

BIG DATA AND THE RHETORICAL NARRATIVE

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ABSTRACT

This project effectively illustrates a tactic by which the constructs of narrative inquiry from a humanist perspective, in particular the rhetorical narrative tradition, can migrate into a larger methodology while simultaneously recognizing and training agents in narrative visualization via up-to-date computational tools. The Reddit platform in particular, served as a suitable illustration for a multifaceted approach to novel methods in narrative inquiry due to the free accessibility to online storytelling in addition to a substantial collection of unstructured data it offers. This permitted an effective exploration through means of analyzing mediated narratives while concurrently using computational methods to assemble, filter, and interpret "Reddit narratives." The project progresses in two parts. First I offer a model for contemporary rhetorical narrative analysis that embraces social media as a viable source of user-generated narrative data. The second half of the project illustrates a data analysis template that employs a rhetorical lens for the creation of narrative maps. Collectively this project proposes a model for continued rhetorical narrative inquiry that intersects at traditional qualitative analysis and the contemporary deployment of textual analytic software.

INTRODUCTION

The increasing accessibility of large quantities of manipulable, user-generated data provokes questions concerning how "big data" and open-source processing affect narrative creation and inquiry. The advantages of modern analytic software grants researchers representing a wide range of academic and commercial backgrounds the ability to exploit data in a manner fundamentally distinct from conventional techniques. As such tools become readily (and cheaply) available for researchers exploring big data, it comes as no surprise that the commercial potential of predicting and visualizing social trends supersedes the ontological questions posed toward elaborate documentation of how people move, think, and tell stories. Hence, a substantial portion of big data literation traces back to commercial enterprises such as Forbes or Wired (in addition to a host of computational and operational consulting outlets). Despite this, researchers in the social sciences actively evaluate the implications of big data on human research.

This project offers a tactic by which the constructs of narrative inquiry from a humanist perspective can migrate into a larger methodology while simultaneously recognizing and training agents in narrative visualization via up-to-date computational tools. The Reddit platform in particular, serves as a suitable illustration for a multifaceted approach to novel methods in narrative inquiry due to the free accessibility to online storytelling in addition to a substantial collection of unstructured data it offers. This allows researchers to effectively explore the means of analyzing mediated narratives while concurrently using computational methods to assemble, filter, and interpret "Reddit narratives."

Interpreting the implications of big data from the rhetorical tradition of public narrative offers a unique way of humanizing immense quantities of user-generated data. Although there exists little congruence among rhetorical scholars on the manner in which narrative analysis should be conducted, there exists a unifying belief that narrative research creates a discursive space for alternative histories to emerge. Storytelling or narration is an organizing process that enables individuals to engage in communications from the position of experience (Fisher, 1984; 1985; McGee & Nelson, 1985; Farrell, 1985; Monteagudo, 2011). It is intended as "the main device which helps in defining individual and personal identity and in situating it within different contexts" (Striano, 2012). Analyzing large sets of data, particularly user-generated social media, possesses the potential for collating many individual stories and deducing therein a meta-narrative that can be identified, quantified, and "read" rhetorically, and this is why approaching data from a rhetorical narrative perspective can offer a method by which mediated bits of human communication exist as pieces to an ongoing social history. Considering narration as an organizing process also provides an effective answer to where rhetorical analysis fits in among today's hyper-mediated, digital landscape.

Thinking of big data analytics as the organizing process of endless narratives effectively links a tradition of qualitative research with the magnitude of exponential data collection. Narrative artifacts have historically consisted of specific stories (often published), however, the magnitude of contemporary data collection offers researchers the ability to continually reevaluate social histories in near real time. The linking of narrative inquiry to the rhetorical tradition in conjunction with narrative visualization as an applied practice of organizing social information creates a discursive space wherein

individuals can actively engage their social histories by participating in their online communities.

There are discussions concerning the future of narrative inquiry and the concepts of functional storytelling with respect to an increasing mediation of human communication (Hogan, 2006; De Fina & Georgakopoulou, 2008). For many researchers, the growing reliance on mediated social interaction appears to alter the nature of human storytelling, which traditionally functions as concentrated acts of verbal exchange. Post-mediation, these deliberate (or circumstantial) exchanges morph into a *virtual* dialogue comprising *actual* agents engaging in communicative colloquy (Mitra, 2010; Dylko & McCluskey, 2012; Goldenberg, Oestreicher-Singer & Reichman, 2012).

Unfortunately, there is little work underway in pursuit of unifying commercial practices of narrative visualization and the social science-centric method of narrative inquiry. This is important: The expanding commercial pursuit of narrative visualization challenges the perceived functionality of qualitative expertise, particularly in regards to narrative inquiry. The tools of modern research, situated within a contextual space of infinite, user-generated data, disrupt the characterization of bodies of research defined as qualitative or quantitative. Researchers find themselves practicing the dual roles of information collection and the creation of possible solutions to social artifacts utilizing predictive software modelling and open source accessibility. However, most of these solutions consign themselves to the realm of commercial advertising and social trending, not to determine the predictability of mediated narratives within a greater context (or even the critical examination of human communication in general). Traditional forms of narrative analysis are not designed to assess the validity of huge data sets, and

algorithmic analyses of large quantities of unstructured information has yet to understand the intricacies of human communication and storytelling. These tools "remain limited in their capacity understand latent meanings or the subtleties of human language" (Lewis, Zamith, & Hermida, 2013).

Project Outline and Thesis

The project argues for a collaborative effort between narrative visualization and an applied computation methodology and narrative inquiry as a qualitative investigation. The case is made that this methodological hybridity is the next step in the evolution of narrative studies. Using Reddit as an online social network that embraces an open-source philosophy should serve as an effective example for a space where online deliberation manifests itself regularly in the natural form of human communication and argumentation. Reddit is also an excellent database in which large quantities of user comments can be "scraped" in order to visualize social narratives (or at least culturally specific social narratives).

In order to illustrate the conjunction of narrative analysis and big data, this project will progress in two parts: Firstly, I will examine Reddit as a rhetorical space of public narration, contingency and information editing, particularly focusing on the "Election Night 2012 Discussion Thread." A narrative analysis should effectively define how these tropes produce and reproduce a narrative where members of the Reddit community actively participate in the interpretation of unfolding political events. Furthermore, this narrative shapes the manner in which members of the Reddit community attempt to define their role in the progression of the open source narrative and project the force of information transparency in contemporary mediated argumentation.

Utilizing a process known as "data scraping," this project will identify, compile, and organize all posts from three distinct Reddit forums pertaining to the 2012 presidential election. With support from Sanjay Mamani, and Enterprise Mobile Solutions Consultant, all information posted, reposted, or commented within these three forums will be collected in a process known as scraping.. Once the data has been scraped the project offers a two part model for conducting a narrative analysis as well as a data analysis. The narrative analysis consist of five steps: a contextualization of the medium, the contextualization of the perceived plot or story-line, an analytic reading of how the mediums vernacular shapes the tropes of collective speech, the identification of normative patterns of utterance, and lastly a discursive reading of how the mediated narrative is functioning simultaneously as a meta and historical discourse. After the conclusions were determined from these steps the data is then extracted into SPSS Textual Analysis for Surveys and mapped accordingly to the categorical correlations between tropes and normative speech patterns identified by the narrative analysis model. Focusing the parameters of information retrieval on the reflexive language used to define the body of Reddit members as active participants in the open source narrative, reveals how the movement of large, mediated communities is ultimately reflects the way individuals choose to narrate and interpret their shared mediated realities.

To better understand the implications and possibilities for effectively engaging in a discursive, narrative reading of visualized data, it is important to explore what is meant when researchers describe themselves as working with big data. For communication researchers in particular, the ubiquitous growth of mobile devices, social networking sites, tracking tools, and inexpensive processing software fosters an expansive wealth of

untapped information. Understanding big data as a term and concept readily used in contemporary population research helps to strengthen the definitive goals and conclusions of this project.

CHAPTER ONE: BIG DATA

An interdisciplinary definition of big data proves difficult to pin down as the term penetrates many facets of commercial, medical, investigative, and scholarly research. While practices differ, the term "big data" is most commonly associated with processes by which data is collected, stored, and repurposed. Authors Viktor Mayer-Schonberger and Kenneth Cukie coined the term in response to a situation where "the high volume of information had grown so large that the quantity being examined no longer fit the memory that computers use for processing" (Mayer-Schonberger & Cukier, 2013). Sanat Joshi, an industry principal leading the development of big data analytics for manufacturing industries at Oracle, describes big data (or the big data problem) as "when the volume, velocity, and/or variety of the data exceeds the abilities of your current IT systems to ingest, store, analyze, or otherwise process it" (Joshi, 2013). These definitions are useful for explaining the computational demands for higher performing hardware, but do little to explain what big data is capable of accomplishing. In other words, "Big Data is less about data that is big than it is about a capacity to search, aggregate, and cross-reference large data sets" (Danah Boyd & Crawford, 2012). If Boyd and Crawford are correct, the "problem" with big data has less to do with how data is stored, but instead with what conclusions big data can generate when certain tools are applied.

One of the residual fascinations surrounding the conceptualization of the "big data problem" is the constant evolution of methods for negotiating a new landscape of data collection. There is no single way to approach the big data problem. Consequently, nearly every investigation and project forces its authors to "play" with novel methodologies. For every conversation surmounting/surrounding the literature of unstructured data, there

exist a multitude of approaches for negotiating the challenges, limits, and ethical implications for using scraped information rather than traditionally solicited information. The methodologies of various academic, peer-reviewed methodologies have been completely revamped. While these methodologies vary among disciplines (and even more so for commercial enterprises), nearly all challenges fall upon the dilemma of human vs. computer analysis.

In a short article published for Forbes, authors Jones and Kerschberb discuss the current debate over utilizing technology-assisted content analysis for judiciary optimization. The authors highlight a new trend in legal methodology incorporating processes known as "automated document classification," but more readily labels the concept as "predictive coding" (Jones & Kerschberb, 2012). The debate rages over whether computers (or automated tracking devices) are as efficient as the scrutiny and creativity offered by an expert human subject. The current legal debate determines that, as of now, "predictive coding" is frowned upon in conjunction with authentic expert analysis (Jones & Kerschberb, 2012). However, it is not the goal of the authors to completely remove expert intellect and talent, but rather to claim that the culmination of a multifaceted methodology utilizing both the expert and the tool would yield quicker, more efficient products--thereby strengthening the efficacy of a firm, office, or case.

For news and print industries, big data appears both problematic and inspirational. The accessibility of large databases creates the opportunity for historical meta-analysis to potentially reshape the way many of our stories will be told in the future (Abel, 2013). For researchers interested in digital media and the growth of online information dissemination, methods for navigating big data prove exceptional for analyzing public

reactions and sentiment with almost real-time capabilities. Twitter in particular has become the social media site of choice for many researchers who wish to visualize public reactions from within as events unfold. Events such as the protests in Cairo in 2011 (Taylor, 2013; Papacharissi & de Fatima Oliveria, 2012), voter sentiment during federal elections, (Burgess & Bruns, 2012; Verger & Hermans, 2013; Johnson, 2012; Dang-Xuan, Stieglitz, Wladarsch & Neuberger, 2013) and the Occupy Movement (Thorson, Driscoll, Ekdale, Edgerly, Thompson, Schrock, Swarts, Vraga & Wells, 2013; DeLuca, Lawson & Sun, 2012). Unfortunately, the dehumanizing effect of "scraping" user-generated data nearly removes the need for human interaction in order to conduct human research. Journalists direct their investigations by effectively controlling and choosing their sources according to a search engine instead of relying on human sources.

Researchers in the medical community also benefit tremendously from big data possibilities. The ability to effectively store and request enormous strings of biogenetic information offers analysts a greater chance of identifying irregularities within patients and quicken response times for treatments (Spector, 2012). The capability of compiling and requesting all medical records shortens the time needed to compile patient medical history, shortens emergency waiting periods, and trims the length of visits to the doctor (Spector, 2012) As the scraping of information is morally problematic for many journalists and scientists, the questionable nature of maintaining fully accessible medical record databases provokes disagreements in the medical field as well (Tene & Polonetsky, 2012).

As researchers continue to define the methods for negotiating big data, it is important for them to actively seek out websites and online communities embracing these

data changes rather than idly subscribing to the whim of data sets. While Facebook and Twitter are exceptional sources for continuous streams of new user-generated data, the members of these networks are often unaware that submitted content carries a risk of third party analysis. A social community such as Reddit offers researchers the benefit of knowing that participants recognize their online engagement in addition to the reassurance that the community culture as a whole operates within an open-source philosophy regarding information dissemination. The benefits of this widespread and shared understanding of the preferred democratization of information manifest as a collective desire for serving a greater good. This "good" is not necessarily defined in the context of similar democratic exchange, but it is unmistakably deliberate nonetheless.

REDDIT AND THE OPEN SOURCE MOVEMENT

Little discussion regarding social media networks and open source advocates such as Reddit exists. Unlike YouTube, Facebook, or Twitter (all of which are particularly hot topics in the big data and communication fields), Reddit offers a unique manner in which anonymous profiles engage one another at the intersection of storytelling, argumentation, and information dissemination. Self-labelled as the "Front Page of the Internet," Reddit functions as a multi-leveled online platform offering a plethora of inclusive categorical divisions ranging from religious and political discussion to niche genres of popular culture. These categorical divisions are called "subreddits," where users share, upload, and discuss these particular topics with the larger community of "redditors" (a portmanteau of reddit and editor; reddit itself being a portmanteau of read and edit). Founded in 2005 by Steve Huffman and Alexis Ohanian, Reddit is among the fastest

growing and most extensive online communities on the web. In November of 2013, Reddit clocked just shy of 91 million unique users, spanning nearly 5.1 billion user-generated posts and a global community of 195 different countries (Reddit, 2013).

While Reddit's user base is smaller than many of its competitors in social media and its user names create source anonymity, the interaction between its constituent members illustrates a natural form of communication that functions more as a deliberative space or forum than many types of networks. Without the ability to block other users from commenting, all posts are inherently available for public scrutiny. This forces its members to self-select the information they deem "news worthy" or acceptable as justification while engaging other users on the validity of their claims and structural coherence of their conclusions. Discussions can accumulate over 5,000 comments within mere hours of publication. When President Barack Obama participated in an IAMA (a subreddit focusing on celebrities, politicians, and other notable individuals granting personal e-interviews to the community) on August 29th, 2012, the Reddit servers malfunctioned temporarily due to the enormous traffic of participating users. Subsequently, Reddit functions as an engaged virtual community.

This project employs Reddit as the site is an effective example of a deliberative online community which simultaneously (and collectively) participates in the open source movement. In 2008, Reddit released its coding algorithm as a declaration of its support and participation in the open source movement. This means that the code designed by the Reddit developers is, as Huffman said, "available to the public for download" (Reddit, 2008) The purpose for doing so illustrates a clever example of the greater open source philosophy: By releasing the code, Reddit subscribes to a growing belief that open

software development promotes transparent and participatory coding efforts. Reddit members then offer suggestions to the code as a collective effort on the part of the community to improve the technology and user experience as a whole.

Open source (as a movement) is defined by two characteristics: The technological architecture of open coding and the cultural manifestation/consequences of shared knowledge. A core element of the open source idea is a shared belief that software works most effectively when freely available and jointly developed. Code itself is the language of computer programs which defines the parameters of a software application's functionality (Raymond, 2001). In open source projects, "users can access, modify, and freely distribute the source code, thus allowing for a successful idea to scale quickly as it is copied elsewhere or built upon by others" (Lewis & Usher, 2013). This establishes a sustainable community of developers interested in facilitating greater processing speeds and efficiency.

