the library's special collections or the WPA's filing cabinet, recognizes the inherent positionality of the originating-user, and encourages the authoring of a network that is more transparent to users and a system of indexing better able to articulate the context in which an artifact was originally created, both of which make the artifact more accessible for current or future application. With regards to the WPA, relational architecture serves as a lens through which to recognize and act

upon the need for flexible and responsive arrangement to meet the needs of a variety of users. This applies in both the organizing of the actual archives as well as the distribution of resources of the entire WPA program.

Rather than adding another responsibility to the WPA's shoulders, this approach recognizes that WPAs are, in fact, already archivists. They enact archival methods regularly when filing documents, arranging resources in a physical or digital space, and building program websites because they are organizing resources according to specific principles and practices driven by internal context and understanding of usability. Relational architecture works complements tandem with theories such as institutional critique (Porter, et. al) and intersecting identity politics (Craig and Perryman-Clark), most of which position the WPA as the respondent moving rhetorically through the institutional confines thrust upon her. Though the power, position, and scholarship of the WPA has been discussed extensively (Rose et al.; H. Miller; Harris; McGee and Handa; E. M. White; Dew; Rose and Weiser; Olson and Moxley; Day et al.), far fewer have discussed the WPA as writer of the systems in general (see Melzer), and as writer of the archives in particular. In other words, institutional critique and other theories may be a productive tool for intervening in those larger institutional forces, but may not provide enough of a working framework for the WPA actually putting files into folders and figuring out guiding principles for distributing recruitment emails. Relational architecture moves as a counterpart to these conversations, and in this chapter, will specifically focus on practical applications like program assessment and research, the necessity of open systems for WPA archives, and the benefit of networked approach for WAC/WID work in particular.

Though relational architecture is a practical methodology for engaging in archival work, it also has applications beyond the organization of actual archives. With implications for digital literacy, collective authoring, and networked practices, relational architecture provides a critical eye through which to view power dynamics in the development and perpetuation of the systems that drive how users engage with ways of knowing and doing in archival work, rhetoric and composition, and administrative praxis.

**CHAPTER 2**


RELATIONAL ARCHITECTURE: THE ETHICS OF ARTICULATING

POWER IN ARCHIVAL INFRASTRUCTURES


> "[M]ore critically inflected work is needed as well: work that not only points us to relevant databases and explains how to conduct searches within them or navigate the deep Web, but also considers the structures of the digital tools themselves, and whose practices, values, and investments they represent. In much the same way that scholars have come to recognize the politics of 'conventional' archives and begun to historicize and excavate their creation (Finnegan 2006, 118; Stoler 2002), we should be attuned to, and ready to critically engage, the production of 'digital archives' in our own time."
>
> (Solberg 56)


**Introduction**

In this chapter, I argue that "relational architecture" fills a critical gap in archival practice at the intersection of archival theory, digital humanities tools, and the power of the interface. Relational architecture, a methodology that I developed and introduce in this dissertation, is a recursive networked information infrastructure that is collaboratively authored based on user understanding of connections between data points such as artifacts. More than a functional response to big data in archives, or even a best practice for archivists, relational architecture is an ethical response to the inherent silencing of the "other" at work in traditional archival process and principles.

My work seeks to push back against existing information infrastructures that limit arrangement and description to restrictive binary-based hierarchies, and actively interrogates the power dynamics of the coding of the infrastructure itself. Building on the seminal "Politics of the Interface" by Selfe and Selfe as well as more recent scholarship by Sano-Franchini; Johnson; Graban, Ramsey-Tobienne, and Myers; and McPherson regarding the power of the digital humanities, this dissertation recommends relational architecture as a practical methodology to engage directly with the power of the interface in archives to expand and enrich both the user experience and the infrastructure itself.

Relational architecture is a methodological approach to archival practice that allows users to formally record Kirsch and Royster's three critical terms of engagement for feminist rhetorical practices—critical imagination, strategic contemplation, and social circulation—by building a dynamic network on top of the original hierarchical order of the archives. The resulting digital web builds connective tissue is constantly cultivated by new understandings of one artifact's relationship to another. In best practice, this new infrastructure is collaboratively authored by a spectrum of users and applies equal weight to new and original connections. This collaborative authorship of the coding of the infrastructure itself augments the original database, supporting multiplicity, wider routes of access, and equity of agency.

Most of the existing scholarship focuses on reading and responding to existing archives as researchers (Solberg; Graban, "From Location(s) to Locatability"; Ramsey et al.; Kirsch and Rohan; Enoch and Gold; McKee and Porter), but this chapter addresses issues of ethics regarding the access, arrangement, and agency embedded in

the information infrastructure of the archive itself. Though the field recognizes the human hands at work in the process (Ramsey; Morris and Rose), I argue that feminist inquiry must include praxis-driven technological mechanisms able to situate critical awareness of the meaning-making power inherently embedded in the information infrastructure. By this, I mean that the infrastructure itself must support a research practice that enacts a multiplicity of arrangements and interpretations; enables wider and non-traditional routes of access; and grants agency to all users who wish to move through a community without prejudice or privilege.

I argue that this approach—in which the rhetorical moves of both the archivist and the user are articulated and (more) permanently situated in the record itself—fills a critical gap in the effort to more ethically represent the selection, description, and interpretation of data on the journey of research and scholarship. Relational architecture subverts the traditional binary by building multiple layers of connection into the information infrastructure and enabling organic access beyond archival or institutional silos. It calls for multiple voices to be documented and valued on the official record, enhances transparency and reproducibly, and generates pathways able to track and quantify the ways that different communities build and share knowledge

**The Exigency of Relational Architecture**

I developed relational architecture when I first encountered the National Archives of Composition as a graduate student at the University of Rhode Island (see Chapter 3) because traditional archival practice of privileges *respect de fonds* (original order and provenance) above all else, and I argue, at the expense of anything else. *Respect de*

*fonds* protects what Millar calls the "integrity of the archive," so that all artifacts from a single provenance (the creator or source) are kept together as a "unified whole." Theoretically a sound practice, Millar goes on to write that artifacts must not be "intermingled with archives from another source, and that all archives within that unified whole should be preserved in the order in which they were made and used (original order)" (268). The idea is to keep artifacts in their original context, which is a necessary and admirable goal, but I contend that traditional archival theory is ultimately damaging to research with its narrow functionality. It means that archivists are essentially being asked to arrange artifacts both physically and categorically, to define them, and effectively determine what each of them does and means. I maintain that it is impossible and, in fact, irresponsible, to ask archivists to singularly define an artifact, and I will use the folksonomy hashtag method (explained in detail below) to build relational architecture in order to reveal and address existing gaps in archival work.

*Respect de fonds* results in an archival practice in which archivists, with the best of intentions of keeping together a cohesive collection, attempt to "control" artifacts, by isolating them in the original (static) provenance of the collection, effectively taking them out of the culture and larger context in which they were generated. Existing organizational systems lack any mechanism which could connect items between collections, or even within the smaller hierarchies of a single collection. Tirabassi discusses her challenges to finding aids even despite her prior experience with archives, writing that:

I found that I still needed to learn more about the archive itself, its structure, policies, and procedures, and the staff working daily in the archive to help me negotiate the distance between my research questions—what I wanted to know—and the artifacts that would give me answers or lead to more, nuanced questions. Another important part of knowing the archive is researching the archive in its local context, not only its specific policies and procedures but also its theoretical underpinnings and priorities. (177)

Relational architecture, on the other hand, works as a recursive networked approach to authorize previously marginalized communities, elevating their voices in order to challenge and complicate existing dominant and privileged perspectives. Relational architecture engages more directly with the researchers' ethical responsibility to actively reflect on the power dynamics of the infrastructure, but this work also recognizes the positionality of the archivist herself as rhetorical. Relational architecture sets the archivist up to process the archives with traditional theory and then go on to augment the record with a fuller context based on her own voice and experience by recording her specialized knowledge and interpretation via relational architecture in a manner that would not have been available in traditional archival practice alone. To do so also embeds a reflective space in which to honestly and ethically engage with her own sympathies and "love" (Lepore), or lack thereof, towards historical subjects.

Relational architecture satisfies an ethical response to these challenges because it changes the gaze of the users from the artifact as endpoint to artifact as dynamic node

of discourse within a collaboratively authored network. Pulling back to view and construct the infrastructure of the archive as rhetorical means that researchers become users, and more specifically, *contributing*-users more akin to "prosumers" who blend former distinctions between experts and novices (VanHaitsma 38). In this new position as agents of authority, all users who engage with the archives are now able to speak back to the archives rather than simply view as powerless observers. In essence, rhetorical architecture writes respect for persons, beneficence, and justice, elements discussed later as part of the Belmont report, into the fabric of the archive because it: 1) acknowledges that multiplicities of experience, knowledge, and values exist; 2) illuminates archival processing work as rhetorical; 3) recognizes the infrastructures itself as equally rhetorical to the human hands that process the collection; and 4) records and values multiple kinds of knowledge as part of the official record and meaning-making system.

**Engaging the Power of the Interface in Archival Work**

As Marta Werner writes, "The archive is not as outsiders imagine it—a space of order, efficiency, completeness—but a space of chance meetings between what survives and those who come to look for it without knowing it is truly there" (481). More specifically, I contend that the archival *infrastructure* is not as many of us imagine it—modern, flexible, and adaptive—but instead is regimented and antiquated, unintentionally reproducing hegemonies with code that reduces complex artifacts to binaries and static definitions. Without active interrogation of the code behind the platform, archives, digital or otherwise, still embody Selfe and Selfe's warnings from

1994 that "computers interfaces…are…sites within which the ideological and material legacies of racism, sexism, and colonialism are continuously written and re-written" (484 qtd in Sano-Franchini 50).

As Graban et al. argue, "When historical metadata migrate from print to online spaces, rhetoricians must (re)define *open* and *access* so as to more ethically reach wider publics" (237, italics in original). Potts, in fact, maintains that rhetoric and composition is uniquely positioned to guide development of digital humanities projects "because of our knowledge of how to architect, manage, and improve both the process and the building of these products and services" ("Archive Experiences" 258), becoming what she refers to as Savage's "agent[s] of social change" who are able to "move on this moment and architect for experience, rather than simply archiving collections" ("Archive Experiences" 261). Relational architecture is one such effort to break and remake the interface to count the ideological and material legacies by embedding resistance in the form of multiplicity, transparency, and evolving connectivity.

As Cushman and Green relate, the power of portrayal resides in the very information infrastructure that determines what will be shown and what will be hidden, requiring further engagement with that infrastructure itself in order to truly change the hegemony of traditional archival theory. They focus on the implications for undergraduate work in the archives, writing

> Because it frames the reflective practices, rhetorical conventions, and
> infrastructures that enable learning, a praxis of new media offers students a

language for understanding their authorship, representations, and ownership. They begin to see praxis as the *phronesis* it is: ethical action that adheres to conventions of behavior that are set forth by stakeholders. (181)[4]

In this case, relational architecture is a methodological *phronesis*, an ethical collaborative authoring of the infrastructure that mitigates the power of access, arrangement, and agency previously reserved for the privileged.

The complications of working in the archives goes beyond access even in terms of accessing the artifacts themselves, extending to access of the authorship of the structure of the archive. As (MacNeil; Guthrie; Yakel; Dunsire et al.) and others write, the authoring (and subsequent authorizing) of the archives themselves is significant. Regardless of digital capabilities or physical record, what goes, what stays, and what it says all matters. So long as that arrangement practice stays with a single archive and only allows for a single interpretation, users cannot challenge the archives itself in meaningful ways. They can read and respond productively like Enoch and VanHaitsma, Graban, Gries, Finnegan, and Gaillet, or develop and deploy methodology that push back against the power inherent in the voices of official resources like (Kirsch and Sullivan; Kirsch and Royster; Royster and Williams), but until the infrastructure itself adapts to support multicity, transparency, and evolving connectivity, the ideological and material legacies remain as shadows hanging over the archives.

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[4] For more on pedagogy and digital archives, see VanHaitsma; Enoch and VanHaitsma; Mueller; Buehl, Chute, and Fields.

Solberg highlights the significance of digital tool regarding findability, reporting on how the search engine shaped her ability to trace female writer Frances Maule through less traditional artifacts and pathways. Though she credits digital research tools with helping her follow Male's life more easily than she might have through traditional archival finding aids alone, she warns against simply accepting digital as better:

> The digital search doesn't simply speed up our "predigital" search methods—it shifts and transforms the epistemological spaces we occupy as researchers. It creates new habits, new ways of interacting with information, and new opportunities for serendipity as we move through texts…Crucially, while principles of proximity do not prioritize digital technologies, they do create an epistemological space within which to read and analyze technologies and research practices as mutually shaping; they invite us, as well, to consider both digital and nondigital technologies, which are often so enmeshed that it makes little sense to treat "digital methods" as something that can be cordoned off from the general work of historical research. (Solberg 68–69)

She, like Graban and others, argue that digital technology have the potential to enable researchers to do more than "recover" women's work by "placing those practices in context, and tracing them across the span of a life or career… to further understand the transfer of rhetorical and literacy skills through time and across contexts: from one activist site to another, from school to work, from work to

community and political life, and so on" (Solberg 59–60). Relational architecture provides a methodology able to implement both the archival practice and the supporting digital structures by recording that context and formalizing the traces through non-traditional spaces where women and other marginalized communities have traditionally contributed.

Relational architecture intends to transform the framework itself into an epistemological space by inscribing and illuminating the process in action of meaning-making by the archivist. Related to the work done in "Cognitive Process Theory of Writing," in which Flower and Hayes discuss their findings from a protocol analysis in which they gather information on the writing process by having participants speak aloud about their writing as they compose (368), relational architecture is actually a coding protocol. In this case, it is a protocol designed to allow current and future users to track the "writing" of knowledge as more experienced writers—the archival researcher—articulate their rhetorical moves through the archives just as Flower and Hayes' participants articulated their rhetorical moves as they composed.

Relational architecture illuminates the previously singular authorizing of the archive to engage with the turn towards more direct engagement with authority, and more specifically autonomy, in conversations that regarding ethics and methodology that are becoming more prevalent in research across academic and industry. The Belmont Report, a government document from 1978 that now forms the basis for the ethical treatment human subjects in biomedical and behavioral research in the United States, offers another lens through which to understand the ethical responsibilities of researchers in arguably any field, including archival work. The report is grounded in

three central principles: 1) respect for persons, 2) beneficence, and 3) justice, ideals which clearly apply well beyond biomedical and behavioral research (The National Commission for the Protection of Human Subjects of Biomedical and Behavioral Research). The Belmont Report and now required IRB protocols and requirements have not simply sprung up from a dearth of paperwork; this call for respect for people, beneficence, and justice built into institutional mechanisms materialized because it was sorely lacking in previous research approaches.

I cannot claim that archival research equates to the physical or psychological damage of these participants, but I do mean to suggest that there are potentially similar long-term damages being inflicted on vulnerable populations. Though physical lives are not at stake, the histories we report are knitted into our collective understanding of life; if their voices and perspectives are absent from the record, they also become absent from our cultural memory. To do so influences their lives in different but arguably equally damaging way. This means that if researchers continue to engage like archives in the same way—that is, in ways which benefit the research but do not allow the participants them to speak back—then the entire benefitting community is disregarding their personness. As Sharer notes, "Description and indexing practices [help to] establish and perpetuate cultural and social values by allowing only certain materials to become visible to researchers, while obscuring others" (Solberg 63). Contemporary, and specifically feminist, archival work offers a unique opportunity to give voice to the previously marginalized by drawing on mundane documents (Bordelon) or mapping activity (Graban, "From Location(s) to Locatability") to

demonstrate influence at work beyond traditionally-driven archival methods, but most of these approaches work at the artifact level, not the structural level.

I argue that collectively authored archival infrastructures alleviate a similar burden placed upon archivists in the cataloging process, addressing the significance of the situatedness of the archivist because "reading a text about the history of a culture does not translate into a license to represent cultural knowledge" (Cushman and Green 185). This is of note because even with the rise of digital humanities initiatives and funding streams, digitization itself in not means to an end. Though perhaps once the great hope for archives, digitization does not resolve even relatively simple complications surrounding processing itself—that is, simply cataloguing what is contained within a collection—because even that this stage, archivists must make significant choices about what to keep, discard, and arrange. The result is that, even in age of cutting edge communication and processing programs, there are actually three distinct archives within any archival body: 1) the hidden (unprocessed and undiscovered artifacts); 2) the partially hidden/processed; and 3) the visible, which might be traditional and/or digital (Ramsey 79).

**Complexity, Codified and Connected**

Relational architecture is a strong starting point because it embeds a responsive framework generated from the very researchers whose questions cannot anticipated in advance. It challenges the "public intellectual" that, as Cushman argues, often overwrites the knowledge-making and political action of other communities, particularly local communities ("The Public Intellectual, Service Learning, and

Activist Research" 328). Relational architecture also actively addresses how "archival description as a rhetorical genre creates opportunities for examining the social actions that finding aids participate in and accomplish and the ways in which these descriptive texts work to construct a community of writers and readers" (MacNeil 485). Taking resource descriptive framework (RDF; see Seadle) encoding to the next level, relational archival takes on the challenges of representation Yakel describes facing archival representation that is "both the processes of arrangement and description and is viewed as a fluid, evolving, and socially constructed practice" (1). By both grounding the artifact in a point of origin based on original order and elevating that fluid and evolving practice in the form of an infrastructure on top of a traditional taxonomy, relational architecture specifically and this kind of archival practice generally hope to more ethically represent the richer picture of the discourse in which the actors originally produced the artifacts.

Formalizing and respecting these simultaneous rhetorical forces then positions users to do more than simply develop historical narratives, instead empowering them to investigate questions such as how, what, and why cultural forces are reproduced or re-appropriated. The resulting intentionally and collectively cultivated network better enables users to act on Kirsch and Royster's call for an ethos of care, introspection, and attention to context in rhetorical research (664). Cushman and Green describe this kind of approach as a "praxis of new media [that] helps students identify the ways in which policies, institutional conventions, and procedures for composing with new media enable and limit their knowledge work" (179–180).

Relational architecture also speaks to the work being done on information infrastructures in other fields that call for further illumination on the power of the interface. Granka's focus on the politics of search picks up on how the power of the coding infrastructure itself, the algorithms that determine indexing and ranking, can influence resource retrieval (364). She discusses benefits, algorithm transparency, and abuses of power in the existing system, finally asking if the search market can be diverse and democratic, particularly when her research indicates that "patterns of media dominance and ownership that are present offline are merely reproduced online" (Granka 369). Hallinan and Striphas raise similar concerns over the Netflix Prize[5], which they write "affirms the importance of situating any analysis of algorithmic culture in the details of cultural production" (130). Relational architecture also aligns with conversations in library science and information systems about authority in coding architecture (Feinberg), web information architecture (Burford), and global language network (Ronen et al.) that push back against traditional ways of doing that directly influence ways of knowing in significant ways.

Networked technology like that applied in relational architecture allows for the application as the methodology for inscription and preservation of an "inquiry framework" that is "fully aware that both questions and answers shift dynamically as

[5] As Hallinan and Striphas write, "The Netflix Prize also raises challenging questions. What happens when engineers—or their algorithms—become important arbiters of culture, much like art, film, and literary critics? How do we contest computationally-intensive forms of identification and discrimination that may be operating in the deep background of people's lives, forms whose underlying mathematical principles far exceed a reasonable degree of technical competency? What is at stake in 'optimizing' would-be cultural artifacts to ensure a more favorable reception, both by human audiences and by algorithms? The Netflix Prize opens up these questions, and though it hardly settles them, it nonetheless offers needed perspective on what *culture* may be coming to mean. Indeed, if *culture* is not exactly what it once was, then this is all the more reason to make sense of it anew. Otherwise, we risk hampering our ability to participate meaningfully in a world in which culture and computation are becoming less distinguishable from one another" (131,italics in original).

knowledge shifts," and is able to act on "strategies engendered by an ethos of humility, respect, and care—an ethos we consider critical to excellence in rhetorical inquiry" (Kirsch and Royster 649). Collaboratively authorized networks in archival work not only "showcase how research and writing together participate in knowledge production" (J. P. Purdy 48), but also positon users and consumers to re-see "historiography through this lens means privileging the position of the archivist as community interloper, thus creating a shift in responsibility from interpretation of archival material to public transmission thereof" (Ritter 461).

These theoretical underpinning and priorities are some of the invisible rhetorical forces that relational architecture attempts to address by pulling back the research protocol mechanisms to also engage with the tools that determine findability as rhetorical in themselves. A networked approach like relational architecture provides a framework for what Gries termed the "whole story" in which users are able to "investigate not only how discourse is produced and distributed, but also how once delivered, it circulates, transforms, and affects change through its material encounters" (333). But it goes a step further beyond discover to actually inscribe that journey into the interface so that future users might access develop a "deeper understanding of how things are not only(re)designed, (re)composed, (re)produced, (re)distributed, (re)transformed, and re(circulated) in a viral age but also how they generate re)transformed, and re(circulated) in a viral age but also how they generate a wide range of unforeseeable consequences as they as they (re)assemble our collective lives" (346).

Relational architecture and other methodologies offer the opportunity for archival research to embed these values into the very structure itself. Even software systems as user friendly and sophisticated as Google Drive is organized in a linear fashion, and actually moves resources from one folder to another rather than something like Zotero which applies multiple tags. Zotero goes further, allowing users to artifact in a place and builds bridges to it, rather than allowing the bridges to dictate the location of the artifact, rather than making the system a collective without a central (or privileged) nexus, but this is only for private use and does not finally impact the infrastructure of the larger system. Artifacts are the product of human discourse, and to treat them as static items without the touch of human authors—or influenced by human hands that built the coding—is to remove authority, integrity, and personhood from the authors as well as the discourse community in which they were produced. Relational architecture takes on Solberg's declaration that researchers "have not typically been concerned with explicating the role that digital technologies might play in positioning the historical researcher or mediating that researcher's relationship to her subject" (Solberg 55), and builds an infrastructure that embodies the multiplicity of discourse, the power of the interface, and the fluid connectivity of a network.

**Relational Architecture as Ethical Methodological Practice**

Relational architecture attempts to do more than simply acknowledge Tirabassi's warning that "because the archival record is incomplete, historical research is often messy, unwieldy, unexpected, and ultimately is always constructed by the historian's selections, omissions, and biases" (175). Instead, it aims to provide a mechanism able

to illuminate for all users how archival theory and interface power influence every stage of a researcher's work, and ultimately "lead the field of rhetoric/composition to serendipitous insights we might not otherwise have" (Tirabassi 178) in three distinct ways: multiplicity, transparency, and evolving connectivity.

