

Ideas, Words, and the 1788 Ratification Debates*

John Benedict Londregan[†]

5 April, 2017

Abstract

I estimate the spatial aspects of the corpus of documents identified by Riker (1996) and by Kaminski and Saladino (1986) as central to the debate over whether to ratify the US Constitution. Using the argument categories identified by Riker a one dimensional structure emerges from the double centered document term matrix, Principal Components Analysis reveals the locations of different documents—more extreme documents tend to advance arguments in a larger variety of categories, while the subsequently famous Federalist Papers occupy an unexceptional and moderate position on the polemic spectrum.

Key Words: text analysis, spatial model, singular value decomposition.

*I am grateful to Keith Poole and to Marc Ratkovic for helpful comments and to the Woodrow Wilson School for generous financial support.

[†]Professor of Politics and International Affairs, Woodrow Wilson School, Princeton University, Princeton NJ 08544. Phone: 609-258-4854, Email: jbl@princeton.edu

1 Introduction

During the past decade and a half political scientists and others have attempted to extend the insights afforded by the quantitative analysis of legislative voting to text (Laver, Benoit and Garry, 2003; Slapin and Proksch, 2008; Gerrish and Blei, 2011). At a superficial level this is a move from binary data to the much richer set of variables encountered in text. However, there is a secondary issue at work—legislative votes transpire in a highly structured environment, imbuing seemingly simple “aye” and “nay” voting options with political meaning. In contrast, text is generally encountered in a less structured environment. While this allows us to range beyond the dual hemicycles of the US Congress, it also takes us outside a structured political context.

To cope with the unstructured frame of so much text, many analysts recommend restricting our attention to highly specialized contexts—*e.g.* not merely legislative debates, but debate about a particular energy bill (Schwartz, Traber and Benoit, 2015), or about the annual budget (Herzog and Benoit, 2015), not simply political speeches, but annual presidential messages to the legislature (Christian Arnold, 2016).

The debates over ratification of the US constitution provide such a setting, further clarified in the four volumes of newspaper editorials and pamphlets encountered in *Commentaries on the Constitution*. This compendium focuses on texts that appeared in multiple states, restricting focus to commentaries that were of national rather than merely parochial importance in the eyes of contemporaries.

An added advantage of working with the *Commentaries* is that in the process of writing his book on “heresthetics” Riker (1996), created a taxonomy of arguments used by the Federalists and Anti-Federalists as they vied for public approbation. While various text analytic techniques, notably Topic Models, seek to recover the objects of discourse, Riker’s data provide supervised data of unparalleled quality. Riker’s death during the preparation of his manuscript is the likely reason his analysis has not received even more attention¹.

Various other approaches have been taken to exegesis in the context of the ratification debates. The oldest efforts examine exemplary texts and private communication amongst the leaders of the opposing factions, seeking to divine ‘what they were “really thinking’’. Riker’s approach to the

¹After Riker’s unexpected death, Randy Calvert shepherded the book into post-posthumous publication, without his efforts the profession would have been denied a remarkable *opus*.

problem was to look at the relative frequency of the different arguments in his taxonomy to identify what participants in the public discourse thought would be persuasive. To be sure, I am repurposing Riker’s codings for an end that, while it is related to his investigation, is somewhat different than the use he intended—which was to examine the diffusion of arguments during the debates, rather than to analyze their content. I view this as an advantage, as it provides an extra layer of assurance that this project’s illustrious data coder was not inadvertently introducing the structure of my model into his coding decisions.

In this analysis I apply Principle Components Analysis to Riker’s data, generating scaled locations for texts and for Riker’s “argument categories”. This scaling of the texts and arguments on both sides reveals an intense competition over ratification that reduced arguments in an intrinsically multidimensional space of 178 arguments to their one dimensional impact on public opinion in favor of ratification. This analysis reveals the hand of an under-appreciated coauthor of the Constitution—public opinion itself. My analysis indicates that in contrast with elites, who fought over the balance between state and central control of policy, “the people out of doors” were concerned with the threat to liberty posed by a powerful central government—pushing both sides of the debate to address this issue, and eventually to enact the bill of rights that so vastly improved the resulting constitution.

In methodological terms, this analysis provides an opportunity to assess what analyst could expect to learn if he did not have William Riker on hand and ready to spend half a decade painstakingly analyzing the *corpus* of text. I apply a variety of estimators that do not draw on Riker’s careful taxonomy, and find that these all fall short of recovering the structure of the ratification debate, albeit by varying degrees.

The next section of this paper describes the data I use to analyze the ratification debates, and section 3 presents my empirical findings. A third section compares these results with the picture that would be recovered if Riker’s taxonomy was not available, while a brief section concludes.

2 Organizing the Data

In his posthumous opus, Riker (1996) charted the use of arguments on both sides of the late eighteenth century public debate over ratifying the US Constitution. His purpose was to examine the rhetorical stratagems used by participants during the ratification debates, and by extension in political discourse more generally. My purpose here is related to Riker’s, but it is not identical

with his. I seek to calibrate the locations, in ideational space, of the various arguments identified by Riker, and of the documents in which they appear, something that was not Riker's focus in undertaking his research.