The latter half of this ideology carries an open source culture that professes the normative idea that information distribution should be universally accessible for the perceived greater good. From this point, developers foster shared values in transparency and participation by which all software development becomes a product of community effort rather than institutional competition. The motivation transforms from profit-driven control to a communal interest in strengthening user-generated software (Turner, 2005). Typically representative of an earlier hacker culture, the open source movement is committed to an egalitarian vision of information, believing that information itself should not exist for the benefit of a few, but as a benefit to all engaged members of the developing community. This resonates with many authors interested in the collaborative

efforts of open source activists and the greater journalism community (Lewis & Usher, 2013).

This open source movement penetrates many facets of modern communication research. With the commercial success of open source software, curious researchers analyze the expansion of open source practices from software to hardware designs and on to democratic culture in general (Powell, 2012). Some even look at the open source movement as "rhetoric of free" and how, in times of economic disparity, this language may be utilized to establish efforts toward collective recommendations and action (Zoetewey, 2013). With communication in general, the peer-to-peer open source forums create a highly expansive investigation into global participation between activists, developers, and commercial organizations in the technology industry. In 2008, Kuehnel published an article concerning Microsoft's apparent embrace of the open source initiative. Kuehnel ultimately argues that while "Microsoft's efforts are to be lauded, it is highly unlikely that the company will embrace fully the Open Source philosophy in the near future" (Kuehnel, 2008). This superbly illustrates the developer/industry rift fostered by the open source movement. For many in the software development industry (like Microsoft), open source participation limits the possibility for market autonomy. However, as the open source culture continues to penetrate many levels of software development, there exists an interesting benefit to industry principles who visibly engage the movement as opposed to those who appear to be motivated solely by profit.

CHAPTER TWO: NARRATIVE RESEARCH WITH EXCURSIONS INTO THE SOCIAL SCIENCES

In Robert Scott's 1984 article *Narrative Theory and Communication Research*, Scott embellishes the central point of contention for narrative theory as an inability of communication researchers to problematize communicative systems outside the artifact in question. This is not to suggest that researchers should fabricate new problems to examine, but rather that the extent of narrative research has developed a singular reliance on the narrative itself. Scott comments artfully on behalf of Hayden White's conclusion that to be history, a record must be a narrative. White, a historian, suggests in his essay *The Value of Narrativity in the Representation of Reality* that historical documents such as records or annals cannot qualify as narrative because they lack the element of human judgment. The moralizing factor of communicating what is known strips information of context and complicates universal interpretation. To promote his conclusions, White examined the *Annals of Saint Gall*, a document outlining events in Gaul in the 8th, 9th, and 10th century. For White, the lack of narrative characteristics--"no central subject, no well-marked beginning, middle, and end, no peripeteia, and no identifiable narrative voice" (p. 7)--reduces the *Annals* to the space of objective historical data (Scott, 1984, quoting White).

Scott critiques this method of narrative interpretation as limited by the human element of the artifact itself. Meaning that, with the inevitable occurrence of human judgment and requisite accountability, research conducted in such a manner would inherently examine the authority of the artifact and its constituent elements of moral communication. Here, the narrative cannot exist without the interpreter, and only then do

its contents (information characterized as having narrative features) become a sustainable source of analytic material. With respect to White and the traditionalist historian perspective, this narrative rationale promotes a deliberative space by which the historian exists to evaluate the authenticity of objectivity of an artifact. Scott concludes his essay with the suggestion that such ways of limiting narrative analysis to the problems of the artifact restricts possible insight into natural communicative/communication efforts and ultimately serves no function beyond tracing lineages (Scott, 1984).

The applicability and efficacy of the narrative concept has historically proved contentious. However, for all its variances in method, language, or discernible product, narratives offer researchers the ability to explore the intersections of narration, interpretation, intention, experience, and history. Scott is not critical of narrative theories that coalesce upon a solitary method for narrative analysis, but instead augurs the potential for multilateral perspectives to effectively communicate all variances of the narrative process. Scott suggest, "What it seems to me is needed is an evolutionary-like theory to account for variation of narrative, with the different variants filling cultural niches, both formative of and formed by the pressures of cultural milieu" (Scott, 1984). This project builds upon such ideas in efforts to sufficiently illustrate how alternative perspectives on narrative analysis can collectively support more comprehensive analysis.

Scott's example further considers the fragile bedrock on which researchers construct the parameters of narrative inquiry. White's claim that the *Annals* cannot qualify as history due to their lack of narrative characteristics creates a closed circuit of analysis. It enforces a belief that all information documented, scribed, or recorded is timeless dormant if not communicated within the contextually specific boundaries of any

given narrative theory. White comments candidly on the irony of modern historians claiming that "It is the historians themselves who have transformed narrativity from a manner of speaking into a paradigm of the form which reality itself displays to a 'realistic' consciousness. It is they who have made narrativity into a value, the presence of which in a discourse having nothing to do with real events signs at once its objectivity, its seriousness, and its realism" (White, 1981). This paradigm, as White labels it, reveals twofold the importance of studying narratives. Primarily, the artifact signs toward the possibility of transcendence. Received within the correct form, and objectively interpreted as displaying a realistic consciousness, the artifact is elevated to narrative status. Narratives, then, exist as the replication of a former reality and provide a glimpse into history via someone else's experiences. The artifact is no longer lifeless, but embellished by the endless task of effectively communicating what is known. Secondly, White's comments reveal an unequivocal illustration of why researchers arrange their judgments with respect to definitive justifications of their own methodologies.

Unilateral limitations on narratives structurally limit their alternative historical potential and subsequently lack total consideration for the communicative process of telling stories. By assembling the conditions by which an artifact transcends a narrative, analysts afford themselves the assurance of credibility while concreting their own voice in the development of that history. This self-aggrandizing definition of judgment narrows a line of inquiry and reduces the potential for alternative historical and cultural patterns to emerge. Problematizing any singular aspect of an artifact alone would yield a method unable to accommodate changes in social landscapes. For instance, under the

same principles denying the *Annals* of narrative designation, many of White's conclusions consider a large portion of online communication as insufficient for incorporating into historical narratives. While it is unfair to place such criticism on mediated communication, the following consideration remains: What potential exists for narrative research when the investigation is expanded beyond the artifact?

RHETORICAL DISCOURSE AND NARRATIVE RESEARCH

As a form of rhetorical criticism, the examination of narratives within discourse functions as an analytical and evaluative investigation into the narrative elements of rhetorical communication. Combining close readings of rhetorical texts with contextual analysis of the communicative situation, rhetorical critics aim to consolidate these patterns into normative judgments about how narrative features are used for persuasive or action-based goals. With respect to the Scott and White discussion, this method of rhetorical criticism investigates the functionality of narrative discourse without the constrictive principles of naming proper narratives. Instead, critics of this form are particularly concerned with identifying where rhetorical discourse exists and how narrative features effectively construct meaning in those forums/environments.

Establishing where rhetorical discourse exists is a contentious but constructive process for rhetorical critics. It is necessary for this study to engage this question, since we are dealing with a “text” that is not a unitary work of art but is mined from big data. Most notably, the modern field of rhetorical criticism tends to favor one of two theories for assessing the boundaries of a rhetorical discourse.

The first of these means of defining the boundaries of rhetorical discourse posits structural argumentation and the notion of a rhetorical situation. Bitzer defined the emergence of rhetorical discourse as the consolidated product of specific situations necessitating a particular communicative response (Bitzer, 1968). Stephan Iversen comments: "While often both highly artistic and formally elaborate, rhetorical discourse is thus a means to an end, and that end exists as a more or less explicit and changeable occurrence or state of affairs in the real world" (Iversen, 2014). Although Bitzer's work was highly criticized for its one-track causality (Vatz, 1973; 2009), the tendency to distinguish rhetorical discourse as the conscious and intentional response to "real world" events has dramatically impacted the foundation of rhetorical criticism and narrative studies.

Kenneth Burke offers the second theory with the notion of rhetoric as identification. One of the central components of Burke's work involve his efforts to broaden the spectrum of rhetorical discourse from "old" neo-Aristotelian notions of persuasion as rhetoric to a more reflexive and less rational process of identification. For Burke, the central act of persuasion occurs not through rational argument but through the transformation of persons by means of symbol use, which he terms "identification" (Burke, 1951). Burke describes this process as a type of "social pageantry," where "In such identification there is a partially dreamlike, idealistic motive, somewhat compensatory to real differences or divisions, which the rhetoric of identification would transcend" (Burke, 1951). Here, rhetorical discourse is less concerned with causal determination and more concerned with the identification patterns used by humans to define and redefine, to evaluate and describe, and to negotiate relational similarities. As

"man walks amongst a forest of symbols," his or her ascent into socialization, dialectics, and hierarchical structures replicates reality only insofar as the self is able to maintain a determined identity against new symbolic patterns (Burke, 1951).

These two patterns for identifying rhetorical discourse do not comprise the totality of existing literature, but their takeaways are fundamental for this thesis and the greater theory behind narrative rationality. By one definition, rhetorical discourse functions as a progressive articulation of responsive communication. The discourse is causally related to its context while bound by the constraints of an actualized audience and catered to the predictive nature of a rhetorical audience. Another consensus holds that rhetorical discourse can be described as a process of transcendence or a method of symbolic articulation motivated by necessity on behalf of social beings to identify with (and make judgments of) their shared realities. The narrative itself (and narrative elements) as a form of rhetorical criticism offer theorists the applicable conjunction for these dominant continuums of rhetorical thought.

Exploring narratives or narrative features offers critics the opportunity to investigate the efficacy and residual value of storytelling and multiplayer communication. In the study of narratives in rhetoric, the result fosters an expansive library that, on one end, categorizes narratives as a stylistic device for argumentative and persuasive success, and on the other, considers the epistemological prerequisites for communication to take place at all. This division is precisely what Rowland attempts to define in the 2009 introduction to the subject, *The Narrative Perspective*. He suggests that the field of narrative studies in rhetoric can be classified within two fields of functional application: Persuasive action and epistemic clairvoyance. The epistemic function focuses attention

toward the belief that narratives serve as a tool for understanding the socio-linguistic world. Hidden within the frames of narrative structure exist a rationality that ascribes meaning and value to events past and present, and furthermore allows for connections to be transcribed between events of similar participation. This acquisition of meaning is what Rowland describes as the "lens" which enables individuals to make judgments of the characters and motivations, but ultimately finds a path around the elitism of the "rational-world paradigm" (Rowland, 2009; Fisher 1987).

For Rowland, narratives produce persuasive effects when utilized for specific rhetorical situations. As a rhetorical tool, narratives "keep the attention" of the audience, they "Create a sense of identification" between the sender/subject matter and the audience, and they help "break down barriers" through their ability to illustrate alternative world views from observing the emotions and values of particular people experiencing relatable changes (Rowland, 2009). The process for identifying the complexity and persuasiveness of a narrative is what Rowland defines as the "Systematic Perspective." This method compiles a series of strategies for "identifying form," defining "functional analysis," and evaluating "how effectively the narrative functions persuasively with a given audience" (Rowland, 2009). These patterns for analysis as defined by Rowland are the tools rhetorical critics use to judge the persuasiveness and credibility of a narrative. The single caveat Rowland provides is the inability of such tools in lieu of a researcher to judge the accuracy of a story. The accuracy or consistency of a story is not the same as the effectiveness of persuasion or the credibility of what is said. Rather, what concerns rhetorical critics is to what extent the narrative effectively produces a desired outcome or communicative goal.

While Rowland's work appears to portray narrative studies in a conducive but binary lens, the field of narrative research in rhetoric is exceptionally polemical. In the field of rhetorical analysis, narrative studies have only recently (in the past 30 years) achieved significant consideration. Almost as quickly as it emerged, narrative studies dissolved into trite methods and continued research has become dormant. Walter Fisher's idea of the narrative paradigm garnered the attention of many contemporary narrative critics. For a short time, Fisher's "logic of good reasons" sparked debates in contemporary rhetoric journals as critics attempted to establish the narrative as somewhere between traditional argumentative discourse and what Fisher ultimately suggests as an ontological paradigm (Fisher, 1985).

1984, Walter Fisher reanimated/revived/resuscitated the field of narrative studies in rhetorical discourse with the concept of the "narrative paradigm." For Fisher, a large part of actualized argumentation and consistent social and individual decision-making stem from the innate nature of humans to use storytelling as a primary form of communication. As *homo narrans* (or storytelling man), humans ascribe their beliefs, values, and functional decision-making to stories. Fisher remarks that "the world is a set of stories which must be chosen among to live the good life in a process of continual recreation. In short, good reasons are the stuff of stories" (Fisher, 1984). What this establishes for rhetorical studies is that, according to Fisher, the narrative should no longer be idealized as a persuasive tool, a text type, or genre of rhetorical discourse, but instead exists as a means of making human judgments. Rather than studying the artifacts of communication, Fisher's paradigm inculcates the narrative as the cornerstone for reasoned human action and communication to develop in the first place.

With the addition of what Fisher calls "narrative fidelity" and "narrative probability," the data of unique experiences may be collected into the substance of commonality and social identification. Internally, narrative probability states that a story must "ring true of the human condition" (Fisher, 1987). Narratives must serve as an illustration for a coherent structure that is free of contradictions and maintains a linear path that is conducive to the replication of definable values and consistent decision making. Externally, narrative fidelity maintains that a story must cohere with the culture in which it appears. Fisher expounds on this idea with his "logic of good reasons," positing that a "good" narrative resonates at a certain level of fidelity to the existing and accepted narrative (Fisher, 1985). Compared to the traditional conception of narratives as statements of fact or examples for persuasive discourse, narratives under Fisher's paradigm become the epistemological prerequisite for communication and argumentation to build upon.

Fisher's theory is met with harsh criticism, yet signifies the pinnacle of narrative research in rhetoric. Despite this achievement, critics levy two main arguments against narrative fidelity and narrative probability. Under Fisher's definition that "good" narratives resonate with pre-established and accepted narratives, it is impossible for the theory to explain actualized change in values and belief systems (Kirkwood, 1992). Furthermore, in regards to narratives as epistemological prerequisites for communication, the possibility that all narratives share ubiquitous elements of human decision-making proves unfeasible to critically examine. Authors such as Rowland, Lucaites, and Condit adamantly suggest that while Fisher isn't incorrect in highlighting the importance of

narrative research, his method alone (along with proponents of his ideas) must establish a narrower definition than the robust pan-narrative of Fisher's paradigm.

Lucaites and Condit respond to Fisher's narrative paradigm with an argumentative stance for functional narrative research and forensic storytelling. More attuned to a belief in narratives serving as statements of fact, these authors posit that a "rhetorical narrative is a story that serves as an interpretative lens through which the audience is asked to view and understand the verisimilitude of the propositions and proof before it" (Lucaites & Condit, 1985). For these authors, narratives are motivated by one of three individual pursuits: Aesthetic pleasure, enlightenment, and power. Analyzing narratives from this position requires consideration of the contextual space in which the discourse exists, the audience(s), and the strategic purpose of the discourse in question. Narratives as rhetorical tools are about specific situations in which the speaker invites a singular interpretation of an artifact, and it must "stop short of the formal stage of plot 'resolution'" in order to entice the audience to participate, act, or otherwise endorse the position of the speaker (Lucaites & Condit, 1985).

The extremes between Fisher and the Lucaites/Condit arguments can be encapsulated by the idea of purpose. For Lucaites & Condit, narratives in rhetorical discourse operate as a whole with specific purpose to form "unity of narrator, author, and speaker" (Lucaites & Condit, 1985). The ethos of the speaker connects directly with narrative, and the function or desired outcome of a discourse is characterized by the efficacy of this connection. For Fisher, narratives serve as an environment in which an individual links common perceptions of a good life to that of their own. The narrative is a metaphor by which life is linked timelessly between shared experiences and the validity

of accepted stories. However, neither method offers a solid framework by which the critic should study narratives, or even how to deal with narratives in daily interaction. Fisher's theory is too broad to offer functional tools for analyzing narratives, and while Lucaites & Condit offer tools for analyzing the specifics of narratives, their theory does not offer tactics for analyzing the inventive and evolutionary nature of narrative discourse.