*Multiplicity*

Traditional archival theory has privileged the archivist as the singular expert, presuming that he (and it was usually a he) knew what an artifact was. When that description was entered into the record it presented as truth, with whatever label the archivist had fixed effectively determining all that is ever was, is, or would be. Relational architecture acknowledges that the archivist does have specialist knowledge that is critical to the cultivation of an archive, but also acknowledges that no archivist can understand or record every facet of every artifact, particularly as more artifacts are processed that now contribute to an existing contextually related record. Relational architecture assumes that more people bring more knowledge to the table, and beyond keywords more recently used in library catalogues and archives, inscribes the users' knowledge as part of the official record. In doing so, it respects the authority of the archivists while removing the singular privilege, allowing a fuller picture of all understandings of the artifact to be recorded.

*Transparency*

A networked approach also becomes a heuristic of sorts, functioning as a critical reflection of meaning-making practice. Just as scientists must report on the methods

and physical tools used to obtain results[6], now archival researchers also have more

clearly defined tools with which to unpack the complex journey on which they arrived

at their findings. As discussed, the archivists and even the programmers building the

information infrastructure as rhetorical forces that determine which artifacts will be

easy, challenging, or literally impossible to access. Inviting the larger user public to

contribute is a best practice for relational architecture, but relational architecture itself

merely requires more than the singular archivist's voice to build connections between

artifacts based on their multi-voiced understanding of relatedness. As long as those

mechanisms are built into the information infrastructure, the authorship forces are

illuminated without adding undue burden to the researcher while empowering her now

to understand and critical engage with more of the hegemonic forces shaping her

work.

*Evolving Connectivity*

Relational architecture's final piece of an ethical response to archival work is the

foundational understanding that artifacts are produced in response to a discourse

community, and so in order to even attempt to understand and re-present the artifact in

its original complexity, researchers need to be able to establish reproducible links to

other related artifacts. Relational architecture responds to this at a meta-level,

providing mechanism that layer on top of existing archival records so that it is a

stacking effect rather than integrated into the existing systems. It means that existing

archives like the Library of Congress, for example, do not need to change the way they

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[6] For information about related conversation about reproductivity STEM fields, see (Loscalzo),
(Casadevall and Fang), (Lazer et al.), (Munafò et al.), (Open Science Collaboration).

do business, but instead might be persuaded to allow NACR or other organization to build a shell record which is easily linked to their system. The result is that the original record stays intact but bridges of connectivity are able to spiral outwards, both adding to the complexity of the record and making those artifacts more visible and easily accessible than they might have been otherwise. More communities then are able to enter into conversation about the history, knowledge, and practice at work in the artifacts, making it possible for meta-researchers to understand how different communities share and re-produce knowledge that complicates historically dominant narratives and perspectives.

**Conclusion**

Relational architecture enters an existing conversation about ethics in research and archives in particular (Kirsch and Royster; McKee and Porter; Barton; Ackerly and True; Micciche; Enoch and Bessette) from the unique position of engaging directly with the interface. Drawing on archival theory, new technology, and network enables archivists and users alike to fully leverage the knowledge buried in and previously missing from the archives. Relational architecture more clearly situates the positionality of the artifact, the archive, the archivist, and the researcher as important elements in these meaning-making endeavors. For archives in particular, beginning with the infrastructure situates researchers to complicate historical record and contribute to the development of the understanding and application of artifacts in historical, current, and future contexts simultaneously.

Relational architecture is an effort to break the existing interface in productive ways, drawing on the tools of other disciplines in conjunction with the strength of theories developed by rhetoricians and archivists to deploy a system more indicative and respective of the multiplicity of voices contributing to the discourse surrounding artifacts. By highlighting the rhetorical influence of the database that support and inform these kinds of research, scholars are able to more accurately situate their interpretations within a messy context which acknowledges that it is merely an attempt to begin to paint the picture of that discourse. The networked approaches to information infrastructure in general and archival research in particulate enact a more ethical approach to research by recognizing multiple ways of knowing which have been marginalized or silenced in traditional resource retrieval mechanisms.

Relational architecture permanently inscribes Kirsch and Royster's call for care, respect, and reflection in research, and has the potential to foreground the Belmont's guiding principles of respect for persons, beneficence, and justice by creating a traceable map through sources and resources. Building a dynamic network on top of the original hierarchical order results in connective tissue that is constantly cultivated, challenged, and renewed by new understandings of one artifact's relationship to another because in best practice, it is collaboratively authored by a spectrum of users and applies equal weight to new and original connections. I argue that this approach—in which the rhetorical moves of both the archivist and the user are articulated and (more) permanently situated in the record itself—fills a critical gap in the effort to more ethically represent the selection, description, and interpretation of data on the journey of research and scholarship.

**CHAPTER 3**


RELATIONAL ARCHITECTURE AND METADATA: A COLLABORATIVELY

AUTHORED METHODOLOGY UPDATING ACCESS, ARRANGEMENT, AND

AGENCY IN THE ARCHIVES


**Introduction**

I have two idealized versions of myself as a historical researcher. The first is

immersed in the Library of Congress, with beautifully organized and carefully

cultivated stacks stretching as far as the eye can see. I move between artifacts with

grace and expertise, tracing elements and uncovering connections that would make

Sherlock and Watson proud. The second sits front of three widescreen computer

monitors, writing computer code and hacking my way through institutional archival

silos, freeing digitized artifacts from controlling hands and making the information

available to the people. I code, create, and challenge the status quo, disrupting

computer systems and information silos in the name of social justice. In both

scenarios, I am equipped with the skills and the know-how to achieve my goals,

whatever they might be, and to navigate and produce change in the system in which I

am working. In both cases, I have agency as a researcher and a rhetorician. In the first

case, I presume that I have agency and authority, and in the second, I take control of

existing determinations of agency and authority to alter and expand the information

infrastructure itself.

There is a larger rhetorical common thread at work in these two visions of complicating and democratizing access, arrangement, and agency in the archives. Whether digital or physical, archives are arranged by human hands that are often rendered invisible by traditional archival theory (Morris and Rose; Ramsey; Gaillet; McKee and Porter). Accession, the process by which artifacts are organized and described, has historically been determined by *respect des fonds (*provenance, the circumstances surrounding the collection) and *respect pour l'ordre primitif* (the original order of the collection) (see (Millar; Kirsch and Rohan). Recent scholarship explores practical complications as the researcher, and rhetoric and composition researcher in particular, attempts to navigate the structural obstacles originated and continued by traditional archival theory (Gaillet; Ritter; Tirabassi; Eastwood) while other scholarship has grappled with larger questions of methodology in rhetoric and composition (Kirsch and Sullivan; Yancey, *Speaking Methodologically*; Harding; Kirsch and Royster; Johanek) and in the digital humanities/digital archives more specifically (Enoch and Gold; Ridolfo and Hart-Davidson; Theimer; Chun and Rhody).

This chapter attempts to pull together many of the issues raised specifically in Gesa Kirsch and Patricia A. Sullivan's *Methods and Methodology in Composition Research* by proposing a new methodology for doing the work of the archives. More than an approach to working with artifacts, I present "relational architecture" as a methodology for writing the information infrastructure of the archives themselves. Relational architecture is the theory that information infrastructures should be anchored by a point of origin, but continually augmented by building connections

between resources with relationships identified by contributing-users. I use Kirsch and Sullivan's definitions, originated by Sandra Harding, of methodology as the "underlying theory and analysis of how research does or should proceed" and method as "technique or way of proceeding in gathering evidence" (2) (also see Harding 3). Relational architecture is a methodology because it is a theory-driven approach to organizing archives, allowing for research—the development of knowledge through the arrangement of the archives themselves—through a variety of methods. As a theoretical underpinning for how research should proceed, relational architecture calls for the continual generation of connections that layers on top of the original hierarchical infrastructure, pushing a previously static binary to a networked model that provides multiple points of connection between artifacts. The methods that do the work of relational architecture can take a number of forms including folksonomies (Nicotra; Vander Wal; Hirsu; Glassey), iconographic tracking (Gries; Finnegan), and mapping (Graban, "From Location(s) to Locatability"; N. Johnson), but to function as intended, relational architecture requires mechanisms that speak back to inform the code of the information infrastructure itself.

Relational architecture calls for an information infrastructure in which the network is constantly cultivated and expanded by new understandings and applications of one artifact's relations to another. Like string between disparate elements that silver screen investigators use to unpack criminal movement and motivation, relational architecture records and reveals new points of interaction and application in addition to what was originally recorded at the "crime scene." Just as those fictional law enforcement professionals add points of connection based on new information from

41

various sources, relational architecture builds information infrastructure itself out of the contributions of a variety of users beyond the archivist (and the provenance) alone. But this crime scene string example has limited applicability because it is a method (the technique to gather evidence) rather than methodology (the underlying theory and analysis about *how* to proceed).

Relational architecture functions as a methodology because the existence of resulting horizontal connections complement that provenance while the weighting of those connections charts the development and circulation of knowledge. In best practice, it is collaboratively authored by a spectrum of users with structural elements that equally weight new and original connections as authors. Relational architecture thus positions the archivist, previously the sole architect of the information infrastructure, as the originating-user who is one of many users who will build these relationships. Acting like connective tissue between artifacts, relational architecture embeds the connections as nodes of discourse in which they record and reflection the positionality of the users.

I argue that relational architecture fills a critical gap between current archival praxis and the multi-voiced discourse in which the artifacts were originally produced and intended for consumption. Taking up the mantle of what Jim Ridolfo calls the "synergy between rhetorical studies, the digital humanities, and engaged scholarship" (148) this methodology embeds a mechanism for recognizing that archives are rhetorical and archivists are, in fact, authors of both content and systems. Challenging current theory and practice, relational architecture offers the next evolution of archival

theory to advance arrangement, access, and agency in order fulfill the potential of modern technology and meet the needs of researchers in the twenty first century.

**Project Background**

I first encountered the National Archives of Composition and Rhetoric (NACR) at the University of Rhode Island (URI) as a graduate student in my first year of coursework. Halfway through a course called "Histories and Theories of Writing Instruction," our professor invited Dr. Robert Schwegler, professor and archivist of the NACR, to come talk to our class about what was in the archives. Dr. Schwegler told us about the vast collections in the archives from a number of important rhetoric and composition scholars and practitioners, and I imagined something akin to a mini-Library of Congress tucked away in the campus library basement. He mentioned that these collections were mostly unprocessed, some even held in random places like his office closet or the faculty restroom, but I still envisioned THE ARCHIVES, something grand, established, and impeccably organized.

The cracks began to form in the visions dancing in my head when we struggled to locate the archival box I requested from the Elaine Maimon collection. Having worked with the Writing Across the Curriculum (WAC) program at my previous institution, I was fascinated to learn that we had some of Maimon's documents that had never been seen before. I embraced the wandering search through files and indexes, happy to heft boxes around Dr. Schwegler's offices, chalking it up to genuine hands-on archival work. Sure, the boxes weren't processed, and sure, it didn't look like the archives I

imagined, but the stuff was so important that surely, SURELY, it was just a matter of months before the processing began in earnest.

A year later, I took Dr. Schwegler's seminar on archival theory in rhetoric and composition in my final semester of coursework. Ideas for my dissertation centered around a corpus-style examination of WAC artifacts were nicely marinating in my graduate student brain, and I hoped to dive into some of the NACR artifacts as part of my literature review. I went again to Dr. Schwegler's office to find what I needed, and this time the reality was impossible to ignore as I searched for a place to sit among the boxes still stacked throughout the office. We talked about what artifacts I could use for my coursework, but still I wondered, how would I find the gems here that I needed to excel in the course and go on to rock the socks off my dissertation?

This new question—how to find useful resources in archives—stayed with me. I also began to think about the supports and obstacles at work, how Dr. Schwegler was the only source of direction in a seemingly chaotic mass of artifacts, and what systematic changes might enable him and other archivists to accomplish their tasks more easily because these were challenged embedded in archival praxis itself. Other archivists and their equally unique organizational systems, the only official records of these critical resources, were also the lynchpin of similarly valuable archives; if those laptops were to crash or individuals were to retire, then no one would be able to find anything. Dr. Schwegler had a huge amount of information at his disposal, but if someone didn't know to ask him, or didn't know that these archives existed at all, all the information and resources would be inaccessible, and being inaccessible was as good as being nonexistent.

I was also very aware that Dr. Schwegler was the only person organizing these archives, and I soon came to understand that what he was doing in processing archives was actually *writing* the archives. His decisions about what to accept, keep, cultivate, organize, describe, and arrange were all rhetorical. Though perhaps naïve, the realization was significant to me because the implications for this kind of power extended well beyond these archives. Every time people organized resources—in a writing center, grad school filing cabinet, or Facebook newsfeed—they were *writing* those resources; they were authoring the dominating meaning-making structure. In the case of the NACR, the only resource of its kind that documents the development of the contemporary field of rhetoric and composition, Dr. Schwegler knew a lot about any single artifact but he could not know everything about every artifact. No one could. But more people, with more information, would have a better shot at filling in the gaps. I thought the easy fix would be to simply include more people in the process. After all, wouldn't it be easy to invite multiple people to discuss, challenge, and collaborate on what these things were, are, or could be?[7]

The wrinkle was that to invite others to genuinely contribute meant building mechanisms that would record and honor their contributions in ways that equaled the archivist's original authoring. It would not be enough to simply ask them to tag items because tags alone did not actually record their rhetorical contributions *as* rhetorical. In fact, there was no mechanism for those tags to influence the infrastructure

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[7] More voices do, of course, complicate the size of the database and other the practical considerations such as designing finding aids and search engines that make findability more effective rather than just more bloated. It does also raise the questions of legitimacy, vocabulary, dominance, and discord. Tools that help implement working solutions to these questions will require direct engagement with Big Data, which Joan (Peckham), Chair of Computer Science & Statistics and Co-Coordinator of the Big Data Initiative at the University of Rhode Island, defines as "Any data effort for which there are insufficient technology or techniques available to domain experts in dealing with any aspect of a data set in any disciplines," with a focus on four keys areas: velocity, volume, variety, and veracity (trustworthiness).

framework that Dr. Schwegler was writing. Tags also would not be able to circumvent the traditional archival theory that said that items could only be placed in isolation from one another in order to gain intellectual control over them (Millar; Pearce-Moses); it would not actually develop a multiplicity in a meaningful way that would challenge the traditional hierarchy in meaningful ways. As Figure 1 illustrates, the hierarchy in this case is in both content and structure. The framework itself is a static binary that only allows up/down movement. But the content also reinforces a hierarchy by privileging the provenance above all else, enabling users only to access the artifacts housed within the boxes within the collection within the archive. In this application of traditional archival theory, the origins as determined by the archivist matter more than anything else in this system, and there is no mechanism for movement among resources; no mechanism for multiplicity of connection; and no mechanism for collaboratively authorship.
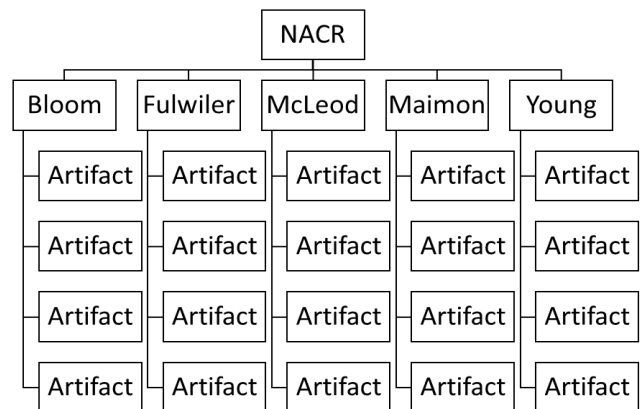


Figure 1. The Hierarchy of the NACR.
All collections are nested within the umbrella of the NACR, but there is not any mechanism for movement amount collections OR boxes; users must return to a higher level before moving onto another resource.

So like any good quiet revolutionary, I decided that I would tweak the system itself. I began to play around with the idea of expanding the information infrastructure. In my graduate student naivete, I thought it would be easy. I had worked with our

Information Technology Services staff, so I figured I just needed to put those personnel resources in the same room as Dr. Schwegler, URI archivists/librarians, and a few computer science faculty. After all, we were just building a groundbreaking networked information infrastructure from scratch, no problem. And we might have done it except for that little restricting factor of budget. We couldn't afford to develop software, buy and maintain servers, or even process and digitize the whole collection. To approach any of this realistically, we needed a grant to kick-start the project before we could really lobby for institutional support.

More than innovate the NACR specifically, however, I realized that what I really wanted to do was complicate the architecture of the information system itself, to push a static system and practice to one generated by constant information. I wanted to duplicate a network model, something akin to Twitter, that allowed users to generate nodes of discourse that would complement, challenge, and complicate hierarchy of definitions. I wanted an infrastructure that would be derived directly from the relationships that users understood and applied among artifacts that could augment the provenance and original order. Most significantly, I wanted to develop a system that illustrated the human hands at work, that called out and respected the voices of the all the communities who made up the community of users.

**Situating in Current Scholarship**

Research theory and practice in rhetoric and composition has become a vibrant conversation in the last few years with scholarship focusing on archival theory and practice in rhetoric and composition (Ramsey et al.; Kirsch and Rohan; Royster and

Kirsch), rhetoric and the digital humanities (Ridolfo and Hart-Davidson; Chun and Rhody; Enoch and Bessette; Theimer), and network methodologies (Mueller; Graham et al.; Spinuzzi, "The Methodology of Participatory Design"; Swarts). Particularly in the archives, scholars are working through issues of digital access (Davidson; Davidson and Goldberg; Enoch and Gold; Morris and Rose), dynamic context-building (Biesecker; Massanari; Theimer), and metadata (Bateman; Dunsire et al.; Duval et al.; Smith-Yoshimura and Shein; Whittemore). At the same time, scholars have also begun exploring connectedness as both a rhetorical force and research tool for meaning making in terms of networks (Lundin; Rice; Spinuzzi, *Network: Theorizing Knowledge Work in Telecommunications*), actor-network-theory (Baron and Gomez; Latour, "On Actor-Network Theory"; Potts, "Using Actor Network Theory"), ecologies (Edbauer; Fleckenstein et al.; Druschke and Rai, Candice; Stormer and McGreavy), and rhizomes (Deleuze and Guattari).

Ridolfo and Hart-Davidson's *Rhetoric and the Digital Humanities* in particular begins to explore what recent technological advances in general and methodologies (like relational architecture) can mean and do for the field. Brown speaks about involuntary blurring of lines between disciplines as technology changes how communities think about the production of knowledge, and that, even at the algorithm level, interpretation is inalterably tied to that production (30). Sano-Franchini agrees, arguing that computers reproduce hegemony if coders and users alike do not stop to interrogate meaning-making frameworks (50), and that digital humanists must resist such reductions with cultural rhetorics (53). She, along with (Anderson and Sayers), Johnson, and others, position the network infrastructure and metadata as rhetorical and

call for more tools and conversations to illuminate these forces at work in collectively, and particularly scholarly, meaning-making.

Graban, Ramsey-Tobienne and Myers make the strongest call for new digital humanities methodologies regarding archival work. Relational architecture speaks directly to their article, "In, Through, And About the Archive: What Digitization (Dis)Allows," that demands more recognition of location, migration and access in particular as rhetorical and charges the field to develop a more ethical approach to archival work that positions these forces as deliberately articulated factors in the archives (233). Matching their call for the expertise of the librarian and archivist to continue to be valued even while building system that are open and accessible (237), relational architecture illuminates the power dynamics to "support multiple functions beyond searching and cataloging, towards *managing knowledge*" (241, italics in original). Graban and Rose, alongside with Seadle, begin to theorize the applicability of the network of the archive in particular (Graban and Rose; Seadle; Theimer).

Figure 2 illustrates how the application of a networked approach without relational architecture is only able to shift the shape but not the structure of the archive. Figure 2 illuminates the gaps between units in which collection are still segregated and
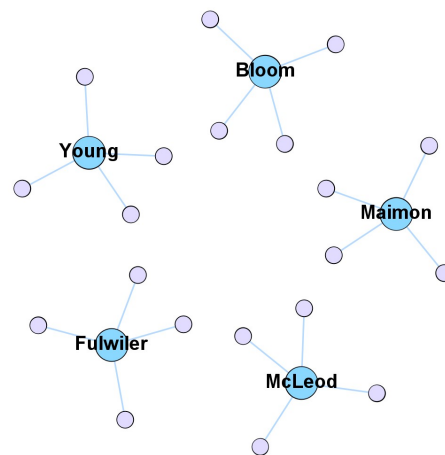


*Figure 2. The Beginning of a Network in the NACR Provenance has been mitigated, but there are still no mechanisms for overcoming inherent divisions between units.*

artifacts are connected in singular pathways. A series of networks rather than collective whole, the infrastructure itself still lacks the mechanisms to overcome the erasure of movement, connection, or collaboration. Though this networked approach has flattened the hierarchy somewhat, it still has not overcome it.

Relational architecture indeed becomes a system of managing knowledge because it provides a mechanism to do more than simply acknowledge and record additional information in the form of the typical keyword tag. But I would argue that rather than *flattening* the network of the archive, relational architecture amplifies the network to a 3D entity that is able to do more than trace connectivity. Figure 3 illustrates what happens to the same number of artifacts and collections with the introduction of mechanism of connection at the unit level that fundamentally alter and enhance the shape of the infrastructure itself[8]. Drawing on network and graph theory, relational architecture is able to quantify the growth of a network in which the multi-authored contributions drive the evolution of the very framework itself.

Readers can see the sizes and colors of nodes and lines in Figure 3 (below), all of which articulate new information about content, structure, participation, and circulation of artifacts throughout a discourse community. Relational architecture is able to do this uniquely because it uses the connections themselves—the "string" in the TV police example—to create nodes of discourse rather than lines that run directly between objects. By naming and describing the nature of the connection, the weightiness and expansiveness of the generated knowledge is recorded, providing future users with information far beyond the existence of the connections themselves.