2.1 Riker's Data

During the late 1980's William Riker assembled an impressive data set on the uses of rhetoric to shape the agenda and to persuade the public in the context of the ratification debates. His point of departure are the documents identified by Kaminski and Saladino (1986) as part of the national ratification debate, and which they incorporated in their four volume collection "Commentaries on the Constitution" (hereafter CC). Of these, Riker selected 617 documents that circulated between September 1787 and March of 1788 as the constitution was ratified in the various states. Most of these documents were selected into CC because they were published in multiple states, and were deemed important by the series editors. A few private letters also made it into the collection if the editors deemed that they revealed the thinking of key participants in the discourse. Several of these documents were divided, with some excerpts being circulated in different newspapers than others. The commentaries track these separately, and the result is that Riker's subset of 617 documents becomes a *corpus* of 634 pamphlets, editorials, broadsides, squibs, letters and extracts.

Riker (1996) then scoured the content of these documents to developed a taxonomy of "argument categories", which we might think of as debating points set forth in the various texts. He initially identified a larger set of argument categories ("about 1,200"), but he gradually winnowed and consolidated these to arrive at a set of 178 argument categories. Riker further organizes these categories into thirty "themes".

At every occurrence in a document of one of his argument categories Riker summarized the relevant text passage² with a "summary sentence" that reflected the application of the argument³—Riker identified a total of 3,268 of these "summary sentences" in all. Using Riker's notation, I denote these $\{s_i\}_{i=1}^{3268}$. Riker takes these summary sentences to constitute the basic "sense units"

²These passages are roughly paragraph sized, but sometimes they overlap paragraphs, or encompass but a paragraph segment.

³Moreover, whereas he initially allowed each summary sentence to encapsulate more than one argument category, he eventually eliminated "secondary classifications", so that each summary sentence corresponds to but a single argument category.

of the corpus; basic blocks of meaning from which the texts are constructed⁴. For each summary sentence, Riker counted the words devoted to this argument in the associated passage of text, denoting these word counts $\{w_i\}_{i=1}^{3268}$.

To draw a parallel with more conventional approaches to text analysis, Riker's 178 arguments correspond with "terms", while his word counts are the counterpart of the "term frequencies" in a more typical text analysis. Riker's approach comes with the benefit that his "arguments" are much less prone to polysemy than are the "terms" which we are more accustomed to encounter in text analysis. However, this greater coherency came at the price of Riker dedicating half a decade of his research career to generating a taxonomy specialized to his *corpus*.

To lend some concreteness to Riker's organization of the text, let's consider the composition of his first theme, "*Liberty Generally*", this particular theme was comprised of five argument categories, to each of which he assigned a code number, these categories included:

code number	tendency	heuristic summary
1001	AF	The constitution endangers liberty (as intended)
1005	AF	Peroration: Americans should defend liberty against the Constitution
1151	F	Liberty depends on the constitution, which prevents anarchy, conquest: Americans should work for it.
1152	F	Liberty depends not on the constitution, but on social conditions like equality, democracy. opinion, and popular control of government.
1158	F	The Anti-Federalist theme of liberty is alarmist, and threatens liberty

Riker also registered whether he thought a given argument was made on behalf of ratification, marked in the preceding table with an "F" for "Federalist", or against enacting, tagged "AF" for Anti-Federalist.

Riker than painstakingly identified text segments throughout the corpus that pertained to each of these categories. For example, Riker assigned the following summary sentence, s_2 , from Centinel II (CC 190)⁵:

⁴Of course, not every word of every document in Riker's corpus belonged to a summary sentence, and these Riker treated as neutral verbiage.

⁵The Kaminski (1986) collection classifies many documents in their "Commentaries on the Constitution" (CC)

Authors of the constitution stigmatized and threatened those Philadelphians who opposed it, which reveals their intention to suppress liberty.

to argument category 1001.

The actual text appearing in the essay was somewhat more extensive:

A few citizens of Philadelphia (too few, for the honour of human nature) who had the wisdom to think consideration ought to precede approbation, and the fortitude to avow that they would take time to judge for themselves on so momentous an occasion, were stigmatized as enemies to their country; as monsters, whose existence ought not to be suffered, and the destruction of them and their houses recommended, as meritorious.- The authors of the new plan, conscious that it would not stand the test of enlightened patriotism, tyrannically endeavoured to preclude all investigation.-If their views were laudable; if they were honest,-the contrary would have been their conduct, they would have invited the freest discussion. Whatever specious reasons may be assigned for secrecy during the framing of the plan, no good one can exist, for leading the people blindfolded into the implicit adoption of it. Such an attempt does not augur the public good-It carries on the face of it an intention to juggle the people out of their liberties.

Riker counted this as $w_2 = 173$ words.

Likewise, Riker attributed the following summary sentence⁶, s_{21} , from CC 473 to the same argument category:

Advocates plan on governing with nine states, supposing opposition will cease. How silly! Patriots won't submit! While the Declaration barely passed and the minority joined, the circumstances differ: The Revolution defended liberty, the constitution destroys it.

Again, the actual text went on a somewhat greater length:

volumes with reference numbers, CC 190 is the one pertaining to the 24 October 1787 Op Ed in the *Philadelphia Freeman's Journal* under the pseudonym "Centinel", probably, Samuel Bryan, son of the Anti-Federalist judge George Bryan.

⁶This was an Op Ed appearing in the Philadelphia Freeman's Journal on 23 January 1788 under the pseudonym "Philadelphianses".

