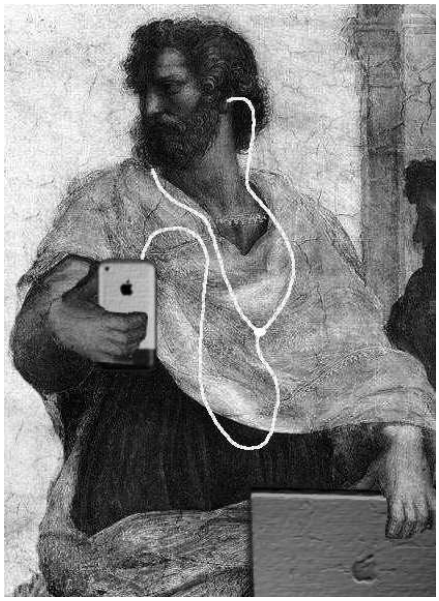
New Tools for an Old Art:

Rhetorical Analysis Through Visualization and Play



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Rhetoricians and philosophers have long been skeptical about new technologies; from Plato's fear that writing would end memory, to the current healthy skepticism over the role of computers and social networks within the academy (Plato 275e). Introductory textbooks on the practice of rhetorical criticism are lined with references to note cards, pencils, marking up texts, and creating manuscripts (Foss 391). Interestingly, the same academics skeptical of writing, have continued to privilege the written over the visual. This dichotomy has begun to shift in recent years, but understandably, the word remains dominant over the image within the realm of rhetoric. Our very history seems to seek to deny that we live in a very visually oriented, very technological world unimagined by Aristotle and the founders of the rhetorical arts. It is with these understandings of our past and present proclivities that I suggest a strategy for the present; an addition to the many ways in which rhetorical criticism is practiced. In this text, I would like to suggest the engagement of rhetorical artifacts through the practice of visual play. Play itself is pragmatic in that it leads to discovery. Invention encompasses the concept of play—without trying new combinations one would never create anything useful. Never before have we had the leisure to play with rhetorical documents in the way that we now have available. New technologies developed to visualize large data sets on the social web now offer rhetoricians the ability to engage data that would have been impossible to explore using traditional techniques. By combining freely available online data visualization applications with an understanding of rhetorical criticism and a sense of play, I believe it is possible to engage textual data in a new and exciting way.

Few established researchers continue to publish rhetorical analyses based on prescriptive methods like those outlined in such seminal textbooks on rhetorical criticism as Sonya Foss's *Rhetorical Criticism: Exploration and Practice;* Brock, Scott and Chesebro's *Methods of*

Rhetorical Criticism: A Twentieth-Century Perspective or Hart and Daughton's *Modern Rhetorical Criticism.* However, the practices learned through these books permeate our analytical methods. Although one is unlikely to encounter a recent criticism based on fantasy theme or cluster criticism, the basis for these critical endeavors do indeed inform our methods. It seems that most rhetorical scholars have moved to a generative form of criticism, which attempts to free itself from the cookie-cutter effects of standardized critical methods. But even the most liberated and pioneering of analyses such as Edwin Black's "Gettysburg and Silence" still rely upon basic tools of frequency, intensity, context, and word counts. As I have noted, rhetoricians have long been reticent to enlist the aid of modern technology and I am in agreement that analysis itself should not be turned over to algorithms and automation, but where computers can aid in the laborious task of word counts and indexes, I feel that new technology can be quite useful for the scholar of rhetoric.

Roderick P. Hart, a researcher who raised many a rhetorical eyebrow with the introduction of his DICTION software back in the late 1970s also provides an understanding of language in both an atomic and contextualized sense. Hart suggests that the words rhetors use are largely unexplored by the rhetors themselves and that exploring their discourse would lend insights into their rhetoric (35). Kenneth Burke, I believe, would take it a step further and suggest that it lends insight into the very world they inhabit. Hart does not deny the need to explore texts within context, but in defense of his DICTION approach, he states that, "words are meaningful outside of context" and that context itself may detract from the evanescent meaning of the terms (41). In this article I will explore visualization methods that both de-contextualize and contextualize text within an artifact. I believe that either, and preferably a combination of both will lead to particularly insightful analyses.

There are many software packages available to aid the modern rhetorician in the manipulation and analysis of textual data. These packages have been available for several years but continue to adapt to the marketplace. Most packages began as software for academic inquiry but have recently shifted to the business world, focusing more on predictive analysis and customer surveys than academic research studies. These powerful products offer both quantitative and qualitative methods for data analysis with a level of control unparalleled by the applications we will discuss later. There are, however, drawbacks to the brand name statistical and qualitative packages, one primary consideration being that of cost, which can range from around $600 to over $3,000. These packages include: SAS Text Miner ($1,854), PASW Text Analytics by SPSS ($1,299), WordStat by Provalis Research ($3,395), NVivo ($595), and Atlas.ti ($585). The entry into textual data analysis can be quite daunting and many of these products require additional modules for realizing their full potential. One option is the use of WordSmith 5.0 which has a rather reasonable entry level of $75 but which doesn't offer the computational, scale, power and adaptability of the other packages. These products offer access to multiple dictionaries, along with extensive abilities to lemmatize, stem, tag keywords and generate collocates. The analysis methods tend to be dictionary based and most provide the generation of word lists, word frequencies, and text in context. What these products do not do so well is to foster a sense of play through direct interaction with the text. The SPSS, SAS, and Provalis packages all generate textual visualizations but within a somewhat dated and stodgy interface, using previous generation graphics with limited ability to manipulate the text directly.

In contrast to the highly gated and often times cost-prohibitive world of institutional qualitative and quantitative packages, several websites have emerged which offer free data analysis and graphing applications. Although many of these sites do not offer the precise control

of lemmatizing, stemming, and collocating data offered by their big brothers, they do offer features not always properly appreciated by the academic community: the ability to visualize, play, and share. For this article I will primarily discuss four free web-based applications for the analysis and visualization of textual data, these applications include: Many Eyes (http://www.many-eyes.com), TagCrowd (http://www.tagcrowd.com), Wordle (http://www.wordle.net), and Neoformix (http://www.neoformix.com). In this section I will discuss the relevant textual analysis features offered by each application by stepping through five basic visualization types: tag clouds, wordles, word trees, phrase nets, and comparisons. Each of these online applications and their associated visualization types offer the ability to analyze textual data through the following methods: Frequency, intensity, proximity, context, repetition, and comparison. Stepping through the five types of visualizations offered by these applications, I will endeavor to show how each visualization type may be of use to the scholar of rhetoric. Figure 1 below highlights each application's features and weaknesses.