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[8] Chapter 4 unpacks the survey findings from Figure 3 in more detail
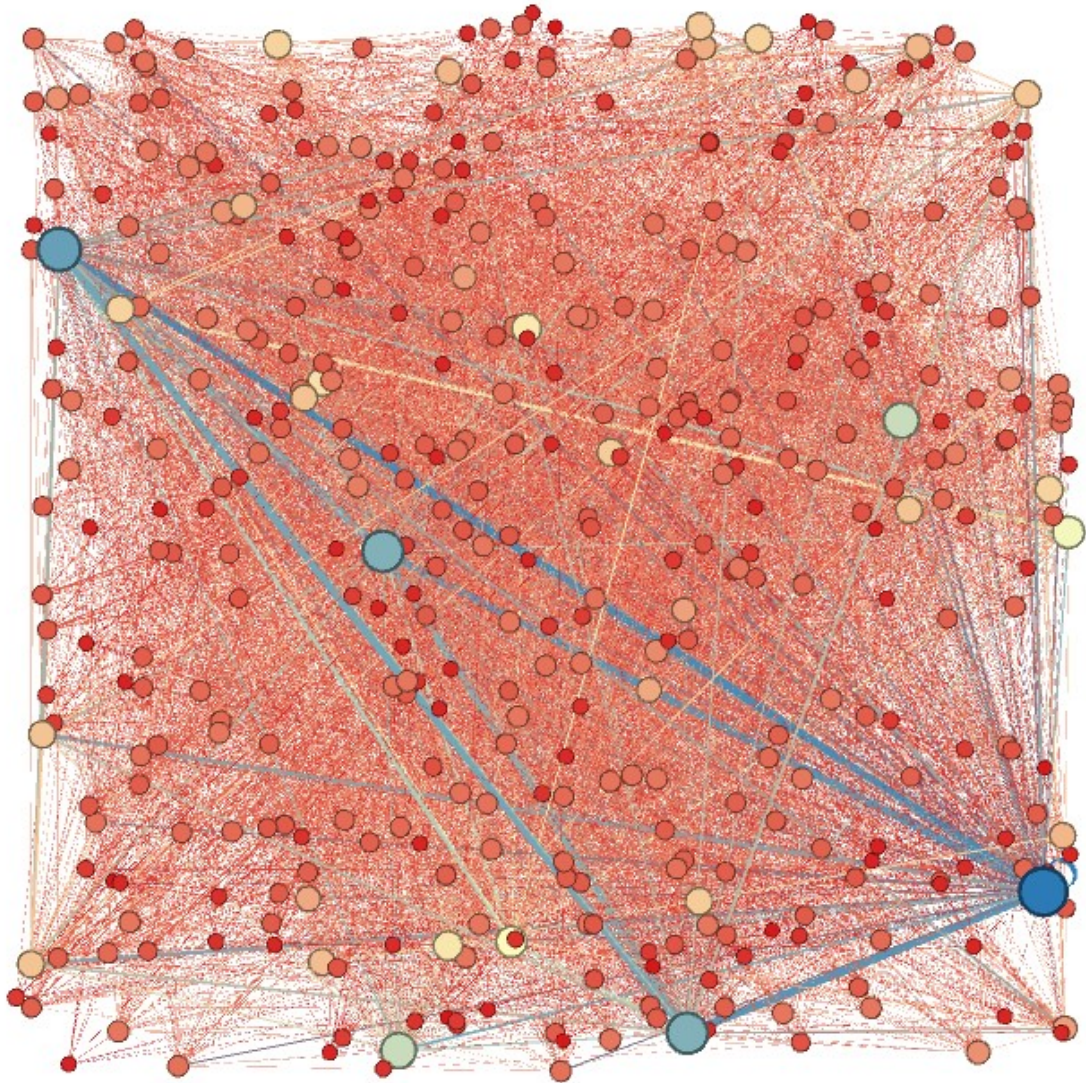
*Figure 3. The Relational Architecture Network*

*This is the network produced in Gephi from the data collected in the survey discussed in Chapter 5. This network includes 1) the Bloom, Fulwiler, McLeod, Maimon, and Young artifacts; and 2) the folksonomy hashtags contributed by survey participants. Data labels were omitted from this image because their inclusion would have rendered the image incomprehensible. The full survey results are discussed in Chapter 4.*

Making visible both the content *and* the framework means users might then be able to utilize artifacts to do more than simply develop historical narratives but also to ask questions such as how, what, and why cultural forces are re-produced or re-appropriated, and better enable us to act on Kirsch and Royster's call for an ethos of care, introspection, and attention to context in rhetorical research (664).

Drawing on scholarship regarding locatability and space (Graban, "From Location(s) to Locatability"; Ritter; Yancey, "Made Not Only in Words"), (Bolter, Reynolds) archivist influence and finding aids (Biesecker; Ramsey-Tobienne; MacNeil; Tirabassi), and metadata data (Whittemore; Bateman; Smith-Yoshimura and Shein; Duval et al.), relational architecture functions like a recursive coding protocol able to illustrate the rhetorical significance of the infrastructure at work in the writing of the archives. Much like the statistical genre analysis described by (Graham et al.), relational architecture develops an inductive coding schema that is refined and developed as users (described by Graham et al. as "raters") contribute more metadata tags[9]. Unlike Graham et al.'s article, however, which investigates similar challenges of including marginalized voices in a large corpus of specialized work, relational architecture does not have a calibration and then closed system application. Rather, it remains fluid to continual development as more users apply new knowledge to the framework.

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[9]Graham et al. report an "an iterative series of schema and rater calibration activities including both group coding exercises and individual coding with subsequent discussion. Following the initial calibration sessions, coding memos and weekly meetings throughout the coding process allowed for continual calibration and discussion, clarification, and development of the provisional schema" (Graham et al. 78). Relational architecture takes on this recursive coding process and implements it as a permanent state of generation. Rather than establishing a set of agreed codes, relational architecture empowers all users to contribute to the coding scheme and to participate in a continuous rater calibration conversation that is then inscribed as a reflection of the discourse of the wider user community.

It complements scholarship that pushes for recognition of the power of information infrastructures in interdisciplinary archives that has resulted in research "lost for twenty years because it failed to reach the right hands" (Manoff 266), warnings that digital tools, and search engines in particular, have "material and epistemological implications for how we discover, access, and make sense of the past," (Solberg 54), and the need for metadata order to recover non-traditional influence in the spaces between artifacts (Graban, "From Location(s) to Locatability"; Graban, "Re/Situating").

Relational architecture pulls back to enable users to move through the system built to tack in and out and able to push back against traditional ways of knowing by challenging the existing [archival] models. Whether specifically "anchored by Western patriarchal values" with expectations and terms of engagement in binary and hierarchical knowledge (Royster and Kirsch 641) or driven simply by the rise of bureaucracy and standardization tracing back to the 19th century guidelines laid out by the Dutch Manual (Barritt) and Dewey Decimal System in 1876 (Weinberger 7–8), the resulting archival theory still at play today requires control and isolation that contains the arrangement of the
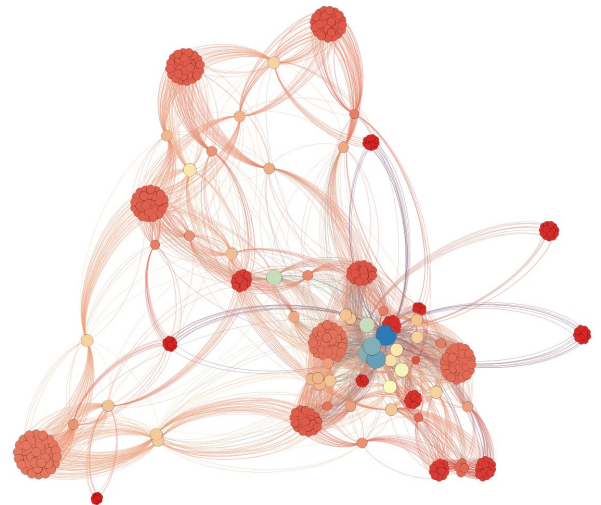


*Figure 4. The NACR Network with Graph Theory*
*This is the same network from Figure 4, but run with a ForceAtlas algorithm in which "Nodes repulse each other like charged particles, while edges attract their nodes, like springs" (Jacomy et al. 2). The nodes (the circles) reflect their "degree" (the number of "edges" or connections) in size and color.*

artifacts, limits access to artifacts or authoring of the record, and curtails agency within the system to a privileged few deemed expert enough to curate. Relational architecture differs from existing systems by pulling out to deal with the performativity of the code itself[10], and inscribes the recognition that the work of the "human hands" in the archives is inherently rhetorical, and in fact, affect the potential production of knowledge. That distinction matters because

> unlike data and information, knowledge contains judgment. Not only can it judge new situations and information in light of what is already known, it judges and refines itself in response to new situations and information. Knowledge can be likened to a living system, growing and changing as it interacts with the environment. (Davenport and Prusak 8) [11]

In this case, definitions and pathways become a multiplicity to augment existing knowledge rather than attempt to become yet another dominant narrative. As such, relational architecture supplements Kirsch and Royster's feminist rhetorical work by positioning reflexive process and collaboration more centrally in the information framework itself, and bringing Porter and Sullivan's postmodern critical practice methodology to bear at the structural level. Because relational architecture illuminates the power dynamics of an intentionally authored network, it acknowledges and

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[10] Relational architecture may reveal the code, but that does not mean that the archivist has to be a programmer. The code that produced Figure 4 is known as Force Atlas and was developed by (Jacomy et al.)

[11] Though Davenport and Prusak suggest that data is wholly objective and free from human influence, many readers would likely argue that data is not neutral either because it is inherently shaped by those who made the decisions that led to this specific collection of this specific data.

internalizes Porter and Sullivan's calls for reflection about relationships with/to locations and participants; recognition of the situated nature of observations and power dynamics, and attention to shifts and changes over time (186). Whatever the method used with relational architecture to articulate the discourse surrounding artifacts and positionality inherent to the archivist, relational architecture empowers users to grapple with the now visualized forces at work.

**Relational Architecture at Work – The Pilot Survey**

While relational architecture as a methodology requires a multiplicity of connections between artifacts (or data points more generally), the application still requires a method in order to collect and apply those connections. For my survey, I am using a method that I have developed called the "folksonomy hashtag" method. The phrase folksonomy hashtag combines two existing meaning-making elements. Folksonomies, originally coined by (Vander Wal) but applied more specifically to rhetoric and composition by Jodie (Nicotra), are defined as multi-user tagging. Hashtags in this case are used in a Twitter-like capacity, where users attach a relevant concept or keyword to 140 character message and that message is then connected across various platforms and devices to other messages with the same hashtag (Wang et al.; Sriram et al.; Chang; Godin et al.; Bruns and Burgess). In this application, the function of the symbol "#" is to create a hyperlink where all messages with matching hashtags are centralized, thereby automatically placing the message in full circulation of the existing conversation. The term "Writing Across the Curriculum" is one

example of a folksonomy hashtag that connects artifacts across existing archival silos in the study discussed in Chapter 4.

Folksonomies hashtags then serve to create nodes of discourse in relational architecture in general and in my survey in particular. In the survey, I define folksonomies more specifically for users of my survey with specific instructions (see below) about the content of their folksonomies, using those tags in conjunction with the hashtag function to build layers of connectivity into the network. Theoretically, these nodes will actually perform (like they do in Twitter) as hypertext that allow organic access between artifacts in the infrastructure itself. In the limited scope of this this research project, I use the tags to generate a network of connectivity that representatives the potential hypertext framework.

In order to ensure points of connectivity, I selected four artifacts from five collections donated by some of the most well-known scholars in the NACR that also have strong connections to the development of the Writing Across the Curriculum (WAC) movement. The WAC movement serves as a basic traceable thread across the discrete collections to identify and articulate connections between previously isolated artifacts, and generate data for visual representation of the
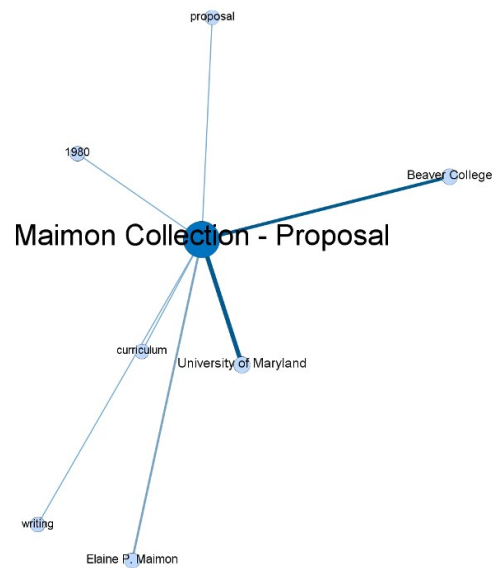


*Figure 5. Maimon Proposal with Traditional Metadata*

56

resulting relationships. I wanted to test the protocol on a smaller pool of participants with a single artifact before I launched the full survey. With a touch of nostalgia, I selected the Maimon Beaver College artifact (Appendix D) that had been the first artifact that I had encountered I worked with from the NACR for the pilot.

Traditional archival theory would call for an official record that included the document title of "Writing and Thinking in the Academic Disciplines." The official archivist-authored description would be something like as "Proposal from Elaine Maimon to the University of Maryland regarding the establishment of a new writing program." The record would have a handful of keywords associated with it by the archivist, and other key descriptors for a researcher might be the author (Elaine P. Maimon) date (1980), institution of the author (Beaver College), and the institution of the audience (University of Maryland). Figure 5 illustrates the points of connectivity as expressed through a traditional archival approach.

But that would be the extent of information included in the official record. I choose the Maimon artifact for a pilot demonstration of relational architecture for a variety of reasons, but the most significant reason is that although the document is clearly about the then-burgeoning WAC movement, but the document doesn't actually use the words Writing Across the Curriculum or Writing in the Disciplines, or WAC or WID. This means that a user would need to know that Elaine Maimon was a significant contributor to the WAC movement in order to understand part of the significance of this artifact if she even found the artifact to begin with. In the case of the NACR, there is no access to the index in digital or physical formats. That means the only way a research could find this document would be through hearing about the

archive somehow (likely through a peer-reviewed publication or conference) and/or speaking with Dr. Schwegler directly.

As part of my IRB approved research protocol[12], I asked seven faculty in the field of Rhetoric and Composition, including Dr. Schwegler, to participate in a pilot survey. I sent an email with an artifact attached as a PDF with the following instructions:

> *Click on the PDF link you see below in order to view the artifact. Consider your knowledge and/or experience as it relates to this artifact in the field of rhetoric and composition.*
>
> *What concepts, ideas, programs, or other keywords do you associate with this artifact? Please separate words or phrases by a comma, semi-colon, or paragraph break. You may contribute as many concepts, ideas, programs, and/or keywords as you would like.*

I did not name or describe the artifact in any way, and named the file itself "Scan of Artifact.pdf"[13]. I also asked for feedback on the phrasing of the question itself. I wanted to leave the association field as open as possible, but also recognized that users needed to understand what I was looking for in order to give usable data. When I later used the question as part of my dissertation survey (Appendix B), I kept my original phrasing in the end but did ask for a minimum of three submissions.

Dr. Schwegler and four faculty members responded to the pilot survey request with contributions listed in Tables 1 and 2. Table 1 lists Dr. Schwegler's contributions based on his knowledge of the history, practice, and people of the field as related to

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[12] URI IRB HU1516-144

[13] When I launched the full dissertation survey, I named files more specifically, using descriptions such as such as "Fulwiler_673_Syllabus" and "Maimon_Newsletter." I used the title of the artifact as identified in the artifact whenever possible to impose as little interpretation as possible, and to encourage as much flexibility in participant contributions as possible.

this artifact in particular:

*Table 1. Dr. Schwegler's Responses as NACR Archivist*

| Archivist | Elaine P. Maimon; Beaver College; University of Maryland; WAC; Writing and Thinking in the Academic Disciplines; Date?; WAC Theory; WID; Mina Shaughnessy; Collaborative Learning; Linda Flower; Junior level; Composition; Shirley; Kenny |
|---|---|
| | *All responses are presented here exactly as submitted* |

Below, Dr. Schwegler's additions have been layered on top of the existing network in Figure 5 to create Figures 6. The newly augmented illustrates how the inclusion of the folksonomy hashtags have augmented the existing points of connectivity. This means that his own personal-professional knowledge—one that recognizes and values his positionality as a person in a specific place and time with particular knowledge moving through the archives—is also now chronicled as part of the official record. Future researchers now benefit from Dr. Schwegler's knowledge as a practitioner in the field on top of his skill as an



*Figure 6 Maimon Proposal with Limited Relational Architecture*
*The network illustrates what is added to the network with the archivist's own personal-professional knowledge is recorded*

59

archivist writing the index.

But even Dr. Schwegler's knowledge can only inhabit a single perspective, experience, and bias. His archivist's "hands," though now illuminated as an originating-user rather than presented as the singular objective account, is still the sole voice and effectively credential as the official perspective. The final graph pushes back on Dr. Schwegler's contributions as singular authority, adding more voices to the official record as well as providing more pathways to related by previously inaccessible artifacts. Though the scope of this chapter does not allow for a breakdown of the demographics of the four participants, later publications will do so to fully illustrate how relational architecture enables and encourages a multiplicity of voices and communities previously marginalized.

Table 2 lists the contributions from the four faculty members, and Figure 7 adds that knowledge and points of connection onto the existing network.

*Table 2. Participant Responses*

| Participant 1 | WAC; WID; Maimon; Beaver College; Kinneavy; collaborative learning; theory and practice; Shaughnessy; Bruffee; scholarship |
|---|---|
| Participant 2 | writing programs, administration, University of Maryland, comprehensive writing program, Yale, University of Michigan, Cal State San Bernadino, Beaver College, writing across the disciplines, writing as learning, evidentiary standards, writing within the disciplines, cognition, Piaget, rhetoric, public writing, Linda Flower, collaborative learning, composition, Shaughnessy, transdisciplinary, |
| Participant 3 | Maryland; rhetoric; writing; disciplinary writing; genre; audience; writing program administration; theory; praxis; collaboration; Shaughnessy; error |

| Participant 4 | writing-across-the-disciplines, elaine-maimon, beaver-college, university-of-maryland, advanced-writing-curriculum, upper-division-writing-education; writing-in-the-disciplines, james-kinneavy, theory, pedagogy |
| --- | --- |
| | *All responses are presented here exactly as submitted* |



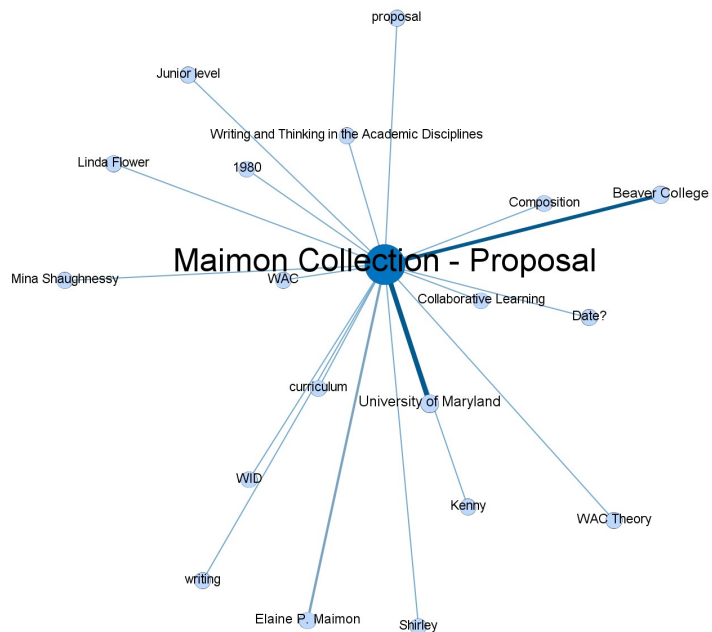*Figure 7. Maimon Proposal with Full Relational Architecture*
*The network illustrates what is added to the network with the personal-professional knowledge of five distinct individuals.*

This pilot study of one artifact record enhanced by the folksonomy hashtags of both the archivist himself (in this case) and four participants demonstrates that

relational architecture has the power to challenge traditional archival theory in productive ways, decentering the archivist to generate new points of access, and creating a practice of multiplicity that is embedded in the information infrastructure itself. Readers can see the exponential increase of points of connection now embedded within the framework as equally rhetorical forces, particularly when the networks are set side by side:



*Figure 8. The Evolution of the Maimon Proposal with Relational Architecture.*

What is particularly significant is that, in theory, these points of connections are now able to cross limits of digital or physical space. Artifacts that were previously only accessible via the finding aid of the collection itself can now be accessed directly via artifacts from different collections or even institutions. Especially with the integration of a platform like CompPile[14], artifacts become accessible through a variety of means and with a variety of voices defining those means. But because

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[14] CompPile is an online resource designed "to allow ready reference to the published twentieth-century work in post-secondary composition and rhetoric, from the beginning of WWII to the end of the century. It does not extend before 1939 or after 1999. It is an on-line, keyworded, searchable inventory for researchers and teachers and anybody else interested. CompPile is offered in the spirit of free research and scholarship" (Haswell and Blalock).

relational architecture operates at the programming level *on top*[15] of the original infrastructure—interacting with artifacts as data points and directly hitting the infrastructure—it enables crossing beyond hegemonic limitations. It creates nodes of discourse which are theoretically accessible from any digital resource, and articulates the evolution of a collaboratively authored rhizomatic system in which all contributions are equally recorded and valued.

**The Work of Relational Architecture**

Relational architecture elevates a static binary to a network, and in doing so, also elevates the user to a *contributing* user able to speak back to the infrastructure itself. This, in turn, creates a recursive coding protocol able to defy traditional limitations of language, organization, and institution in five distinct ways.

*Multiple layers of connection within collections*

Traditional archival theory accounts for only one access pathway as determined by the archivist. When she processes an artifact, she is, in essence, deciding what a thing is, and by doing so, determines what it was and what it might be. Multiple points of connection enable users to move more organically through the system, fully utilizing the power of the non-linear digital world in order to attach multiple points of

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[15] Relational architecture builds from Twitter's universal access across technologies. Strickland and Chandler explain Twitter's functionality across multiple hardware and software options through its application programming interface (API) which is based off RepresentationalStateTransfer (REST, *sic*)architecture. REST architecture refers to a collection of network design principles that define resources and ways to address and access data. The architecture is a design philosophy, not a set of blueprints -- there's no single prescribed arrangement of computers, servers and cables." Relational architecture takes advantage of the same design philosophy, providing a coding framework that speaks between archival systems without requiring those systems to change anything about their own databases in order to participate.

entry to any single resource. Enabling and empowering users to move through the network highlights connectivity as rhetoric, recognizing the power of indexing all data, not just archival data, so that users understand the indexing (and coding of the indexing framework) as performative in itself. Such systems re-present and re-produce hegemonies—often in unintentional ways—much as genres do (Bawarshi; C. R. Miller). Arrangement is one of the original five canons with scholars from Aristotle to Yancey ("Made Not Only in Words") exploring the impact that the organization can have on meaning. Relational architecture presents artifacts as spatially-anchored within specific circulation paths, with the provenance acting as a point of origin that can support an unlimited number of connections. The hashtag folksonomy method formalizes such connections authored by all users, not just archivists, but perhaps more significant. Relational architecture, particularly with this hashtag method, layers infrastructure on top of the existing organizational structure. This layering approach means that relational architecture can be added to systems that are already operational, augmenting the existing infrastructure rather than dismantling it altogether

*Multiple points of access between archives*

Relational architecture sits on top of the provenance-based hierarchy, allowing the original order (with all its institutional circumstances) to remain intact while generating new points of connection in and out of archives and collections. This mechanism responds to the "fundamental shift in perspective, to a philosophy that privileges the user and promotes and ethos of sharing, collaboration, and openness" required by digital archives and historiography (Palmer qtd in Ramsey-Tobienne, 5).