The problem is that neither party willingly accepts elements of one method or theory in combination with the other. Analytic tools for studying rhetorical narratives as proposed by Lucaites and Condit illustrate the need to mechanically define how a narrative is used and to what functional purpose its employment offers a communicative situation. Fisher designates the nature of human interaction as more primitive than the forensic discourse and argumentative styles of western rationality. Methods *can* exist with the presupposition that language shifts from era to era and is not contextually bound by a single culture or social body. Fisher's broad stroke over narrative identification potentially offers researchers an opportunity to re-evaluate where narratives exist. Furthermore, to what degree must a narrative possess a singular beginning or sole narrator? The tools exist to analyze, but analysis itself should not remain dogmatic to the degree that narrative studies in rhetoric fall prey to the conventional naming practices that prevented White from fully liberating history from narratives.

These two bodies of thought (the method and the paradigm) do not comprise the totality of rhetorical narrative tradition, but instead provide the critical example of why narrative research in rhetoric has plateaued, however, this does not suggest that little has

been accomplished. On the contrary, these two perspectives should be considered outliers with the effort of many authors to find a suitable compromise.

Phelan and Rabinowitz, in a contemporary expose on *Narrative as Rhetoric*, posit a linear sequence for how rhetorical theorists observe the act of producing narratives. For these authors, the narrative itself is an event or act rather than an object. Specifically, they define narratives as "multidimensional purposive communication from a teller to an audience" (Phelan & Rabinowitz, 2012). Narrative theorists and rhetorical narratologists adopt what Phelan labels an *a posteriori* stance. Rather than *preselecting* narrative to analyze, narrative theorists grapple with "how narratives seek to achieve their multidimensional purposes even as it strives to be sufficiently flexible to respond to the diversity of narrative acts" (Phelan & Rabinowitz, 2012). The notion of flexibility enables researchers to identify the occasions, words, techniques, structures, forms, and dialogic relations of texts and how these patterns create narrative functionality rather than delineating where proper narratives can and cannot exist.

Exemplifying Phelan & Rabinowitz's theory is Marice Charland's *Constitutive Rhetoric: The Case of the Peuple Quebecois*. Charland examines how the rhetoric of the Quebec sovereignty is obliterated by appealing to a "particular motivated subject," or the Quebecois. Based upon a principle of identification, they are interpolated by rhetorical narratives which bind ideological discourse. For Charland, such narratives "constitute collective political subjects through a series of formal discursive effects" (Charland, 1987). These effects, conveyed through the collective events experienced by the Quebecois, result in a discursively constituted subjectivity that catalyzed an ideological shift in the region. With respect to Phelan & Rabinowitz's theory, Charland was not

prompted by a desire to respond to a narrative, but was inspired by these events which defined the success of the Quebecois people from the act of collective narrative dissemination.

Despite these competing theories, narrative analysis from the rhetorical tradition provides a multifaceted approach for qualitatively examining how histories reveal themselves through narrative creation and re-invention. Stories (and the telling of stories) are a fundamental necessity in socialization and culture-building. Narratives offer a novel perspective in which history manifests as an evolutionary and participatory process. Despite this, there has been little accommodation of communication into a hyper-mediated world of online communities, digital communication tools, and big data conceptualization. Rather than adapting qualitative methods to the evolving landscape, discussion has stagnated, particularly within the rhetorical arena. McClure states candidly that "in rhetorical theory and criticism, narrative and the narrative paradigm have become virtually dead subjects" (McClure, 2009). Scholars of qualitative traditions should not concede so readily. While narrative research flourishes in many other disciplines, both academic and commercial alike, understanding the intricacies of narrative creation and identifying the tropes of participatory language are fundamental to effective rhetorical analysis. Without careful consideration to purpose and rhetorical function, the digitalization and globalization of online social media can corrupt human narratives into nothing more than data sets devoid of human quality.

This criticism of narrative analysis from the rhetorical tradition should not discredit the work accomplished by narratives in other fields. From a communication science perspective, work in narratology, linguistics, and the pursuit of commercial

enterprises, narrative analysis and research has blossomed with the advent of the digital age.

CONTEMPORARY NARRATIVE ANALYSIS OUTSIDE THE RHETORICAL TRADITION

While narrative analysis from the rhetorical tradition has diminished as of late, narratives as effective communicative tools garner considerable attention from other communication and social sciences. It is not language that differs between disciplines, but rather its applied distinction: Narrative analysis allows critics to identify the purpose of preexisting narratives. The item for analysis, be it labeled artifact, discourse, or simply narrative is not produced, but observed. Such observation potentially sparks the development of methods, theories, or paradigms, but the bulk of rhetorically focused narrative analyses presents few immediately identifiable applications.

Charland's work with the Quebecois narrative illuminates the emancipatory and ideological strength of unified narratives, but despite its importance to general observation, Charland's effort lacks a definitive model for replication within real-world contexts. For much of the social science camp, narratives are tools employed directly for applied research.

The narrative is frequently considered to be a discrete unit of discourse. It is a moveable object, determined as effective or ineffectual (given the contextual space of a particular experiment). Narratives themselves, despite what potential form they assume, are not commonly considered to be viable rhetorical strategies or observable discourse, but rather constructed by microstructural aspects of language (Peterson, Brown,

Ukrainetz, Wise, Spencer, & Zebre, 2014). Considering this premise, narratives are not observed as distinct elements of discourse, but as constitutive components of language. It is a particular stacking of linguistic patterns adaptable to the needs of the study.

Narratives, then, can be considered predictable phenomena within a goal-directed, problem/solution mentality which harmonizes with Aristotelian notions of persuasion. Rather than studying the purpose of narratives or their innate applicability, social scientists attempt to determine if linguistic patterns and the grammar of narratives are inherently replicable.

Rapidly expanding subsections of narrative research concerned with the efficacy of narrative formatting for impairment learning work from a position considering narratives to be grammatical structures of persons and events, or episodes. Narratives, subsequently, exist as learnable, linear processes of evaluation (Stein & Glenn, 1979). With dedicated interest in the replicable mechanics of narrative elements such as plot, setting, characters, and motivations, social scientists find success in tailoring learning styles for special needs students in a process that echoes the simplicity of natural storytelling. In the previous 5 years alone, such methods succeeded in creating improved learning curriculums for children with Down Syndrome (van Bysterveldt, Westerveld, Gillon, & Foster-Cohen, 2012), autism (Peterson, Brown, Ukrainetz, Wise, Spencer, & Zebre, 2014), and multi-lingual aphasia (Altman, Goral, & Levy, 2012). Likewise, significant progress in health communication pertaining to narrative applications has been made in HIV prevention methods (Horner, Romer, Vanable, Salazar, Carey, Juzang, Fortune, DiClemente, Farber, Stanton, & Valois, 2008), distinguishing clinical depression from early-onset Alzheimer's disease (Murray, 2010), decoupling public health priorities

from celebrity idolization (Beck, Aubuchon, McKenna, Ruhl, & Simmons, 2014), and anti-smoking/tobacco cessation (Durkin & Wakefield, 2008).

Instead of attempting to unearth a modicum of commonality in the theoretical designation of what defines narrative, these studies provide definitive examples of how narratives themselves are utilized for applied research.

SOCIONARRATOLOGY AND LINGUISTIC CODING

Fisher's theory of narrative still stands as communication's contribution to the building of a theory of collective social narrative. Theories of narrative from other fields have also taken as social turn, among them narratology.¹

In *Toward a Socionarratology: New Ways of Analyzing Natural-Language Narratives*, Herman attempts to combine formal methods of narratology with sociolinguistic theories of storytelling as communicative interaction. Concerned by the tradition's failure to accommodate developments in real-pattern linguistics, Herman proposes as hybrid model expanding the grasp of narratological research. Drawing from Labov and Waletzky's sociolinguistic methods for narrative analysis, Herman suggests a narrative-

¹ Narratology, as a qualitative discipline, focuses on determining how narrative-organized sign systems create meaning. Where rhetorical critics cultivate concern for the purpose and function of narrative features in rhetorical discourse, the narratologist (as Herman defines) "studies the network of conditions and conventions that allows certain sets of signs to be processed as stories in the first place" (Herman, 1999). Narratology, as a science, evolved from French Structuralism via Saussure, Todorov, and Barthes (and other unknown ideologues), and imparts a priority to recognize the properties defining language as a system. Dissimilar to the analysis of speech acts or the practice of linguistics, narratology exists as a means of analysis attempting to determine a generalized understanding of signs. Incorporating narratology into this discussion has little to do with fusing rhetorical methods with French Structuralism, but serves to introduce David Herman's conception of socionarratology, a modernization of rhetorical narrative studies bridging a 20 year void in publication.

centric analytical model which shies away from this narrative and grammatical focus toward sociolinguistic patterns suitable for constituting narrative communication (Labov & Waletzky, 1967; Labov, 1972; Herman, 1999). Herman's book proscribes utilizing the tools of narratology for analyzing the message of a narrative instead of the narrative code endemic to research conducted under the Sausurean paradigm. For Herman, the containment of narratological tools expressly for analyzing narrative elements contravenes the concept's essential progressive inertia. As Herman states, "Indeed, rather than being consigned beforehand to the domain of the random and the unpredictable, facts about the production and processing of stories should be anchored in the actual practice of participants engaged in narrative communication" (Herman, 1999). Herman specifies that narratives are not simply observable artifacts, reproducible archetypes, or literary prose, but the product of individuals participating in active storytelling in attempts to effectively communicate with one another. Narrative analysis, without considerable attention to indicators of contextualization and degrees of sociocultural sensitivity, results in miscommunication. Furthermore (and more perturbably), this ignorance elicits shoddy analysis. For Herman, "Stories, too, can fulfill very different roles in different sorts of cultures and communities. To typify, describe, and compare those roles--to explore the contextual, linguistic, and cognitive bases for narrative competence in a variety of cultural settings--constitutes the primary research task for siconarratology" (Herman, 1999).

Herman's essay delivers two primary implications. First, he illustrates the necessity of transitioning narrative analysis from objects of observation to the examination of how individuals communicate through storytelling, and two, by

demonstrating the successful revitalization of stagnant methods by novel hybridized models.

Disconcerted by narratologies' continual reliance on structuralist taxonomies, Herman suggests abandoning traditional practices which categorize narratives as literary agents. As Herman states, "narratology has not yet come to terms with the communicative functions of stories in conversational and other discourse contexts" (Herman, 1999). This distinction is essential to the greater conversation of narrative analysis spanning multiple disciplines, not simply Herman's own discourse. While Fisher's master metaphor has been criticized for appearing too broad (Rowland, 1989), it does pose a challenge for rhetorical scholars to assess where narratives exist. As a communicative act, the telling of stories and the subsequent (narrative) product serves as an evaluative function in addition to prompting a participatory shift toward the development of histories. Latently, concerns for narrative analysis from the rhetorical perspective focus on the debilitating naming practices employed by traditional narratives. While this failure is not as severe as White's description of historical narratives, only defining the narrative as a product of its own function or purpose inherently limits the potential breadth of research. With specific investment in the digital age of communication, the public is no longer simply the *recipient* of narratives, but are *active participants* in the creation and dissemination of stories or collective histories. To impugn these narratives as failing to serve a direct function for forensic or deliberative communication likewise denies the creation of histories by individuals participating in online and social media cultures. Although analytic tools established by rhetorical narrative critics exist to assess the validity of fully structured narratives, theorists should

not readily reject micro-texts such as Facebook posts, tweets, or other iterations of social media conversations from inclusion as components of a larger narrative incorporating multiple narrators. However, rather than uprooting all analytic practices, employing joint methods or hybrid models as illustrated by Herman may be the most potent means of hauling narrative studies and rhetorical narrative analysis into the digital age.

Without concerted efforts by researchers, common methods will languish.

Herman illustrates this with a hybrid approach to scoionarratology. Recognizing the impending plateau of narrative analysis from the rhetorical perspective, Herman criticizes his own discipline for its inability to cope with the natural development of contextual language. Rather than offering an entirely original model for narratological analysis, Herman establishes an intersaction where traditional methods are reexamined for contemporary needs. For rhetorical discourse, these tools should not be replaced, but contextualized by alternative perspective to effectively analyze the contemporary landscape of narrative creation. A platform for further research commences with outside disciplines and commercial enterprises fully utilizing narratives *in addition to* the development of omni-disciplinary tactics and tools focused on the investigation of narrative discourse.

CHAPTER THREE: NARRATIVE VISUALIZATION AND THE RHETORICAL NARRATIVE ANALYSIS OF THE REDDIT DATA

The velocity of narrative research from a rhetorical perspective has perceptibly diminished with the advent of digital communication, yet considerable work remains for mediated communication researchers and commercial enterprises attempting to identify novel applications of narrative research. Despite communication practices exploring narratives in the modern landscape of digital communication, visual narratives rarely tell stories with images or graphs, instead focus on visual enforcement of specific narratives.

Dann Pierce and Katherine Kaufman expound upon this concept in *Visual Persuasion Tactics in Narrative Development: An Analysis of The Matrix*. Pierce and Kaufman target narrative functions of visual persuasion in regards to a film, their conception of visual and textual collaboration provides insight into effective visual storytelling. They posit that "Visual persuasion involves establishing images such that each shot and scene work unobtrusively together to support the conceptual, ideological, and emotional strands of the diegesis" (Pierce & Kaufman, 2012). Production techniques and style within the visual display of information, whether a feature film, a graph, or still-frame image, invite audiences to *collectively* create narrative meaning as opposed to propositions by Lucaites and Condit that narratives describe an *individual* position.

The visualization of stories enables participatory acts in which agents insinuate themselves into a narrative by engaging text actively rather than as passive recipients. Similarly, visual narratives employed for decoding consumer and brand narratives (Megehee & Woodside, 2010) challenge the validity of publicly entrenched narratives such as the United States invasion of Iraq and Vietnam (Schwalbe, Silcock, & Keith,

2008; Wade, 2009), the trends of historical public memory (Wiebe, 2013; Kim, 2005), and the deployment of effective public health campaigns (Kroll, 2004; Gordon, 2009; Lundell, Niederdeppe, & Clark, 2013). In regard to these studies, it is critical to distinguish between narrative *visualization* and visual *rhetoric*. As far as Hariman, Lucaites, and Blair are concerned, visuals exist as rhetorical discourses (regardless of their manifestation or implementation) which potentially compliment an artifact (Hariman & Lucaites, 2007; Blair & Michel, 2000).

Another popular movement gaining momentum within communications research recently is the examination of mediated or socially mediated narratives. For these proponents, narratives exist as secondary products of situated agents experiencing events in real time. The narrative itself, then, comprises the essential method by which social bonding and cultural identification occur (Halverson, Ruston, & Trethewey, 2013). Social media create a forum where public mobilization and political change ferment. Halverson, Ruston, and Trethewey "see social media as an arena where important social bonds are forged, not merely between individuals, but between and individual and a movement, a person and an idea, or an individual and an ideology" (Halverson, Ruston, & Trethewey, 2013). Thus, social media sites provide an opportunity for individual participation in the construction of narrative systems. The narrative, then, no longer exists singularly, but as a unification of social and historical abstractions. The dominion and implementation of narratives are no longer purely the property of media organizations or sovereignty, but as Castells articulates, the narrative is "self-directed in content, self-directed in emission, and self-selected in reception by many that communicate with many" (Castells, 2007).

Subsequently, it is imperative to the future of rhetorical narrative analysis that researchers consider the context in which individuals participate in the writing of their own histories. Storytelling is no longer exclusively a verbal act nor designated to a single narrator, but operates as an inclusive process in which people investigate and evaluate their own reality. The attribution of meaning to narrative cannot exist linearly, but operates in perpetual flux, enduring transitions between participants, cultures, and mediated communication. Without this insight, efforts to qualitatively analyze patterns of narrative development abandon digitally-mediated communication to the realm of big data, thereby consigning its potential to trend analysis in lieu of evaluating human narratives.