	Freq Count	**Freq Visual**	**Text in Context**	**Phrase Structure**	**Compare Docs**	**Word Filter**	**Private**	**Share**	**Data base**
Many Eyes	Word Tree Tag Cloud	Word Tree Tag Cloud Wordle Phrase Net	Word Tree Tag Cloud	Phrase Net	Tag Cloud	Y	-	Y	Y
Neoformix	-	-	-	Y	Y	-	Y	-	-
TagCrowd	-	Y	-	-	-	Y	Y	-	-
Wordle	-	Y	-	-	-	Y	Y	Y	-

Fig. 1 Online Visualization Features

In order to illustrate the different types of visualizations, I will be using a recent data set, which I have begun to explore via textual visualization. The data set is based on 14 transcripts form the *Glenn Beck Program* which airs on the Fox News channel. I have chosen a week and a half of shows both before and after President Barack Obama's September 9, 2009 address to congress on healthcare. This was a busy period for the *Glenn Beck Program* as it almost single-

handedly brought down White House green jobs advisor Van Jones, broke an investigation into ACORN, promoted Glenn Beck's 9/12 Project march on Washington, voiced concern over President Obama's speech to school children, and painted healthcare reform as a socialist endeavor. These 14 transcripts form the corpus for analysis throughout the rest of this article. Each visualization technique will, hopefully, lend insight into the transcript data and also illuminate how language operates on the *Glenn Beck Program*.

The first visualization technique I will discuss is the tag clouds, which is one the oldest and most useful visualizations provided by the social web. They were originally incorporated into blogs so that readers could get an idea of the blog's daily content by glancing at the keywords highlighted in the tag cloud. A tag cloud displays word frequency through the relative font size of each term, thus a word shown in a font size twice as large as another word would roughly have twice the occurrences in the sampled text allowing the researcher to see a visual representation of the manuscript's word frequency. The larger the term, the more visual weight that it carries, the more frequently a term is utilized and in many cases that may lead the scholar to assume these are words of intensity as well, which may well be the case, but which cannot be directly determined by this method (See Figures 2 & 3 below). Determinations of intensity must remain in the realm of the scholar of rhetoric's educated judgment. Both Many Eyes and TagCrowd offer tools for analyzing text and generating tag clouds, Many Eyes, however, offers additional features not available in TagCrowd. By hovering your mouse over any word in the text, Many Eyes also provides a numeric count of the word's frequency and displays examples of the word in context (See Figure 4 below). Many Eyes also offers the option of a one or two word search, and each of these will produce vastly different visualizations. I have found that the two word tag clouds are generally more useful as they take into consideration typical collocates

of the terms in the text. Tag clouds can also be used to compare two texts by listing the words alphabetically in separate colors to distinguish them from one another. The relative sizes of the fonts, again show a relative comparison of term frequencies between the two documents. Depending upon which visualization application you utilize, tag clouds can aid the scholar of rhetoric in discovering word frequencies, word intensities, context within the document, and comparison of these elements between documents.

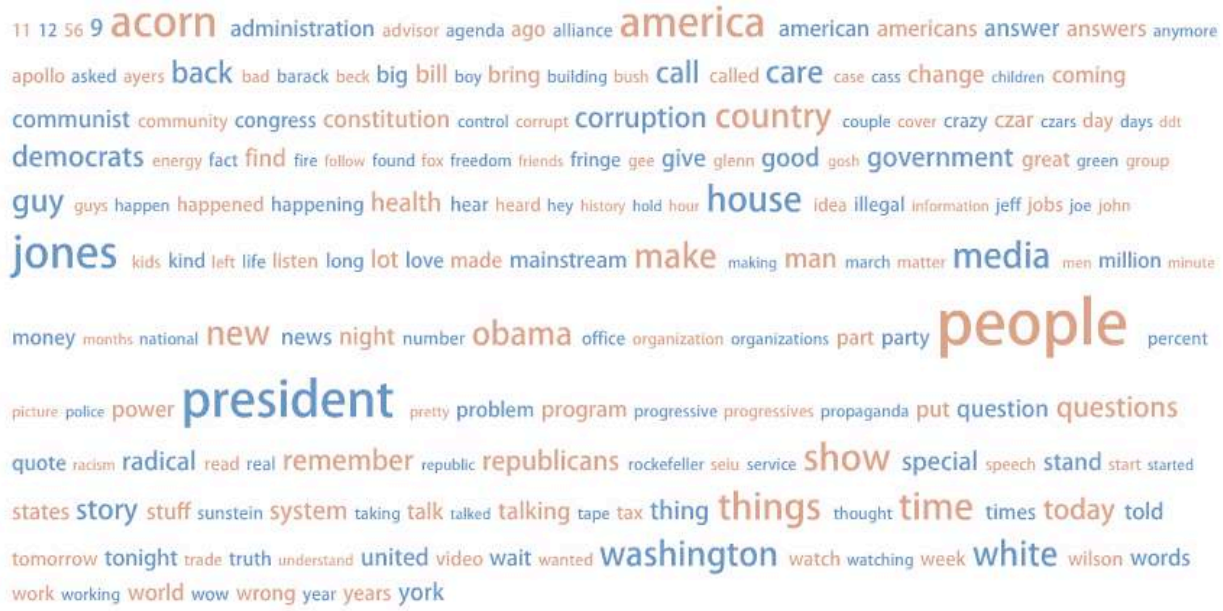

Figure 2 Tag Cloud visualization of Glenn Beck transcripts from 08/31/09-09/18/09 (Many Eyes)