The advocates of this government say, that if nine states come into it, they will proceed to organize and put it in operation. They hug themselves up in the idea, that its enemies will cease their opposition and submit peaceably. How they came to make such a silly conclusion, is to me matter of surprise, as I never have observed the smallest change of sentiment among the patriotic gentlemen with whom I have conversed. From some of the writings of its friends, it seems probable, that this idea sprang from the circumstance of the Declaration of Independence. That measure was carried by a bare majority in some of the states, yet the minority gave way and joined cordially in it.-If there were any similarity between the circumstances of the Declaration of Independence and the adoption of the proposed Constitution, this argument would have some weight; but the premises are widely different, and consequently the inference inconclusive. The whole body of the people were determined to defend their liberties, at the hazard of their lives and fortunes, against the tyranny of the British government; so that there was a union of sentiment in respect of the great object, the only difference was in the means of obtaining it; in this case, then, common sense must have pointed out the expediency of the minority accommodating their private sentiments to those of the majority.

But the matter now in debate has no relation to that: the men opposed to the new constitution have the same cause to defend, that the people of America had during the period of a seven years war. Who is he so base, that will peaceably submit to a government that will eventually destroy his sacred rights and privileges? The liberty of conscience, the liberty of the press, the liberty of trial by jury, etcetera. must lie at the mercy of a few despots-an infernal junto, that are for changing our free republican government into a tyrannical and absolute monarchy. These are what roused the sons of America to oppose Britain, and from the nature of things, they must have a similar effect now.

Most documents made multiple appeals. In addition to argument category 1001, Centinel II employed twenty two other argument categories⁷. For each document, Riker then calculated the number of words that were dedicated to each of the argument categories. For example, in Centinel

⁷These were 1501, 1502, 1503, 2001, 2301, 4102, 5004, 5006, 8007, 8501, 8514, 10305, 14005, 20801, 24001, 26001, 26201, 26204, 30001, 43002, 48101, 48103.

II there were two summary sentences using argument category⁸ 1502, s_{122} :

Wilson's assertion that state constitutions guarantee free press is refuted by the fact that congress, wit immense authority and the supremacy clause, can override the states.

and s_{123} :

Since powers of a new government will lead to consolidation, we need a Bill of Rights.

The first of these two summary sentences was associated with the following $w_{122} = 177$ words⁹ of text:

Mr. Wilson asks, "What controul can proceed from the federal government to shackle or destroy that sacred palladium of national freedom, the liberty of the press?" What!- Cannot Congress, when possessed of the immense authority proposed to be devolved, restrain the printers, and put them under regulation -Recollect that the omnipotence of the federal legislature over the State establishments is recognized by a special article, viz.-"that this Constitution, and the laws of the United States which shall be made in pursuance thereof, and all treaties made, or which shall be made, under the authority of the United States, shall be the supreme law of the land; and the judges in every State shall be bound thereby, any thing in the Constitutions or laws of any State to the contrary notwithstanding."-After such a declaration, what security does the Constitutions of the several States afford for the liberty of the press and other invaluable personal rights, not provided for by the new plan?-Does not this sweeping clause subject every thing to the controul of Congress?

while the second coincided with another $w_{123} = 122$ words¹⁰:

From the foregoing illustration of the powers proposed to be devolved to Congress, it is evident, that the general government would necessarily annihilate the particular governments, and that the security of the personal rights of the people by the state

⁸This argument category coincides with the assertion that "The supremacy clause, federal judiciary, and consolidation together threaten civil liberties."

⁹Riker implicitly gives the count at 175, but it appears to be 177.

¹⁰Riker has it as 130.

constitutions is superseded and destroyed; hence results the necessity of such security being provided for by a bill of rights to be inserted in the new plan of federal government. What excuse can we then make for the omission of this grand palladium, this barrier between liberty and oppression. For universal experience demonstrates the necessity of the most express declarations and restrictions, to protect the rights and liberties of mankind, from the silent, powerful and ever active conspiracy of those who govern.

Thus, Riker counts $w_{122} + w_{123} = 305$ words devoted to argument category 1502, in CC 190, while he tallied another $w_2 = 173$ for argument category $s_2 = 1001$ and so forth. For each text, and for each argument category, Riker calculated a word count.

2.2 Pre-Processing The Data

In this paper I seek to calibrate the locations, in ideational space, of the various arguments identified by Riker, and of the documents in which they appear. To do this I count the the words associated with summary sentences in each document that are associated with each argument category.

Let c_a denote the a^{th} argument category¹¹, while \mathcal{C}_a denotes the set of summary sentences associated with category c_a . Likewise, let Ω_d denote the set of summary sentences appearing in document d .

I define $\theta_{d,a}$ as the number of words in document d associated with summary sentences attributed to argument category a :

$$\theta_{d,a} = \sum_{i \in \mathcal{C}_a \cap \Omega_d} w_i \quad (1)$$

The next step is to amalgamate the data in a matrix Θ whose rows correspond to documents, while the columns pertain to argument categories. This arrangement is analogous to a “document term matrix” in text analysis, save that the terms have been supplanted by argument categories, while the term frequencies have been superseded by the number of words devoted to each argument category in each document. Because of this similarity, I will refer to the matrix described in this paragraph as the “document frequency argument frequency” matrix.

Notice that this means in particular that terms corresponding to the same word can contribute to different argument category counts—for example in Centinel II the passage beginning “A few

¹¹Riker’s category identifiers, *e.g.* 1001, are simply labels, they are not ordinal.

citizens.." uses the word "liberties" while the passage beginning "Mr. Wilson..." uses "liberty", both words have the same stem, and would correspond to the same term in a standard text analysis. Here they contribute to different argument categories depending on their context, as interpreted by William Riker.