VISUALIZING NARRATIVES THROUGH BIG DATA

Edward Segel and Jeffrey Heer, in a 2010 article entitled *Narrative Visualization: Telling Stories with Data*, illustrate the propensity of data sets to reveal stories that fundamentally differ from traditional narratives when perused. Akin to the inclusion of visuals for narrative coherence as outlined by Pierce and Kaufman, commercial enterprises commonly incorporate static imagery (such as graphs or diagrams) to bolster general argumentation. However, as Segel and Heer readily admit, "crafting successful 'data stories' requires a diverse set of skills" (Segel & Heer, 2010). Rather than bothering with the inclusion of complimentary images, data visualization produces stories from unstructured pools of data. These stories are not linear and appear to avoid the common narrative features of controlled progression. Instead, "tours through visualized data can also be interactive, inviting verification, new questions, and alternative explanations"

(Segel & Heer, 2010). Typically, data sets are unstructured, comprised of perpetually expanding stores of information which lack definitive boundaries. Twitter, for instance, utilizes a user-defined and self-organizational memetic denotation called a hashtag (#), enabling users to profess solidarity with emergent trends. Without hashtags, data collected from Twitter accounts would appear as millions of unrelated thoughts. Data analysts are currently attempting to replicate Twitter's innate self-structuring by organizing chaotic data sets in order to define existing similarities, correlations, patterns, and trends. Anya Kamenetz, in an article published by NPR, describes a process by which patterns for determining the likelihood that a college student will perform well in specific courses are analyzed. Utilizing a program entitled Course Signals, professors poses the ability to predict the success of students via the contextualization of the duration spent logged into university servers as well as the number of points a student has accrued throughout the semester. Combined with students' current GPAs, professors determine which students are succeeding and which are at risk of falling behind. This capability is one of the first real-world applications spurring expansion of the big data landscape. While the immediate success of the platform grants (primarily Purdue faculty) the ability to track students and offer up-to-date advice for at-risk pupils, Kamenetz also raises serious concern over the greater ethical dilemma posed by such data monitoring. Citing a recent indictment against Facebook for arbitrarily manipulating hundreds of thousands of accounts to determine if emotional influence is controllable, Kamenetz questions the notion that practices may out-perform the ethical stipulations of user privacy. It is a massive concern as methods are continually scrutinized for ethical rigor with full knowledge of the moralistic implications of previous human subject

examinations. Concerning Purdue's Course Signals program, Kamenetz inquires "But what does informed consent really mean when data collection occurs invisibly...who owns this data? The student, the institution, the company, or some combination. Who gets to decide what is done and in whose best interest" (Kamenetz, 2014). without stymying progress, this is how qualitative researchers can improve practices by challenging such questions and re-establishing a human element to human data collection.

Current analytic tools afford researchers the ability to organize gigantic sums of raw data, but it is the responsibility of the analyst to humanize that information in a manner conducive to ethical and actionable insights. Unfortunately, as Segel and Heer admit, most data analysts possess little expertise in narrative functions. The narrative, for data analysts, is not a consolidated act of human storytelling, but is a process of uncovering patterns existing in data generated by humans. As of now, the majority of big data analytics are harnessed for improving business practices and marketing strategies, but despite this, only 8% of Fortune 500 companies actively exploit these methods (Gartner, 2014). Ultimately, the evolution of analytic software under companies such as IBM, Forrester, and Microsoft, in addition to the exponential growth of data collection capabilities, outpace collective comprehension and ability to create methods able to accurately manipulate and process these benefits while still maintaining an interest in its human subjects.

A MULTILATERAL METHOD FOR RHETORICAL NARRATIVE ANALYSIS AND DATA COLLECTION

I impress upon this project multiple narrative analysis literatures not in an effort to replace the rhetorical tradition, but in order to stimulate some contemporary contingencies for forward momentum. The analytic tools for close contextual readings of rhetorical discourses are still fundamental for the principle of identifying the constituted subjectivity of collective speech. The contemporary difference is that rather than being the recipients of narrative discourse, individuals are now the authors and evaluators of their own storytelling functions. We can no longer specialize our analytic efforts on traditional narratives. Rather we should focus the attention towards how individuals use storytelling as a communicative process by which they are actively engaging one another in information dissemination, while simultaneously participating in the writing of their own histories. Likewise, with the inevitable move towards research consumed by big data, it is the responsibility of narrative analysts to identify these principles and to most accurately replicate such phenomenon in a manner that humanizes the data. Without specialized tools for understanding and uncovering the intricacies of human dialect, the tropes of effective contextual communication, as we will see shortly, computers will often miscommunicate narratives, thereby problematizing the history of collective speech. Such miscommunication can lead to action plans that are poorly suited to the monitored audience, or worse, misdirect the momentum of socially constructed narratives.

In order to carry out these functions I suggest a two part model. First we must expand our gaze of what constitutes a rhetorical narrative, and specialize our practices on how to analyze digital storytelling. This process has five formal steps. First is the contextualization of the medium. Second is the contextualization of the perceived plot or

story-line. Third is a close analytic reading of the how the mediums vernacular shapes the tropes of the collective speech. The fourth step is to identify the patterns of collective speech. In other words, why does any single post, tweet or comment become a functioning piece to a collective narrative, and why are others dropped or ignored. Lastly the fifth step is a discursive reading of how the mediated narrative is not only a function of language, but simultaneously serves as a meta-discourse for the interpellation of its participants as performers of history as well as authors of their own histories.

The second part of the model requires a data analysis directed by the rhetorical reading of the first half of the model. With respect to steps 1 and 3, the author should evaluate the human contingencies of the data set, and assess the validity of computational methods with regards to the data source's tropes of collective speech. For this project in particular as my computational tool I will use IBM's, SPSS Textual Analytic Software for Surveys. This processor specializes in reading large sets of data, organizing like-minded terms into concept groups and generating visual maps between the relationships of user generated requests. IBM is at the forefront of such analytic software and has compiled an expansive lexicon for placing terms under correct concepts with a very high degree of accuracy. The "concept" is a group of similar terms, for instance *Organizations* would be the concept and classified under the concept would be: *CNN, Fox, BBC* etc. The crucial component of this method that differs from simply utilizing the software for its designed function lies within the rhetorical analysis of the tropes used by the collective parties to the discourse. For example, the software will recognize a mediated blurb such as "lol" (laugh out loud) as having a positive correlation with the thread. This is impressive in that IBM has the capabilities of contextualizing text speak and placing such

terms within highly accurate concept charts, however, a close contextual reading of such comments within the larger narrative body can illustrate how such terms are used ironically and are more suited under the negative concept grouping. Without the critical analysis and the tools afforded rhetorical researchers, much of these tropes would remain incorrectly labeled thereby producing inaccurate narrative maps. This is fundamental concern for big data analytics, and an explicit example of how without proper analysis data will produce conflicting social narratives, or even hinder the advancement of social histories to manifest in a digital landscape.

The remainder of this project will illustrate this model analyzing three different data sets all scraped from the Reddit server. The first, simply entitled, Election Night 2012 Discussion Thread, was the real time thread used by the subreddit r/Politics throughout the election nights events of the 2012 election. This particular thread will be only one used in the rhetorical narrative analysis as well as the rhetorical data analysis; it contains a total of 748 unique posts. The second and third threads are only used in the data analysis and are respectfully entitled, Upvote if you Voted (r/Conservative thread containing 473 unique posts), and Why are So few Democrats critical of Obama (r/Libertarian thread containing 311 unique posts).

The purpose for selecting these three threads in comparison to the multitude of conversations available from the Reddit servers deals directly with the misnomer that individuals who ascribe themselves to a political party are argumentatively predictable. Each of these threads was directly stripped from the corresponding forum that is either classified as liberal, conservative or libertarian. A surface reading of any of these forums would quickly illustrate the expected bias towards the popular topics that characterize

these factions. There is no surprise that r/Politics, a traditionally outspoken left leaning forum would focus much of its public deliberation on same-sex marriage legislation, in the same way that r/Conservative criticizes the economic stability of the Obama administration. With expected disapproval of both parties, the r/Libertarian thread openly denounces the pit falls of either candidate, and quite predictable focuses much of its collective attention to the inconsistencies of American foreign policy. However, what the rhetorical and data analysis will prove is that despite these political stereotypes, the members of the Reddit community are not only effective in fair and balanced argumentation, but furthermore are participants in the collective Reddit history that challenges these stereotypes in a manner that invites disagreement and discussion.

RHETORICAL NARRATIVE ANALYSIS OF THE ELECTION NIGHT 2012 DISCUSSION THREAD

Following the proposed model, the first step is to contextualize the medium in which narratives appear. Reddit (as opposed to any other social media outlet), offers distinct differences in the way individuals act, evaluate information, and involve themselves in the creation of their own narratives. The distinction between Reddit and Facebook or Twitter is the anonymity of user profiles. A considerable portion of the Facebook and Twitter user base contain profiles reflecting identifiable individuals among hand-selected groups of friends or followers. Reddit, alternatively, does not function as a collection of public profiles but instead as a discursive collective in which users' identities are protected by fabricated usernames.

This causes notable concern, as the hidden identity of users creates uncertainty about the applicability of posted information readily available for public consumption. However, Reddit's infrastructure fundamentally encourages discussion. There is no cherry-picking of friends or structured process by which users select who to follow. Instead, users automatically participate in discursive argumentation by virtue of the site's design. Every post submitted by users is instantaneously available for scrutiny and debate. Selection of evidence and thorough fact-checking, furthermore, are integral components of the greater Reddit culture.

Upon initial examination, the Reddit front page appears hectic and scattered. It *seems* like an eclectic grouping of humorous memes, pet and landscape photographs, and current events discussion. Without working familiarity with the site, Reddit does not appear to be a place where collective speech and deliberative participation develop contemporary narratives. However, a rigorous perusal uncovers a dynamic public sphere reminiscent of Athens' Areopagus, an ancient public forum where ideas, stories, arguments, and entertainment were exchanged.

Reddit lacks hierarchy, instead abiding by communally-established guidelines typically conducive to the particular functionality of topical subforums (or subreddits, designated by the r/ prefix). The data sets selected for this project are known as "discussion threads," meaning that, according to community guidelines, hyperlinking outside information within the thread is prohibited in attempts to promote natural conversation. Another community-imposed guideline for posters is the NSFW tag (a tongue-in-cheek acronym for "Not Safe For Work"), which clearly designates mature content, allowing users to browse the site without suffering the shock or surprise of

unexpectedly stumbling upon graphic material. While the existence of subforums and guidelines can be perceived as restricting the free-speech domain intrinsic to Reddit function and culture, these limits exist for a purpose. First, to monitor and eradicate harmful content such as phished personal information, black market paraphernalia, and child pornography. Secondly, to promote a healthy communicative environment where information is exchanged and challenged.

This prosperous environ fosters an expansive selection of subreddits, focusing on subjects ranging from r/Christianity and r/Atheism to Q&A subforums like r/TodayILearned and r/explainlikeimfive. Even niche subreddits such as r/BreakingBad and r/GameOfThrones field 250,000 and 500,000 subscribers, respectively. These particular feeds exist to analyze and discuss similar interests with a global community. Subsequently, Reddit's production of narratives cannot stagnate without a massive decline in user numbers as its content is dictated by the whim of its involved userbase reacting to a shared reality.

Reddit is not the largest social media platform, but it embodies dramatic distinctions from its competitors. Reddit's inception was thoroughly grounded in both an open-source philosophy in addition to its user base's acute understanding of internet culture and operation. These principles construct foundational components of the site's design and implementation. For example, all posts, not only those purposely scraped for this project, are available to the general public. Participants routinely advocate the idea that data or information, as human products, should be reserved for human consumption. The functional evaluation of this data (specifically within the context of Reddit) manifests as participatory acts of information dissemination by Reddit users, in which

their perceived role is to critically engage this presented information. The design and culture of this platform beget an uncommon manifestation of community participation, namely that users are constantly engaged by a deliberately discursive user base who actively observe and respond to common events. Dissimilar to Facebook employees manipulating users' private newsfeeds to observe the impact, this project conducts analyses on data retrieved from posts created by users *with the expectation* that their statements will be subject to normative judgment and public scrutiny.

This peculiar user agency stemming from site design and culture, or "active participation," contrasts with Facebook and Twitter's design which encourages personal expression *in place of* collective evaluation of user content. Communication mediated akin to Facebook or Twitter operates on a single track, projecting outward declarations of individual perceptions. Social media comprised of conspicuous profiles cultivates a controllable communicative environment, enabling users to avoid disagreement by amassing a network of like-minded users or selectively ignoring alternative positions. These restrictions, despite their existence as design elements, render users incapable of generating the requisite informational breadth for narratives to emerge independent of contrivance. Users of profile-based social media are merely "passive participants" in the development of digitally-mediated narratives. In essence, the designation of *active* or *passive* participation relies on the extent to which a user base can directly engage in the production of narratives.

Consequently, this project analyzes the Reddit platform because its users, corralled by innate design characteristics, perpetually evaluate new information in conjunction with an existing, progressive, and collectively defined narrative as opposed

to passively ingesting a pointillistic slurry of distinct personal announcements lacking comprehensive and systemic cohesion. Reddit narratives do not engender a singular position or quagmire of distinctive entities, but instead, such appraisals unearth a richly dynamic collective disposition.

This particular analysis targets a community of Reddit users subscribing to a subforum entitled r/Politics. Popularly considered a liberal feed, members of r/Politics are narrators in addition to characters operating within the Reddit narrative. In regards to the 2012 election, it is insufficient to define the characters of our analysis as the competing candidates Mitt Romney and Barack Obama. While residing in the framework of perceived plot, these candidates ostensibly demand attention. Yet, the members of r/Politics themselves define and exhibit narrative by actively participating in the communal documentation of historical events.

The second step of the proposed model is to contextualize the plot or storyline of potential collective narratives. When analyzing data sets or artifacts comparable to the 2012 Election Night Discussion Thread posted to r/Politics, it is vital to comprehend that the story is told in real-time (and for the first time). The Presidential election itself superficially suggests the recognition of a political contest between an incumbent Democrat and an unfamiliar Republican, yet despite this comprehension, the recording and interpretation of events by r/Politics members belies their impression of a confrontation between protagonist and antagonist.

This particular community professes evident liberal sentiment, and this emergent identity manifests in the 2012 Election Night Discussion thread as users comment on the success of Democratic candidates at the state and district levels. Further analysis of the

plot reveals trends which do not adhere to conventional preconceptions about American voting practices. If Reddit users exclusively regurgitate existing macroscopic narrative tropes, statements submitted to the r/Politics discussion should reflect or contain broad, party-centric conceptualizations of each presidential candidate and their position within ongoing events. Instead, these artifacts revolve around social issues and the campaigns of local and state candidates. To illustrate, *LettersFromTheSky*, a Reddit user and r/politics subscriber, notes that "McCaskill holds on to her seat and defeats 'women can shut down pregnancy from rape' Todd Akin. Another win for Democrats" (Reddit, 2012). Another user comments, "Marriage equality on track to win in all four states where it's on the ballot." Even positive sentiment concerning third party candidates like Gary Johnson emerges. r/Politics commenters, by transcribing and interpreting a shared series of events, avoid mindlessly reproducing existing tropes, formulate narratives independent of America's storied red vs. blue political continuum.