The nodes of discourse chronicle both the researcher's journey of knowledge and discovery as well as the artifact's diffusion of circulation. The resulting network enables allows users to critically examine the "whole story," as Gries suggests in her focus on circulation studies, in which "scholars investigate not only how discourse is produced and distributed, but also how once delivered, it circulates, transforms, and affects change through its material encounters" (333). Her iconographic tracking, developed during her work with the now famous Obama "Hope" poster, is an example of relational architecture at work because iconographic tracking

> make[s] transparent how rhetoric unfolds with time in a constellation of dynamic networks, where rhetorical situations are blurred, initial intensions are often left behind, and agency is distributed amongst humans, technologies, and our material worlds. Such visibility is theoretically productive, as it creates the empirical conditions necessary for developing a deeper understanding of how things are not only(re)designed, (re)composed, (re)produced, (re)distributed, (re)transformed, and re(circulated) in a viral age but also how they generate a wide range of unforeseeable consequences as they (re)assemble our collective lives. (346)

A networked approach that sits on top of the existing taxonomy, relational architecture simultaneously values inhabiting place and encourages encountering difference (Reynolds, *Geographies of Writing*; Lesh), building infrastructure to follow conversation that cross interdisciplinary lines and to tackle issues of locatability, space, and circulation.

*Multiplicity of voices, perspectives, arrangements, and interpretations*

Alongside the multiple points of access are multiple voices, experiences, knowledges, and applications that were, at best, neglected, and at worst, silenced by traditional archival theory. Relational architecture provides a flexible framework in which to more fully reflect artifacts as products of composition in circulation (Yancey, "Made Not Only in Words") but expands the delineation of discourse beyond traditional definitions with a self-generating framework adaptive and agile enough to more fully illustrate the history and potential for meaning-making embedded archival holdings. Bob Connors described archival work as "telling the stories of our fathers and our mothers, and we are legitimating ourselves through legitimating them" (35); relational architecture ensure that multiple kinds of stories about a wider spectrum of fathers, mothers, and others will be recorded and respected throughout the archive.

Relational architecture also enables researchers to map context among and across disciplines and collections, to facilitate traces in the spaces between official discourse, and include and empower marginalized contributes often silenced[16] by more conventional approaches. It also offers a platform for a more equal exchange between community and academic research (Cushman, "The Rhetorician as an Agent of Social Change"), and encourages further exploration of the "inward journey, focused on researchers noticing how they process, imagine, and work with materials" (Kirsch and Rohan 85) and providing space to recognize and speak "to what is 'not yet' as much as to 'what is' " (Graban, "From Location(s) to Locatability" 189).

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[16] See Cheryl (Glenn)'s *Silence* for more on the rhetoric of silence

*Transparency and Reproducibility*

Relational architectures respond to that need for archives, and digital archives in particular, to require researchers to develop a more habitual critical inquiry into the instruments which help generate results because they deal with tools far less visible than pipettes or statistical models. Technology can make access and arrangement much easier, but in doing so, they can also obscure the decision-making process which informs the development of the organizational infrastructure. Users—archivists and researchers alike—continue to think in folders and files because those were the best physical tools available to us, forming a mental habit which has continued to even most basic organizational system on any computer system. Users might be able to customize shortcuts and personal connections from one program or file to another, but they are unique to each user and will not be replicated; they are not "published" so they never enter circulation. It means that less knowledgeable users lose out on the expertise, and new frameworks are never established because system administrators (such as archivist) don't get to see that consensus for a new system is being established; there is no mechanism for to prompt an evolution of the organizational system itself.[17]

Conversations about the need to examine and challenge traditions norms of meaning-making devices are by no means restricted to archives or rhetoric and composition. STEM fields are having their own serious conversation about transparency, replicability and reproducibility (American Society of the International Association for Testing and Materials; Casadevall and Fang; Loscalzo; Open Science

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[17] Even software systems as user friendly and sophisticated as Google Drive is organized in a linear fashion, and actually moves items between folders rather than allowing multiple points of access as relational architecture advocates and embodies.

Collaboration; Munafò et al.) because in order to talk productively about the results,

discourse communities also need to be able to trace and retrace the steps that led

individual users to results. Whether discussing the analysis of scientific findings that

directly impact international aid funding[18]; the ways in which the deployment of

rhetorical devices in FDA-approval hearings influences the success of one side over

another (Graham et al.); or even the rationale for sharing a shadow CV[19], future

researchers cannot hope to confirm or challenge findings if they do not have an

accurate version of the full account on the way to discovery, not just the cherry-picked

parts that made it into publications. The Collaborative Institutional Training Initiative

(CITI) Human Subject Research (HSR) training, required for IRB approval at my

institution, devotes significant time to review of the ethics of authorship, almost in

conjunction with methodology, advocating for a more critical reflection of bias

throughout the research process, positioning transparency and fairness is as critical to

the scientific method as the hypothesis or method, asking researcher to lay out the

factors that could influence data—like bias and decision-making rationale—as much

as the other tools which impact results and analysis[20].

*Tracking, Mapping, and Quantifying the Spread and Development of Knowledge*

　　Relational architectures answer Solberg's call to "help make more of the traces

that do remain" and enable scholars to do more than just "recover" marginalized work

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[18] See "worm wars" for an example of the potential impact (and controversy) of replication analysis. The 2015 article by Aiken et al. (yes, that is my brother-in-law) challenged the findings of the definitive 2004 study on the education benefits of deworming in Kenya, and launched a national conversation about both the science and the funding justified by the initial findings (Humphreys).

[19] See Devoney (Looser)'s article on what her vita would look like if it recorded rejections and failures as well as her accomplishments.

[20] CITI materials are proprietary, but more information about the HSR training program can be found at https://www.citiprogram.org/index.cfm?pageID=88.

(Solberg 59–60), instead positions artifacts as spatially-anchored within specific circulation paths that are able to visualize and formalize what they describe as the "critical importance of addressing interstitial needs as we draw relationships between the known, the unknown, and what we may never know" (Kirsch and Royster 658). Enacting Ritter's call to prioritize archival ethnography, in which "reseeing historiography through this lens means privileging the position of the archivist as community interloper, thus creating a shift in responsibility from interpretation of archival material to public transmission thereof" (461), relational architecture creates a methodological foundation by which researchers articulate and account for structural hegemonic influences as much as personal bias. This is the strength of approaching archival work as a rhetorician; to recognize the meaning-making power of information infrastructures in and of themselves, and to reinforce the values and conventions of rhetoric and composition by considering and making arrangement, agency, and access an integrate part of the "official" discourse of the archives.

**Conclusion**

More than supporting the field's turn toward collaboration, relational architecture requires and rewards the larger communities' engagement with history, practice, and praxis. In the article about his work with the Michigan State University archive of Samaritan manuscripts, Ridolfo asks scholars to adopt Cushman and Green's reciprocal relationships to "promote collaborative development and research… for how rhetorical historiography may complement and enrich the work of building and delivering digital cultural repositories" (Ridolfo 148). Relational architecture moves

this reciprocity to the forefront of archival work in rhetoric and composition, but also models what data infrastructure and information design can mean beyond the archives.

Relational architecture offers a habitual critical reading of the archives themselves similar to what Ritter describes as archival ethnography, in which "reseeing historiography through this lens means privileging the position of the archivist as community interloper, thus creating a shift in responsibility from interpretation of archival material to public transmission thereof" (461). Similarly, Ramsey-Tobienne is interested in the connectivity between user and archivist, user and user, and user and multiple collections, with digital finding aids potentially giving new and more varied context, connections, and invention than previously possible (6).

As Biesecker reminds us, "whatever else the archive may be—say, an historical space, a political space, or a sacred space; a site of preservation, interpretation, or commemoration—it always already is the provisionally settled scene of our collective invention, of our collective invention of us and of it" (124). She pushes archival research in rhetoric and composition to grapple with the hegemonic forces at work, the *archive* within and between the archives, warning that "archives cannot *authenticate* absolutely but can (be made to) *authorize* nonetheless," calling for the field to actively "write rhetorical histories of the archives, which is to say, critical historical of the situated and strategic uses to which the archives have been put" (430).

Recent national events have sparked new conversations about digital literacy and how to address fake news in the classroom[21]. Relational architecture offers a model of how to explore digital literacy, examining the infrastructure that inform access to

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[21] See the WPA-L Archives at https://lists.asu.edu/cgi-bin/wa for "more than fake news" (item 168154 on 12/4/16); "CFP: Literacy, Democracy ,and Fake News" (item 168408 on 12/23/16) and "A course in science writing, rhetoric, and bullshit"(item 169060 on 1/29/17) as a few recent examples.

information and power dynamics in the naming of things. Complementing scholarship that explores how networks and archives promote critical thinking about sources (Mueller; Lundin; Buehl et al.), relational architecture offers an opportunity for students of all backgrounds and ability to do the work of coding the archive themselves, learning not only how to process and preserve archives but also to consider ideas of agency, access, and arrangement in all resource infrastructures.

Those lessons can be expanded beyond the classroom, pushing all users to understand the algorithmic forces at work in Facebook, Twitter, and other platforms for accessing information (Stroud et al.; Huberman et al.; Java et al.; Wang et al.; Sriram et al.). Users in the general public, it seems, have become (or maybe always were) out of practice with the ways of knowing and ways of doing that they encounter in their everyday lives. *How* information is presented to users, *who* writes that nature of that presentation, and *why* they have written it are questions that seem to become even more critical as America's 45th President begins a term in office. Relational architecture does not answer all of these questions, but it does remind users to *ask* the questions, to engage with the frameworks that deliver the answers, and perhaps even to examine that forces that shaped the origin of the question itself.

CHAPTER 4

WHAT DO YOU CALL IT?: A CASE STUDY IN BUILDING A

COLLABORATIVELY AUTHORED NETWORK WITH RELATIONAL

ARCHITECTURE AND FOLKSONOMY HASHTAGS IN THE NATIONAL

ARCHIVES OF COMPOSITION AND RHETORIC

> When we reframe design through a discourse, designing on a meta level, we are actually designing design, as we are giving design a different meaning, changing frame to include or exclude what we do or don't consider as a part of the field.
>
> (Faust 109)

**Introduction**

Most archives are in desperate need of processing. A far cry from a novice

researcher's visions of the impeccable stacks of the Library of Congress or the British

Library, meticulously maintained by an army of curators, most archives are boxes of

stuff not quite forgotten in a closet or basement, maintained by a dedicated curator

doing her or his best to keep up processing on top of official job description

responsibilities. But mess is not the only obstacles a researcher faces because when

these archives are finally processed, traditional archival theory determines that the

archivist must organize these artifacts into static and isolating hierarchies. Defined

simply by a basic description and handful of catalogue-restricted keywords, processed

artifacts then become arguably no more accessible than their previous status as messy

stacks of boxes because traditional archival theory dictates that the archivist must exert "intellectual control" over the artifacts (Millar; Pearce-Moses). In both cases, the researcher struggles to find what she needs, hampered by access, stymied by arrangement, and ultimately deprived of agency to affect any real change within the system itself.

Relational architecture is a collaboratively authored information infrastructure that embodies multi-authored tags as nodes of discourse in the framework of the database network itself.  Put another way, it is a theory that information infrastructures should be anchored by a point of origin, but continually augmented by building connections between resources with relationships identified by contributing-users. Taking advantage of the opportunity offered by these messy archives, with their chaos and unprocessed artifacts, relational architecture offers an mechanism to advance archival theory by forging new pathways and patterns that are unavailable to impeccable—and inalterable—archival systems.  In doing so, relational architecture is able to transcend and transform institutional practice, individual or conventional bias, and digital limitations by layering on top of the existing database.

This chapter explores what a networked approach like relational architecture can do to improve findability and usability within the archives generally and the National Archives of Composition and Rhetoric NACR more specifically. This chapter reports back on a case study using relational architecture and folksonomy hashtags with 20 artifacts digitized from the NACR to demonstrate how this new archival practice meant to assist archivists in their impossible task of processing all things for all user does in fact create an information infrastructure more visible and more fully accessible

to a wide spectrum of users. I advocate here for the use of a folksonomy hashtags

method. The blending of folksonomies, which are user-contributed tags (Glassey;

Nicotra; Vander Wal), with hashtags like those used in open architecture software

systems like Twitter (Strickland and Chandler) provides a structural level of

connectivity able to surpass existing structural limitations.

The goal of the project was to demonstrate that relational architecture added to

the knowledge held within the archives, and that folksonomy hashtags more

specifically gave users a familiar way to engage with artifacts and create connections

between artifacts. The hope was to uniquely enable both archivist and user to

formalize their working knowledge of the field and make all articulated connections

accessible to researchers going forward. That argument was that relational architecture

augments both the content and the framework in meaningful and necessary ways by

engaging methodologically with the different types of frameworks for big data storage

and analysis; traditional and theoretical methods of arrangement; and concepts of

mapping, access, knowledge, and privilege in archival work. I wanted to also trace

activity, populations, locations, and other meaning making elements within and

between distinct collections which, although collectively housed in the NACR, would

be treated as discrete and unrelated entities by traditional archival methods.


**Background**

While scholars in rhetoric and composition are increasingly engaged with

research methodologies in general, particularly of archival research, conversations

about the infrastructure supporting such methodologies are relatively recent. Some in

rhetoric and composition have begun to theorize about metadata supporting a more connected archive (Graban, "Re/Situating"; Graban and Rose; Gatta), while library science has been exploring its own disciplinary conversation about the power embedded in existing archival structures (MacNeil; Haskins; Granka; Schwartz and Cook; Bastian; Körmendy; Gilliland; Caswell; Gauld). Relational architecture differentiates itself because it brings together elements from archival theory in rhetorical and composition, open architecture from computer science, and topology from network theory to augment traditional archival theory in productive and rhetorically significant ways. This chapter focuses on one particular method, folksonomy hashtags, to apply relational architecture to the archives, exploring a case study as a proof of concept about how relational architecture alters the shape of the data structure to accommodate the human hands at work in the archives.

Archival scholarship in rhetoric and composition has primarily focused on working with the archives as they already existing, offering strategies for reading archives with feminist approaches (Enoch and VanHaitsma; Kirsch and Royster), developing new digital tools to enable greater digital access (Davidson; Enoch and Gold; Ramsey), illuminating dynamic context-building (Biesecker), and supporting metadata analysis (Solberg; Ramsey-Tobienne; J. Purdy; Enoch and Bessette; Gatta). Though rhetoric and composition scholars have grappled specifically with challenges of process and context-building in the archives, recognizing that the rhetorical influence of factors such as locatability and space (Bolter; Finnegan; Graban, "From Location(s) to Locatability"; Gries; Reynolds, *Geographies of Writing*; Ritter; Yancey, "Made Not Only in Words") and archival presentation as authority (Biesecker;

Ramsey-Tobienne; Sheridan et al.), most scholarship focuses on what to do with archives as they already exist. Relational architecture builds on their work in *reading* the archives to tackle the challenge of *writing* the archives

Relational architecture uniquely positions that user-contributed information on par with the provenance. This is significant because provenance, the circumstances surrounding the collection (Kirsch and Rohan; Millar), has traditionally been the sole defining characteristic shaping the database infrastructure. The result was a vertical taxonomy, like Figure 9, in which there is only a single point of connectivity between any artifact and the rest of the collection. Relational architecture augments this traditional vertical structure with horizon connections that are contributed by multiple users that also manifest as new records in themselves. In the case
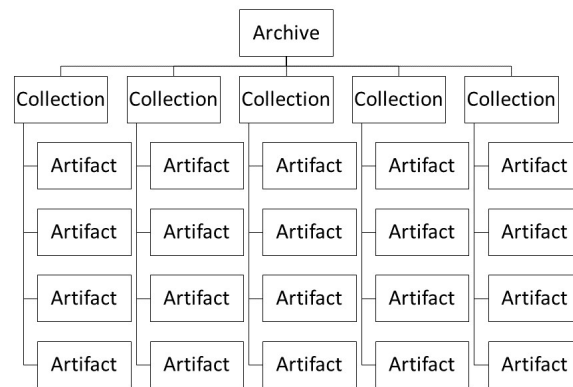


*Figure 9. Traditional Archival Infrastructure.*
*All archives are organized by provenance, and as a result, have only one point of connectivity for users to access.*

of the folksonomy hashtag method, those contributed are in the form of folksonomies (Nicotra; Vander Wal), user-generated tags, that become nodes of discourse in themselves. By nodes of discourse, I mean that these folksonomies become a record of knowledge like the artifact, a visible component that builds a web of information that surrounds the artifact and begins to build an ecosystem for the archive.

Relational architecture demands the intentional cultivation of this web by users in order to build a multi-voiced account of the kinds of information, interpretation, and

application required to more fully represent the discourse in which the artifact was originally produced. It pulls from multiple fields to do so, calling on metadata capabilities such as Resource Description Framework that provide "lightweight and highly deployable… interoperability between applications" (Iannella) to overlay those contributions over the fabric of the database itself, connecting artifacts through a network built on the open architecture technology explained below. Alongside web information architecture (Burford), data mining (Cohen) big data functionality and analysis (Bruns, "Faster than the Speed of Print"; Graham et al.; Lazer et al.; Malik et al.), network analysis (Paranyushkin; Potts, "Using Actor Network Theory"), relational architecture calls on the hashtag in a Twitter-like application from Twitter because of the functionality of creating nodes of discourse that sit on top of local archival databases.

I have named the folksonomy hashtag deliberately because this method pulls directly from two existing but separate practices. Though folksonomy might be an obvious choice based on the scholarship related above, the choice of hashtags is a little more obtuse. Though now firmly cemented in global culture, it seems, widespread use of the hashtag in Twitter is actually a very recent phenomenon. The "#" symbol has been used in programming language since the 1970s, and until 2007, was generally limited to IRC online community groups to label groups and groups (Zak). In August 2007, Twitter user Chris Messina suggested using the symbol to make conversations easier for users to follow (Messina), but it wasn't adopted for general use until October of that year when citizen journalists used them to send updates about forest

fires in San Diego (Zak; Parker)[22]. Since then, use of hashtags has increased

exponentially, and the term was officially introduced into the Oxford English

Dictionary in 2014 (Myslewski). The rapid rise of hashtags in popularity in general

use also has two direct implications for easy application in relational architecture: 1) it

clearly works if so many people are using it, and 2) it means that most users are

already familiar with concept of tagging generally.

Relational architecture leverages these implications as well as recent scholarship

on Twitter that demonstrates that users and communities embody diverse ways of

knowing through this digital communication platform. Covering a wide variety of

research area including understanding microblogging and community formation

(Bruns and Burgess; Godin et al.; Huberman et al.; Java et al.), network analysis

(Bruns, "How Long Is a Tweet?"; Wang et al.), and tagging behavior (Huang et al.;

Marwick and boyd (sic); Sriram et al.), Twitter has become a valuable resource for

understanding how communities make and share knowledge. What is most useful for

the folksonomy hashtags applied in this iteration of relational architecture, the use of

hashtags on Twitter provides for an opportunity for novel collaborative authoring with

the potential to change the ways that archives, archivists, and users speak back to one

another, as well as opportunity to recognize and reflect on those ways of knowing and

doing in archival communities.

One of the contributing factors to the success of the hashtag is likely attributed

the fact that anyone already using Twitter can simply add the symbol "#" to their

message, regardless of device or operating system, to enter that message into a

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[22] Interestingly, Zak's article also reports that Twitter itself initially rejected Messina's suggestion, apparently declaring that "These things are for nerds. They're never going to catch on," rejecting them based on their origins in coding and IRC.

depository of related messages. This is because the hashtag (via the Twitter platform) takes advantage of an "open architecture" computer coding protocol that is able to overcome limiting factors like software, hardware, or proprietary code. Open architecture was introduced in the 1980s to support the development of the Internet and World Wide Web[23], and build the digital framework to link documents together via hyperlinks to create the internet that users we know today (Caldarelli and Catanzaro 38–39), (also see Cerf and Kahn). But while open architecture makes relational architecture viable, network theory is what makes it valuable.

Relational architecture finally pulls from network theory for the understanding and application of the infrastructure itself. Network theory argues that "topology [the nature of the connections between objects] is more important than metrics. That is, what is connected to what is more important than how far apart those two things are" (Caldarelli and Catanzaro 16). Rather than override the physicality of the archives, however, network theory combines with the "open architecture" of the Internet itself to support the deployment of relational architecture. Network theory also offers tools to unpack the rhetorical significance of the points of connectivity as nodes and edges. Nodes in relational architecture are both the artifacts and the folksonomy hashtags, each creating a small record of knowledge, or as I have called here, a node of discourse. Edges represent the relationship between the node and the folksonomy hashtag as recorded by the user; hence "relational architecture."

Network theory provides a theoretical underpinning for relational architecture with concepts such as "component" and "giant connected component." The term

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[23] Caldarelli and Catanzaro differentiate between the Internet as the physical infrastructure that supports the linked documents that make up the World Wide Web (38–39).

component is particularly useful because it describes small, disconnected groups that have no connection to external groups (Caldarelli and Catanzaro 42). Components are rare in networks because most actors interact with other actors at some point or another; they engage as part of a larger ecosystem, part of the larger context in which they exist. The term is highly applicable to archival collections because although these collections exist as subgroup within a larger archive, traditional archival theory does not provide any mechanisms for connecting to the larger network. Though library catalogue keywords attempt to bridge this gap, they become tags on the individual record rather than forming new nodes of discourse that are recognized as significant in and of themselves. Relational architecture provides the structural mechanism to invite these collections into the "giant connected component," one in which smaller elements are connected to the larger structure, one that is theoretically inclusive of all collections from all smaller archives regardless of original provenance or physical location.

Network theory also gives specific tools for understanding and analyzing the rhetorical nature of the collections such as degrees, small-world property, and preferential treatment. Degree, for example, is the number of edges attached to each node (Caldarelli and Catanzaro 18), and in the case of relational architecture, degree records and illuminates the number times a relationship has been attached to a specific artifact. The small-world property (Watts and Strogatz), often known colloquially as six degrees of Kevin Bacon (Caldarelli and Catanzaro 46), demonstrates that most nodes are within a few jumps of each other, even within a larger network. This property confirms that relational architecture both offers the opportunity for physically

isolated but contextually related artifacts to be connected while still maintaining their appropriate relationships, even in a vast network of many connected archives (Caldarelli and Catanzaro 47).