While in principle this arrangement is perfectly straightforward, actually recovering the requisite data proved to be an adventure in it's own right. The Appendix of Riker (1996) includes a description of his argument categories, and their aggregation into themes. What it does not contain is a list of the summary sentences, $\{s_i\}_{i=1}^{3268}$ nor does it report the word counts, $\{\{\theta_{da}\}_{d=1}^{634}\}_{a=1}^{178}$, for the various argument categories embedded in each document.

Riker's Pre-Processing

Before proceeding, it is useful to review the use to which Riker put his data. He was directly interested in the rhetorical details of the debate, and he collected his data for that reason, rather than to facilitate a spatial analysis. In particular, Riker sought to generate a measure of the "influence" of each argument category. His point of departure was a count the number of times each document was printed, $\{p_d\}_{d=1}^{634}$, that is provided in the Kaminski and Saladino volumes. As each summary sentence is associated with exactly one document, if we let $d(i)$ denote the document pertaining to summary sentence i then we know that summary sentence had $p_{d(i)}$ printings. Riker applies weights $\{l_i\}_{i=1}^{3268}$ to his summary sentences, where his weight are simply the product of the words associated with each summary sentence and the number of printings accorded to the document in which the summary sentence appeared:

$$l_i = w_i \times p_{d(i)} \tag{2}$$

Riker accords a weight of:

$$m(c_a) = \sum_{i \in \mathcal{C}_a} l_i$$

to each argument in the overall corpus. Finally, Riker separates the Federalist and Anti-Federalist campaigns. Let \mathcal{F} denote the set of argument categories classified by Riker as Federalist, while \mathcal{AF} denotes the Anti-Federalist argument categories in Riker's taxonomy. For each Federalist argument category Riker then calculated it's share of the weight given to Federalist argument categories in his dataset:

$$\hat{m}(c_j) = \frac{m(c_j)}{\sum_{i \in \mathcal{F}} m(c_i)}$$

while for Anti-Federalist argument categories he calculates:

$$\hat{m}(c_j) = \frac{m(c_j)}{\sum_{i \in \mathcal{AF}} m(c_i)}$$

Riker's analysis then focuses on the $\hat{m}(c_j)$, but mine does not. A quick perusal of expression (1) reveals that in order to fill in the entries of the term frequency argument frequency matrix Θ I need the $\{w_i\}_{i=1}^{3268}$.

2.3 Exhuming Riker's Dataset

A bit of archival spelunking revealed that the magnetic tapes used by Riker for his tabulations have been long since recycled or disposed of. However, Riker's personal papers are archived at the University of Rochester. Amongst Riker's fascinating handwritten notes about a range of themes from Duverger's Law to expected utility theory, one encounters four reams of computer print outs¹². The first three¹³ list, for each argument category, some characteristics of the summary sentences in which the argument appears. For each s_i the printout lists the state in which $d(i)$, the document containing the summary sentence was published, the number of printings, $p_{d(i)}$, and Riker's l_i , measure, as well as an identification number for the relevant document¹⁴.

A fourth printout¹⁵ lists, for each argument category, the summary sentences themselves, along with the relevant document identifiers and weights, though this printout elides the number of printings, and the identity of the first state in which the document was printed. This document

¹²Riker's personal papers, Box 29, folders 3 and 4.

¹³Dated March 14, 1990.

¹⁴The four "Commentaries on the Constitution" volumes are part of a larger collection, and they are numbered 13 through 16, so a given document, say *CC190* is tagged by the volume in which it appears, and it's number, in this case the label is 13190. For Appendix documents there are no numbers, and the code is based on the volume number and the page number on which the document appears. This generates several score of ambiguities, in which the document number coincided with a page number in the same volume, in these cases I resolved the ambiguities by a process of elimination that involved examining the publication date, the number of printings, and the state in which the document was initially published.

¹⁵Dated August 3, 1989

was sometimes useful in resolving ambiguous document identifiers from the other three computer printouts.

With these data it is trivially easy to recover the word counts for each summary sentence;

$$w_i = \frac{l_i}{p_i} \quad (3)$$

and to aggregate the summary sentences pertaining to each argument category in a given document using expression (1). This yields the $D \times A$ document frequency argument frequency matrix Θ , whose (da) element $\theta_{d,a}$ reports the number of words in document d associated with argument a .

3 Spatial Characteristics of Rhetoric

While the history of approximating a matrix with another of lower dimension may not be as long as the life of the constitution, it is a research tool that has long been in use (Eckart and Young, 1936), with notable applications to the analysis of legislative voting, (MacRae, 1958; Poole and Rosenthal, 1985; Clinton, Jackman and Rivers, 2004). Kim, Londregan and Ratkovic (2017) generate a spatial model of legislative speech, which I adapt here to arguments published during the ratification debates, that generates document argument frequencies on the basis of a low dimensional representation of preferences.

Riker, who generated the argument categories, and who measured the word frequencies associated with each summary sentence, believed that the *corpus* of ratification debates was two dimensional, with one dimension coinciding with the "consolidation" embodied in the constitution, while the other aligned with questions of "freedom", notably the lack of a Bill of Rights in the proposed constitution.

3.1 A Model of the Dimensionality of Speech

Adopting the model of term choice set forth in Kim, Londregan and Ratkovic (2017), suppose that the utility of a the hierophant who generated document d is given by:

$$U_{da} \left(\hat{\theta}_{da}; \{x_{fd}\}_{f=1}^F, \{z_{af}\}_{f=1}^F \right) = \underbrace{-\frac{1}{2}\theta_{da}^* \sum_{f=1}^F a_f (x_{df} - z_{af})^2}_{Ideology} + \underbrace{\theta_{da}^* \left(p_d + e_a - \frac{1}{2}\theta_{da}^* - \epsilon_{da} \right)}_{Pertinence} \quad (4)$$

where $\hat{\theta}_{da} = \ln(1 + \theta_{da})$ is a transformation of θ_{da} that calibrates the intensity with which the writer d employs argument a , the verbiage devoted in document d to argument a , while x_{df} is author d 's most preferred location on dimension f in the ideational space, z_{af} is the location of argument a on dimension f , p_d measures the prolixity of hierophant d , and e_a calibrates the ease of making argument a .