Another trend challenging common perceptions of r/Politics' political slant and its susceptibility to Democratic or Republican narrative influence arises from the sheer breadth of posted comments wholly unconcerned with the seemingly endless quarrel between the two factions and their respective champions. Instead of focusing on party politics (or granularized aspects of party politics) in the wake of information distributed by major news organizations, commenters within the 2012 Election Night Discussion Thread regard state and local candidates as individuals rather than embodiments of party ideology. In this vein, user *REXXT* comments, "The Democrat candidate was just called the winner in the IN Senate race, which is good in my opinion; but America would have been better off with Dick Lugar than either of these candidates. The fact that true good

lawmakers can't win primaries in the Republican party anymore is a symptom of what's wrong with the Republic party." Another participant, user *stupidreasons*, states that "Mourdock was the reason I got up and voted this morning. I haven't seen anything that suggests that Donnelly will be a good senator, per se, but Mourdock disgusted me." These comments, though critical of Republican candidates themselves, contrast identifiable and specific aspects of the candidates' individual character against the perceived sentiment endemic to r/Politics. Simplistically, critiques levied by participants in the 2012 Election Night Discussion Thread target the candidates' actions, not their cohesion to party ideology. Furthermore, where political discussions commonly cite sources in line with personal opinion, the narrative discourse between r/Politics subscribers includes information relayed by numerous organizations representing a variety of political opinion and coverage. One member begrudgingly comments, "You know...Fox is actually being quite aggressive with their projections. It's *almost* like they want to actually be Fair and Balanced for once. They're not at all optimistic for Romney." To clarify the condescending tone in the previous statement, another user remarks that "Fox is usually pretty aggressive. They were one of the first to call Obama in 2008." These posts in particular exemplify the unexpectedly apolitical use of ideologically-focused source material by Reddit users.

Clearly, the plot of digitally-mediated narratives proves excessively complex for traditional rhetorical standards of analysis. This story, if cheaply interpreted as a collective Democratic voice discussing the election event, effectively mislabels a discursive exchange. Commenters in the 2012 Election Night Discussion Thread are integral components of the story itself, creating new storylines in which skeptical voters

challenge the normative implementations of party politics. The election results exist as byproducts of actual events, yet the documentation and assessment of these events constitute a genuine narrative.

The third step of this model is critical for effective rhetorical data analysis, however its implementation is fundamental to the overall progression of digital narrative analysis. For this process, metonymy, erotema, and the oxymoron serve as focal points for determining the tropes of digital discourse in the r/Politics discussion thread.

In the Reddit community, humor (specifically ironic humor) catalyzes collective discourse so profoundly that operating idiosyncrasies provide metaphorical passwords for inclusion into general conversation. Metonymy, a vaguely suggestive term to embody a greater idea, emerges after observing the frequency in which the words "Obama" and "Romney" are employed as personifications of concepts as opposed to simple Presidential candidates. The nature of the usage of an individual's nomenclature appears to shift from simple, identifying designations to branded amalgamations of ideals, concepts, and rhetoric. Romney promptly mutated into an avatar of better business practices, while Obama morphed into the last bastion of American liberalism and social liberation. Certainly, third-party candidates seek to establish a centrist position, but they fight historical inertia in favor of a two-party system. Expressing due exasperation about this system and its consequences, user *Yankee_Gunner* questions, "As a centrist-conservative from Massachusetts I'm not even close to as disappointed about the Romney loss as I am about the Scott Brown loss. Can anyone explain to me why you would wholeheartedly support a rubber stamp candidate against one with a bipartisan record?"

The result of this common proclivity is that elected candidates are subject to classification, however broad. User *butterisbetter*, in response to the previous question, forthrightly clarifies, "Two reasons: first, many Democrats, liberals and progressives view the Republican party in general as pro-corporate, theocratic, anti-science, anti-fact, and anti-ration. Until the party moves back toward the center you're going to have a hard time getting Democratic votes." This response categorizes liberals and progressives as a single entity in which the metonymy of Obama becomes the object of identification in which the concept of the "left" crystalizes. For r/Politics users, Obama's victory does not solely represent a successful campaign, but rather a win for progressive thinking as a whole. Likewise, Twardzisz suggests that as, "Paradoxical as it may sound, proper names designating places do not name places, but constitute sources or reference points for more finetuned, though less salient, targets" (Twardzisz, 2014). Twardzisz's work deals primarily with the metonyms of locations, yet this principle also applies to the concept of Obama. "Obama" is the designated mental access point by which political discourse references a larger body of Democratic ideals and legislative possibilities.

Erotema, or a rhetorical question, is another popular grammatical tool used by Reddit members. As far as this project can determine, the application of this trope within the discussion thread in question serves one of two functions: As an affirmation of disapproval and as ironoic hyperbole. User *weezer3989*, responding to a factually inaccurate prediction of third party losses, comments "Has 1992 been that long ago?" By citing the minor success of Ross Perot, this rhetorical question raises multiple implications. First, the question is not posed without assurance in some fashion that the answer is known by the original author. *weezer3989*'s post does not invite a response to

the question, but was a latent presentation of fact. Posited interrogatively, the comment evidences a commonly used tool which, when employed, establishes credibility of the author by asserting social and intellectual capital recognized by community participants. *weezer3989*'s erotema furthermore serves as an introduction to a well-documented account of third party political success throughout the past fifty years. The implication therein functionally criticizes poor research practices and suggestions of inaccurate claims.

For a large majority of the Reddit narrative, erotema usage reflects a verbal irony which humorously prompts collective satirical criticism. *AdamsBellyButton* exclaims, "It's been 9 minutes, where's the Ohio results?!?" Spurring further comments from users, such as "Why haven't they counted 5 million results in the time it takes me to microwave my hotpocket? This is unforgivable." The use of ironic humor is integral to the Reddit narrative and the unique method of storytelling characterizing this social media community. The comment by *AdamsBellyButton* is not a question, but rather a statement of critical reflection targeting the absurdity of early poll predictions. As a satirical gesture, *Adam*'s comment pokes fun at both the hysteria of news outlets' rabid desire to make accurate predictions first (an oxymoronic concept) and the unsettling nature of swing-state dogmatism. Humor invites flexible criticism, illustrating multiple echelons of rhetorical discourse. More overtly, *SmokeSerpent* writes, "FOX News welcomes its newest pundit, Mitt Romney. That's how this works, right?" Once again, the question itself does not solicit an answer, but instead critiques the delusional attempt at delivering expertise exemplified by major news syndicates. Humor establishes its own suppressed enthymeme in that active viewing participants become aware of and make normative

conclusions concerning the irony and insufficiency of "expertise" within agenda-oriented information dissemination. A degree of intimacy exists between humor, erotema, and the greater Reddit narrative. Accepting that storytelling is a method by which humans define and communicate shared social realities elucidates the innate connective power of multi-tiered rhetorical humor. Individuals' ability to create and criticize entire conversations through a discursive space of what is unsaid is collectively understood and emancipatory communicative mechanism. Ignorance of these subtleties only reveals a superficially pointillistic interpretation of the Reddit narrative.

The final major rhetorical trope appearing frequently throughout the 2012 Discussion Thread in addition to the Reddit narrative at large is the application of oxymorons. Rather than employing simplistic oxymoronic phrases, such as the prior example concerning "accurate predictions," Reddit's usage of oxymoronic concepts is predominately presentational. Alternatively, oxymorons are implied by a characterization of oxymoronic concepts. An example of this interpretation is applied to the critique of undecided, informed voters. One r/Politics subscriber, criticizing the paradox of undecided, yet supposedly "informed" voters, details a fabricated exchange between a news anchor and an interviewee, "Quick! Let's cut to an undecided voter! Hmm, on one hand, Romney's nickname is mittens, and mittens make my hands warm. But on the other hand, I really like how Obama killed bin Laden with his bare hands. This is a tough decision." The oxymoronic concept in play is the "undecided voter." The perceived conception of a "voter" should--in essence--indicate a degree of knowledgeable action. The "voter" represents a vital democratic process in which the citizens of a country or state are presumed to be rational beings. This rational potential, paired with a possibility of

indecision, indicates the apparent loss of concepts deemed fundamental to the perception of a properly functioning democratic process. Further expanding this inconsistency is the presumed irrelevance of being "informed" to undecided voters, thereby enabling users to assign a sense of normalcy to collective oxymoronic expression. Clearly, identifying the performance of oxymoronic concepts within digitally-mediated narratives requires rigorous contextualization and qualitative analysis.

Understanding these communicative abstractions implies two conclusions about the Reddit community and the creation of narrative. First, Reddit users purposefully engage in analytic discourse, evidencing a collectively established method of storytelling. This appears presentational or specifically tailored to an intricate network of ironic humor, yet Reddit members actively participate in developing the prose of their own history. Utilizing similarly complex tools as rhetorical scholars (often using similar language), community discourse resembles an applied practice instead of petty, open-ended conversations. Username *heartbeats* writes, in response to concerns about the election affecting stock prices, "So much prosopopoeia these days where the thing that speaks is the market itself, increasingly referred to as a living entity that reacts, warns, makes its opinions clear, etcetera, up to and including demanding sacrifices in the manner of an ancient pagan god." This comment entices two audiences to participate, one reveling in the comment's conclusive absurdity, the other intrigued (or aware of) the term *prosopopoeia*, which is:

This figure [that] gives both variety and animation to eloquence, in a wonderful degree. By means of it, we display the thoughts of our opponents, as they themselves would do so in a soliloquy, but our inventions of that sort will meet with credit only so far as we represent people saying what it is not unreasonable to suppose that they may have meditated; and so far as we introduce our own conversations with others,

or those of others among themselves, with an air of plausibility; and when we invent persuasions, or reproaches, or complaints, or eulogies, or lamentations, and put them into the mouths of characters likely to utter them (Quintilian's Institutes of Oratory, Book 9 Chapter 2).

This reference to antiquated literature unveils the second conclusion about the complete reading of the Reddit narrative, namely that the establishment of multiple audiences exemplifies profound, analytically deliberative discourse. Reddit users employing rhetorical theory, whether consciously or not, do not intend to perform a denouement, but prefer to develop the requisite tools possessed by "legitimate" citizens of the Reddit community. Research, then, does not unmask these participants, as the participants themselves are researchers who evaluate and critique the world around them through the perspective of their own digital community.

The fourth and fifth steps of the model analyze patterns of collective user action. Referring to the tropes of collective discourse previously detailed, this project concludes that Reddit users operate in a multi-leveled, discursive landscape, suggesting that Reddit provides multiple arenas for normative conduct to exist.

Superficially, Reddit is a user-generated RSS feed offering a digital locale to exchange non-linguistic artifacts, including images distributed without intention of carving out deliberative space, such as visual displays submitted by landscape photographers. Although such photographs invite discussion on location, style, and beauty, this commentary is not required for the artifact to be communally approved as contextually normative.

The next level of accepted normativity is information dissemination, primarily manifesting as a cycle of discovery and re-articulation. Reddit's composition itself relies upon the reception and reproduction (or reinterpretation) of information. Autonomous

determination of the veracity of this information is a byproduct of users' perception of an opportunity for content publication and subsequent community evaluation. For instance, a majority of comments posted to the 2012 Election Night Discussion Thread merely updated readers about election poll results, often citing various news organizations. Users do not reference these organizations to demonstrate credibility, but to comment on the existence of such claims. Similar to the first level of non-linguistic artifacts, this tier of Reddit normativity alone does not establish deliberative conversation. It certainly catalyzes related conversations, but its existence reinforces a conception of Reddit as essentially no more than an RSS feed. A substantial portion of all data produced and stored by Reddit exists somewhere between these initial levels.

The deepest level of normative Reddit conduct suggests connections between the two shallower tiers. Here, narrative participations emerges as images and information intertwine, producing novel acts of digital communication. The most visible example of this combination is the "meme," a thematic image macro displaying colloquial and cultural humor. Essentially, the community assigns a particular conceptual meaning to a specific picture, after which users create captions in line with the original, colloquially-established implication, combining the two into a "meme." To be specific, the actual meme, or joke to be conveyed, exists within the boundaries of the image itself and the definition applied to it, whereas the image alone is called an "image macro" and functions as a template. The image macro, then, is the communicative vehicle used by the meme (or community joke) to proliferate. These memes are a recently popular topic for communication research and are legitimately defined as "small units of cultural information that spread through a population" (Sci & Dare, 2014). In common usage,

memes pair captions superimposed over culturally relevant imagery in attempts to humor, critique, or otherwise draw attention by communicating an idea.

This level of normativity invites Reddit users to juxtapose ideas concerning images and information. At this echelon, criticism is embraced as the method for evaluating the milieu of positions within unstructured data. This evaluation creates the discursive space where normative actions transition to normative judgments about culturally relevant issues. This final and most acute level manipulates language for analytic discourse. Employing common tactics for strategic analytic criticism, this iteration of Reddit conduct elevates humble members of a simple online community to esteemed participants in the critique of philosophy, culture, and politics. By actively engaging this continuum, participants effectively publish Reddit history.

Reddit users perform and write history simultaneously. This active involvement qualifies as performance by use of analytic tools for effective communication. Rather than curtailing efforts to discover and critique inconsistencies, participants formulate precise methods by which ideas containing the subtleties of cultural specificity are distributed with alarming celerity. This ongoing process concurrently fosters the creation of public Reddit narratives. As even the simplest levels of normativity prove integral to this narrative, this analysis cannot determine the totality of Reddit narrative possibilities. Unfortunately, parsing the complete data set surpasses the capability of traditional rhetorical narrative analysis to sufficiently explore the intricacies of Reddit-specific language and storytelling. However, including the tools and insights discovered by rhetorical analysis in new methods for big data narrative visualization spans the void

between the insufficiencies of rhetorical narrative analysis on big data artifacts and the inability of analytical software to recognize the idiosyncrasies of participatory discourse.

RHETORICAL ANALYSIS FOR BIG DATA

This project's hybrid model involves data analysis by means of contemporary tools for collating and parsing large data sets. Effectively identifying the innate subtleties of rhetorical discourse requires the completion and comprehension of the first and third steps, namely the contextualization of the data set in question in addition to recognizing the tropes within the data set itself. Procedural adherence produces a visual map of user-defined categorical correlations between SPSS-identified concept groups.

SPSS has been a commonly used tool within social science research since the late 60s. The Statistical Package for Social Sciences has been an ongoing socio-linguistic project solely developed to organize language into a definable and accessible manner. When the exponential growth of socio-linguistic variation and data collection surpassed SPSS Inc.'s capability, IBM recognized SPSS' potential and acquired the project in 2009, including its base algorithms and lexicon. This merger, though seemingly a loss for social science researchers, actually enabled one of the most comprehensive and accurate amalgamations of contemporary language that exists.

The SPSS platform performs the task of *extraction*, which is the process by which a set of unstructured data is organized into linguistic or conceptual groupings. For example, one such concept type or grouping identified by SPSS within this project's data set is <Organization>, with brackets denoting that SPSS has recognized the concept group without user involvement. The <Organization> concept type acts as a

contextualized folder storing similar or related text, in this case comprised of terms like *Fox News* or *CNN*. These terms or concepts are selected by SPSS from within the data set as a whole. To illustrate, the concept *CNN* appears 17 distinct times throughout the entire r/Politics data set. Since the *CNN* concept exists within the broader *<Organization>* grouping, *CNN* comprises nearly half of its constitutive SPSS-defined concepts.

Due to design limitations, attempting to extract a fully unstructured data set produces an *<Uncategorized>* grouping. Terms and concepts are grouped accordingly due to spelling errors, multiple known contextual applications, or even commonly used prepositional phrases. SPSS' inability to group such terms evidences a necessity for user involvement to produce accurate visual representations of latent correlations. For example, *npr* and *fox* are designated as *<Uncategorized>*, yet cursory inspection indicates their misplacement considering both terms represent an actual organization. Poor grammar, however, does not prevent SPSS' extraction of salient terms as the software is designed to recognize and resolve textual inconsistency by usage of the *<Uncategorized>* concept grouping. Evaluating these uncategorized terms is essential to proper analysis and usage of both this model and the SPSS platform.

By determining the frequency of term or concept usage, SPSS charts statistical correlation by visually rendering categorical convergences. User-defined categories, comprised of SPSS-identified terms, establish a graphical network. Essentially, SPSS creates a visual representation of the frequency of concept usage combined with the frequency of correlation between these pre-established groups. SPSS, when identifying categorical terms or concepts used in conjunction with (or in response to) other terms or

concepts representing different categories, literally draws a line between them with variations in thickness corresponding to frequency.