Relational architecture also takes into account what is referred to as the Barbási-Albert model, or "preferential attachment" (Barabás and Albert). Also known as the Matthew effect in sociology in which the most often cited are exponentially most often cited (Merton; Price), preferential attachment argues that existing large nodes are more likely to gain new edges than their smaller counterparts (Caldarelli and Catanzaro 69–70). Though the Barbási-Albert is theoretically beneficial for relational architecture because it also demonstrates that "simple, local behavior, iterated through many iterations, can give rise to complex structures" (Caldarelli and Catanzaro 75), the model is highly problematic because it suggests that the hegemonic hierarchy might be replicated in a new form. Newer studies, however, demonstrate that the ability of nodes to gain attachment has more to do with their "fitness," or hidden variables, that attract new edges based on the characteristic of the node itself rather than pre-established weight within the network (Caldarelli et al.).

Perhaps most significantly, however, network theory supports relational architecture's potential to create a structured but flexible and multi-connected infrastructure. I stress structured because there is the threat, with so many users operating without oversight, for a network to deteriorate into an indecipherable mass of data. But relational architecture is built on the understanding that the relationships do more than just establish existence; they also establish significance. This balance requires careful attention to both genuine authority attributed to nodes of that carry

larger rhetorical influence while still enabling historically "smaller" nodes to exist and attract new edges previously inaccessible. In other words, relational architecture preserves the validity of traditionally significant artifacts and ways of knowing while also allowing for variations and challenges that new users and new ways of knowing bring to scholarly discourse.

Caldarelli and Catanzaro report that networks tend to develop ultra-small worlds—akin to the collections within archives—with heterogeneity (distinctions in weighting) that remain relatively constant to the network despite its size and growth (64). In fact, they write, most networks have a distinctive and "remarkable signature of order like heterogeneity" even when they self-organize. They suggest the Internet as an example of self-organization that has resulted in a highly structured network that is efficient, something they attribute to the underlying values that governed the open architecture development, and that "the emerging order must be the result of some regularity in the behavior of the individual agents that build the Net" (Caldarelli and Catanzaro 67). For relational architecture, this means that patterns of behavior will continue to inform how users move through and write the new infrastructure of the archives without threatening to topple the structure into chaos.

**Exigence of an Archival Dissertation Study**

In spring 2014, I encountered the National Archives of Composition and Rhetoric (NACR) in a graduate seminar on archival theory in rhetoric and composition with Dr. Robert Schwegler. Dr. Schwegler is a professor of Writing and Rhetoric at University of Rhode Island (URI) and the archivist of the NACR, the only archive in North

America dedicated to the history of Rhetoric and Composition. There is a wide variety of archival materials within the archive including collections from Richard Beal, Elaine Maimon, Little Brown, Lynn Z. Bloom, Susan McLeod, Toby Fulwiler, Art Young, to name just a few. Holdings vary widely including student papers, syllabi, newsletters, memos, audio interviews, and other ephemera. Books in the collection are held by the NACR at University of New Hampshire; everything else is processed and indexed by Dr. Schwegler at URI with graduate and undergraduate student assistance. Made up of approximately 400 boxes of donated documents, books, and ephemera, this extensive body of artifacts has not yet been fully catalogued, offering the opportunity to introduce relational architecture into the primary information infrastructure.

While working on a seminar project researching the development of the Writing Across the Curriculum movement, I came face to face with the power of the archivist and system of organization he (in this specific case) employs. I was among the naïve novice researchers mentioned earlier who imagined beautiful (if dusty) stacks and carefully indexed descriptions; I quite literally tripped over reality when I met with Dr. Schwegler and discovered that the archive was made up of hundreds of boxes that no one had finished processing. Boxes were in any space he could negotiate for, and the index was on his laptop. I realized that I could only find what I needed for my project because I knew Dr. Schwegler; we shared a discipline, vocabulary, and classroom experience. That project gave me a startling introduction to the privilege granted to me through close professional relationship with the archivist as well as to the power of the archivist himself. Without his guidance, I would have faced the challenges of

locatability, accession policy difference, and delayed processing described by others

work in archives (Finnegan; Graban, "From Location(s) to Locatability"; Gries;

Ramsey; Ramsey-Tobienne; Ritter; Solberg; Tirabassi).

I struggled to reconcile the demands of a contemporary field and research with

traditional archival practice and theory, particularly in terms of narrow and restrictive

access, agency, and arrangement. I began playing with the idea of a networked

approach to address and compensate for some of these issues, elevating folksonomies

to a rhetorical force in the authoring of the infrastructure itself rather than an add-on

element after the development of a hierarchical taxonomy. Leveraging folksonomy

hashtags as nodes of discourse worthy of recognition in themselves those

folksonomies as equal to the archivist herself, and illuminated the rhetorical forces of

the indexing process itself. I developed the theory of relational architecture to support

the networked approach between resources dependent on their relationship to each

other, but settled on the hashtag folksonomy method because it is easily applicable on

top of the existing information infrastructure from a computer system design

perspective and the concept is already familiar thanks to Twitter (and other similar

platform)'s popularity.

My intent was to demonstrate this new relational architecture methodology by

visually mapping the connections generated by two populations.  The first population

was the curator of the archives, who previously had been limited to arranging,

cataloguing, and describing the collection within established archival procedure. Dr.

Schwegler, as archivist, still indexed the collections by traditional archival practice but

was also invited to contribute his own hashtags. In doing so, he helped build

connections based on his unique perspective as a practitioner in the field and knowledgeable archivist that would not have been recorded as part of the traditional accession or index process. Practitioners in the field of rhetoric and composition served as the second population. The first wave of participants was recruited at the 2016 Archival Workshop at the Conference on College Composition and Communication (CCCC). The workshop is generally made up of graduate students and faculty with an interest in archival work; self-selecting scholars with an interest in and/or experience with archival work in rhetoric and composition. I hoped to employ a "snowball sampling" method (Lindlof and Taylor 114–15) as part of the survey by asking these participants to recommend individual that they thought would be interested in joining the survey. I also recruited participants based on casual conversations about my dissertation work at the 2016 International Writing Across the Curriculum conference and 2016 Conference on Writing Program Administration.

I theorized that asking these participants to contribute folksonomy hashtags to digitized artifacts would demonstrate the knowledge previously left unrecorded. By selecting artifacts from scholars who made notable contributions to the Writing Across the Curriculum (WAC) movement, I hoped to visibly trace the ways in which different communities develop, share, reproduce, and re-vision knowledge. I anticipated that this movement would serve as a traceable thread across the discrete collections to identify and articulate connections between previously isolated artifacts, and generate data for visual representation of the resulting relationships. I wanted to track the development of these connections from hierarchy to network, using graph theory to visualize the resulting horizontal nodes (of hashtag connections), as well as basic

statistical analysis to further analyze timelines, populations, or other actors in this newly developed infrastructure.

**The Pilot Study Protocol**

Though relational architecture sounds good in theory, I wanted to investigate if it would actually change the nature of the archival infrastructure in practice. The general research questions that guided me were a) what was added to the archives by the inclusion of relational architecture and folksonomy hashtags as part of the official record, and b) how could I see—and visualize for others—in quantifiable terms what exactly was added to the archive? As I continued my research, I focused on six smaller research questions answer my larger goals:

RQ1. What information is added to the archives when the curator is asked to contribute folksonomies? (beyond the traditional archival description)

RQ2. What information is added to the archives when non-curator participants are asked to contribute folksonomies?

RQ3. How strong are the links between artifacts and collections by folksonomies?

RQ4. What are the characteristics of individuals who engage with this research?

RQ5. How strong are the links between individuals who engage in this research project?

RQ6. Are there patterns in folksonomies within and between communities?

I tested the survey protocol with the rhetoric and composition faculty as reported in Chapter 3, and then developed a larger pilot study aimed at recruiting participants from a number of scholarly communities in Rhetoric and Composition. I began with the three 2016 conferences (CCCC, IWAC, and CWPA) mentioned above, and then

86

sent out two rounds of recruitment emails to the to the Writing Program

Administrators Listserv (WPA-L) in late 2016. All participants were invited to

participate via a Qualtrics survey platform that contained more information on the

project, consent form, sixteen question multiple-choice demographic survey, and

access to PDFs of 20 artifacts. I hoped this pool of participants that I had recruited

directly would be enough to trigger a significant snowball recruitment effort effect that

could directly speak to questions 4 and 5 from the list above in particular.

The Qualtrics survey (Appendices A, B, C), which included an explanation of the

project and consent form, was meant to collect information about basic demographic

information, professional status, and experience with archival research in rhetoric and

composition. After the survey section, participants were able to choose which artifacts

to work with. They were given the option to submit data or return in the future to work

with more artifacts. If they submitted the data, they were also prompted to share

names and/or contact information for colleague who they thought might be interested

in also completing the survey. All information would remain confidential, though with

a field this small and with clear areas of specialization, I alerted participants that

anonymity could not be guaranteed.

I selected four artifacts from five collections (Bloom, Maimon, McLeod,

Fulwiler, and Young) that I thought were connected strongly to the development of the

WAC curriculum movement. I chose these twenty artifacts from among hundreds

available even just in these five collections because I thought that twenty would be a

reasonable number of artifacts to illustrates a network. The sample was large enough

to demonstrate the expansive nature of relational architecture while small enough that

each artifact would be likely to receive some folksonomy hashtags, and therefore connect builder great connectivity (both in number and degree) within the network. I choose these particular artifacts because I thought they would be interest to the WAC historiographers, and because I thought they would have the greatest chance of building a strong network. These choices certainly affected the issues of access, agency and arrangement in this archive, much like any other archivist involved in the curation of a collection.

I also directly influence accessibility in my choice to scan the artifacts, saving them as Portable Document Files (PDFs) and uploading all the files to Qualtrics[24]. Figure 10 is a snapshot from the "Artifact Survey" section where participants could choose to work with any of the 20 artifacts by clicking on a box to access the relevant artifacts. The survey then opened a new page with a link to the PDF of the artifact and displayed a textbox for submitting the tags. Participants clicked on the link, downloaded a copy of the PDF to their computer, and were able to read and respond with concepts, ideas, programs, or other keywords they associated with that specific artifact. They were asked to leave at least three tags per artifact in order to create a stronger network.

When participating reached the end of their selection of artifacts, they were asked if they would like to return at a future date to work on more artifacts or if they would

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[24] My choice to deploy the survey and particularly the artifacts, digitally reflected a number of assumptions I made about participant access to technology, traditionally abled-bodies, and digital literacy. While my choices follow conventional survey practice, I do want to recognize that I have only remedied access in one way, by making these artifacts available through internet access, and I have not addressed other challenges of access like those highlighted at the 2016 WPA Conference.

Click on the link you see below in order to view the artifact collections. Consider your knowledge and/or experience as it relates to this artifact in the field of Rhetoric and Composition and respond in the corresponding form. You'll be prompted to return to this page or submit your responses after you have finished with each collection.

You may click on any of the artifacts below to begin your work.

Select the artifacts you would like to work on to:

☐ Bloom Collection - Assessment      ☐ McLeod Collection - Joyce Letter

☐ Bloom Collection - Forbidden Diary      ☐ McLeod Collection - Syracuse Letter

☐ Bloom Collection - Fulwiler Letter      ☐ Maimon Collection - Conference Schedule

☐ Bloom Collection - Myth and Reality talk      ☐ Maimon Collection - Intramural Correspondence

☐ Fulwiler Collection - 673 Syllabus      ☐ Maimon Collection - Newsletter

☐ Fulwiler Collection - Bibliography      ☐ Maimon Collection - Proposal

☐ Fulwiler Collection - Transparencies      ☐ Young Collection - Clemson Communication

☐ Fulwiler Collection - Politics of Education      ☐ Young Collection - Harvard Writing Project

☐ McLeod Collection - Colby Letter      ☐ Young Collection - Methodology

☐ McLeod Collection - Haring-Smith Article      ☐ Young Collection - Reflection

*Figure 10. Choice of Artifacts*

Bloom - Assessment.pdf

What concepts, ideas, programs, or other keywords do you associate with the **Bloom Collection - Assessment** artifact? Please separate words or phrases by a comma or semi-colon. You may contribute as many concepts, ideas, programs, and/or keywords as you would like.

*Figure 11. The Folksonomy Hashtag Submission Page*

like to submit their data. If they submitted their data, they were asked to recommend colleagues who might also be interested in participating.

The folksonomy hashtag in this survey has a specific and unique application beyond "multi-user tagging" introduced by (Nicotra) and (Vander Wal) because it a) defines the scope of the requested folksonomy in the NACR by giving specific instructions to leave the names of programs, etc., and b) uses that information marker itself to build relationships at the infrastructure level. In so doing, the folksonomy hashtags actualize relational architecture and embed Sullivan and Porter's postmodern critical practice methodology advocating research that is: 1) reflexive about relationships with/to location and participants; 2) cognizant of the situated nature of observations; 3) conscious of power dynamics; and 4) reflective of shifts and changes over the course of study (186).

**The Results**

45 participants responded to the survey, leaving a total of 419 unique folksonomy hashtags. Each of these folksonomy hashtags became a node in itself, creating a junction from which to directly access other artifacts, like travelers picking up one of several connecting flights from the same airport hub. Assuming that each artifact would have started with one point of connection to a network with traditional archival theory, and added another five points of connectivity through traditional library catalogue keywords, that still means that the users increased the points of connectivity by 419 points, or 2,095%. These points of connectivity also build a web among artifacts, creating 7,308 edges that connected all artifacts from at least one node to

another node. In other words, 45 participants created 7,308 alternate pathways of findability from one artifact to another. As stated above, I wanted to see—and visualize for others—in quantifiable terms what was added to the archives by the inclusion of relational architecture and folksonomy hashtags as part of the official record; the full network illustrated in Figure 12 does exactly that.



*Figure 12. The Full Network of the Case Study.*

*This is what relational architecture looks like when applied through the folksonomy hashtag method in the case study. Readers are not expected to make out the specific folksonomy hashtags, but instead can see the resulting web that now places these 20 artifacts in a fuller context of their relationships with each other and the larger discourse of the field. Size of the node indicates the number of times that particular tag was contributed to an artifact. Writing Across the Curriculum, for example, appeared was contributed 26 times by participants, making it the hub of this giant connected component. This figure stands in contrast to Figure 2 (page 46) that illustrates the existing connectedness of the archival before the application of relational architecture.*

**The Fulwiler Collection – 673 Syllabus**

The power of this networked approach to overcome existing infrastructure limitation is best demonstrated by the Fulwiler Collection – 673 Syllabus artifact. The syllabus received the majority of overall tags with 46 of 419 entries, making up 11% of the contributions. It also received 27 of 357 unique tags, making up 13% of the unique tags submitted. By traditional archival theory, the artifact would have been directly connected only to its own collection, and would like have featured five category tags denoted by traditional library categories, as illustrated in graphic on the left in Figure 13 (page 91). The graphic on the right in Figure 13, along with Table 3, illustrate the backend of the database, illustrating the change between existing points of access, even with the traditional keywords serving as infrastructural elements, and the expanded points of access with the addition of the folksonomies.

*The Archivist's Contributions*

RQ1 asked *what information is added to the archives when the curator is asked to contribute folksonomies?* For most traditional archival theory applications, the archivist is able to choose from library catalogue descriptors to add to the text but is not able to include her own personal-professional knowledge in the record. One of relational architecture's aims is to reveal the situatedness of the artifacts and reveal the rhetorical choices of the archivist, and that means positioning the archivist as one of many users, equally able to contribute her unique interpretation to the official record. In this case, Dr. Schwegler contributed his folksonomy hashtags to the project, recording his expertise so that others may both understand his influence in the

arrangement and description of the archives but also benefit from his extensive knowledge of the field.

Figure 13 visually demonstrates the expanded points of access with the Fulwiler Collection – 673 Syllabus artifact. Traditionally, the collection would have directly connected only to its own collection and to the library catalogue by five category keywords as determined (and limited) by traditional archival theory, but when Dr. Schwegler's contributed are included, the points of connection increase by 350%:



*Figure 13. Increased Access in the Fulwiler Collection – 673 Syllabus*
*The figure on the left illustrates the points of connectivity if the traditional archival becomes a*
*network with library catalogue defined terms. The figure on the right illustrates what is added to the*
*record with the inclusion of the archivist's folksonomy hashtags.*

Even with a single user's personal-professional knowledge now building its own architecture within a single artifact, the web has expanded significantly, altering the arrangement of the artifact within discourse, improving access, and increasing the agency of the archivist to appropriately and visibly help author a body of knowledge. This is the first step—altering the code of the infrastructures to reveal the "hands" of

the archivist at work—but it is only the first step in recording the artifacts more fully in the discourse in which they were originated.

*The Community's Contributions*

RQ2 builds on the archivist's contributions by asking *what information is added to the archives when non-curator participants are asked to contribute folksonomies?* The 45 participants' 419 unique folksonomies have clearly expanded the connective tissue of the archive as illustrates in Figure 13, but Figure 14 below focuses on the Fulwiler Collection – 673 Syllabus artifact in particular to illustrate the impact on a single artifact. The figure represents the 68 unique folksonomy hashtags contributed by nine participants who left contributions for this artifact.

Figure 14 visually demonstrates the expanded points of access, illustrating the growth of the network even with only a single artifact augmented by the voices of nine more participants and directly connected to four more resources even within the limited pool. Perhaps more significantly, the growth that these figures capture is more than simply increased numbers of connective pathways because it also represents the new voices, perspectives, and ways of knowing added to the record by participants' contribtuions. What is also important to remember is that although this survey is finite, the full-scale application of folksonomy hashtags to a database would be infinite. These connections could continue to grow and evolve, hopefully garnering more connections exponentially as more individuals, communities, and resources become interconnected and valued as rhetorical elements of an infrastructure and of multiplicities of historical narratives and experiences.

*Figure 13. Relational Architecture in the Fulwiler Collection – 673 Syllabus*
*The figure on the left illustrates points of connection with traditional library catalogue terms, while the figure on the right illustrates points of connection from both the library catalogue terms and contributions*

RQ3 focused further on the nature of the community of participants, asking *what are the characteristics of individuals who engage with this research?* A full breakdown of demographics can be found in Appendix E with 40 of the 45 participants leaving demographic information. Most participants were recruited by the investigator via email, and all held a MA, PhD, or other professional qualification. Just over half were professors, some were graduate students, and few were instructors, lecturers, or writing program administrations. Respondents were predominantly 25-44-year-old white females, and all respondents who submitted demographic information reported being employed in higher education.

These demographics are one of the easiest ways to illustrate the breadth of actors within a community, though they are by no means fully indicative of the differences among the individuals who participated in this survey or in the wider community.

Gender and age, however, is an easy point of focus to demonstrate the importance of relational architecture in this study because the archivist of the NACR himself is not female or 25-44 years old, suggesting that the priories and biases that he (inevitably) brings to the processing of the archives are, at best, not intrinsic for the majority of users and, at worst, are restrictive and alienating to users. This is not to suggest that Dr. Schwegler's writing of the archives will be bad or damaging; to the contrary, his wealth of knowledge and experience with the field positions him to be a strong contributor to the discourse it records. Rather, I mean to acknowledge that a system that limits interpretation to a single individual seems irresponsible when technology now offers another way.

*The Strength of the Network*

RQ4 looked at the network itself, asking *how strong are the links between artifacts and collections by folksonomies?* Figure 15 illustrates the growth of the Fulwiler Collection – 673 Syllabus artifact network. The figure on the left lays out the points of connectivity added by the traditional library catalogue terms, the one in the middle augments those connections with the archivist's own folksonomies hashtags, and finally the figure on the right showcases the significant increase in points of connectivity when all folksonomy hashtags are added. The number of points of connection has jumped from 6 in the traditional infrastructure on the left to 68 in the final figure supported by relational architecture, meaning that points of connection within the network has increased by 1,133%.
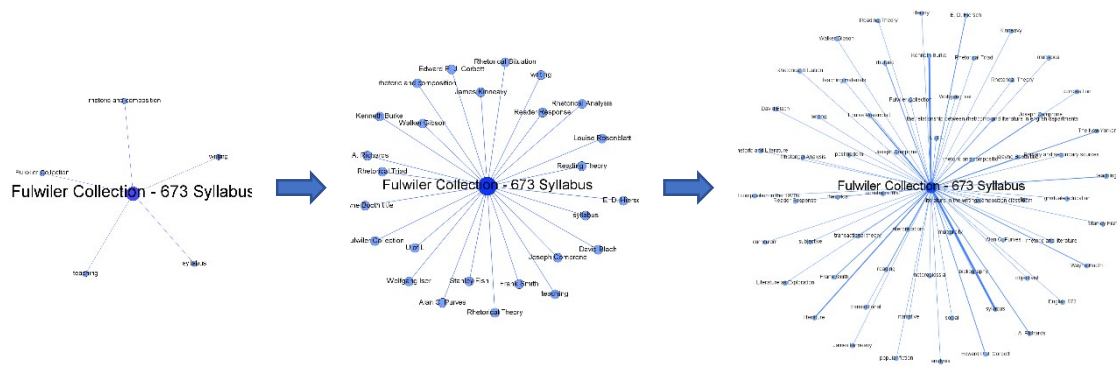
*Figure 14. Progression of a Network*
*Left is traditional only, middle adds Dr. Schwegler's contributions, and right adds both Dr. Schwegler's and participants' contributions.*

In addition to the number of points increasing, the weight of those connections increases as well. Library catalogue terms such as "syllabus," "rhetoric and composition," and "writing" are amplified (and thus re-authorized) when participants also submit these terms as independent folksonomy hashtags.

Strength is an intentionally vague word, and I want to focus on it here in two ways. First, the increased size of the web that now exists among the 20 artifacts. Table 3 (page 95) describes the nature of the expansion and how the addition of 68 folksonomy hashtags has now directly connected this artifact to three other artifacts from two distinct collections. This is significant because although these collections all happen to co-exist within the same larger archive, they previously lacked the mechanisms to be directly connected to one another. Relational architecture provides that mechanism, and does so in a way which bypasses the need for physical co-location. In other words, relational architecture does not care that these items are all housed at the University of Rhode Island; it cares that users have left definitive traces of how they are connected in the form of folksonomy hashtags, and builds the additional network from that information alone.