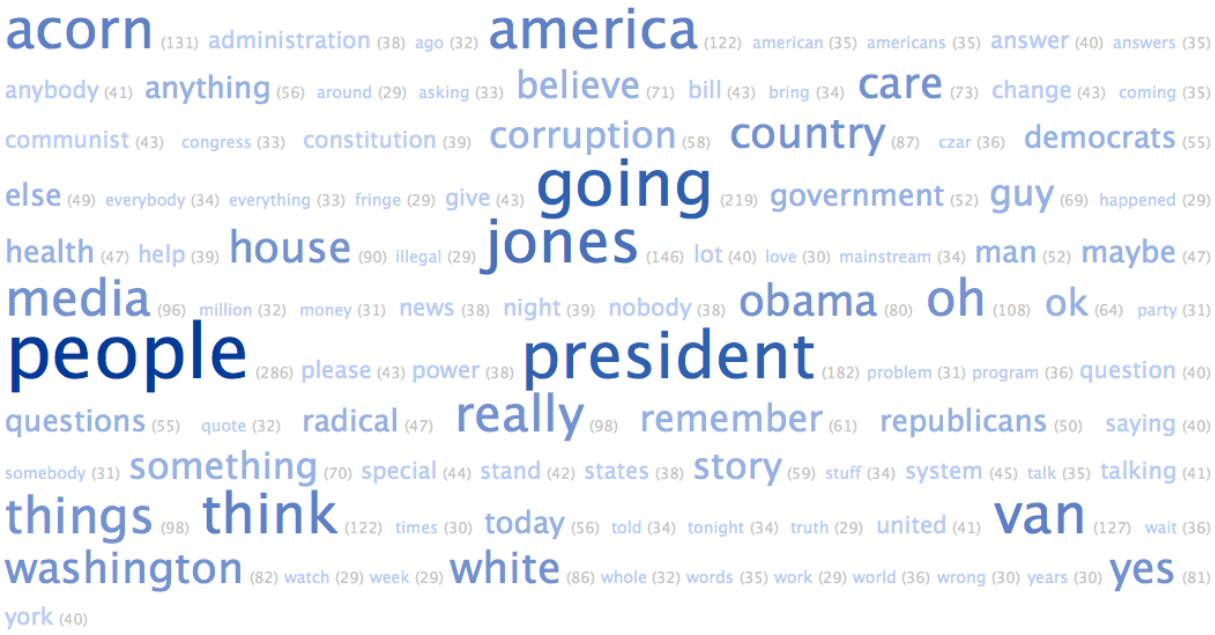

Figure 3 Tag Cloud visualization of Glenn Beck transcripts from 08/31/09-09/18/09 (TagCrowd)

By examining the visualization of the Glenn Beck transcripts in figures 2 & 3 above, it is clear to see that certain terms were used more frequently than others over the fourteen days of analysis. These frequently used terms include: "People," "President," "Van Jones," "going," "ACORN," "America," "Washington," "White House," "Obama," "think," "media," "corruption," "country," and "make." Placing the mouse over any word on the Many Eyes visualization reveals how many times it appears in the text (See figure 4 below), the TagCrowd visualization already includes the frequency of each term in parenthesis. In order for these frequently used terms to be useful for our analysis, they will be combined with another visualization type, the word tree, which will be discussed later in this article.

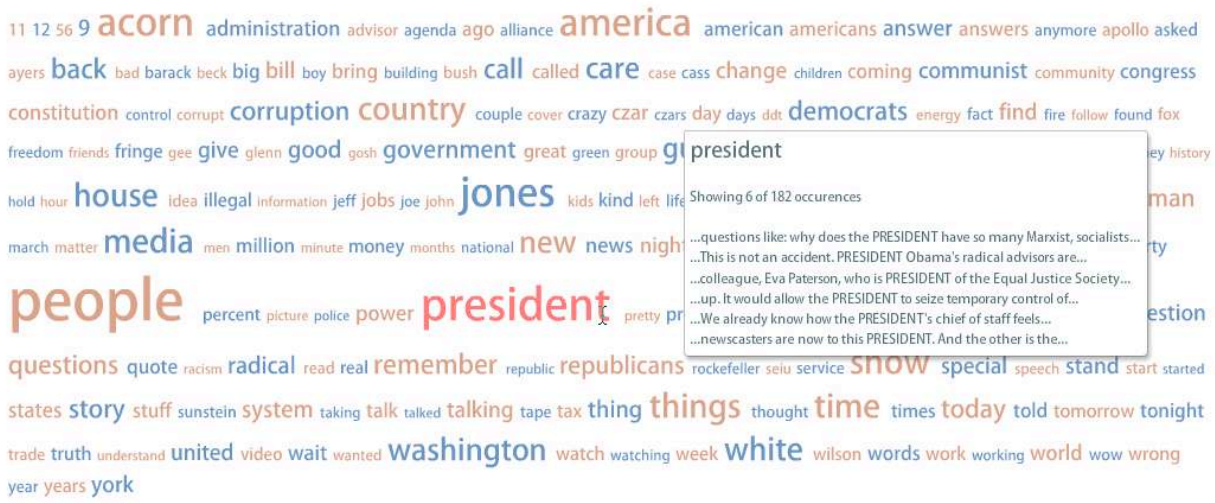

Figure 4 Tag Cloud visualization highlighting the term "president"

There are a few things to be cautious of when using tag clouds, first is to be sure that the visualization type is set to eliminate typical word collocates such as articles, conjunctions, and pronouns. Without suppression of common words, the generated tag cloud will be fairly useless. You may notice that figures 2 & 3 above are very similar, but not identical, as Many Eyes and TagCrowd rely on different dictionaries of "stop words," or common terms that are not considered part of the visualization, and have a different cut-off level for which terms make the visualization. So, TagCrowd visualizes "believe," "else," "going," "oh," "OK," "really," "think," "Van, " and "yes" whereas Many Eyes visualizes "call," "find," "hear," "make," "put," and "stuff." The purity of the text, which is uploaded into the application, is paramount. Extraneous marks and words should be deleted before processing the manuscript. Simple items such as story headers, news datelines, email subject lines, and author information can easily skew the visualization produced. The 14 days of *Glenn Beck Program* transcripts required substantial cleanup before being uploaded into Many Eyes. All of the header information was removed, all remarks other than those made by Glenn Beck were removed, interview segments were removed, audio and video clip beginnings and ending marks were removed, and show

intros, conclusions, and segment bumpers were removed. Figure 5 below illustrates how the text originally looked after downloading from Lexis/Nexis. By removing video clips, and interviews I hoped to focus only on Beck's use of monologue throughout his hour-long nightly television program. The deletion of this material from what were originally over 100 pages of transcript was time consuming. I relied upon Microsoft Word and the find/replace feature to make many of the deletions and to help format the data for uploading.