SPSS is not designed for the type of usage this project entails, yet its core functionality provides the data organization and visual mapping necessary to properly execute this hybrid model. Results obtained solely from SPSS do not tell stories, nor can they predict the course of trends. It is incumbent upon the analyst to properly contextualize and evaluate such statistical correlations. Strong rhetorical analysis better directs the use of quantitative methods in addition to confirming the veracity of computationally-identified tropes and trends by revealing the participatory elements of human narrative construction within a digitally-mediated environment.

Prior to the preliminary extraction it is pivotal on behalf of the analyst to approach the unstructured data with the expectation of organizing human narratives. Rather than blindly extracting data or practicing a method of arbitrary discovery, this model suggests a predisposed association between data and human element of story-telling. The future of data analysis cannot subscribe to a methodological belief that the epistemic value of data is post-determined by the researcher. This flaw in practice denies, or perhaps smothers, the existence of data into anything except individuals participating in the writing of their own narratives. It is inherently the same fallacy posed by White in that the efficacy of *good history* is innately yoked with the method of the expert. Although the sheer magnitude of unstructured data has been caricatured as a playground for data researchers, we must be apprehensive of the de-humanizing elements of collated data extractions. If allowed to progress incorrectly, *data* (as an idea), will become a calculated enterprise of designed conclusions.

The opportunity for seemingly limitless data agglomeration intrinsically permits a controlled environment of expected conclusions and arbitrary discoveries. In other words, as the data set grows larger, the intricacies delineating the unique nature of individual narratives become unnecessary variance for population research. For instance, if we conducted a narrative analysis of ten unique Reddit members, most certainly we would analyze the narratives of ten separate individuals. Such narratives would illustrate divisions in personal and aesthetic interest, alternative plateaus of acceptable irony or satire and should offer an acceptable conclusion over the correlation or discordance of context and intertextuality. Bridging these conclusions is a result of the composite data collected from the ten unique users. If then we ask the data which color tie, red or blue, our ten unique profiles would prefer the research has effectively categorized ten unique narratives into two identifiably different populations. The statistical conclusion eliminates a functional necessity for contextual variation. In other words individuals are counted as units and *narratives* are reduced to frequencies. Apply this example to a data set comprising the entirety of Facebook, Twitter, Google Plus or Amazon accounts and thus illustrate a mere fraction of *big data analytics*.

Only by contemplating data as the product of culturally specific human agency can a process of variance offer defensible accountability for multiple populations. In order for this to occur the researcher must first contextualize the data, and then visualize the narrative. To illustrate the model this project examines data extracted from three politically adjacent Reddit threads. First, in addition with the successful linguistic patterns and tropes identified by the r/Politics analysis I introduce two much more linear populations: r/Conservative and r/Libertarian. After achieving a discernible acuteness for

linguistic variance between threads, the extracted data is then parsed into community applicable categories. With greater congruency between the complexity of categorical design and the narrative elements accounted for by the qualitative analysis, conclusions drawn from unstructured data become more representative of actualized populations.

To produce the most accurate data maps, researchers must design categories based from the linguistic patterns and narrative elements of the data. The complexity of the category has less to do with its range of difficulty but rather pertains to a definition of multiple parts. For SPSS the category acts as a folder for storing all terms and phrases under a unified idea. These folders are designed by the researcher in order to statistically manage unit correlation between ideas. For instance, *<Negative>* and *<Positive>* are two fundamental categories for the assessment of any large data set. These categories act as a folders housing all terminology readily identified as having a negative or positive correlation pertaining directly to the terms use within the original online posting. User *Ytoabn* posts to the r/Politics thread, “It’s a shame that daring to even talk to Democrats can get you drummed out of your party. It pretty much guarantees a divided Congress”. Here the term *shame* would be targeted as having a negative correlation pertaining to the functional deployment of the sentence, therefore *shame* becomes one term stored in the *Negative* category file. The term now acts in tandem with all other terms in the Negative category to create the composite concept of negative sentiment with relationship to all other designed categories. Hence, with more complex lexicons there is greater activity between categories when the data is mapped out visually. However, there is a large discrepancy between the organization of terms predicated by the SPSS extraction, and the designing of categories by the researcher. Just as I mentioned earlier SPSS identifies

(quite effectively) the text speak phrase “lol” (laugh out loud) as having a positive correlation; but with respect to the narrative analysis of the data set this phrase should be read as being ironic, and therefore should be filed as a Negative term for its satirical function. It is precisely these linguistic idiosyncrasies that promote a need on behalf of accurate data research for stronger rhetorical analysis prior to designing data categories.

Once the data has been properly contextualized, SPSS enables the researcher to visualize the statistical correlations between categories in a frequency web. The web is a literal transcription of categorical interaction designated by different ranges of line density. Line density is the visual representation of direct occurrences of category term interaction within and between the user generated posts extracted from the data set. At this point the lens of analysis transcends the microcosm of community narrative and becomes a highly accurate configuration for population research and offers a new conceptual space for the study of rhetoric on the human narrative.

Prior to this contemporary moment the field of narrative research from the rhetorical tradition has had little to no functional need for a method of data analysis or working knowledge of the SPSS interface. With respect for this the project offers a four step, reproducible method for working with unstructured data within the selected SPSS programed limitations. The product of this method is the aforementioned visual frequency web, henceforth defined as a narrative map. The goal of this method is to create the most accurate narrative maps predicated upon the complexity of linguistic variance signifying particular communities and the user generated narratives of those communities. These steps include: 1) Base Extraction; 2) Maintenance of the

<Uncategorized> folder; 3) Design of community specific categories; and lastly, 4) Restructuring of *Positive* and *Negative* correlation terms.

The resulting product of this method should render a narrative map similar to that of figure 1.

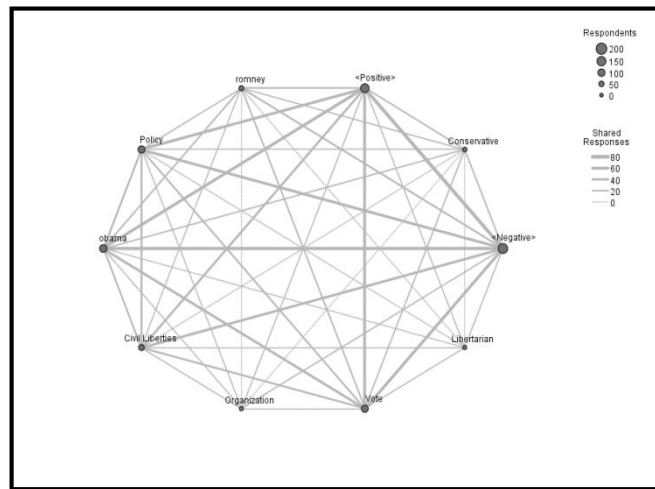


Figure 1

Although the initial complexity of the narrative map is visually offsetting and unreadable, the four step method will simplify these concerns. Chapter five applies the entirety of this model, from the analysis of the r/Conservative and r/Libertarian threads, on through the four step method for effective rhetorical narrative mapping.

CHAPTER FOUR: CREATING AND ANALYZING NARRATIVE MAPS

With respect to the narrative analysis conducted on the r/Politics thread, this section introduces two more, politically centered, Reddit data sets. A full narrative analysis such as the former undertaking on the r/Politics data set is not necessary considering the programmed limitations of the SPSS interface. Instead the researcher should concentrate efforts towards a strong contextualization of the data set, as well as identify any rhetorical tropes that complement the rendering of accurate and socially applicable categories. Keeping in mind the conclusions established by the r/Politics narrative analysis, both data sets, one scraped from r/Conservative the other r/Libertarian are temporally similar threads pertaining to, and happening during the 2012 Presidential Election.

Unlike the r/Politics subreddit, the r/Conservative and r/Libertarian forums do not require any post-surface analysis in order to identify a direct party affiliation. The homepage for the r/Conservative subreddit is fashioned with the Gadsden flag and a “Don’t Tread on Me” icon, the r/Libertarian, the Statue of Liberty. Similar to the members of the r/Politics thread, members of the r/Conservative and r/Libertarian subreddits act as both narrators and characters operating within the larger Reddit narrative. However the difference lies with these particular characters adherence towards translucently subjective perspectives. This is not a criticism of opinion but rather another example of the greater Reddit narrative and the operational environment for mediated community interaction.

A brief overview of r/Conservative and r/Libertarian indicates a rather linear and predictable continuum of discussion. Mainly, apparent criticism for alternative political

perspectives. r/Libertarian's news feed is embellished by Ron Paul support, Thomas Jefferson quotes and endless news coverage of police militarization, market manipulation and the bipartisan ineptitude. In a similar string of discussion boards the r/Conservative subreddit tends to focus communicative efforts at defining the modern conservative, the ironic hatefulness of the liberal left and a seemingly endless supply of Barack Obama memes. However, despite the apparent agendas of these two particular subreddits a closer assessment of the actual conversations favor the same promotion of open ended and respectful discourse identified within the r/Politics thread.

Focusing on the mission statements of both r/Conservative and r/Libertarian offers valuable insight into the healthy promotion of political discourse within the greater Reddit narrative. For the members of the r/Conservative subreddit, the mission states: "We are for Conservatives (fiscal **and** social) to discuss political and cultural issues". The statement continues with a clear caveat, "Non-conservatives are welcome as long as they are respectful and non-antagonistic towards Conservative posters and opinions at all times and have appropriate flair". This mission statement signals at once a clear defense for tolerable interaction and participation from Conservative constituents as well as a promotion of civil debate. The greater subreddit does not denounce or exile alternative perspectives but instead fosters an inclusive environment by which members of the Conservative community can facilitate collective conversation with and surrounding alternative positions to the contemporary Conservative landscape. The r/Libertarian mission takes the discourse a step further by stating: "This subreddit is for both philosophical and political libertarians of all kinds including but not limited to the various 'types' listed below. It is in no way aligned with the Libertarian Party. r/Libertarian is a

community to discuss free markets and free societies with free minds. As such, we truly believe in spontaneous order and don't formally regulate content". Once again this statement is designed to foster expansive growth in political and philosophical conversation, not to promote a singular identity or sponsor party specific pundits. The declaration for non-formally regulated content is not an invitation for de-sensitizing material or unsubstantiated criticism. Instead, this absence of regulation is in philosophical accordance with the Libertarian ideology for non-governmental management of human communication.

Continuing this line of inquiry reveals evident similarities between the normative communicative practices pre-established by the r/Politics narrative analysis. Members operating as active citizens in three adjacent political communities, each performing within the roles of preferred opinion, engage one another in communal discourse. The discursive space encouraged by the Reddit narrative promotes an environment for alternative perspectives to exist whilst simultaneously facilitating a need on behalf of all community perspectives to readily defend a philosophy through argument and critical investigation. Take for example the use of irony as a rhetorical tool for effective communication between two conflicting political ideologies in the r/Conservative thread. One post (from an assumed Democrat) reads: "I voted for Barack, but don't worry, I voted in West Virginia, so I pretty much went bear hunting with a flyswatter this election". Actively participating in the ironic humor of this post, *hjs24gl28l4* responds, "If West Virginia goes to Obama the blood is on your hands". The hyperbole may be fashioned morbidly, but the interaction between the two participants engaged that particular political moment with metaphorical civility. The conversation illustrates a

mutual respect for ironic criticism without the need for explicit or accusatory sentiment to placate honest conversation. Even Romney's befouling nickname "Mittens" makes a normative and readily acceptable appearance throughout the r/Conservative thread.

Davexensen writes, "Reporting from Chicago, voted for Mittens". Other members having had also previously voted for *Mittens* concur appropriately: "If he wins, can we call him President Kitten Mittens", and "Schaumburg for Mittens over here! Also helped the girlfriend and another couple vote Mittens by finding their nearest circuit court".

In perhaps the most discussion oriented thread, the r/Libertarian "Why are so few Democrats critical of Obama's crackdowns on civil liberties, home and abroad" is formatted as a direct question and answer poll leading into the Presidential election. Started as a question posed by username *vandull*, the author asks: (Considering) "The NDAA, 'kill lists,' killing U.S. citizens without a right to trial, drone warfare, etc., Yet there is no huge outrage on any of this like there was during the Bush years. 90% of liberals seem fine with these constitutional overreaches. Why?" Throughout this discussion very little is named on behalf of political affiliations. There exists no real division of political opinion but rather a uniformed proposal for democratic discussion. In an exceptional analysis of the subject a number of authors comment collectively over the instability of argumentative election patterns pertaining to an immovable dual party system. Username *ZebZ* writes in response to a description of contemporary elections as a 'for or against' psychological continuum, "Exactly. The first-past-the-post system of elections inevitably leads to a two-party state where a huge chunk of people will vote against the other guy rather than for their guy". Others comment that this is a result of the proliferation of negative smear campaigns or rather situational displacement (voting

according to situation of the individual rather than character of the candidate). In relationship to the greater Reddit narrative, this particular discussion effectively demonstrates the opportunity for continued civil disagreement. With just over 300 unique comments the r/Libertarian thread serpentine through the political debate offering criticism for both the political discordance of a dual party system, as well as self-criticism for the inactivity of Reddit members to participate in political action outside the mediated structure of the platform. This self-actualization penetrates the argument of involuntary complaining and plateaus with a line of reasoning soliciting direct action and policy deliberation. Transitioning from the most acute level of rhetorical criticism identified by the r/Politics analysis, normative judgments (should) evolve into non-mediated normative actions pertaining to the individual's role as an actively participating citizen during presidential elections. Once again, the voluntary act of participating within this Reddit narrative actively places the individual as a member of a community of writers, documenting and assessing the shared realities of all too marginally executed constitution.

Despite clear differences in political philosophy, the members of the r/Politics, r/Conservative and r/Libertarian threads should still be read as linguistic contemporaries and collective participants in the Reddit narrative. Just as researchers and theorists from alternative humanistic sciences adhere to different methods and are often displaced according to these method selections, the researcher is still considered a social scientist. The composite literature of the Reddit narrative is made up of alternative perspectives existing simultaneously both outside and inside public discourse. Although competing political perspectives inherently demand operationally different language selection,

thereby marginalizing the group from other groups, the normative communication patterns of information analysis and multi-tiered argumentation stay consistent across these three subreddits. Much of the same irony and mimetic satire employed in the r/Politics forum can be traced throughout the latter counterparts. The vehicle for rhetorical participation remains the same but the characters are changed according to personal preference.

Progressing from here it is important that the data analysis is formatted in a manner that illustrates the aforementioned narrative conclusions. Although the three data sets represent philosophically different political perspectives, ideally the narrative maps will help visualize a congruency in argumentative style and normative agency indicative of the greater Reddit narrative.

NARRATIVE MAPS IN FOUR STEPS

The production of accurate narrative maps requires a four step method: extraction, handling the uncategorized idiosyncrasies, category design and community specific positive and negative altercations. To simplify this method the researcher should approach the visualization in the same manner as the data was approached in the rhetorical narrative analysis. For the particular data selected, the visualization of narrative maps works in much the same way as Reddit unfolds into a multi-tiered structure of normative communicative standards. The gaze of analysis starts broad and reduces into culturally specific amalgamations of for acceptable analytic standards. However, rather

than looking at a singular phenomenon, such as the r/Politics discussion thread, the data analysis enables research to the macro level of multiple conversation variance.

Step one is predicated by a concept known as scrapping data. Scrapping data is a process of duplicating existing data into a format capable of being operationalized by a given analytic tool (in our case SPSS). In other words, scrapping data can be conceptualized as the copy/paste mechanism for compiling large amounts of user-generated data. Once the data has been acquired, SPSS runs a process known as an extraction. This act organizes all data into mutually identifiable concepts, such as the *<Positive>*, *<Negative>* and *<Uncategorized>* folders already mentioned. After the data has been extracted it is beneficial to arrange the pre-designated concept folders into the preliminary map capable of being added and subtracted from. This process allows for the researcher to examine the data rendered solely by the automated SPSS system. Likewise, this step enables the research to execute a task known as category isolation. Category isolation allows for the researcher to focus the inquiry on the entirety of one category in relationship to all the other working concepts. For instance if the r/Conservative category entitled *Obama* houses 47 unique instances where the concept Obama is used, the category isolation will filter and organize all 47 posts only pertaining to the *Obama* category. This allows for a statistical correlation to exist between categories rather than drawing a percentage directly from the entirety of all concepts used. Where the category *Obama* only appears 10 percent throughout the overall r/Conservative data set, the category isolation expands the observation to all categories in a frequency correlation within that composite 10 percent.