Maximizing U_{da} with respect to $\hat{\theta}_{da}$ we have:

$$\hat{\theta}_{ad} = p_d + e_a + \sum_{f=1}^F a_f x_{df} z_{af} - \epsilon_{da} \quad (5)$$

Kim, Londregan and Ratkovic (2017) integrate their model of legislative speech with a parallel model of voting, and then apply a Bayesian estimator. Here I take expression (5) as a point of departure, double centering the matrix $\hat{\Theta}$ whose (d, a) entry consists of $\hat{\theta}$. Denoting the double centered version of the matrix by $\tilde{\Theta}$ I then apply principle components analysis, with the dimension weights approximating a_f , while the components correspond to $\{x_{df}\}_{d=1}^D$ and $\{z_{af}\}_{a=1}^A$.

3.2 The Dimensionality of the Ratification Debate

The Bayesian Information Criterion, indicates that the best fit is to be had from a single dimension¹⁶. In calculating the number of dimensions, I follow the common practice of computing the BIC for successive values of F in the model derived from (5):

$$\tilde{\Theta} \approx \sum_{f=1}^F a_f \vec{x}_f \vec{z}_f \quad (6)$$

The BIC gives the lowest value to $F = 1$.

This result indicates that the use of different arguments; pertaining to freedom, to questions of whether consolidation of power at the federal level was desirable or not, and the many other details of the debate, were all epiphenomenal to the deeper question of ratification. While the unidimensionality of these data might have surprised William Riker, the reason for it would not have done so in the least—both the Federalists and the Anti-Federalists were instrumental in their arguments. The argument in favor of limited federalism espoused by Madison in Federalist paper 59 was an exercise in political pragmatism, Rakove (1990) argues that Madison was in fact in favor of the strongest federal government possible, a position he took openly until the “great compromise”

¹⁶The Akaike Information criterion prefers an incoherently high dimension model, with 152 components.

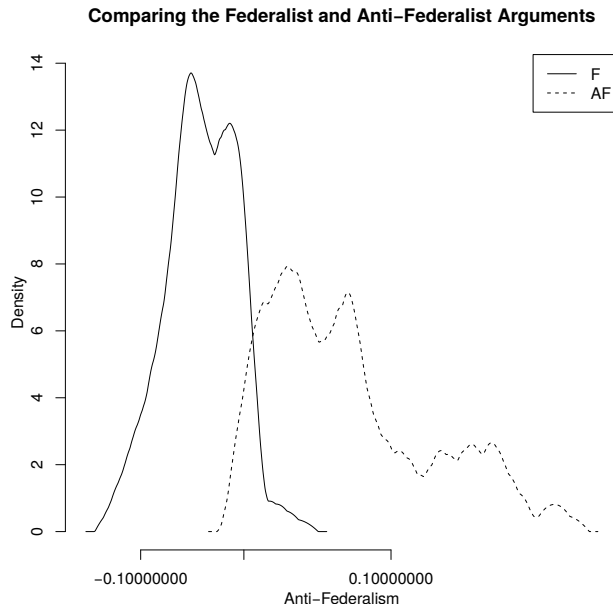


Figure 1: Federalist *vs* Anti-Federalist Scaled Arguments

at the federal convention of 1787, and a preference he continued to hold privately during the early years of the republic. The estimated spatial locations for documents and arguments correspond to their implications for ratification, and not necessarily to the preferences held by their authors. This is as true for the number of dimensions as it is for the stridency with which individual authors pursued particular arguments.

Let's take a closer look at the dimension that emerges. The estimated vector of locations for the argument categories places Federalist arguments on the left, and Anti-Federalist arguments on the right. While the SVD estimation did not make any use of Riker's classification of documents as either Federalist or Anti-Federalist, the data do allow us to compare his classification with the dimension recovered by SVD. Figure 1 compares the density of Federalist and Anti-Federalist

arguments, corresponding, respectively, with the solid line and dashed one. It is readily evident that there is very little overlap between the densities of estimated locations over the two subsets of data. In fact, if one was to predict that every argument to the left of a cutpoint of $-\frac{1}{57}$ was Federalist, while attributing an Anti-Federalist leaning to every document to the right of the cutpoint, there would be but 5 classification errors out of 178 argument categories!

It is reasonable to interpret the dimension identified by Principle Components Analysis as corresponding to the conflict between the Federalists and the Anti-Federalists.

3.3 Ratification: the Spectrum of Opinion

Whereas most previous work on the nature of the debate has focused on correspondence between leaders of the factions, in an effort to learn what they “really” thought, or on the best written work epitomizing one side, as with the focus on the Federalist Papers, or, in the case of Riker’s path breaking work, on the relative frequency of the different argument categories that made up the rhetorical pallet of each side. Having scaled estimates opens a new vantage on the nature of the debate between the two camps, for it allows us to identify and examine the most extreme arguments on each side.