BECK for August 31, 2009

BYLINE: Glenn Beck

GUESTS: Kyle Smith, Seton Motley, Pat Caddell, Rev. Stephen Broden, Joy McGraw

SECTION: NEWS; Domestic

LENGTH: 7110 words

ANNOUNCER: Three, two, one -- Beck!
GLENN BECK, HOST: Welcome to THE GLENN BECK PROGRAM. Tonight, I'm beginning -- really, I'm beginning to think that I'm the only one that still thinks that Che and Castro and Chavez are bad guys. Watch this.
(BEGIN AUDIO CLIP)
REP. DIANE WATSON (D), CALIFORNIA: And I want you to know, now, you can think whatever you want to about Fidel Castro, but he was one of the brightest leaders I have ever met.
(END AUDIO CLIP)
BECK: That is so fabulous! Thanks for sharing. She goes on.
Czars, freedom of speech, and a plan of action tonight.
If you believe this country is great but the government is fundamentally changing it and it's changing into something that you didn't see coming? Stand up! Come on, follow me.
(MUSIC)
BECK: Well, hello, America. There is a revolution that is happening in this country, and it's one that most people aren't really aware of. It has been happening for a while. We'll get into that in the next few minutes.

Figure 5 Glenn Beck transcripts as downloaded from Lexis/Nexis

Unlike the statistical packages discussed above, Many Eyes and TagCrowd are not dictionary based applications, therefore, they do not attempt to stem or lemmatize words in some visualization types; instead each unique appearance of a word will be counted as a separate word, even something as simple as capitalization can create two different categories for the same word.

This can easily be remedied by selecting the option to treat words as all caps or all lower case. Also, with a bit more effort it may be useful to stem and lemmatize the words directly in the manuscript before it is uploaded. Lastly, you can force each application to take strings of words as one by joining them together with special characters. In Many Eyes words are joined with the tilde "~" symbol and in TagCrowd they are joined with a dash "-", these symbols will appear as spaces in the generated text. Therefore, the title *Man~of~La~Mancha* will be counted by Many Eyes as one word.

Wordles are the fanciful cousins of tag clouds, and they follow all of the rules required to make a good tag cloud visualization. Wordles are far more visually engaging, poetic, and creative, but unfortunately these attributes come at the loss of a substantial amount of data. Whereas wordles, are very good at visually showing word frequency, they do not provide numeric frequency, or context. What they do offer is a far more engaging graphic representation of the text using typographical spacing to fit the words into smaller spaces through limitless permutations of layout and design (See figures 6 & 7 below). Both Many Eyes and Wordle.com offer a multitude of color schemes, even allowing each word to be assigned its very own color. The layout is computer generated but highly flexible and if you don't like the way it looks it can be regenerated with the click of the mouse. Each regeneration of the wordle, offers new ways for the rhetorician to envision linkages between the terms and the whole of the text. A word of caution when using the tag cloud or wordle to explore word frequencies or intensities through visual weight, it is worth noting that longer words will understandably take up more screen real estate than smaller words, and that words with significant typographical ascenders or descenders will appear larger than words that do not have ascenders and descenders. Selecting all caps will likely offset the problem with ascenders and descenders but it might also be worthwhile to

experiment with different font choices. Wordle.com allows the user far more aesthetic control, offering multiple pre-designed color palettes and dozens of font choices, Many Eyes falters by providing only limited pre-designed palettes and only two fonts to choose between.

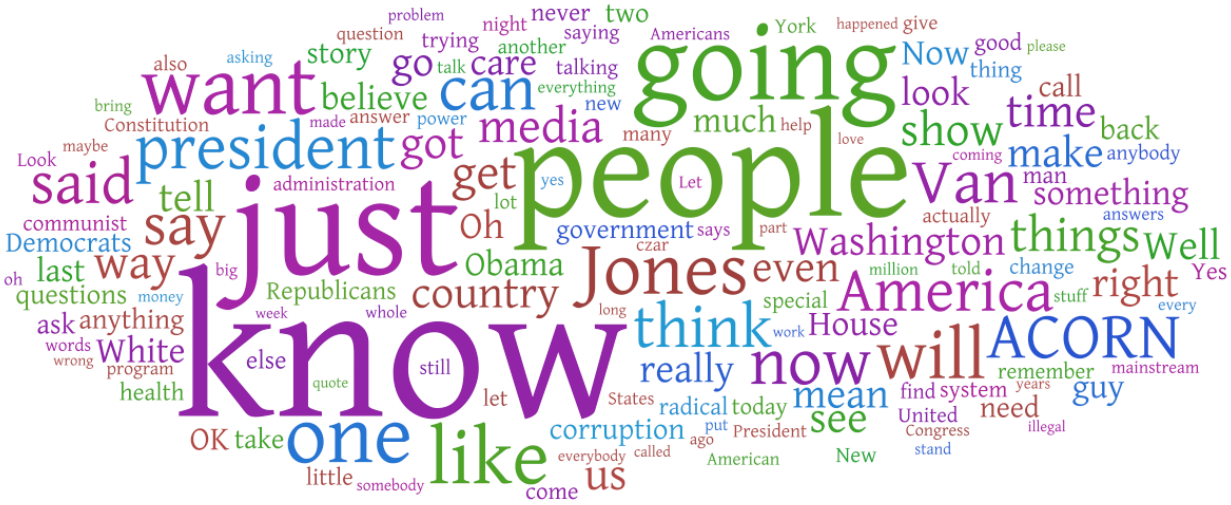

Figure 6 Wordle visualization of Glenn Beck transcripts from 08/31/09-09/18/09 (Many Eyes)