At this step in the method, conclusions drawn from narrative maps will illustrate expected results. For instance an *Obama* category will have a higher degree of *Negative* correlation within the r/Conservative data set, while the reverse is easily identified within the r/Politics thread with reference to the *Romney* category. Although this is not the desired narrative map, what this does help to illustrate is how large amounts of data easily render incomplete about population trending (the red or blue tie fallacy). Figures 2 and 3 illustrate step one with category isolation on *Organization* and *Obama* categories respectfully. Figure 2 is visualized from the r/Conservative thread, figure 3 the r/Libertarian thread.

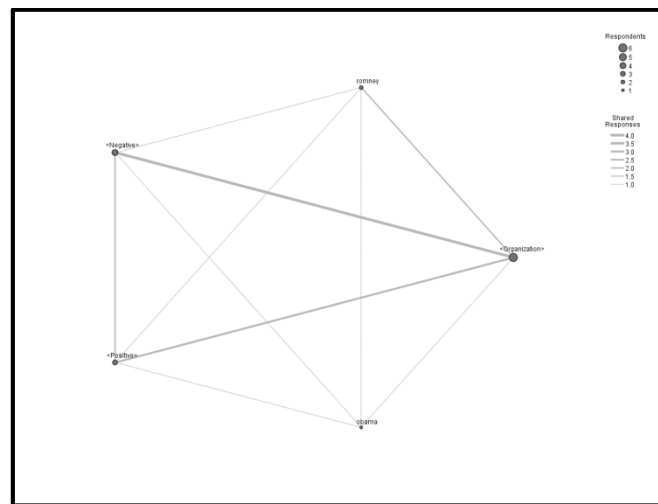


Figure 2

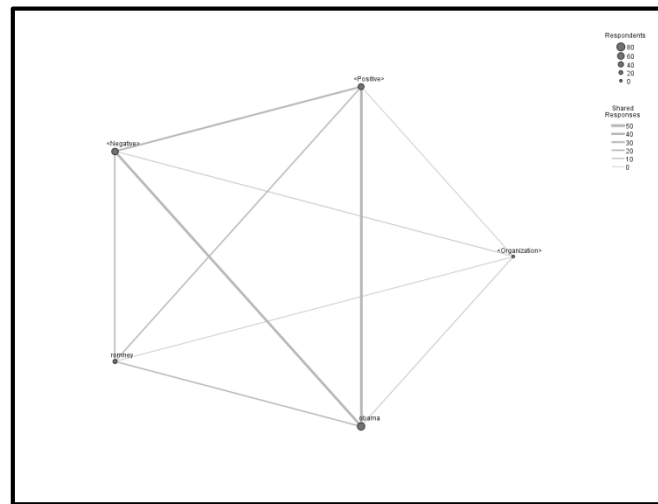


Figure 3

Step two involves the expansion of what is known as the *<Uncategorized>* folder. This particular, pre-automated, folder is compiled of all terms that have not been readily placed within identified categories. At this level in the data visualization the researcher begins to identify which community idiosyncrasies have been nullified from the base extraction and must be repurposed within contextually relevant categorical folders. For instance, the term *Mittens* occurs on multiple occasions in both the r/Conservative and r/Politics data threads. However, because SPSS has no prior knowledge of this pseudonym for Romney, the term is automatically parsed into the *<Uncategorized>* folder. From here the researcher must simply replace the term into its correct category, in this case the *Romney* folder, and SPSS automatically reorients its statistical frequencies with the addition of the previously uncategorized term. Not all *<Uncategorized>* terms are as culturally relevant as the *Mittens* example, others could include concepts such as neutral nouns (*president*, *vote* and *candidate*), mechanically incorrect pro-nouns (*nasa*, *fox* and *msnbc*) and unidentified noun phrases (*votes of the state*, *Obama voters* and *social conservatives*). This phase in the method is the beginning

of a cross referential linguistic patterning where the data population slowly begins to resemble the members actively engaged in their selected online communities. The conclusions derived from this step in the narrative mapping method are not immensely more accurate than the those compiled from step one, but, the pre-established categories do begin to particularize in a manner that challenges the non-variant calculations of the base extraction. Figures 4 and 5 below belong to the r/Conservative and r/Politics data threads respectfully. Their variance has been calculated as the *Romney* category has been expanded to accommodate all employed pseudonyms for the Republican candidate. Once again, these illustrations are not drastically different from the images retained from step one, however the category frequencies have expanded, permitting a more accurate correlation between the statistical frequencies and the human agency of the data itself.

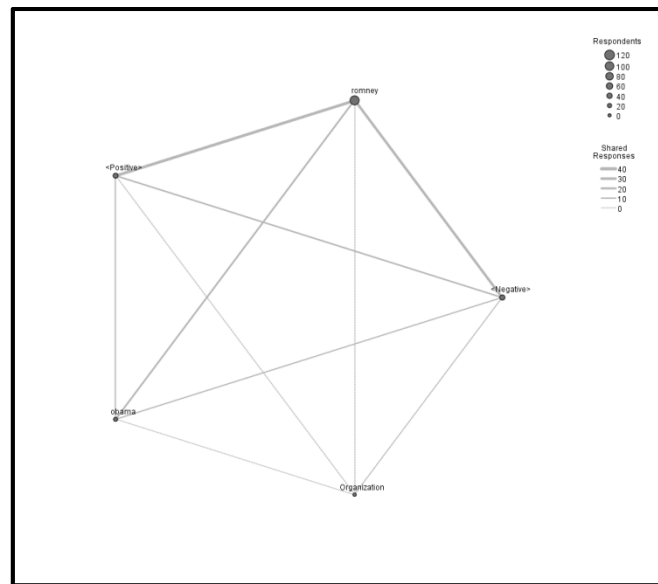


Figure 4

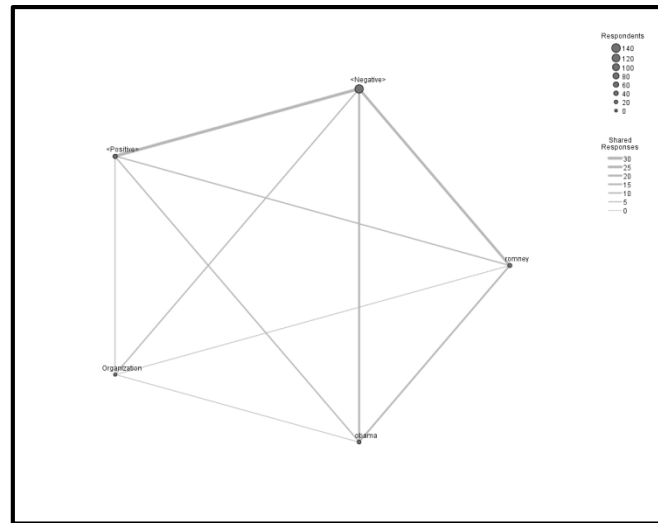


Figure 5

Step three involves the application of pre-identified narrative elements and rhetorical tropes for the designing of community applicable categories. Categories should be defined as broad concepts, such as *Romney*, *Obama* and *Organization*; however the active folders entitled by the base concept should most effectively house all linguistic variances pertaining to the analysis of the particular Reddit community. For instance, engaging the r/Libertarian thread it would be unwise to design a category that is nonconductive within the particular conversation. So while it necessary to include a *Budget and Taxes* category within the r/Conservative data set, a more applicable *Policy* or *Civil Liberties* category would more accurately portray the variance in the r/Libertarian political discussion. These categories can, and often will house duplicates of conceptual terminology. The term Obama for instance is a necessary addition for an *Obama* category, however in a mutually beneficial narrative map, Obama could appear in both the *Obama* category, as well as the *Liberal*. The designated purpose for categorical design is in order to actively illustrate the frequency between category types and the *Positive* and *Negative* correlation folders. The statistical variance, whether

operationalized by the category isolation task or from simple observation, *should* indicate a conversational sentiment between active terminology and the individualized position/opinion diagnosed from the original posting.

For this particular project the categories designed within each data set are halved between community applicability and community variance. The cross-contextual categories that exist for each data set include: *Obama*, *Romney*, *Organization*, *Conservative*, *Liberal*, *Vote* and the both *Positive and Negative* correlation categories. Community explicit categories include *Budget and Taxes* and *Liberal* within the r/Conservative thread, *Policy*, *Civil Liberties* and *Libertarian* within the r/Libertarian thread and *Liberal* as well as *Swing States* for the r/Politics data thread. The conclusions determined from the third step are highly contextualized because each category is linguistically designed from each individually selected community. The narrative maps at this point begin to resemble dense webs of categorical frequencies that more accurately reflect the elements of rhetorical discourse expounded upon by the data contextualization. By designing categories dependent upon the rhetorical contextualization of the data set, terms that would otherwise be lost by basic extractions are enabled to generate multiple perspectives and unsolicited conclusions. Figures 6 and 7, respectively projected from the r/Politics and r/Conservative data threads, illustrate how narrative maps permit researchers to observe multiple conversations within a single frame of analysis.

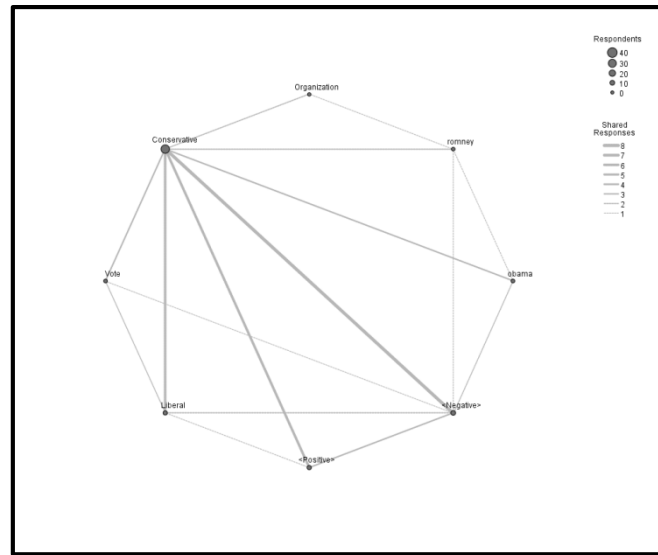


Figure 6

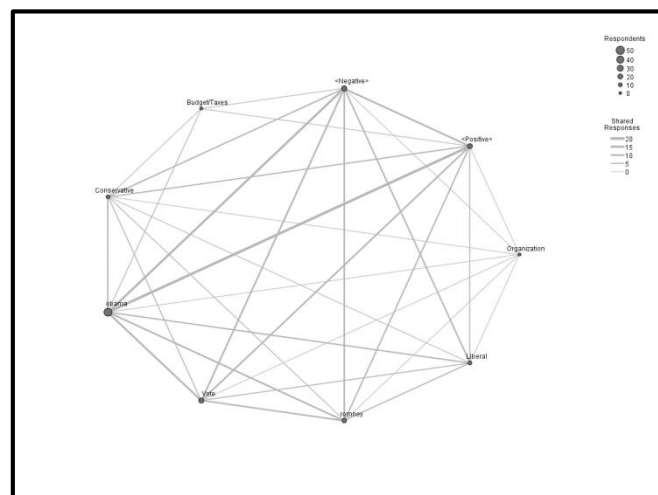


Figure 7

The remaining and final step to the method involves a re-articulation of the *Positive* and *Negative* correlations categories. Although the SPSS interface offers an exceptional lexicon for identifying terms with a positive or negative correlation, the system itself is unable to articulate the intricacies of human dialect and irony. In addition to the third step for categorical design, correctly parsing the positive and negative categories require significant understanding of human narratives and communicative

patterning. It is imperative on behalf of researchers that the trends concluded from the narrative maps are accurate representations of the human sentiment surrounding the data selection. This final step is unobtainable without a prior analysis and aggressive contextualization of the data set. On the other hand, the application of this step is rather simple. All that is required is an expansion of the *Positive* and *Negative* categories and the manual act of moving terms between the two functioning sets.

In order to illustrate this step the project expands the *Positive* and *Negative* categories for the r/Libertarian data set. For the most effective results the researcher must often reread many of the original Reddit posts in order to verify the intended message of the narrator. For this data set in particular, many of the terms that have been repurposed were used fewer than five times. Although these particularities only suffice for slight statistical variance from the original correlation, any development in variance indicates a certain frame of analysis by which the method has actively humanized the data set.

After administering the fourth step to the r/Libertarian data, the *Positive* correlation category has been reduced to 76 total responses, with only 6 terms of identification. These six terms include: *right*, *clear*, *fast*, *good*, *excellent* and *accurate*. The massive overhaul of linguistic signifiers from the original 25 different terms down to 6, indicates a lapse on behalf of the software to accurately ascertain the desired message of the text. As discussed in previous chapters, members of the Reddit community, in particular those participating in political discussions are engaged in a highly critical analytic patterning that challenges assumptions rather than loosely adhering to common perception. From this conclusion it is not surprising that so many terms have been

misplaced out of ironic context. SPSS simply organizes the text, the researcher must organize the text correctly.

Alternatively the *Negative* correlation category for the r/Libertarian data set maintained a much more significant lexicon for analysis. With a total of 179 unique responses over 98 different terms, the *Negative* category depicts a critically engaged data population. Once again, in order to accurately place terms in their respective categories the researcher must often re-read the original posts in order to better understand the desired effect of the message. Terms such as *functioning*, *logic*, *innocent* and even *thanks*, have all been miss-categorized with relationship to the operational deployment of the term within the original text. With no prior knowledge of the data sets use of ironic prose or narrative tropes, the readily accepted *Positive* and *Negative* categories render an inaccurate representation of the Reddit data. Figure 8 below illustrates a completed narrative map that has manually subscribed to all four steps of the method, including the reapplication of *Positive* and *Negative* correlation mapping. With categorical isolation on the *Policy* category, this r/Libertarian narrative map illustrates direct conversations between multiple parts, with a highly specific rendering of user sentiment.

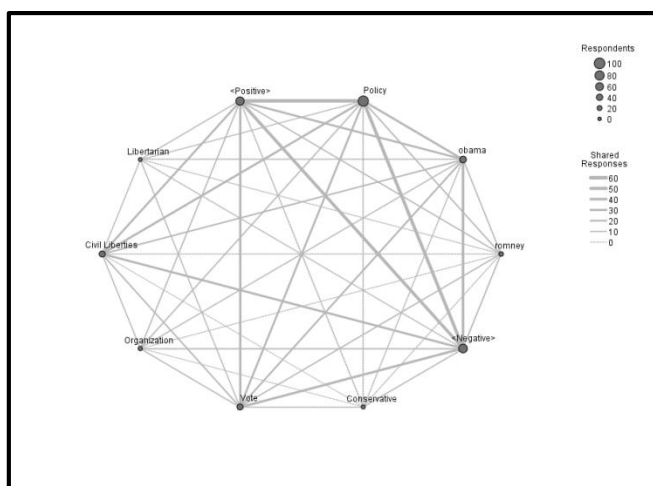


Figure 8

VISUALIZING CATEGORY MAPS RHETORICALLY






































		Positive	
		upvote	
		helpful	
		<Positive>	
		upvoted	
		<PositiveAttitude>	
		<PositiveFeeling_Emoticon>	
		<PositiveFeeling>	
		romney	
		solid	
		romney signs	
		republican	
		romney supporters	
		romney	
		romney vote	
		Obama	
		democrat	
		barack obama	
		obama voters	
		president	
		obama	
		Budget/Taxes	
		<NegativeBudget>	
		<Budget>	
		<Currency>	
		<PositiveBudget>	
		Liberal	
		democrat	
		liberal	
		Organization	
		nasa	
		cnn	

Figure 9

Figure 9 illustrates the category maps discussed in the previous chapters. Looking at the categories as individual rhetorical artifacts helps to strengthen a reoccurring idea of linguistic agency not on behalf of the scholar but the composite narrative of Reddit users.