*Table 3. Quantifiable Change in the Network of the Fulwiler Collection - 673 Syllabus artifact*

| Traditional Archival Theory Infrastructure | | v. | Relational Architecture Infrastructure | |
|---|---|---|---|---|
| Metadata tags | 5 traditional tags | | Metadata tags | 5 traditional tags<br><br>68 folksonomy hashtags |
| Directly connected to: | Fulwiler Collection | | Directly connected to:<br><br>*(this list only contains directly connected hubs within a single "jump" of the original artifact)* | Fulwiler Collection<br><br>Fulwiler Collection - Transparencies (vial the "syllabus" hub)<br><br>Fulwiler Collection – Politics of Education (via the "transactional" hub)<br><br>Young Collection - Methodology (via the "bibliography" hub)<br><br>McLeod Collection – Syracuse Letter (via the "graduate education" hub)<br><br>McLeod Collection – Syracuse Letter (via the "teaching" hub) |
| External access via: | NACR at University of Rhode Island<br>ComPile via 5 traditional metadata search terms | | External access via: | NACR at University of Rhode Island<br><br>ComPile via 5 traditional metadata search terms<br><br>CompPile via 68 folksonomy tags<br><br>Other NACR locations via 68 folksonomy tags |
| Total number of contributing-users | 1 (1 archivist) | | Total number of contributing-users | 10 (9 participants and 1 archivist) |

The other "strength" aspect I would like to examine here is that of the resulting "hubs." Hubs in network theory operate much like airport hubs are familiar with, serving as a point of intersection between two distinct lines of travel (Caldarelli and Catanzaro 54). In this case, the folksonomy hashtags become hubs when they are applied by multiple participants, like those illustrated in network on the right in Figure 16. These hubs are significant because they connect to multiple pathways, and in this case, would enable a user to trace connection from the Fulwiler Collection – 673 Syllabus artifact to "graduate education," and potentially then to on to find the McLeod Collection - Syracuse Letter artifact. The hubs with the greatest degrees—that is, the greatest number of connections—are illustrated in the figure, but this view is only one snapshot of the possibilities of travel within a system supported by relational architecture.



*Figure 15. Traditional Infrastructure v. Relational Architecture Infrastructure*

Focusing on these two aspects alone is still enough to demonstrate the potential for relational architecture as the answer to documenting the growth of the network even with only a single artifact augmented by the voices of ten total contributors that add 68 new nodes of discourse and directly connect to two disparate collections even within a limited pool.

*The Strength of the Community*

The final two questions focus on the community itself, asking in RQ5 *how strong are the links between individuals who engage in this research project?*, and in RQ6, *are there patterns in folksonomies within and between communities?* These questions proved to be the most difficult to answer because, surprisingly, very few participants submitted the names of colleagues they thought would be interested in participating. Only two of the 45 participants made any referrals; one of the referees participated but did not leave any more referrals, and the other was not contacted due to time restraints on this study.

Though perhaps future work will look for patterns in folksonomies within the demographic data collected, my aim here was not to impose communities but allow them to become self-defined. Like the folksonomy hashtags themselves, I hoped for communities to speak for themselves rather
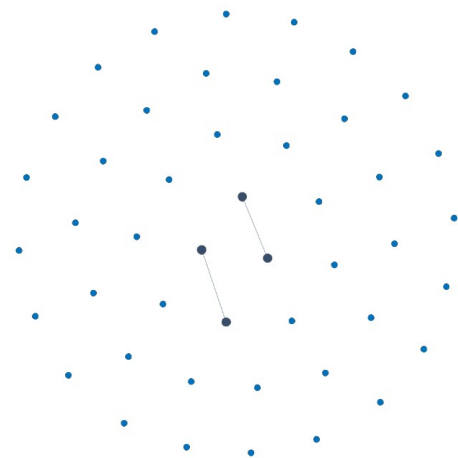
*Figure 16. Referral Network*
*Only two individuals referred one name each to participate. One of those individuals did participate but did not leave any more referrals. The second was not extended an invitation to participate in this study due to time restraints.*

100

than have anyone else—including me—draw those lines for them. Figure 17 illustrates the network, or lack thereof, of participants as defined by the participants themselves. Future research might follow up with a focus on why participants did not leave referrals at this time and ask if they would be willing to share them via other data collection tools, but those questions remain outside the scope of this study at this time.

**Conclusion**

This recursive protocol, which uses folksonomy hashtags to expand the mechanisms for information which can be traced within and between objects, illustrates the potential for this new archival practice by making visible the connections that researchers identify between previously isolated artifacts, and expanding the mechanism for information which can be traced within and between objects. This recursive protocol quantitatively demonstrates that specific kinds and constructions of knowledge is, inevitably, excluded when artifacts are described solely through traditional archival methods, illustrating how arrangement and description constitute critical contribution to the body of archival research, and will lay the groundwork for an information infrastructure finally capable of emulating and inscribing the reality in which such artifacts were produced.

Though, as with any intervention, there is room for improvement regarding the protocol and tools used in this data gathering effort, the results of this survey demonstrate that valuable information and understanding is indeed added to the archives by the inclusion of folksonomies as part of the official record. Moreover, folksonomy hashtags function as effective mechanisms within relational architecture

to build rhetorical bridges and creative multiplicities fully authorized to challenge traditional binaries. This study effectively demonstrates the significance of a networked approach to archival systems that puts collaborating-authors on the same authorial level as the archivist. Folksonomy hashtags in particular actualize relational architecture's promise to ask previously excluded communities to contribute to the body of the archival research by inscribing these folksonomies as part of the official record.

Beyond merely adding to the knowledge now articulated in part of the record, these hashtags also reinforce habitual engagement with and attention to the visible and invisible cultural and rhetorical forces manifest in the arrangement and description of archival. Applicable well beyond the archives, relational architecture and folksonomy hashtags offer a practice of community engagement with making of meaning in our records, our resources, and our realities. What is also important to remember is that although this survey is finite, the full-scale application of folksonomy hashtags to a database would be infinite. These connections could continue to grow and evolve, hopefully garnering more connections exponentially as more individuals, communities, and resources become interconnected and valued as rhetorical elements of an infrastructure and of multiplicities of historical narratives and experiences.

Though the resulting networked database would be massive and would require a certain amount of digital literacy to fully understand and access the meaning available in both the content and the framework, it would enable those doing archival work in rhetoric and composition to more genuinely do the work of a field that habitually and necessarily blurs disciplinary boxes and genres (Lunsford 76) and continue to be

inclusive with genuinely "with new knowledge gathered from diverse sources and with diverse method" (Freedman 1050) For archives, this means inscribing relationships between artifacts as one of many organizational paths, elevating archival theory to a network in which the original order (from traditional archival theory) provides a point of origin as determined by the archivist as *originating-user*, and direct relationships cultivated by contributing-users function between artifacts functions as connective tissue.

CHAPTER 5


FLEXIBLE FRAMING, OPEN SPACES, AND

ADAPTIVE RESOURCES: A NETWORKED APPROACH

TO WRITING PROGRAM ADMINISTRATION


**Introduction**

The Writing Program Administrator (WPA) is arguably a writer of many things. Though most obviously a writer of the resources developed to support the needs of her community, she is also a writer of systems. When she decides how programs, handouts, agendas, and trainings will be shared, copied, and revisited, she is responding to rhetorical ecologies that require supporting writing in a wide spectrum of students, faculty, administrators, and other users. More specifically, I contend that the foundational goal of writing program administration is to provide flexible framing, open spaces, and adaptive resources that require her to author, or at least enable these resources to be authored, in a manner that supports this variety of users in an equally varied multitude of ways. This chapter will explore the significance of the WPA's authorial power and responsibility to build a networked approach in three distinct areas of her work: as researcher, as archivist, and as practitioner.

I refer to the WPA and WPA-like work throughout the text, and use these terms in line with the statement by the Council of Writing Program Administrators[25] to include all faculty, graduate students, and other members do the work of a WPA with or without the official title or named programs. Since they may or may be not hold clear designations like Writing Across the Curriculum (WAC), Writing in the Disciplines (WID), or Writing Centers, I use the term WPA-like work in an effort to include all individual with "faculty with professional responsibilities for (or interests in) directing writing programs"(Council of Writing Program Administrators), and use the term WPA as shorthand for all involved in such efforts.

I argue that the WPA has a two-fold responsibility: first to source, develop, and deliver writing support resources, but second, as this chapter will suggest, to build a deployment infrastructure that is intentionally responsive to the needs of the community. By deployment infrastructure, I include activities like the way that WPA programs are marketed, how assessment is developed and conducted, where resources are located, who included in the development process, what programs are institutionalized, and so on. If the goal of the WPA is to provide knowledge and practice for the betterment of the writing community, then current and future members of that communities - future WPAs in particular - must be able to access to access, internalize, and apply those resources. Archival theory, seemingly unrelated to the WPA, becomes a critical component to the program's success and longevity because archival theory focuses on the rhetorical power of the organization of resources; it

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[25] The "About" statement from the Council of Writing Program Administrators: "The Council of Writing Program Administrators is a national association of college and university faculty with professional responsibilities for (or interests in) directing writing programs. Members include directors of freshman composition, undergraduate writing, WAC/WID/CAC, and writing centers, as well as department chairs, division heads, deans, and so on." (Council of Writing Program Administrators)

engages with practical ways to deal with huge amount of *stuff*. Moreover, for the WPA to fully achieve her goal of developing and maintaining resources that provide flexible framing, open spaces, and adaptive resources on a programmatic level, the system itself must also be flexible, open, and adaptive.

This chapter introduces "relational architecture" as a specific networked approach to archival work that also had direction implications for the access, arrangement, and agency in authorship of WPA resources. Relational architecture is the theory that information infrastructures should be anchored by a point of origin, but continually augmented by building connections between resources with relationships identified by contributing-users. I originally developed relational architecture as a feminist methodology for a collaboratively authored archival infrastructure that stemmed from my desire to include and honor the perspective of the "other" in traditional archival process and principles, pulling back to focus on the rhetorical power of the information infrastructure itself and pushing back against the singular author of the archive as performative coder of the index. Though the methodology is most directly application to archival information infrastructure, it also lays out a networked approach for the arrangement of all resources, including physical, human, and programmatic.

For the WPA, relational architecture means recognizing her authorial work as the arranger of WPA resources including document, policies, and people. A network approach specifically illuminates the habitual position of the WPA as coder of these resources, and specifically calls for attention to the actual archive that a WPA develops almost accidentally as part of her day to day activities. As the author of that

infrastructure, she is inevitably writing her values into the system, whether it's through the organization of the filing cabinet or the organization of the meeting to determine the new curriculum, effectively determining how (and if) other users, including future WPAs, will be able to access the resources selected to be preserved.

I contend that even in simply naming digital documents, she is coding the indexing framework, and as such, must engage with relational architecture to properly enact her work as a WPA. A necessary and practical step for managing resources, a networked approach like relational archival is particular powerful for the WPA-as-archivist because, unlike a traditional archivist, she has the power to author her own information structure from the very beginning. This means that the WPA is far better positioned to embed multiplicity, agency, and ease of access by working more intentionally with the guiding principles and practices of arrangement and agency in such systems. Relational architecture then becomes a powerful a new lens through which to view the WPA as writer of the systems in general and writer of the archives in particular.

## Dis-Organization as Obstacle to the WPA Researcher

In the fall of 2015, the University of Rhode Island (URI) received a $500,000 grant from the National Science Foundation (NSF) to launch a new science communication initiative. Named SciWrite@URI, the program proposed integrating rhetorical practice into the training of STEM graduate student fellows and faculty fellows and mentors (Druschke et al.). The funding, enough to complete two full two-year cycles of the program, was awarded on first application in large part because of

the robust assessment plans outlined in the proposal. With an assessment protocol that would follow these fellows and mentors through coursework, mentoring, workshops, and internships, we anticipated reporting back on results of intervention from a variety of instruments to NSF, the University of Rhode Island, and we hoped, of course, to the wider academic community in the form of publications.

The simplest round of assessment was the baseline data provided by pulling student artifacts in the form of thesis and dissertation proposals from the Graduate School. After all, the artifacts already existed in hardcopy, would be pulled from a small and relevantly recent timeframe, and could be easily located in Special Collections. We submitted the appropriate request paperwork, and turned to other aspects of the project while we waited for the artifacts to be retrieved, ultimately developing the complex rubric, norming assessors, revising the rubric, re-norming assessors, and beginning to work on other parts of the larger grant before requesting another round of what had now become missing artifacts. A variety of individuals in different departments and offices worked very hard to help us acquire copies of the required artifacts, but in the end, it turned out that many were simply not where they were supposed to be.

The unavoidable fact was that that our methodology—logical and sound in scope—had been based on incorrect assumptions about the nature of the Special Collections archive. We assumed—because of the requirement that dissertation proposals be filed with the Graduate School—that Special Collections would hold all student proposals in hardcopy form that would be easy for us to access now and for future rounds of assessment; we had not thought to consult the governing institutional

body or Specials Collections itself in the planning of the assessment activities. Even if we had, however, we might not have discovered until we actually requested the artifacts that apparently not all proposals make it to Special Collections for a variety of reasons, that there is actually no Special Collections archivist on staff at the moment, and that changes to Graduate School policies means that proposals are no longer being stored in a centralized capacity and hardcopies already held are actively being destroyed for space. We needed artifacts for a key element of our argument to NSF— to (hopefully) demonstrate the actual change in student proposals over time from before our invention to after completion of the intervention—and though our methodology was well-designed, that methodology was irrelevant without artifacts. In other words, the assessment at the core of our half million-dollar grant was at risk because the organizational system we assumed to be in place had broken down.

Over the course of the assessment phase, we discovered firsthand that archival arrangement has direct implications for the kind of work that researchers can do even outside of what is generally considered archival research. All researchers examine relevant data points but must first collect those data points; for the WPA, this means locating the artifacts that illustrate WPA-like work in action. Though those artifacts will often come from the site of WPA work, making the role of WPA as archivist critical, the SciWrite@URI example is a clear examine of WPA researchers—as administrators and curriculum builders for the new science writing initiative—needing to engage with systems beyond her control that are still determined by traditional archival theory. The default position that values archives solely to display dusty manuscripts from another century must be updated to recognize that archives hold

artifacts valuable to a range for disciplinary practices, including assessment, because archives hold key inscriptions of systems of discourse. Archives, as rhetorical forces organizing archival content as much as a paper's organization organizes its content, serve as snapshots in time of not only the content but also the relationality and values of an organization both historical and contemporary. Our institution's new policy on proposal storage, seemingly disconnected from our practice at SciWrite@URI of training STEM faculty and graduate students in rhetorical knowledge and practice and conducting the assessment work that would support that practice, had direct consequences for the work we were trying to do as an interdisciplinary writing program.

This link between program activity and archival theory is by no means limited to artifacts alone. On the contrary, archival theory illuminates and articulates the rhetorical power of organizing, of writing the archival infrastructure, determining which participants will be included or excluded from key activities, and enacting cultural influences and priorities, intentionally or otherwise, that are embedded in the very information infrastructure itself. People keep things which are of value and discard that which are not, making easily accessible the items that are more valuable and shoving into storage boxes items of lesser value, whether trained archivist or harried administrator. But these influential values change over time and between different groups. In the case of the SciWrite@URI, the Graduate School's values had shifted from a dedication to keeping hardcopies on file to destroying those hardcopies. This is not a judgment about this decision so much as a recognition that we had not critically considered how all of the influential forces at work in the archive to

determine how those forces might impact our research; though we planned a protocol appropriate to the official policy, we were unable to complete the work because the graduate school changed unwritten policies in ways that we could not have anticipated. The next time SciWrite@URI conducts similar assessment in archives beyond our control, we will make a concerted effort to first investigate similarly influential but invisible policies because the success of our methodology is directly tied to those archival policies. Perhaps initially driven mostly by a desire to make our own lives easier, researchers should also engage with archival policy because without critical reflection regarding that authoring of the archives, the information infrastructure will likely to re-present and re-produce hegemonies—often in unintentional ways—much as genres can do (Bawarshi; C. R. Miller; Herndl).

For the WPA writing her own archives, however, she is presented with a unique opportunity. In the organizing of her own systems, particularly her files and other ephemera, she is able to create and maintain a system determined by her own principles and practices. She is able to articulate and intentionally navigate external hegemonic forces at work and lay the groundwork to subvert her own hegemonic influence, cognizant that those outside her own values and practice will need to someday access those files. It behooves all participants, present and future, to interact with a system that is flexible and responsive, requiring new participants not to challenge nor rewrite the system, but to augment it. By creating an organizational system aware of its own rhetorical power, she can empower users after her to collaboratively author that system and produce not only a more user-friendly

experience but also one which more effectively embodies the aims of flexible framing, open spaces, and adaptive resources.

**Lessons from History(iography) for the WPA as Archivist**

Archives are physical or digital collections of artifacts that hold the documentation of a collective discourse, records of the knowledge that Bruffee writes is "maintained and established by communities of knowledgeable peers" (646). Moreover, archives also reflect the values of a discourse community when, as I discussed in Chapter 2, the decisions of the processing archivist determine what should be kept and what should be discard. But the framework of the archive also matters because the framework dis/ables the kinds of resources and information that *can* be recorded; it shapes the way that the knowledge is access, arranged, and authored. In other words, the archive also serves a meta-function like genres do, mirroring the behavior that Miller ascribed to genres as the "point of connection between intention and effect, as aspect of social action" (153) and the "keys to understanding how to participate in the actions of a community" (165).

This is directly relevant to the WPA because it means that when she is organizing or "processing" her resources—that is, maintaining the knowledge, practice, and conventions of WPA-like work—she is acting in the role of the archivist. With that role come the same power and responsibility to influence simultaneously meaning making for users both in terms of infrastructure and content. More than simply putting worksheets, budgets, or agendas in logical filing sequence, the decisions that undergird that sequence reflect the different ways of knowing and doing in different

disciplines in different ways (Carter). For the WPA in particular, it means consistently returning to engage with issues of flexible framing, open spaces, and adaptive resources.

The power of organizing has particular relevance to the WPA because the traditionally prescribed top-down approach is virtually anathema to the work of the WPA, who aims to provide flexible framing, open spaces, and adaptive resources. Founding archival practitioners developed traditional archival theory on the understanding that collections are static entities, governed primarily by the *respect des fonds* and description. The impact of *respect des fonds*, the idea that a collection should only ever be preserved in the original order (Millar 268), cannot be overestimated because this concept's very reason for being is to prevent intermingling between collections, regardless of the artifact creator's purpose or audience. This intentional isolation is reinforced still further by the archivist's traditionally goal of "*establishing intellectual control* over archives by creating finding aids or other access tools that identify the content, context and structure of archives, supporting a better understanding of the nature of archival materials and facilitating access to holdings"(Millar 262). For the archivist fully trained in traditional archival theory, then, her job has, in essence, been defined as controlling how users might access resources, and in doing so, also determining what they might be able to *do* with them. Though her role theoretically exists to support a researcher's access and understanding, the archivist is actually dominating with a singular understanding of the artifacts viewed through her specific perspective, knowledge, and disciplinary bearing.

While her understanding is valid, as the single point of access, it is inherently limited. The act of naming in itself carries significant power (Freire), and if the archivist is the sole namer, she creates a closed system in which the archivist is positioned as the singular authority and remains the only one to hold any power in the access or arrangement of the archive. These traditionally closed archival systems negate the possibility for multiple or competing narratives, and in doing so, potentially erase the voices of those not represented by the archivist. The limited nature of linear organization—with the archivist authoring only a single connection from artifact to collection established by the original order— also results in insurmountable barriers between physical, institutional, or technological differences and distances that prevent archival researchers from being able to put artifacts into conversation with any other artifact outside the established collection.

Significantly, this inability to access other artifacts occurs not only because there are no existing connective mechanisms to enable movement from one artifact to another, but also because the user may be unaware that other resources even exist. In the SciWrite@URI assessment project, for example, it was only through conversation with specific individuals that we realized that some of the missing artifacts might still be accessible through a second and unconnected location. A conversation with workers at that second "invisible" archive (Ramsey) revealed to us the change in Graduate School policy to start discarding hardcopies. Without their guidance, we would not have known about the enactment of changing values within our larger organization that were separate to our WPA work but still critical to our goals and plans. The WPA can resist such obfuscation, intentional or not, by investigating both

114

the rhetorical influences at work in external archives and articulating such forces wherever possible within her own organizational system. Her work runs parallel to rhetoric and composition scholars who work in archives and grapple with the need to reframe and disrupt the existing power dynamics in organizational infrastructures, finding institutional values effect when and how collections are processed (Ramsey), who does the processing (Ritter), how artifacts are named, presented, and searched (Finnegan; Solberg), and even what counts as disciplinary contributions worthy of preservation (Graban, "From Location(s) to Locatability"). Though many counter these forces with feminist reading practices (Glenn and Enoch; Kirsch and Royster), such resistance in archival theory's current form can only be applied by a knowledgeable user as she reads the archives. She has no way to leave behind a trace of her work in the system itself[26] so long as the system lacks any directly mechanism by which users can more permanently draw attention to these powerful forces.

**A Unique Opportunity for the WPA Archivist**

I propose an augmentation of traditional archive theory to embed a practice of resistance on behalf of the currently disempowered user, overlaying relational architecture on the existing system to the best of intentions, a traditionally closed archival system authored by a single authority negates the possibility for multiple or competing narratives. But an open system, one in which relational architecture

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[26] The argument could be made that researchers can leave a trace in the form of publication. I still find this problematic because humanities publications often minimize discussion of methodology if they are present at all, and those publications must still go through a peer review process that may lean towards reinforcing the dominant narrative or at least pushing back on that narrative in historically accepted ways. (Dickersin; Franco et al.; Hojat et al.; Lee et al.; Peters and Ceci; Pinholster; Siler et al.; Tardy and Matsuda).

positions the originating-user as the first user of many, enables a constant re-visioning and re-writing of the records in which all contributions are equally recognized and valued. Like a traditional archivist, the originating-user's description creates a point of origin for each artifact within the original order, a kind of anchor to establish a permanent address for the artifact. Unlike traditional systems, however, relational architecture offers the user the opportunity to *write* the archives even as she reads them.

Building on the originating-user's foundation not only allows users to function as contributing-users, but also offers a chance to be mindful of methodology and intentional about the ways in which users pursue and contribute to meaning making within existing frameworks. To do so embeds a critical reflection in which users become part of a dialogue, "taking responsibility for how and why we might read and write as we do extends far beyond the printed page in which scholars acknowledge their positionality" (Glenn and Enoch 21). It also provides the step beyond Ritter's recognition that "the question of historian as narrator is never debated; instead, the questions became how to narrate well" (464) to the question of how to inscribe and value a multiplicity of narrative.