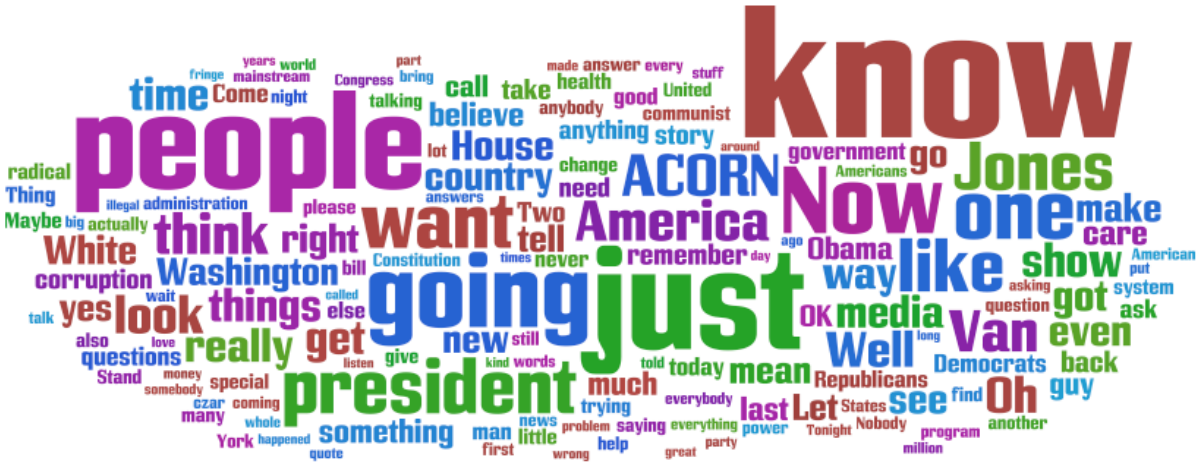

Figure 7 Wordle visualization of Glenn Beck transcripts from 08/31/09-09/18/09 (Wordle.com)

The wordless above are generated from the same *Glenn Beck Program* transcripts that were used to generate the tag clouds in figures 2 & 3 and although there are many similarities,

there are some surprising differences. Along with the big terms "People," "President," "Van Jones," "ACORN," "America," and "Washington," we also now have a few new terms, "know," "just," and "want." These terms were clearly flagged as "stop terms" by the tag cloud visualizations but are included in the wordle visualization. The visualization tools on Many Eyes and across various websites, do not share a standard dictionary and do not allow easy construction of an individualized stop list system. TagCrowd does offer users the ability to create or edit stoplists, but they expire after only a few days. As I have suggested early on, visualization tools are sites for play, allowing us to engage text in new and creative ways but they can never replace the researcher. It is up to a skilled scholar of rhetoric to decide how to proceed, and determine which terms are truly of importance for an investigation into a particular text.

Word trees, offered by Many Eyes, are highly interactive visualizations that allow users to locate words in context as well as locating words that cluster around certain frequently used or seemingly important terms. Simply typing in a word or phrase from the text will generate a visualization of all sentences in which that word or phrase is found. The visualization branches out from the search phrase to its use in specific contexts and is connected by thin branching lines. The text size, once again, denotes the relative frequency within the output of the word tree—phrases repeated twice will be twice as large as those occurring only once. Word trees may not represent all occurrences of a term within a large body of text, as there may not be enough screen real estate to do so, thus word trees represent the most frequent phrases at the cost of being a fully indexed concordance (Word Tree Guide). By clicking on the next word in the generated phrases, the visualization is narrowed down further until a single phrase is eventually selected (See figure 7 below). This visualization form allows the researcher to see the way that certain

terms or phrases are used in the text and what other terms or ideas they are linked to. A rhetorician then, might use a tag cloud or a wordle to determine words with a high frequency and then use a word tree to explore each term in context. A simple pairing of the tag cloud with the word tree allows for a real time analysis along the lines of Kenneth Burke's cluster criticism (Burke 20). Typically this kind of critical analysis would take considerable time to code for frequency, and then more time to code for context to determine how the terms cluster. Using freely available visualization tools, a cluster criticism can be undertaken during a single class period. Suffice to say that a well-researched critique would require considerably more analysis than just these few visualizations but it is clear that this technique could amplify a rhetorician's ability to survey a text in a limited timeframe. I have found that simply combining these two forms of visualization can be a revelation to students in my rhetorical criticism class. The word tree visualization type is easily modifiable, allowing users to search for terms at the beginning or ending of phrases and listing those results in order of frequency, occurrence within the text, or alphabetically. Unlike tag clouds and wordless, punctuation does matter when generating a word tree as it is used to determine to which phrase or sentence a term belongs.

After studying the tag cloud and wordle visualizations generated from the *Glenn Beck Program* transcripts, I next began conducting various word tree searches for the various frequently used terms. One of the most frequently used words was "people," which was used 286 times in the three weeks of transcripts. After looking at the use of the term "people" it was clear that there were primarily two types of people, Glenn Beck and those who follow him and "those," "them," "they," the socialist members of Barack Obama's inner circle and critics of Glenn Beck's show (See figure 8 below). To be a good American you must question everyone who seems suspect but you must follow Glenn Beck (See figure 9). He begins every telecast

with the line ‘come on, follow me.” But to where? He is always wanting to show us something shocking or that should “scare the living daylights” out of us. Glenn Beck positions himself as our Gnostic friend, there is a knowing glance shared with the audience who also “just know” something is wrong but rely upon Beck to make their concerns a reality (See figure 10). These are just a few cursory insights gleaned from sharing a few moments with the data generated by Many Eyes. A combination of visualizations and referencing of the original text should lead to an interesting analysis of Beck’s terministic screen. This is ostensibly the same method as suggested by Kenneth Burke’s cluster criticism, but here, visualization technology allows the process to be completed in a much shorter time frame. Not only does this technique speed up and reduce the work required for a critique, it also allows for limitless play. Rhetoricians can follow hunches about terms and connections and see where they lead in real time.