What were the points that most sharply divided the federalists and the Anti-Federalists? The first thing to notice is that the Anti-Federalist arguments scale as being more extreme. The rightmost argument for the Anti-Federalists, 4002, scales at 0.2383 relative to the cut point that minimizes classification error, $-\frac{1}{57}$, whereas the leftmost argument category for the Federalists, 43054, scales at -0.1168 ; the Anti-Federalist extreme is two and a half times farther out than the most extreme argument for the Federalists.

Extreme Anti-Federalist Arguments

Of what do the arguments consist? Turning first to the the Anti-Federalists, consider the accompanying table summarizing the dozen arguments identified by the model as taking the most extreme Anti-Federalist positions. For each document the table displays a box and whisker plot of the bootstrapped density of the estimated argument location on the Federalist to Anti-Federalist spectrum¹⁷, as well as a brief summary¹⁸ of the substantive argument. The vertical lines bracketing

¹⁷See Efron and Tibshirani (1994) pp.61-70 for details on bootstrapping the singular value decomposition of a matrix.

¹⁸Riker abbreviated “Constitution” as “Cx” in his argument descriptions, which are quoted here.

the box plots to the left are located at $z = -\frac{1}{57}$, the cutpoint that best separates the arguments of the Federalists from those of the Anti-Federalists. The vertical lines to the right hand side coincide with $z = 0.3487$, the rightmost bootstrap draw.

z	Argument	Summary
	43002	The federal government will preempt and monopolize state tax sources, especially for defense; but the states need taxes too.
	1001	The Cx endangers and destroys liberty (as intended).
	97501	Be cool, slow, cautious.
	2301	The Cx endangers jury trial because appeals on fact override juries, because there is no jury trial in civil cases, and because federal courts and large territory threaten juries in the vicinage.
	21101	Congress too small, with long terms, will be easily corrupted.
	24001	The president is an elective monarch, who with a long term, veto, practical immunity from impeachment, and without a council, will dominate Congress. The president should be plural. The vice president is unimportant.
	5006	The Cx consolidates states, destroying liberty, as shown by various provisions.
	20801	The Cx violates the separation of powers, as in the relations of senate-president, congress-president, congress-court, <i>etc.</i>
	2001	Free Speech, which is necessary for liberty, is unprotected and threatened by the Cx.
	1501	The Cx is defective without a bill of rights.
	48101	Standing armies and federal control of militia threaten liberty.
	4002	The Cx is aristocratic, oligarchic, despotic, tyrannical, monarchical; good administration cannot save a bad constitution, the people will discover and overcome Cx-al tyranny.

These themes are mostly substantive, and they divide into two broad types. Firstly there are arguments that attack specific features of the constitution; 20801, 5006, 24001, 21101, 2301, and

43002, 48101. While these arguments are certainly polemic, they refer to concrete features of the constitution, albeit from a very partisan point of view. Also related to these arguments are the very telling claims embodied in 1501 and 2001, both of which refer to an objective feature of the constitution as it was proposed, namely the absence of a Bill of Rights, including notably the lack of protection for free speech. Argument category 48101 is also based on a factual claim about the dangers of standing armies, it is an artful way to cast an efficacious central government in a bad light. Only three of the extreme Anti-Federalist argument categories are primarily emotive, 97501 is an appeal to caution, while 1001 and 4002 are simply demagogic attacks. While this pair includes the single most extreme argument category, 4002, it is the only purely emotive appeal among the six most extreme Anti-Federalist argument categories.

Among the more substantive Anti-Federalist arguments discussed in the previous paragraph, four; 5006, 2301, 43002, and 48101, make some reference to concerns about the centralization of powers formerly left to the states, while three others; 20801, 24001, and 21101, address features of the structure of the proposed government without reference to concerns about the transfer of powers away from the state governments.

While the bulk of the Anti-Federalists' most extreme arguments contained substantive arguments, these should best be viewed as appeals to the voters, rather than as revelations about the inner thoughts and motives of the Anti-Federalist pamphleteers.

Extreme Federalist Contentions

Now let's turn our attention to the Federalists. The accompanying table displays the ten most extreme Federalist argument categories identified by the model. The vertical lines to the left hand side coincide with $z = -0.2619$, the leftmost bootstrap draw. The vertical lines bracketing the box plots to the right demarcate the cutpoint $z = -\frac{1}{57}$.

z	Argument	Summary
	43054	Federal taxes won't be heavy, and won't preempt states because, <i>inter alia</i> , of efficiency in collection
	48252	Standing armies will be controlled under the Cx by public opinion and representation and won't be used to collect taxes
	18151	The Cx is republican and democratic because power comes from the people
	5053	Proof that the Cx does not consolidate: states retain functions
	88751	The ratification campaign is going well
	12350	Union is necessary for defense
	2351	Trial by jury in civil cases is not abolished
	11058	The articles are constitutionally inadequate
	53257	Compound government with a strong center and concurrent authority makes for a workable federation and avoids civil war
	51052	The Cx, by providing military strength, obtains international respect, threatens Britain, and prevents war. National powers and national strength are necessary for military strength
	97051	Ratify! because this is the last chance and we can do no better.

Tellingly, the most extreme of these points, 43054, 48252, 18151, and 5053, are in fact answers to Anti-Federalist arguments, as is 2351. Argument category 88751 is simply a rallying cry for the campaign. Amongst these extreme Federalist arguments only four, the least extreme of the extreme, make substantive contentions not tied to a response to the Anti-Federalists. Amongst this group, one argument 53257, makes a somewhat positive appeal about the structure of the constitution, while another, 51052 makes a argument based on the positive effects anticipated from the constitution. Of the remaining two argument categories, 11058 simply disparages the Articles

of Confederation, while 97051 makes an appeal to desperation rather than making an argument based on an analysis of the structure of the constitution.