What differentiates the WPA-archivist from the traditional archivist is that she is able to write the system as a feminist—a practitioner acting with the intention of multiplicity and collaboration—from the beginning because as the administrator, she creates her own archives and information infrastructures. This means that more than simply resisting a traditionally closed system through feminist practices (Kirsch and Royster; Ramsey-Tobienne; Graban, "From Location(s) to Locatability"), the WPA is

authorized to challenge traditional taxonomies that embed privilege and positionality (including her own) into infrastructures from the beginning when she organizes and maintains her resources. By embedding an open system is which the user is empowered as *contributing* user, the WPA is able to subvert existing hegemonies, including those she might herself perpetuate intentionally or otherwise. She will, of course, still bring her own disciplinary values to bear on the points of origin when she creates any system. But by elevating her participants from mere consumers to valued collaborators, she enables an open system that inscribes the values of all those who interact with the system and makes more transparent the forces at work in a more traditional closed system.

**Building Open Systems with Relational Architecture**

Open organizational systems matter because indexing data is, in itself, an act of authorship. In this case, the data are WPA artifacts and the originating-user is the WPA, but even in simply naming digital documents, she is coding the indexing framework. Though digital archives offer a tempting solution, they do not actually address the problem; readers need only to look at their own computer files to see that digital files quite literally replicate the physical filing systems of old. The result is that though digital platforms are often considered more accessible than physical archives, they run the risk of reproducing the system that came before without active interrogation and critical reflection about the power of such influential framework.

Scholars in rhetoric and composition have engaged with the challenges of archival work and the digital humanities in particular, pushing back on "authorized

narratives" (Biesecker) and exploring the power of Humanities/archives 2.0 (Davidson; Ramsey-Tobienne), and feminist historiography (Enoch and Bessette; Solberg; Kirsch and Royster). The 2013 Special Issue of *College English*— "The Digital Humanities and Historiography in Rhetoric and Composition"—related how specific "digital historiographic projects enable (or disenable) them [researchers] to continue the work of addressing the rhetorical significance of populations often silenced by dominant historical narratives" (Enoch and Gold 108). Relational architecture differentiates itself from previous practice because it is a methodology that looks at the infrastructure itself, not simply the influence of the archivist in processing artifacts within existing archives. It also offers a unique opportunity for the WPA archivist to recognize the rhetorical forces embedded in her own archive and push back against the WPA as singular coder of WPA resources, physical or system.

Relational architecture serves as a useful methodological practice because it is essentially a recursive protocol for gathering, analyzing, and deploying resources in inclusive and flexible frameworks. Like the assessment loop (Rutz and Lauer-Glebov), relational architecture is an open system that is never complete but instead functions as a generative heuristic (like Graham et al.'s coding protocol mentioned in Chapter 3). The advantage of relational architecture is that it still uses the original framework, determined by the originating-user grounded in traditional archival theory, but augments the existing original order with multiple pathways determined by many users inscribing their understanding of one artifact's direct relationship to another. Rather than restricting users to the originating-user's organizational system, relational architecture provides multiple points of access for the user to move through the system

in a direction of her own choosing. In doing so, relational architecture subverts the embedded restrictive rhetorical influence of the traditional up/down binary of a directive taxonomy.

Modern technology provides both the model and method for embedding mechanisms for multiple points in the form of a network rather than in traditional binary hierarchies. Relational architecture embodies recognition that the organization of a system is a writing process in itself, and as such requires the same revision process, including peer review, necessary for any piece of professional writing. Building on a system determined by networks rather than hierarchies allows for a feminist taxonomy that provides multiple point of access between resources.

Relational architecture differs from existing theories such as actor network theory (Latour, "On Actor-Network Theory"), assemblage thinking (Deleuze and Guattari), and rhetorical ecologies (Edbauer) because it presents artifacts as spatially anchored within unique and multi-user authored circulation paths. This means that although traditional archival theory situates an artifact within a collection, providing a point of origin for stability and continuity of access, relational architecture provides theoretically unlimited alternate pathways between artifacts as determined by multiple users. The relational architecture methodology may be applied through a variety of methods like mapping (Graban, "From Location(s) to Locatability") or iconographic tracking (Gries), but functionally remains constant in that relational architecture acts like connective tissue, enabling the user to move through a network—from one data point to any other data point—directly and organically, changing direction and responding to the needs of the user rather than directives of the original framework.

More specifically, it decenters the singular authority of the archivist in productive ways, relying on multiple voices and contributions to the information infrastructure and fully utilizing the power of the non-linear digital world in order to attach multiple points of entry to any single resource already anchored by the originating-user.

In doing so, relational architecture embodies an inclusive approach better suited the practice of the WPA and rhetoric and composition as a field because it forms a responsive and situated record of the contributions of all users. In fact, as a methodological guiding practice, relational architecture enables all users to work more thoroughly and transparently—as researchers, as practitioners, and users—because it makes resources more accessible, and because it visibly values the way in which those resources are arranged as rhetorical in itself. Relational architecture acknowledges and records how both historical institutional documents and current resources are firmly rooted in local context of both physical and institutional circumstances that determine arrangement and other factors directly influencing meaning making frameworks. Applicable beyond the archives, it reminds those engaged in WPA-like work to actively review how they might inadvertently control factors for users, either WPA participants or researchers in the field.

Positioning the archivist (or the WPA, in this case) as originating-user allows the contributing-users to represent previously marginalized users in the official record. Relational architecture is not a panacea, but it is a reminder to review organization as an authorial force, unpacking the contextual forces at work for the WPA at the macro- and micro-level organization and strategy (Walvoord), and the institutional forces of the dialogue between insiders and outsiders, all of whom contribute to shaping forces

such as budgets, curricula, and authority (David et al. 522). In doing so, the WPA creates a system of resources, archival and active, that can be arranged in intentional and transparent systems which honor the original order but are still accessible to a wide variety of users.

**A Networked Approach for the WAC/WID Practitioner**

Whether its organizing her existing files or planning the next round of assessment, archival theory in general and relational architecture in particular offer a more critical and more effective lens from which to accomplish the mission of the WPA to augment the WPA statement to include not only "faculty with professional responsibilities for (or interests in) directing writing programs" but the participants interested in authoring them in productive and collaborative ways as well. Building mechanisms that enable multiple points of access between all resources parallels the work WPAs often ask of faculty, particularly when they enter WAC/WID activities. Applied to solely to archival practice, relational architecture enables more flexible access, insight in arrangement, and greater agency but when applied to WPA work, it confronts the challenge of WPA work to embody one's own organizational practices—including organization of resources past and present—as rhetorical. Deploying WPA resources in a WAC/WID context is an even more complex intervention that requires more than simple transmission of content because it requires a careful balancing of writing pedagogy with the recognition that the "heart of teaching a writing course is not the transmission of content but the process of intervening in students' efforts to produce meaning" (David et al. 528).

WPAs are framing a specific experience and understanding for the user when they support the development of tools and skills such as rubrics, peer review strategies, etc. for their own and students' writing. If the WPA as organizer of resources does not seek to actively disrupt intellectual control over those resources, participants will not be able to understand and participate in the discourse. To do so in a linear and unidirectional manner runs counter to the recursive and rhetorically situated approached the field advocates for the writing process itself. Particularly in WAC/WID programs, participants should still have equal agency in meaning-making systems because those participants are a critical component of the program - there is no WAC/WID program without participating faculty—but in a way which recognizes the challenges of their discomfort operating outside of their disciplinary home. I have a faculty colleague, tenured in a STEM field, who actively seeks out writing pedagogy and theory support for her science graduate students, but does so because she feels uncomfortable and underqualified to offer that support directly to her students. Her publishing record and contributions to programs supporting writing in the sciences are clear evidence that she is a more than competent writer herself, but she habitually defers to the "writing experts" in the room, her colleagues in Writing and Rhetoric and de facto WPAs. In doing so, she positions herself without agency even when she has valuable contributions to make to programs, activities, and resources. Recent scholarship (Troia et al.; Cremin and Oliver; Bayat) indicates that how writers, and how teachers in particular, *feel* about writing has a direct bearing on their ability to feel empowered when having conversations about writing, particularly when that involves the teaching the writing itself. If those serving in the position of the WPA,

even unofficially, do not intentionally compensate for similar participants' default to a position of diminished agency, their insights and contributions may go unrecognized and unrecorded.

To fully value my colleague's agency means examining the significance of power dynamics and understanding who and how individuals operate within systems so that not only are her needs met, but that the system provides multiple points of connection for any users and from any discipline, to participate in and contribute to the building and organizing of resources current and historical. Instruments such as the Daly-Miller Apprehension Survey (Daly and Miller) give WPAs ways into such conversations, but the deployment of those instruments also requires attention to organizing in a way that complements the need to engage with non-writing faculty in WAC/WID programming to serve their needs as they, the participants, have defined those needs, rather than as a coordinator has dictated them (Walvoord; Mullin; Carter; Russell; David et al.; Adler-Kassner and O'Neill). The key to organizing at any level is listening. As Mullin writes:

> Faculty developers who don't truly understand their role as a learner in their own workshops close down the possibility for fostering deep paradigmatic changes they seek in others. Those of us leading faculty toward different pedagogical understandings always have to be aware of how we are forwarding our own agendas, and we have to be flexible and open enough to reconsider our constructions of others and our definitions of their disciplines and ways of teaching. We can do this by actively listening. (497–8)

Active listening requires engaging with and shifting to meet the needs of those users, and often manifests in the writing of resources such as workshop content, curriculum, or themes. But that listening should also be extended to the writing of the infrastructure of resources, to engaging with questions of system literacy as much as content, and to ensuring that fully versing users in discourse meaning sharing agency—allowing them to "interrupt" (Reynolds, "Interrupting Our Way to Agency") or "talk back" (Royster)—equally to all participants at the table. Relational architecture is helpful here because it reminds organizers of WAC/WIC programs and activities that they are a) *originating-user*s needing contributing-users to fully deploy resources, and b) developing a system that intentionally recognizes and values multiples ways of knowing and doing.

Archival practice matters specifically because although WAC/WID work is almost unavoidably interdisciplinary, it is not automatically collaborative. Assessment offers a method for securing feedback, but does not automatically position the WAC/WID participant as contributing-user; the participant is valued in that her feedback is requested, heard, and hopefully acted upon, but authorship will remain solely with the director of WAC/WID resources without the application of intentional and practical mechanisms for collaboration. This means that part of the WPA's planning—as if she didn't have enough to do already—must take care to build in time and space to engage in conversation with those who will utilize WAC/WID resources at the time of the writing and revising of those resources. After all, users are only able

to actually use what they can find and request, and if they are not part of that naming process, they cannot be fortified with agency in the finding process.

For these systems to do the work they are meant to do—in this case, providing documents, programs, and other resources which are easily accessible and relevant to the non-writing WAC/WID participant—means writing a system which will value the disciplines of all involved, rather than just from the lens which the WPA may (unintentionally) place upon the interaction:

> [F]aculty developers can best effect change by listening, articulating faculty dialogues for further reflection, and facilitating internal change in faculty while modeling teaching practices they and others could adopt. This requires of facilitators a certain disciplinary neutrality, a meta-awareness of their own frames. A WAC coordinator often claims a department of English, writing, or rhetoric as their home department; as a result, cross-disciplinary programs may become codified through the disciplinary lens of one person and the field or group to which he or she belongs. (Mullin 496)

Recognizing the potential to codify through one's home discipline or personal praxis means that providing effective support requires fuller access– the ability to locate, retrieve, and deploy—and means the governing the institutional body must embed habitual reflection and recursivity in order to address constantly changing and evolving contexts, processes, and methodologies. Relational architecture embeds a networked feminist taxonomy information infrastructure empowers the WPA to better

deploy resources to the best of her ability in both real time and historically, complementing the now collectively authored frameworks of a program with an archival organizational system equally responsive and rhetorically situated to the positon of the WPA herself and WAC/WID framework more generally.

**Conclusion**

Renewed attention should be paid to how and where the WPA locates herself within the organizational system, influencing the possibilities for meaning making in WPA-like work. After all, one of the continuing challenges of WPA work is to make the faculty member, "likely to see his writing practices not as rhetorical devices but as business as usual or simply 'good science' " (*sic*, Russell 16-7), aware of ideology reproduced within disciplinary conventions both in her own writing and in the teaching of writing to her students. The same can be true of the WPA who instinctively positions writing at the center of her practice and does not intentionally seek out representation and embodiment of multiple ways of knowing and doing. Entering the WPA archives and work of the WPA from a networked perspective allows the WPA to engage with her inherent authority and to embed a mentality of multiplicity that attempt to neutralize hegemonic ways of knowing and doing.

Rutz and Lauer-Glebov aptly titled their piece on WPA assessment, "One Darn Thing Leads to Another," and so it also seems for the WPA. In this case, the unanticipated turn is towards the archives, and asks even the WPA who brilliantly organizes her own files for her own use to remember her authorial power when she writes those archives. The "darn" filing cabinet is rhetorical because documents and

governing will determine what future users can do with those resources. To create a closed archival system—in which the WPA organizes in a binary, even with the best of intentions—is to reproduce a hierarchy in which the values of this WPA overwrite everything else. Artifacts, like those of the SciWrite@URI proposal assessment example, may exist, but without the means to find them, users like the assessors working on SciWrite@URI, will be left empty-handed. By extension, it becomes the responsibility of the WPA to make the infrastructure of a WPA archive more transparent, applying lessons shared by archival researchers work in rhetoric and composition to the WPA archive in order to embody the work at a level behind-the-scenes in the form of information infrastructure.

Relational architecture offers a unique opportunity to change for both archival practice and WPA praxis by recognizing that all resources, including those in the WPA filing cabinet, are objects produced in discourse, and that users of those resources benefit from a networked approach that is more responsive to situating artifacts within a fluid and changeable context. Like feminism, relational architecture is a methodological lens which enables a multiplicity of voices and perspectives to be valued. What sets relational architecture apart is that it inscribes this multiplicity in the form of connective bridges between data points such as artifacts. More specifically, relational architecture offers the WPA the opportunity to more fully enact the second half of her job description by creating and sustaining a programmatic framework and supporting archive of resources as flexible, open, and adaptive as the resources and services themselves.

CHAPTER 6


CONCLUSION


This dissertation demonstrates that relational architecture can indeed support a

networked, heteroglossic approach to archival work. Demonstrating the viability of the

theory is a great first step, but it is only the first step towards actual implementation in

an archival system. This chapter considers the challenges that need to be considered in

order to actualize relational architecture and folksonomy hashtags in the NACR in

terms of programming realities, general usability, sustained community engagement,

standardization, and human fallibility. In other words, it all looks good on paper, but

how can relational architecture actually function in the NACR, assuming, of course,

that it *can* actually function in the NACR. Proposing the theory here is one thing, but I

created relational architecture to change the world, and it can't do that if never gets

any further than a theoretical model.


**Beyond Theoretical Methodology**

Though I have an idea of how the API (application programming interface) will

work for embedding relational architecture in the NACR in theory, I haven't yet

actually sat down with computer programmers to talk through how feasible this

approach truly is. The NACR database hasn't yet been built, which means applying

the folksonomy hashtags should be easy to build into that database, but part of the

intent was to overcome database distinctions as much as physical ones. This means that there are actually two parts to what needs to happen in the NACR, both of which need to be addressed by computer scientists and then negotiated for with local resource providers.

First, the database itself. Dr. Schwegler has been processing (indexing and preserving) artifacts, and hopes to have the Bloom collection available online for fall 2017. That information is currently recorded in paper notebooks. We have discussed putting it into Excel or Access, which seems feasible for a first step, but then we need to consider the functionality of an Excel/Access record versus something like a JSON[27] file that is more flexible for both human and computer use. Then we also need to consider the kind of database[28] that will support the long-term sustainability[29]. Though we can hopefully customize an existing software package for the database and retrieval systems, we need something that requires relatively little regular maintenance in order to make the project cost-effective. This isn't directly part of relational architecture, but designing this phase with the full functionality of relational architecture in mind will make the systems easier to coordinate and maintain down the road.

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27 The JSON organization defines a JSON files as "JSON is a light-weight text-based open standard designed for human-readable data. It is the most widely used format for interchanging data on the web. It originates from the JavaScript language and is represented with two primary data structures: ordered lists (recognized as 'arrays') and name/value pairs (recognized as 'objects')" (*JSON - JavaScript Object Notation*) (see also http://json.com).
28 A relational database is one option, which is "a means of storing information in such a way that information can be retrieved from it. In simplest terms, a relational database is one that presents information in tables with rows and columns" (*Relational Database Overview*), but more recent technologies like the Apach Cassandra (http://cassandra.apache.org/) offer other options to be explored.
29 I have only passing familiarity with these terms, which is part of why I need to sit down with computer experts to really hash out the best path for short-term results with long-term viability.

Second, we need to talk through how to build an API that is actually like Twitter. Readers might be familiar with the functionality of news sites to enable users to click on a hyperlink button to attach the article to a tweet already linked to the user's account. The NACR would hopefully have a similar button in its own record display interface, but would also need a standalone digital platform (like twitter.com) where users visiting other archives like the Library of Congress (LOC) could built a linked shell record in the NACR. Nothing would change for the LOC, but users would be able to access that LOC artifact via the hyperlink stored and maintained in the NACR database[30]. Similar bridges would need to be explored to link with search engines like CompPile and perhaps even Google Scholar. The Zotero browser extension[31] could also be an example of a workable solution for an embedded user-friendly approach.

My committee member, Dr. Joan Peckham, suggested that perhaps a project-based class in the Department of Computer Science and Statistics could be able to take on the initial investigation and planning for relational architecture. I would be thrilled for a class to take this one, but beyond those initial stages, I imagine funding will become a practical consideration, and realistically, a significant restraint as well. URI has recently launched a Big Data Collaborative with core high-performance computing center that might be able to help, but start-up and maintenance funding

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[30] Though the shell record would provide a route to controlled resources like JSTOR would, those target resource systems would, of course, still need to authenticate user credentials before allowing the user to view the restricted material. (Appropriate and equitable access to such resources is a separate topic beyond the scope of this dissertation)

[31] The Zotero extension allows users to upload directly into the personal database library from within a browser like Firefox, Chrome, Safari, or Explorer. The website explains the benefit, writing that "One of Zotero's most compelling features is its ability to scrape bibliographic metadata from websites with a single click"(Center for History and New Media), a functionality that would likely be attractive to NACR researchers as well.

sources will need to be explored and secured in order to ensure a quality launch and sustained functionality of the system.

Programming and funding realities will also, of course, influence the timeline of the system. As mentioned earlier, Dr. Schwegler hopes to put the Bloom Collection online in fall of 2017, but that is one of several collections, and at time of the launch, will not have any of the functionality described in this dissertation. Though wildly optimistic, if these infrastructure efforts could be initially supported by URI initially and then funded by grants from relevant organization such as CCCC Research Initiatives or the National Endowment for the Humanities, users might be able to look forward to a working beta version in fall 2018. That timeframe would rely on computer science students working through the project in the fall 2017 semester, beginning work on the actual project or handing over to funded programmers for spring 2018, and finishing the interface for composition of the record in 2018. The NACR would also need funding and significant people-hours in order to complete accession of the remaining boxes[32].

**Usability Considerations**

The longer-term goal was to theorize a digital platform and dynamic database designed to search at both the artifact and hashtag level, allowing researchers to find new ways of making meaning by illuminating conversations, bridging gaps, and

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[32] While student workers have done a wonderful job so far assisting Dr. Schwegler with processing (thank you, Evan!), a summer institute or other workshop held at URI would be an ideal opportunity for scholars in the field to see the rich resources held within the NACR as well as lend their experience and expertise to processing and preservation.

articulating silences between previously static artifacts. But that dynamic database still needs to be easy to use AND useful if anyone is going to contribute to it or leave the contributions that make relational architecture as productive and/or meaningful as discussed in earlier chapters of this dissertation. Though that means sitting down with computer science folks, it also means talking to actual users about what they would use and/or like to see in an interface[33].

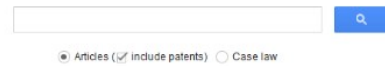In the ideal version, I envision three layers of a search interface. The first, with a basic level of user control, is like Google Scholar, and is really just a basic search box like Figure 18. The second, with an intermediate level of user control, allows for more choice than even the advanced search functions in Google Scholar shown in Figure 19. The third, with an advanced level of user control, looks more like the Gephi software used to create the network graphics in this dissertation. Figure 20 is from the Gephi interface, and hints at the specific levels of
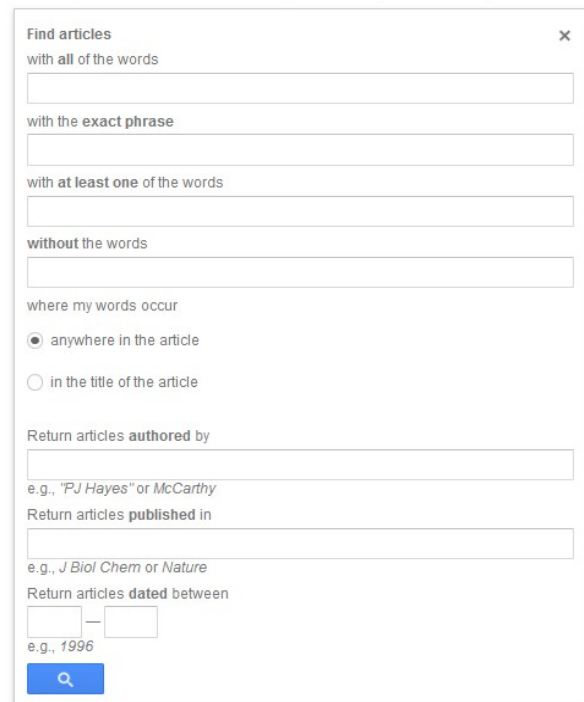
*Figure 18. Basic Search Function from Scholar.Google.com*

*Figure 19. Advanced Search Function from Scholar.Google.com*

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[33] Tarez Samra Graban and Richard Urban have started to explore some of these issues in the Linked Women Pedagogues project where they asked members of the field (including me) to help conceptualize their digital interface and supporting infrastructure. More information can be found about the project at http://lwpproject.org/.

control that a user might be able to control, giving her the power to decide which factors should take priority in her current search.