Figure 8 Word Tree visualization of Glenn Beck transcripts from 08/31/09-09/18/09

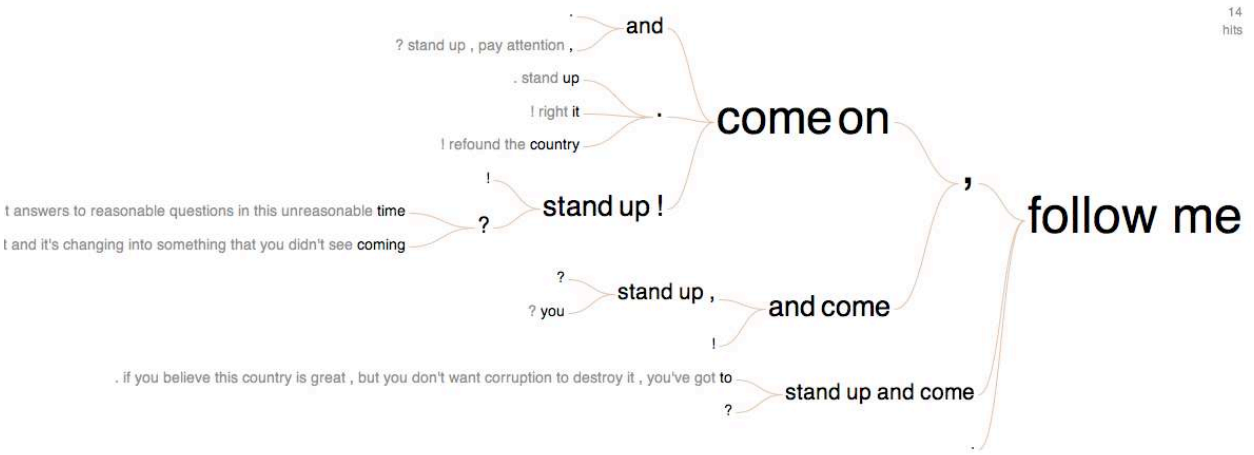

Figure 9 Word Tree visualization of Glenn Beck transcripts from 08/31/09-09/18/09

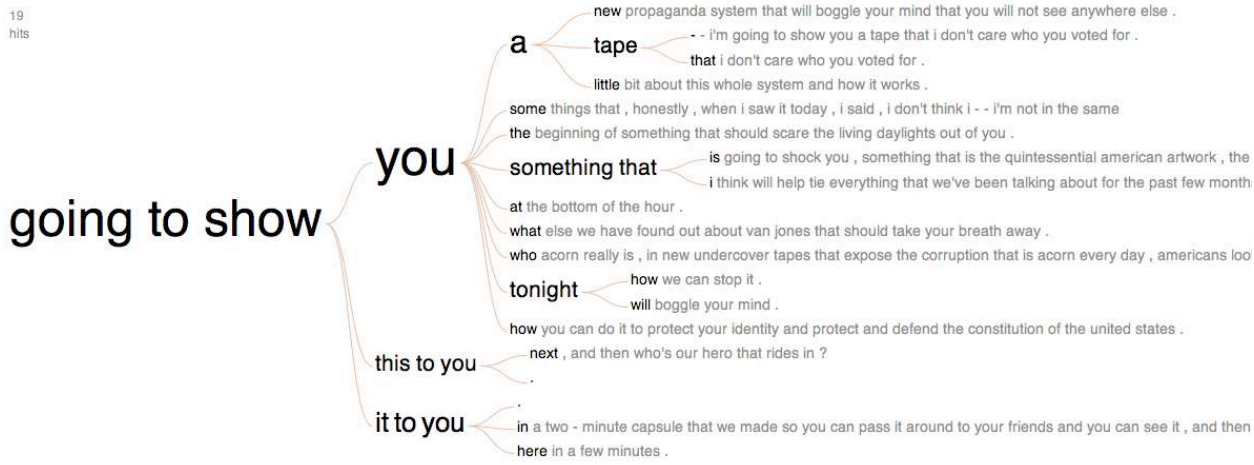

Figure 10 Word Tree visualization of Glenn Beck transcripts from 08/31/09-09/18/09

The Many Eyes phrase net tool allows the researcher to scan the text for word frequency, context, connection and most importantly proximity. Phrase net allows you to search for patterns of connection within a text and comes with pre-made patterns for words connected with "and," "'s," "of the," "the," "a," "at," "is," or a blank space. Also, the user can define any word pattern using asterisks to fill in for connected terms. According to the Phrase Net Guide,

> Once you've specified a pattern, the program will create a network diagram of the words it found as matches. Two words will be connected if they occurred in the same phrase.

> The size of a word is proportional to the number of times it occurred in a match; the thickness of an arrow between words tells you how many times those two words occurred in the same phrase. The color of a word indicates whether it was more likely to be found in the first of second slot of a pattern. The darker the word, the more often it appeared in the first position.

The phrase net visualization allows the user to get an overall sense of the connections within a manuscript by showing which terms are connected, the strength of their connection, and each of the term's frequency. The basis for phrase searching is somewhat limited and mechanical but it could provide a useful overview, and like tag clouds, offer material to explore further with word trees. Here is the phrase net generated by the *Glenn Beck Program* transcripts with the connecting character being the space (Figure 11). The visualization illustrates how the terms link up over the course of three weeks on the *Glenn Beck Program*. "Special jobs czar Van Jones" and "radical communist Van Jones" are particularly strong lines as is the interesting references to "white people" and "white community." Whether foregrounded or lying beneath the surface, these are clear points of interest to Beck and his followers.