These extreme Federalist argument categories may not provide much light on why core supporters of the Federalist cause backed the constitution in the first place, but they speak eloquently to the nature of the Federalist campaign. It was firstly reactive, countering claims made by the Anti-Federalists, and emotive, seeking to rouse opposition to the Anti-Federalist position, with only a minor effort to explicate the desirable features of the proposed constitution. It was a political campaign, not a colloquium on constitutional theory.

3.4 The Polemicists

It may be that all polemicists are created equal but the SVD estimates indicate that they do not write equally polemical works. The estimates range over the interval $[-0.221, 0.381]$, though half of the works are found in the very narrow interquartile range $[-0.010, 0.000]$. Just as for the argument categories, we can examine the most extreme works.

x	Document
	CC 173
	CC 490A
	CC 125B
	CC 560
	CC 421
:	:
	CC 243
	CC 325
	CC 133
	CC 190
	CC 231
	CC 581
	CC 303
	CC 353
	CC 242

This table encompasses the most extreme documents from both sides. For each document the table presents a box and whisker plot of the bootstrapped sampling distribution of the estimated

document location. As is common with scaling estimates, the precision of the estimated document locations is lower for the more extreme values—for the entire sample the correlation between the absolute value of $q_{0.975} - q_{0.025}$ and the absolute value of the estimated location is 0.7982 among the documents for which $q_{0.025} > 0$, which we can think of as the significantly Anti-Federalist documents, the correlation between $q_{0.975} - q_{0.025}$ and \hat{x} is 0.7579 among the documents for which $q_{0.975} > 0$, which we can think of as the significantly Federalist documents, the correlation between $|q_{0.975} - q_{0.025}|$ and \hat{x} is an even more remarkable 0.9477.

On the extreme Federalist side we have CC 173, appearing under the *nom de plume* "A Citizen of America", with an estimated location of -0.2208 . Likely penned by Noah Webster, it is an unabridged advocacy of the Federalist position¹⁹. Another extreme Federalist text was CC 490A, written by "Aristides", the pen name of Marylander Alexander Contee Hanson. This pro-Federalist work has a scaled location of -0.2167 . Also extreme on the Federalist side was CC 125B, with an estimated location of -0.1391 , and likely penned by Pelatiah Webster.

Notably absent from the roster of extreme Federalist documents are the works of "Publius". This was the pen name adopted by the famous trio of Federalists James Madison, Alexander Hamilton, and John Jay, with the former two doing most of the writing. Their essays have been collected as "The Federalist Papers", and they are read to this day by school children and political philosophers alike for their eloquence and insight about republican government. Yet this collection of works, which are heavily represented in the Riker *corpus* emerge as very centrist writings, clustered near the cutpoint between Federalist and Anti-Federalist writing. Perhaps, as with the ambiguity of the facial expression of the subject of Da Vinci's "Mona Lisa", it is the obliquity of "The Federalist" that fascinates readers to this day. Whatever the secret font of Publius's perdurance, it was not among the more extreme works in the ratification debates.

On the Anti-Federalist side of the ledger we have Federal Farmer's CC 242, scaling²⁰ at 0.3808, published in New York, and CC 353, "the Dissent of the Minority" giving arguments against the

¹⁹In this lengthy pamphlet, "A Citizen of America" availed himself of no fewer than 34 argument categories: 1151, 1152, 2051, 2354, 4152, 5051, 5082, 8554, 10155, 10360, 19251, 20552, 21057, 21154, 21158, 21551, 22252, 24052, 24057, 24151, 24351, 26251, 85051, 96253, 97152, 98053, including no fewer than eight of the eleven most extreme argument categories: 2351, 5053, 11058, 12350, 18151, 43054, 48252, 97051. As it happens, none of these argument categories is among the ten most extreme Federalist arguments tabulated in the previous subsection

²⁰Federal Farmer may have been Richard Henry Lee.

Constitution by a group of Anti-Federalist legislators in Pennsylvania who were out voted. Also extreme were CC 303 (at 0.2900); "A Federal Republican", CC 231 (0.2443); An Officer in the Late Continental Army"²¹, CC 190 and CC 133 A²² both by "Centinel" (with point estimates at 0.1909 and 0.1619 respectively), and last but by no means least on this list of extreme Anti-Federalist works, we encounter CC 581 (0.2741), "A Columbian Patriot", the pen name used by Mercy Warren of Milton Massachusetts.

As with the argument categories, so too the Anti-Federalist documents are revealed to be more extreme than their Federalist counterparts. While a vastly disproportionate fraction of these extreme documents originated in but one city, Philadelphia, all received wide circulation, a precondition for inclusion in Riker's *corpus*. If the polemicists at the extremes on both extremes of the ratification debates have something in common it is that they were not writing for the ages, instead they wrote to win.

4 A Comparison with alternative Methods

My main purpose in this investigation is to glean some insights about the ratification debates. That said, the structure revealed by Riker's painstakingly implemented taxonomy of arguments provides a sort of "test pattern" which we use to assess the clarity with which various forms of automated text analysis recover the "signal" contained in a *corpus*.

In this section I explore what would happen if one worked with the identical texts analyzed by Riker using the methods available to analysts today, but without Riker's sedulously derived argument codes. Most of the documents are available in electronically readable form, though the text of CC 173 is still on microfiche images of the original pamphlet, complete with lots of the unscannable long "s"s of which "An American Citizen" and his typesetter were so fond.