Is this level of customization possible? I believe so. Is it practical? It's hard to say. I don't yet know how difficult it is to customize the user end of search functionality in terms of aesthetics, let alone in terms of plugging directly into the raw database itself. Ideally, users would even be able to access and interact with the fully illustrate web itself that was shared on page 89 in Chapter 4, and would be able to use it as another gateway into the archive. Given my own learning curve in developing the skills to execute this dissertation, that functionality seems unlikely if it is even desirable to the average user, but I will need to have further conversations with archival research and computer programmers alike before I can really start to define the scope of the interface for this project.
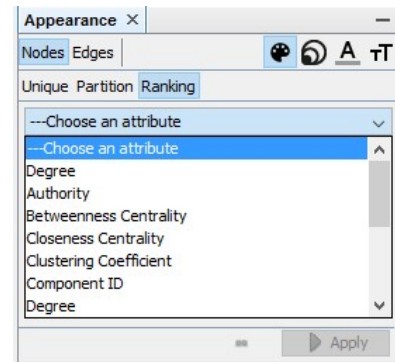
*Figure 20. Advanced User Control in Gephi*

## Sustained Community Engagement

User input has been a theme throughout this dissertation, and I now want to pull on the part of the thread that has to do with tracing the spread of knowledge through communities. Though I was pleased by the rhetoric and composition community's participation in the survey, I was surprised by how few participants referred colleagues who would be interested in this survey. There could be any number of reasons for the lack of referrals, including not wanting to burden colleagues; assuming they would

participate on their own; or simply moving quickly through the survey. I would need to conduct further research in order to uncover specific motivations, but it does mean that I have extremely limited information with which to analyze RQ5 *how strong the links are between individuals who engage in this research project*. It also limits my ability to analyze RQ6 *how strong are the patterns in folksonomies within and between self-determined communities*.

I had two goals in recruiting. First, I wanted to gather enough folksonomy hashtags to be able to visually illustrate a complex (and visually attractive) network built by relational architecture. But second, I hoped that large numbers of participants would engaged in a snowball method of further recruitment would enable the sample to overcome the limitations of my own network and habits of exposure. My PhD program is demographically limited, and a smaller sample size would be less likely to overcome built-in bias of contributions from users with similar user-profiles. Recruiting on the WPA-L and requesting referrals from participants was



*Figure 19. Lack of Participant Referrals*

an effort to break through these biases and engage more fully with a genuine multiplicity of experience. The significant predominance of white participants indicates that I was not able to achieve this goal. Further research may consider the proportional demographic make-up of scholars and practitioners in the field, and seek to develop survey tools able more fully represent a wider spectrum of the population.

**Challenge of the Human Factor**

There is also always the matter of the human element at work in these systems, both driving the code and frameworks that operate them as well as providing the content. In this case, I struggled occasionally with the Qualtrics software system that delivered the survey. Of the 45 survey participants, only 22 reached the final submission screen. When I check on their progress to send reminders, I discovered that I wasn't sure if they had been shown all the artifacts they had selected, which could have been through their user error or my programming error, and I was not confident that they had been guided through to the final screen. As a result, although I have data of some kind from all 45 participants, only 22 reached "complete" status while 23 remained marked as "incomplete." I was still able to use all 45 participants' data, so the full survey is reflected in the network graphs and calculations, but I am frustrated to realize that I may have introduced an error into the operating framework that drove the progression of the Qualtric survey, and thus potentially hampered the efforts of all those who contributed to the project.

My human influence on the project showed itself again with one of the artifacts. I mistakenly attached one artifact to the survey twice, which meant that one of the artifacts received a second window of exposure to folksonomy hashtags while the missing artifact was not displayed to received contributions. Because there was no prompting beyond the title of the file itself, I did include the mislabeled artifact folksonomy hashtags in the network and calculations. Future research and analysis

should correct this at the data analysis level and be sure to properly account for weighting and equal access between artifacts in future surveys.

The resulting network, however, is still beautiful, connected, and rhetorically significant. The folksonomy hashtags created 419 new nodes of discourse (points of connectivity), and 7,308 edges (ways to travel between resources). These edges are significant because they are the total number of pathways that users could traverse between resources. The software counts path A->B, B->C, and A->C as three distinct separate paths, and essentially articulates the number of organic connections now available for users to move through the system in dynamic and non-hierarchical ways. Figure 12. The Full Network Case Study (page 88) is one visual representation of the full network with colors reflects density of connection and size of node representing the strength of degrees (the number of connections hitting that node). Though beyond the scope of this dissertation, future publications will hopefully apply network theory and statistical analysis for a more quantitative understanding of the changes in the infrastructure itself.

Readers might be interested to know that the original working title for the initial version of the full network was "The Full (Flawed) Network" (Figure 22). Though a beautiful representation, this network is still an imperfect capture of the survey data for a number of reasons. One of the challenges with this kind of work is in the act of guiding users through the folksonomy hashtags process. I intentionally left the instructions vague, asking only for a minimum of three tags in order to find out how users would deliver their information. There was a variety of practices, including one participant who actually included hashtags as they are commonly used on Twitter. S/he left #finishyourdiss, #startswithanewsletter, and #writingseminar on the Young Collection – Harvard Writing Project artifact. His/her
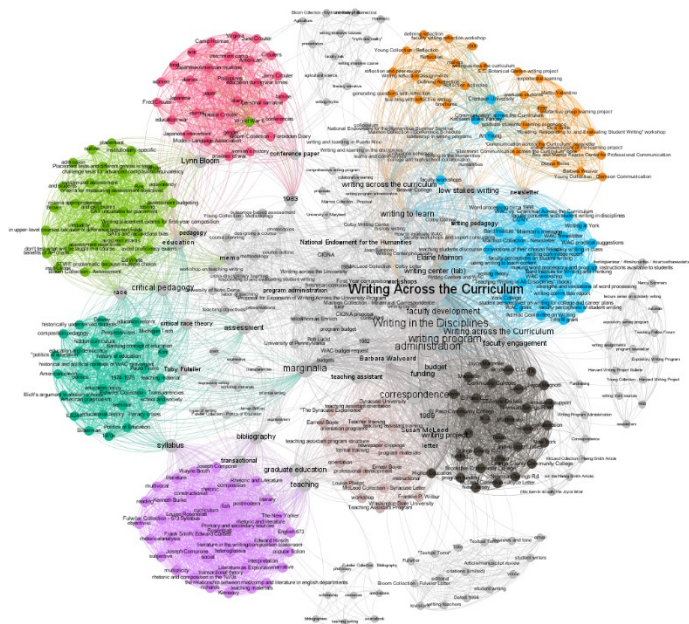


*Figure 20. The Full (Flawed) Network*

application, in which artifacts are both described (#writingseminar) and commented on (#startswithanewsletter), straddles common use of the hashtag as metacommentary in Twitter and keywords as cataloging items in traditional archival theory. Is this a good or bad thing? I lean towards only using the hashtags as a label, rather than category, but it's something that bears further discussion and reflection, particularly for younger users who are more familiar with the commentary function of hashtags.

Another complication for the survey results is that computers read grammar even more closely than the most fervent proofreader, and the use of the "#" symbol, capitals, and dashes all presented challenges for



*Figure 23. Pre-Normed Network*

processing my data through the Gephi networking software. Figures 23 and 24 highlight the importance of capital letters here. Figure 23 highlight the spread of connections via "Writing Across the Curriculum" while Figure 24 demonstrates connectivity via "writing across the curriculum." Though we as humans are able to parse their
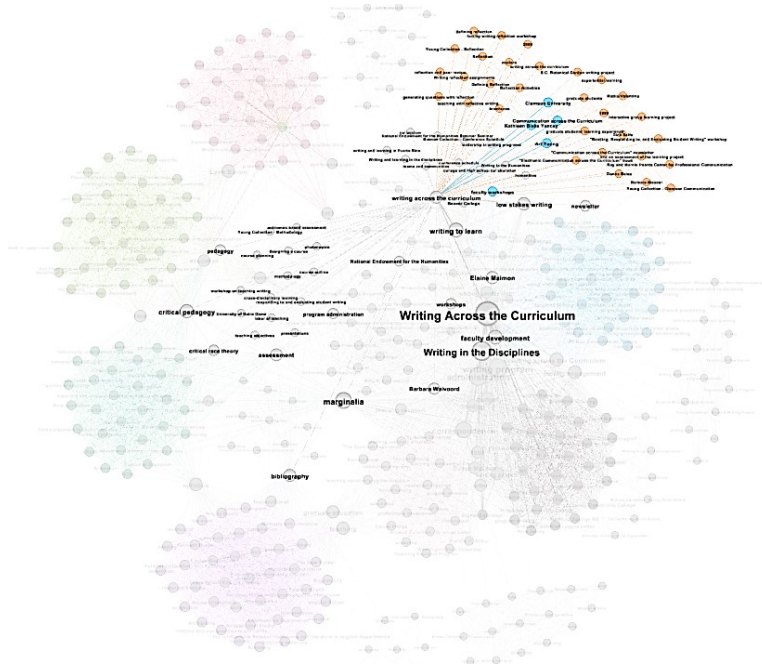


*Figure 24. Normed Network*
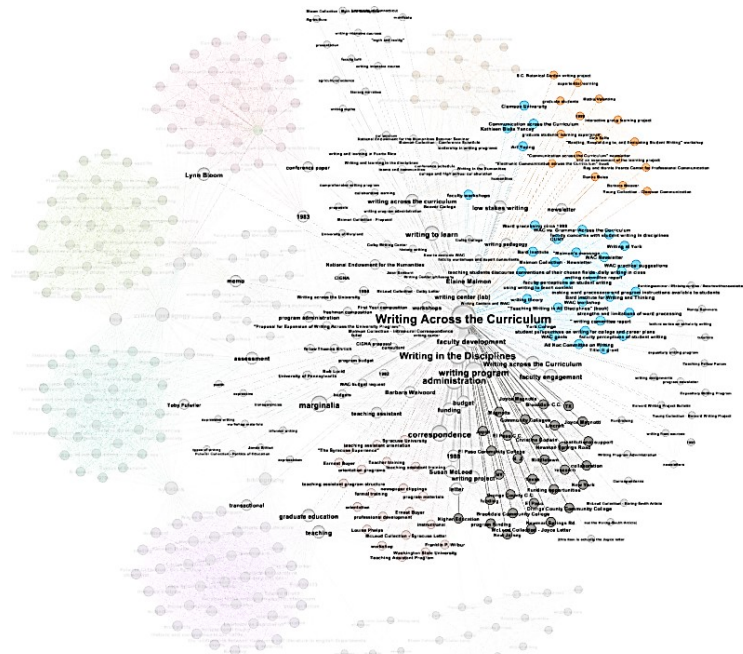
138

meaning as (arguably) serving the same function, the computer does not. The same goes for "writing-in-the-disciplines" and "Writing in the Disciplines," which were the two variations of the full Writing the Disciplines phrase used by participants.

Though a moderator would be theoretically able to norm and a programmer would be able to build workarounds to help computer and contributor understand one another, these challenges do raise the questions of standardization and guidelines. I altered some of the text submitted in order to more fully represent the connectivity being recorded, for example, substitution "Kenneth Burke" for "Burke" and "kenneth burke." I capitalized all proper nouns, removed capitals from common nouns, added full names when I could be (relatively) certain of the intended individual, and removed hyphens when not demonstrative of standard academic English use. I left "WAC," "WID," and "WAC/WID" as a descriptive acronym such as "WAC/WID workshop," though I'm not sure I could defend that choice if challenged. I did, however, substitute "Writing Across the Curriculum" for "WAC" when the acronym was used by itself.

I kept both original records and indications of all changes made to the dataset, but continue to consider how a larger-scale implementation might unfold with greatest freedom for tagging with useful guidelines and minimum coding monitoring required. More than anything, however, this example proves that there is a need for a moderator (probably more than one) to push back gently make a clear distinction between standardization and heteroglossia where appropriate.

**Final Thoughts**

I began teaching composition as an adjunct because I thought I had something to offer to my students, and because I wanted to do something meaningful with my business skills and experience that would also intersect with my passion for writing and supporting individuals in achieving their goals. I loved those years in the classroom, and began my PhD because I wanted to keeping teaching and making meaningful contributions; I never dreamed that I would develop a dissertation project that could leverages the same skills, experience, and passion for writing—for meaning of meaning—in such fascinating ways.

Bob Connors describes historical method and methodology as "dreams and play," while Andrea Lunsford describes the field as blurring disciplinary boxes and advocating for multi-voiced and diverse ways of knowing and doing (76). This dissertation, building tools that I believe support dreams, play, blurring, and heteroglossia, has been a labor of love that I hope contributes something truly worthy to the field. Though I am very glad to be wrapping up this dissertation with these final words, I also look forward to a professional journey that continues to push at the boundaries of archives, infrastructures, and rhetoric, and a professional outlook puts equity of access, agency, and arrangement at the center of my practice, praxis, and scholarship.

APPENDICES


Appendix A.   The Questionnaire – Pre-Artifact Survey Questions


Welcome, and thank you for participating in this project. Before we get to the artifacts, I (Student Investigator Jenna Morton-Aiken) would like to ask you some questions in order to more effectively track and analyze how communities build knowledge in the archives. You'll be asked to fill out these 16 questions just this one time, and then will move onto the artifacts.

This page will take 5-15 minutes to complete.


1.  What is your name?

2.  How did you become involved in this research?
    - Invited by a friend or colleague
    - Recruited by Student Investigator Jenna Morton-Aiken by email
    - Recruited by Student Investigator Jenna Morton-Aiken at the 2016 Conference on College Composition and Communication workshop on archives
    - Other (please specify)

3.  *(If invited by a friend or colleague)* We're tracking how information connects between communities. Who were you invited by?

4.  Are you primarily employed in higher education? (if enrolled as a full time graduate student, select yes)
    - Yes
    - No

5.  *If yes*, what is the name of institution of higher education?

    *If no*, how would you describe your professional field?

6.  Age: What is your age?
    - 18-24 years old
    - 25-34 years old
    - 35-44 years old
    - 45-54 years old
    - 55-64 years old
    - 65-74 years old
    - 75 years or older

7. How would you describe your gender?
   - Female
   - Male
   - Other (please describe in your own words)

8. Please specify your ethnicity.
   - White
   - Hispanic or Latino
   - Black or African American
   - Native American or American Indian
   - Asian / Pacific Islander
   - Other (please describe in your own words)

9. What is your education level completed?
   - Completed some high school
   - High school graduate
   - Completed some college
   - Associate degree
   - Bachelor's degree
   - Completed some postgraduate
   - Master's degree
   - Ph.D., law or medical degree
   - Other advanced degree beyond a Master's degree

10. Are you currently enrolled in a program of study?
    - Yes
    - No

    *If yes*, in which level of education are you currently enrolled?
    - Associate degree
    - Bachelor's degree
    - Completed some postgraduate
    - Master's degree
    - Ph.D., law or medical degree
    - Other advanced degree beyond a Master's degree

11. What is your position?
    - Professor
    - Associate professor
    - Assistant professor
    - Instructor
    - Lecturer
    - Archivist/curator (primary occupation)
    - Writing program administrator
    - Graduate student
    - Other (please specify)

12. Is Rhetoric and Composition your primary field of expertise?
- Yes
- No

*If no,* how would you describe your primary field of expertise?

13. How experienced and/or knowledgeable do you consider yourself about archival research?
- Very experienced and/or knowledgeable
- Somewhat experienced and/or knowledgeable
- A little experienced and/or knowledgeable
- No at all experiences and/or knowledgeable

14. How experienced and/or knowledgeable do you consider yourself about Writing Across the Curriculum?
- Very experienced and/or knowledgeable
- Somewhat experienced and/or knowledgeable
- A little experienced and/or knowledgeable
- No real experience and/or knowledgeable

15. How often do you interact with archives in general?
- Often and/or consistently
- Occasionally and/or infrequently
- Rarely and/or inconsistently
- Never

16. Why are you participating in this study?

Appendix B.   Artifact Survey

*Artifact Survey Homepage:*

Below you'll find a list of 20 artifacts. Each is identified by Collection and the official NACR Artifact Index Description. Artifacts here are categorized as "an object made by a person if 'making' is understood as intentional making" (Hilpinen, 1993), and in this case are likely to be documents such as letters, syllabi, or manuscript drafts. You are welcome to engage with all, some, or none of the artifacts, depending on when you feel you have something to offer.

When you click on the artifact link, you'll be taken to the page for that specific artifact. You will be able to click on a PDF to view the artifact, and then will be asked to contribute as many "tags" (concepts, ideas, programs, and/or keywords) as you would like about that particular artifact. You can save your contributions and return in the future to engage with more artifacts and/or revise your existing contributions. You'll be asked each time if you want to continue working with artifacts, or if you want to submit your tags and be finished with the project.

You are encouraged to engage with as many artifacts as possible, but should not feel pressured to leave tags for all artifacts. Please engage only as suits your interest and energy.

You may click on any of the artifacts below to begin your work.

*Specific Artifact Page (each will be identical except for the name of the artifact):*
Click on the PDF link you see below in order to view the artifact. Consider your knowledge and/or experience as it relates to this artifact in the field of rhetoric and composition.

17. What concepts, ideas, programs, or other keywords do you associate with this artifact? Please separate words or phrases by a comma, semi-colon, or paragraph break. You may contribute as many concepts, ideas, programs, and/or keywords as you would like.

18. Would you like to work on another artifact today?
   - Yes

   - No

*If yes*, participant is taken to back to the *Artifact Survey Homepage.*

*If no,* participants are taken to a *Process Confirmation Page*:
19. Would you like to return to work on artifacts at another time, or have you submitted all of the tags (concepts, ideas, programs, or other keywords) you would like to contribute?
   - I will return at another time to work on more artifacts

   - I have finished contributing tags

If "return," then:
   Thank you for your time today, and we look forward to seeing you next time.

If "finished," participant is taken to *Post-Artifact Survey* questions (see below).

Appendix C.   Post-Artifact Survey

Thank you for your time and attention, we have two final questions for you.

20. Do you have friends and/or colleagues you think might be willing to contribute to this project? If so, please use a new line for each individual's name and email address. (If not, leave the space blank)

21. Would you be willing for Student Investigator Jenna Morton-Aiken to contact you in the future for possible further involvement with this project?
   - Yes, Jenna can contact me in the future.

   - No, I would not like to be contacted in the future.

   *If yes:* Please enter your preferred contact details, and Jenna looks forward to (potentially) following up with you after the initial phase of research has been completed.

**Final Message**

Thank you for participating in this research study. I (Student Investigator Jenna Morton-Aiken) very much appreciate your time and effort, and hope you have enjoyed the time you have spent with the National Archives of Composition and Rhetoric at University of Rhode Island.

Please be in touch at jmorton-aiken@uri.edu if you have further questions or would like to discuss this project in more detail.

Appendix D.   First Page of the Maimon Artifact

Thursday, March 27, 1980 – University of Maryland

Elaine P. Maimon
Beaver College
Glenside, Pa. 19038

WRITING AND THINKING IN THE ACADEMIC DISCIPLINES

A comprehensive writing program, like the one planned for the University of Maryland, poses opportunities -- and problems -- in three major areas: theoretical, pedagogic, and administrative.

It seems to me that each institution that plans a comprehensive approach to writing will have to develop a distinctive administrative structure for its program. It is in the area of administration that one institution can learn least from its predecessors, since administrative structures must be developed in consonance with traditions and constraints that are sui generis. There comes a point when differences in size become, not differences merely in scope but in kind.
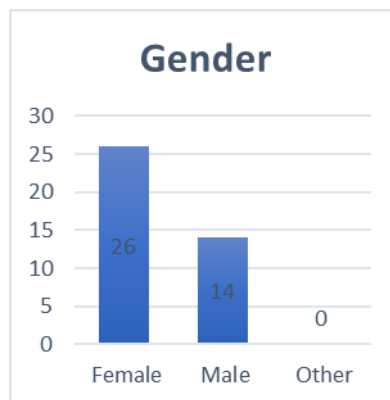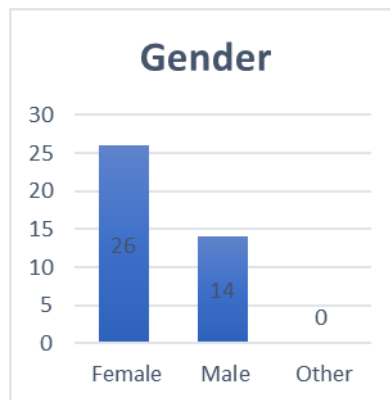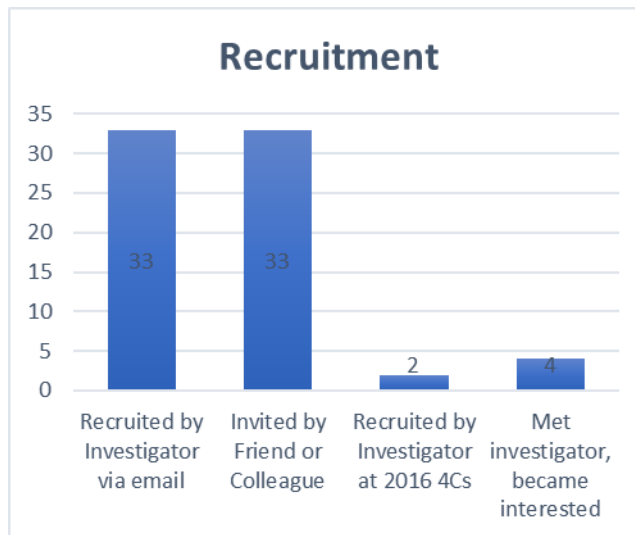
The administrative structure that has been evolving here since the Fall of 1973 looks very promising because of the work of Shirley Kenny and others who have designed the Maryland Junior level composition requirements. The further development of such a design poses an exciting challenge to anyone who views educational administration as a creative profession.

In the other two areas -- theoretical and pedagogic -- the University of Maryland can profit from the experience of other comprehensive writing programs. For the next few minutes I'd like to make some comments on the theoretical framework that informs most successful comphrensive writing programs that I have seen, in particular the programs at Yale, University of Michigan, Cal State at San Bernadino, and at my own institution, Beaver College. Then I would like to make some pedagogic suggestions which are based on these theoretical principles.

First, theory - and in this area I include the theoretical underpinnings for a comprehensive writing program. Later, I'll discuss the opportunities presented

147

Appendix E.    Demographic Survey Results

(numbers are counts, N=40)



Recruitment

| Recruited by Investigator via email | Invited by Friend or Colleague | Recruited by Investigator at 2016 4Cs | Met investigator, became interested |
| 33 | 33 | 2 | 4 |



Gender

| Female | Male | Other |
| 26 | 14 | 0 |



Gender

| Female | Male | Other |
| 26 | 14 | 0 |

## Professional Status

| Category | Value |
|---|---|
| Professor | 7 |
| Associate Professor | 8 |
| Assistant Professor | 6 |
| Lecturer | 1 |
| Instructor | 2 |
| Graduate Student | 13 |
| Writing Program Administrator | 3 |

## Employment Field

| Category | Value |
|---|---|
| Employed in Higher Education | 40 |

## Race

| Category | Value |
|---|---|
| Asian/Pacific Islander | 1 |
| Other | 1 |
| White | 38 |

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