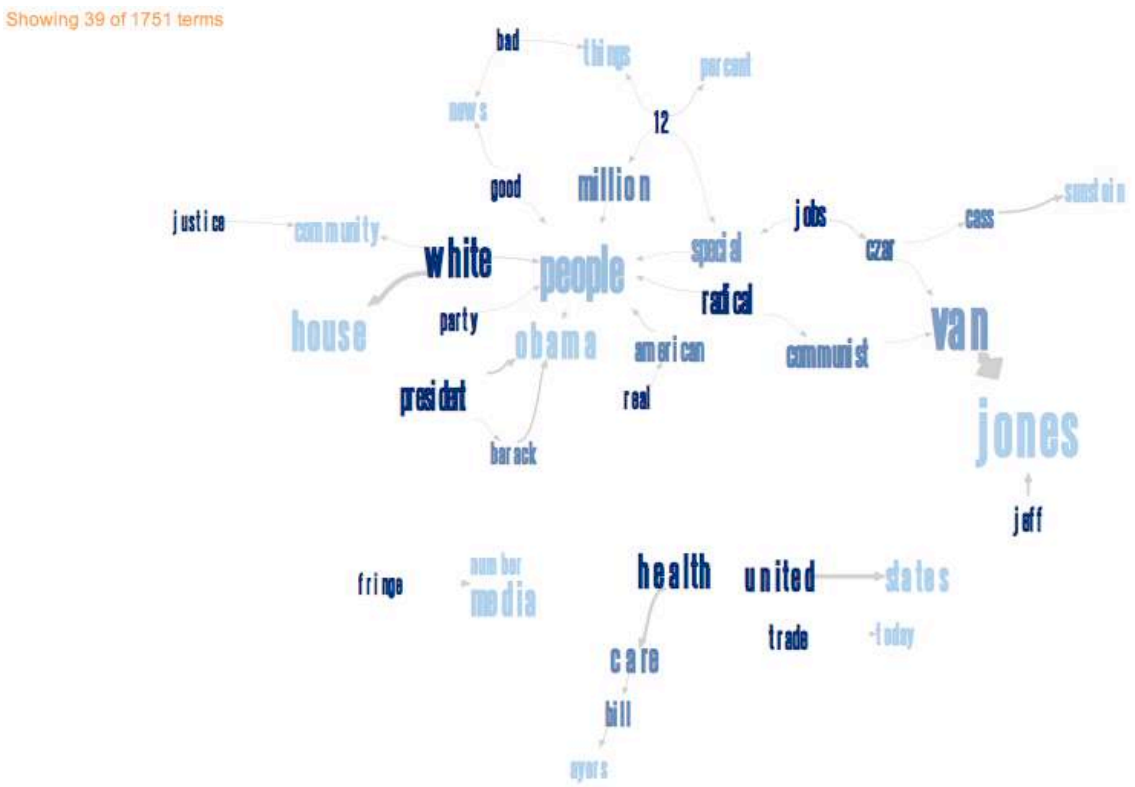

Figure 11 PhraseNet visualization of Glenn Beck transcripts from 08/31/09-09/18/09

Neoformix's document arc tool also plays on phrase similarity by graphing the manuscript in terms of connected arcs. Neoformix divides the text into multiple subparts and compares keywords within each division. The keywords of the manuscript are then displayed with graphic arcs connecting phrases with similar wording (See figure 12 below). Originally designed to map musical patterns, this visualization tool may be useful to map out the repetition and rhythm of a text as well as where recurrent concepts arise in the text's overall organization. The document arc below is based upon the *Glenn Beck Program* transcripts. Of note is the strength of the Van Jones thread during the first week, it's virtual disappearance during the week of the healthcare speech and it's resurgence as a springboard for further administration purgings at the end of the three weeks. The Neoformix tool is not nearly as extensive or developed as the other tools but it does suggest the potential for future visualization techniques, which may be

even more useful to the student of rhetoric. Neoformix offers many possible new ways to visualize textual data. Most of these are only in the formative stage, but many signal potential uses for future rhetorical scholars. On a similar note, Text Arc (http://textarc.org) provides an artistic three-dimensional mapping of text and related concepts within the text. Currently this model only works with manuscripts from *Project Guttenberg*, many of which are flawed by extraneous commentary, but the potential is there to open up such artistic visualizations to the research community.

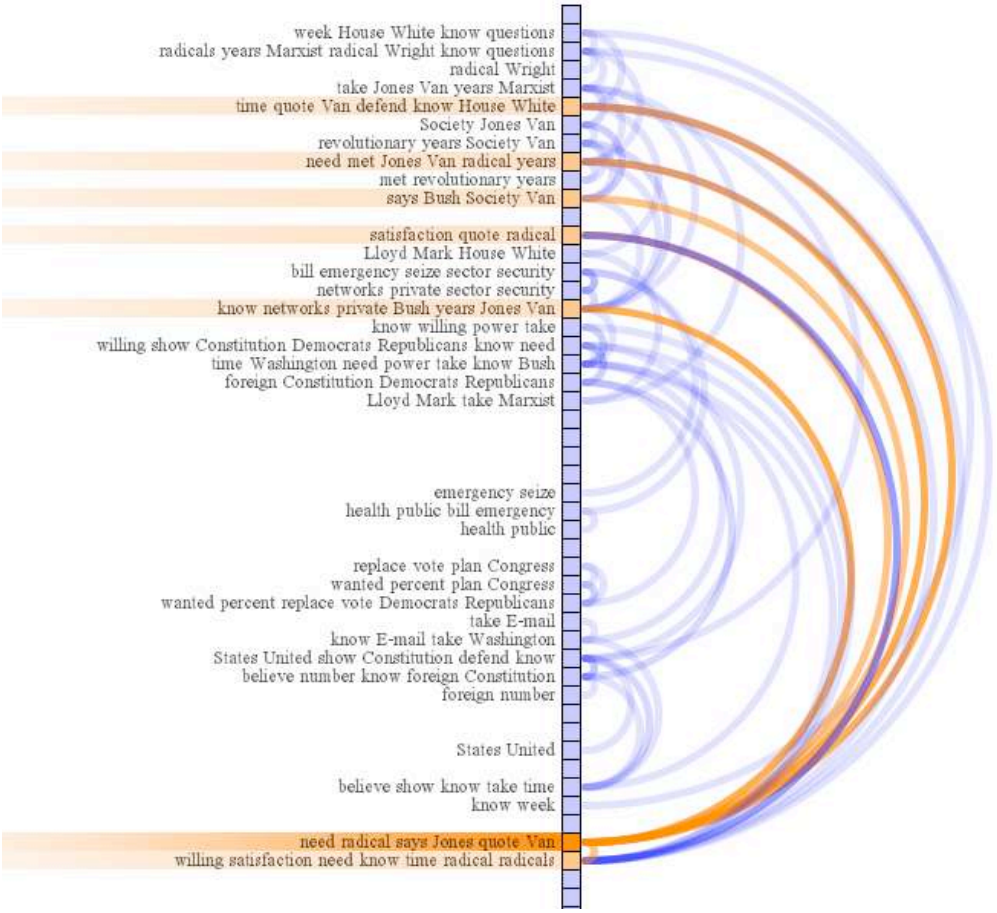

Figure 12 Document Arc visualization of Glenn Beck transcripts from 08/31/09-09/18/09