The subtleties of language, storytelling and breathes of mediated communication exist prior to the extraction made by the researcher. What the rhetorical tradition offers to be fundamentally different from the quantifying mechanisms of the software is the inquisitive participation the rhetorical scholar conducts about the meaning of text. Once again, SPSS and other similar programs are designed with the strategic function of organizing and counting. It is necessary on behalf of better data research that steps are laid in order to make particular the inconsistencies of grouped speech. When visualizing a category the researcher must start with the expectation of complicating the data set. The rhetorical scholar is in a unique position to achieve this task by treating user-generated data as an extension of individuals participating in politically mediated environments. Completed categories should exist as community artifacts mirroring the rhetorical landscape of the selected data population. The terms, phrases and basic jargon of an online community must illustrate the agency of the microcosm, not the hypotheses of the researcher.

READING NARRATIVE MAPS AND DATA CONCLUSIONS

SPSS does not tell stories nor does it indicate human trends, it is on behalf of the analyst that narrative maps offer conclusions pertaining to human agency and its relationship to data. Narrative maps, as we have seen, are literally geometric illustrations constructed of linear density. Throughout the method the maps become more complex as the level of controllable probability transcends expected results; but the end result maintains the simplicity of lines connecting concepts. When examined separately, the

visuals offer fundamentally unique conclusions differing in degrees of subjectivity and expected results. For instance a narrative map forged from the base extraction generalizes populations into simplistic categories of linguistic variance. Ideally, the transition from base extraction to full re-construction of sentimental idiosyncrasies fashions visuals that emulate community conversations over population crowd sourcing. While although the goal of this model is to encourage researchers to progress from the latter to the former, active participation from base extraction to category design and contextualization enable researchers a conceptual space for fully comprehending the multiple degrees of human agency involved in the creation and analysis of large data sets. In other words there is no one conclusion or discovery that culminates the ultimate importance of a data set, but rather multiple scenes working collectively to tell a story about a group of people.

Reading narrative maps requires nothing more than identifying patterns in concept correlations. When categories are designed with the contextual specificity of the data community the patterns between concepts will illustrate overlapping conversations in the same operational format originally published by the users. These patterns are statistically visualized by percentage bar graphs that mirror the frequency variables of the narrative maps. The visual presentation of a narrative map must be read in conjunction with the numerical bar graphs in order to offer defensible evidence for variance change and validity for frequency correspondence. For example, when reading Figure 2 we have selected the *Organization* category as our isolated point of reference. This means that 100 percent of all respondents (frequency of terms used within original posts) are examined from the focus of the category itself. In other words we have asked the data, “What is the relationship between *Organization* and all other categories?”. Isolating the category then

renders statistical variance such as, 66.7 percent of all posts pertaining to the *Organization* category have a negative correlation. As illustrated by Figure 2, this correlation is designated a more dense line between *Organization* and *Negative* than between *Organization* and any remaining category. This process of actively isolating different categories to determine the statistical variance between concepts is how the researcher deduces significance from the narrative maps.

The first two levels of narrative maps, that obtained by the base extraction and the organization of the <*Uncategorized*> folder, should illustrate commonly accepted conclusions. In the recent example of negative sentiment for r/Conservative users and the *Organization* category, it is highly anticipated that while Romney slowly lost the election, comments pertaining to the news coverage of the event would maintain an unfavorable position. Here, inflammable terminology such as “The liberal media” becomes the cornerstone for *Negative* correlations to occur (under the stipulation that *liberal* is accurately categorized within the contextual space of the r/Conservative data set). Similarly Figure 3, an r/Libertarian narrative map isolated on the *Obama* category, indicates a highly negative sentiment pertaining to the President elect. Nearly 82 percent of all comments pertaining to the *Obama* category indicate a negative correlation. Once again, this conclusion is not ground-breaking considering the r/Libertarian criticism over Obama’s airstrikes on Libya in early 2012.

ANALYSIS OF REDDIT NARRATIVE MAPS

Moving beyond the analysis of prediction or expectation, the Reddit data examined by this model, offers three unique phenomenon particular to the greater Reddit narrative. The affordable statistical analysis post-determined by the first two levels of narrative mapping are significant only in-so-far as researchers accept numerical frequencies to represent engaged populations. Data at these levels maintains the necessary need to organize large populations into definable categories for macro-research but do little to support data research as a human science for rhetorical discourse. However, with careful consideration for the latter stages of the visual model, the narrative maps illustrate highly accurate correlations between the image and the rhetorical narrative analysis.

The first apparent particularity that need mention refers back to the use of Obama and Romney as rhetorical metonyms. As discussed previously the categorization of ideologies into singular units of identifiable language, such as *Obama* and *Romney* become rhetorical metonyms when the word becomes the cognitive access point for a body of ideas. The broader concepts of a Democratic or Republican parties, liberalism or conservative and progressive or traditional have become conversations designated by the metonyms *Obama* and *Romney*. To illustrate this point with the data, both proper nouns Obama and Romney were originally extracted into the <Uncategorized> folder. This is interesting because most proper names such as Ron Paul, Paul Ryan and Michelle Bachmann were correctly extracted into the <Person> concept folder (despite mechanical errors such as capitalization). However, the words Obama and Romney,

appear so frequently throughout all data sets that SPSS could not identify the operational term from the concept of an individual. Without prior rhetorical analysis this default programming would be accepted as an extraction error. On the contrary, with sufficient understanding of the extraction method in tandem with a rhetorical analysis of the Reddit data, this “error” illustrates quite sufficiently a connection between the meta-narrative of particular communities and the magnitude of data populations, such as Reddit.

In addition with the accordance between narrative and data illustrated by the metonym, the use of neutral critical analysis employed by the r/Politics community can also be visualized by the data. Figures 1 through 8, no two representing the same Reddit community or isolating the same category, all depict nearly equal *Positive* and *Negative* categorical correlations. The significance of which demonstrates that despite political pageantry, each of the three communities of active Reddit members have adhered to a discursive code of critical inquiry and argumentation. For instance, looking at the r/Conservative narrative map isolated on the *Obama* category, 46.8 percent of all responses indicated as having a *Negative* correlation (predictably the highest correlated frequency). However, the same narrative map only deviates slightly in that 42.6 percent of all responses indicated as having a *Positive* correlation. A base extraction analysis may conclude that majority of the r/Conservative community maintained a negative conversation pertaining to the President elect, and while this conclusion is correct, it is not accurate in defining the actual population of individuals comprising the r/Conservative community. Instead, the narrative maps designed by this model clearly illustrate that despite isolation and particular political ideology, Reddit at large is comprised of a discursive community of dedicated constituents ascribing to a belief in

defendable discourse and discussion. The maps illustrate conversations both defending and attacking alternative perspectives, but never exiling concepts to the space of unilateral acceptance.

Last point of interest reflects Reddit as an equal voice public despite political affiliation. The narrative maps of all three Reddit forums illustrate a very low degree of ‘othering’ in relation to contemporary stigmas of Conservative or Liberal classification. Although the category design necessitates a folder for *Conservative* and *Liberal* language to be organized correctly, the number of respondents employing this language was universally lower for every narrative map. This indicates two conclusions about the Reddit community and the greater Reddit narrative. First this illustrates a consolidated employment of identifiable evidence and proper naming practices. Collectively the r/Politics data set illustrates less than 8 percent of all responses employ the terms *Liberal* or *Conservative*, r/Libertarian only 9 percent and surprisingly (considering the namesake) r/Conservative only employed 12 percent, only 3 percent of which used *Liberal* terminology. Instead, reflecting on the narrative analysis of the r/Politics data, each community preferred a method of proper naming practices indicating specific criticisms against incumbents rather than blanket objectification for alternative political perspectives. This complements the second conclusion for normative participation as a focal point of the Reddit narrative. The data illustrated by these maps and the narrative analysis collectively point to a community engaged in political deliberation, philosophy and policy. The maps demonstrate that participants acting outside the arena of these particular conversations are muted or pushed out. Objectively this practice does not silence opposition. Rather it encourages discordance between ideas, permitting the ideas

are not designed to consolidate inactive political camps. The words *Liberal* and *Conservative* are rendered to the state of defenseless jargon, they are acknowledged as outdated misclassification systems that delineate debate into stagnation. Instead, what these narrative maps illustrate is a critical body of individuals participating as a democratic public preferring the Reddit medium over alternative discursive environments.

CONCLUSIONS AND DISCUSSION

Between the narrative maps and the narrative analysis there is clear indication that multiple stories are being told simultaneously. At the textual level, Reddit is an online social media that promotes a public space of individuality and varied opinions. Transitioning from the community centered sphere, Reddit also promotes its own narrative of critical investigation, deliberative argumentation, and political inquiry. The narrative maps illustrate the conditions of interpersonal communication between citizens of geopolitics, conversing over philosophy, state policy and a multitude of special interests.

With respect to the data selected for this project, on one hand there is an active community of democratically engaged citizens participating in the lived documentation of the 2012 election history. The narrative of these events unfold in the voice of the Reddit members. The conversations examined between the Reddit threads indicated real-time interactions, predicated on the emotional particularities of multiple communities affected by the election. Despite the political differences, these conversations universally progress in the tone of ironically laced analysis rather than marginally isolated winners and losers. The narrative reads objectively notwithstanding the apparent enthusiasm or rejection between conversational moods. In many ways this sort of narrative is employed in the argumentative prose and forensic deployment of historical accuracy as noted by Lucaties and Condit. In contempt of the ironic dialect, the textual level of community interaction indicates an act on behalf of engaged citizenry to discuss forthright the philosophy and mechanics of contemporary politics.

The tools of current data analysis helped to illustrate a population simultaneous participation in community specific discourse as well as offering momentum for a grand Reddit narrative. Reddit as an online social media enables its participants the opportunity to engage in highly individualized communities with the pre-determined concept of open source accessibility. Fishers grand narrative serves as an effective allusion here ascribing a population to a position of normative judgment and participation in a universally accepted narrative trajectory. Despite the political affiliations of particular members the greater Reddit narrative serves as a staple for the open source narrative and the philosophy of transparent information dissemination. The participation of Reddit members indicates a movement for technologies support for engaged citizenry and democratically active publics. The concept of agency is promoted twofold, first as individuals acting in the voice of desired opinion, secondly the choice these individuals make in selecting Reddit as their vehicle for social interaction.

This project certainly indicates a need on behalf of rhetorical scholars to continue in this line of inquiry. The intricacies of human dialect and linguistic variance are specialties of the rhetorical expertise. The narrative investigation illustrates a community that would otherwise become marginally misclassified as simply Reddit users. The model requires an investigative narrative analysis in order to discover the intersection of participatory narration and data collection. Without the rhetorical lens the idiosyncrasies of community discourse would be lost or neglected. This participation on behalf of rhetorical scholars for the future of data analysis permits the idea of population variance to exist within seemingly de-humanized data sets. This critical lens allows for discovery rather than calculated expectation and controlled conclusions.

This brings me to the discussion of data analysis and reproduction in general. This model and project illustrates the simplicity of arbitrary results. Data has no bounds and still exists in the infancy of method creation. With this in mind data scientists can, and have readily admitted to the future of expected results and personal information manipulation. From this lens of inquiry the researcher sits on the moon and plays with the numerical standards of population categorization. Variance offers no defensible necessity for population conclusions unless methods are developed to promote this conceptual framework for data interaction. The misuse of which furthers an unwavering acceptance for numerical evidence to become the standard for population research. Data cannot promote the evolution of human interaction and documentation into units of measurement.

The limitations of this project progress as such. First and foremost the data sets used were a fraction of the opportunity afforded modern analytic packages and this model collectively. Due to the subject size of this project, many of the statistical frequencies for less commonly used linguistic terminology were documented less than 2 responses. Ideally this project should be re-investigated at the level of tens of thousands of unique responses. The second large limitation of this data set is its employment of the Reddit data. Reddit as a data source serves effectively for all the reasons noted previously, however there are very few data sources that share the same unique qualities permitted here. Discovering large, public, open source data sets highly difficult; Facebook and Twitter for instance enact ethical dilemmas that are not necessitated by this particular medium.

Multiple method research is the future of qualitative experts and data collection in general. Methods and theories should support continued research and criticism not offer stagnation and easily constructed artifacts. As researchers, we should fear the concept of human predictability and expected results. This frame of reference illustrates a position of acceptance and professional comfort. It indicates an ascription to readily accepted forms of human identification and the parsing of such into units of population measurement. Methods should evolve at the same pace the public evolves to negotiate shared realities. I have only illustrated how two distinct methods can work collectively to benefit better narrative and data analysis. There is nothing groundbreaking about this formula, it is merely an assertion that unfamiliar methods often support rather than inhibit better academic and private investigation.

This project was designed to promote the authors fear in pre-determinate statistics. If not this model, the research must continue to promote strong method creation for data inquiry that illustrates variance in human deployment of textual communication. Contemporary tools exist to simplify data into accessible units but these tools cannot be allowed to simplify the human narratives hidden within the data. The most effective data analysis will illustrate multiple narratives in accordance with one another; this is certainly better analysis.

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EDUCATION

M.A., Communication in progress

Wake Forest University
Advisor: Dr. Meg Zulick
Thesis: Big Data and the Rhetorical Narrative

B.A., History May 2012

Appalachian State University
Advisor: Dr. Antonio Bly
Thesis: Selling The Book That Caused 'The Great War': A Critical Analysis of the Publishing Practices of *Uncle Tom's Cabin*

B.S., Communication Studies May 2012

Appalachian State University
Advisor: Dr. Cindy M. Spurlock
Thesis: Diversionary Subject Framing in American Media: The Case of Peak Oil

QUALIFICATIONS AND SKILLS

Qualitative Analysis	Data Analysis
Data Narrative Mapping	Rhetorical Analysis
Critical Thinking, Reasoning	Strategic Interpersonal Planning
Micro Management	Public and Private Data Prediction
Exceptional Reading, Writing	Traditional and Practical Logic
Exceptional Public Speaking and Interpersonal Engagement	
IBM SPSS Textual Analytics for Surveys	

RESEARCH INTERESTS

Power/Subjectivity	Civic Engagement/Public Pedagogy
Rhetorical Citizenship	Contemporary Rhetorical Theory
Critical Economics	Culture/Public History/Public Memory
Persuasion	

RELEVANT COURSEWORK

Research in Real Life (Grad)	Empirical Research Methods (Grad)
Rhetorical Theory (Grad)	Rhetorical Criticism (Grad)
Communication Ethics	Rhetoric, Memory, & Public Culture (Honors)
Writing History	Truth in History & History of Truth
Mass Media & Society	Research Methods: Critical/Cultural Studies (Honors)
Persuasion (Grad)	Independent Study in Cultural Studies

RESEARCH AND ACADEMIC EXPERIENCE

Editorial Assistant for Dr. Spurlock: *Environmental Communication* 2011-2012
Lead Instructional Assistant: Dr. Spurlock, COM 3155 (Persuasion) 2012
Attendee: 2011 National Communication Association Convention 2011
Instructional Assistant: Dr. Spurlock, COM 3155 (Persuasion) 2011
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ACADEMIC HONORS

Lambda Pi Eta Communication Honor Society 2012
Pi Alpha Theta, National History Honor Society 2010

EXTRACURRICULAR ACTIVITIES

Intern News Reporter, *The Appalachian* 2009

WORK EXPERIENCE

COM 110: Public Speaking TA, Wake Forest, 2013-2014
Front of House Manager, The Porch Kitchen and Cantina, Winston Salem, NC 2014
Bar and Grill Manager, High Point Elks Lodge, NC 2012-2014
Key Hourly Mellow Mushroom Pizza Boone, NC 2011-2012
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