The power of textual visualization for researchers is in the moment of play, not necessarily in the completed product. Of all the sites I have discussed, only Many Eyes allows for a truly interactive "social" media experience. Wordle.com allows users to place wordles

they've created into their online gallery for others to see, but only Many Eyes offers further manipulation and feedback options for other users. Many Eyes allows each user to create a personal account and to upload data sets and store visualizations. The visualizations generated by one user may be further manipulated by another, and anyone who finds a visualization of particular interest may leave feedback for the author to spur further insight. Collaboration is clearly of primary interest to the developer of Many Eyes. And, it is easy to imagine a jointly authored project using many eyes to suggest and acquire new data, develop new visualizations, and share research questions and feedback. This process is simplified further with the recent addition (currently in beta release) of wikified, a personalized visualization portal where collaborators can work together. These portals may be used to aggregate or disseminate visualizations and data sets and foster a more focused community working within a particular research area. Wikified's dashboard approach allows users to view data simultaneously through a variety of visualization techniques which may lead to a better understanding of the data than standard serial visualizations (Tufte 159).

Many Eyes already contains a database of nearly 94,000 data sets representing data from government entities, speech transcripts, census figures, *Project Gutenberg*, the United Nations, OECD reports, and the *New York Times* to name a few. The *New York Times* even incorporates Many Eyes into their website as the NYT Visualization Lab and provides all of their data and news stories for visualization (http://vizlab.nytimes.com). The open nature of Many Eyes is both a boon and a bust for many researchers. The collaborative approach makes working together easier than ever, and allows users to take advantage of vast catalogs of data already available on Many Eyes. The drawbacks to this forced open structure are, however, threefold. First is the possibility for data sets to be less than accurate, whether from intentional manipulation or poor

handling of data. These are the kinds of questions that continue to plague user generated content such as that found on Wikipedia and Many Eyes doesn't have the advantage of literally "many eyes" pouring over its user-generated text everyday with intent to correct errors. While a new updated data set can be created on the Many Eyes database, the older files that may have been deemed inaccurate will continue to exist unless the user who uploaded them corrects or deletes them. Such a change might be initiated by leaving feedback for the original creator of a data set, but that relies upon their attention to the request and willingness to make the changes. Many Eyes does not guarantee the accuracy of any of its data.

The second drawback to Many Eyes' open nature is more a concern with the institution of university. The competitive nature of most research encourages scholars to keep their current projects under wraps until the project is ready for publication. Along those same lines, most publishers will not consider publishing a manuscript which has already been made public. Many researchers may reasonably fear, then, that conducting research in the open may unnecessarily leave them vulnerable to more competition and possibly eliminate them from the highly valued process of publication. It is possible that as social media progresses, and the academy wrestles with issue so publication and tenure, that researchers may become more collaborative and less concerned with publication, but in the current university culture, these concerns are part of the institution. The final concern over an open research system is also a product of the university structure. Although most manuscripts which lend themselves to rhetorical analysis are already in the public domain, some researchers, such as conversational analysts and others who conduct quantitative or qualitative textual analysis may find the system untenable because of Institutional Review Board requirements. All data uploaded to Many Eyes is made public, it can be removed immediately after the visualization is completed, but for at least a time, the data is public. Many

social scientific studies require that information be kept strictly confidential and this opening up of information may eliminate Many Eyes from being an option. Many Eyes' "Frequently Asked Questions" page provides a link to contact them about privately conducting research, but repeated requests have garnered no response on this issue from IBM. If you need to be sure that your data will never leave your desktop, then TagCrowd and Wordle.com are much safer bets as they do not make data public unless you intentionally choose to publish it.

Social visualization sites such as Many Eyes allow researchers to pose questions, share research, and pursue meaning in ways never before possible. These sites are expanding with the addition of visual wikis and limitless special interest areas. In addition to sites, which focus on visualizations, many other types of social media, such as blogs, photo blogs, and wikis make the sharing of visuals and data sets far easier than ever before. Whereas publishing graphic information in scholarly journals has long been a tedious, costly endeavor, now researchers can use the connectivity of the Internet to self-publish their research with links to graphics and data sets. This approach does not, of course, address the current need for academics to publish in peer-reviewed journals but it may allow some to share their research with the scholarly and lay communities in new, more interactive ways. Some peer-reviewed scholarly journals are now switching over to an online format, which should help drive the visual and hypertextual approach to research findings. And, some rather prominent universities including MIT, Cornell, Dartmouth, Harvard and UC Berkley are beginning to see the advantages to open access publication over the traditional subscription based systems (Jaschik). The influx of capital by institutions promoting open access journals will likely drive more publications to embrace this model and many will likely turn to a digital format of publication because of the prohibitive cost of producing paper journals.

The analysis of the *Glenn Beck Program* dataset is only the beginning of a lengthier research project, but the visualizations which were generated in this exercise sheds considerable light on at least some aspects of Glenn Beck's television persona. By the time the research is completed I may have moved beyond these initial musings, or they may provide the foundation for further analysis. But having the ability to manipulate and engage, to play with such a large data set is a luxury not afforded to rhetorical scholars of the past. Visualization tools are wonderful additions to the rhetorical toolbox and allow limitless possibilities for future research. Hopefully social media visualization centers will continue to expand and add new visualization types that may be even more useful to scholars of every persuasion. Including the insights of scholars from various fields of study into the design of new visualization techniques would definitely help in creating a more useful platform. The shear volume of data available and the capacity to explore that data through a visual interface predicts that this type of rhetorical engagement is likely to continue and expand. The social web that has provided such enormous caches of data is now providing the tools to explore that data and the avenues to make research on that data readily available to all. Hopefully the academy, and rhetoricians in particular, will take the opportunity to engage this new resource.

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