After stemming and removing stop words, the result is a 634×14045 document term matrix for the Riker *corpus*, which I'll denote by T_{Riker} . An analyst coming upon this *corpus* might be inclined to undertake a singular value decomposition of T_{Riker} . This has the virtue of being unsupervised, so that one does not impose one's preconceptions on the data, and of course, it is fast. Another unsupervised approach would be to apply the `wordfish` estimator (Slapin and Proksch, 2008) and

²¹Possibly William Findley of Pennsylvania.

²²Actually Riker tracked two portions of CC 133, the estimate reported here corresponds to the portion left "outside the angle brackets" in the printed version of Kaminski and Saladino (1986).

this I do as well.

If one was prepared to apply a supervised method, a ready alternative is the wordScores estimator of Laver, Benoit and Garry (2003). To make this work, one needs a training set. Of course, the scaled document scores based on Riker's codings are ideal for this, but the object of this exercise is to see what could be learned without them.

A related method, which I'll refer to as wordLASSO, is used by Couyoumdjian et al. (2016), and related to an estimator employed by Kogan et al. (2009). As with wordScores, this algorithm uses a training set, but in this case a LASSO'ed estimator is applied to the training set, with the resulting coefficients used to make out of sample predictions for virgin text by multiplying the word frequencies by the estimated coefficients from the LASSO, see Couyoumdjian et al. (2016) for details.

Both of these supervised methods require a training set. While historians recognize that "Federalist Papers" were not fully representative of Federalist opinion as set forth in the ratification debates, it is on the Anti-Federalist side that we see various attempts at assembling a representative compendium of Anti-Federalist works. Here I will use the works collected in Kenyon (1966), but see also (Main, 1961; Borden, 1965; Storing, 1981). Lacking a comparable training *corpus* of Federalist works, I avail myself of the resort that one suspects many analysts would have taken by using the works of "Publius" that were included in Riker's *corpus* as exemplars of Federalist opinion in my training set. Just over half of the works identified by Kenyon are already part of Riker's *corpus*, and I add the others to form a training corpus for both wordScores, and for the wordLASSO.

What values should be assigned to the various elements of the training sets? A prudent researcher might demure at imposing fine gradations of intensity to the opinions in the training set, so here I code all documents meant to epitomize a given faction identically. For the purpose of wordScores I assign a -1 to Federalist documents in the training set, and 1 to Anti-Federalist works. For the wordLASSO I score the Federalist works as 0 , while the Anti-Federalist documents are coded as 1 .

Word Fish

The widely influential wordfish estimator is an unsupervised method, the document parameter from wordfish, denoted θ in the model, exhibits a correlation of 0.1002 with the document locations based on Riker's codes. The relationship is portrayed in figure 2. The wordfish estimates do not recover

the dimension revealed by an analysis of Riker’s taxonomy.

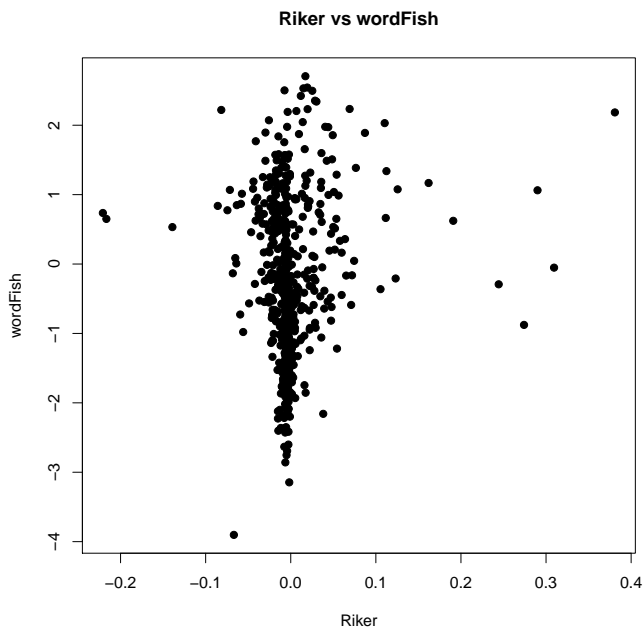


Figure 2: wordFish

Singular Value Decomposition

A related approach to unsupervised data analysis is to calculate the Singular Value Decomposition of T_{Riker} . The resulting high dimensional matrix, the BIC indicates there are 632 dimensions, is a thicket of orthogonal factors. Do any of these align with the dimension that emerges from an analysis of Riker’s data? To find out, I run a LASSOed regression of the estimated values for x on the principle components of the 634×14045 document term matrix for the Riker *corpus*. Moving along the regularization path to the first value of λ for which the R^2 exceeds $\frac{1}{2}$ I find that $R^2 = 0.5062$ when $\lambda = 0.004459$, with the following LASSOed regression coefficients:

Component	$\hat{\beta}$	Component	$\hat{\beta}$	Component	$\hat{\beta}$
1	-0.221969428	2	0.185857921	3	0.030676156
5	0.121419397	6	0.186678659	7	-0.176818761
12	-0.041408328	14	-0.229575861	17	0.096916134
24	-0.006647386	25	-0.001254687	26	0.007218864
80	-0.005757942				

This specification encompasses thirteen coefficients and none of the orthogonal regressors exhibits more than a tepid correlation with the estimated document location of x , while five of the components, the first, second, sixth, seventh, and fourteenth, earn similarly exiguous coefficients in the neighborhood of $\frac{1}{5}$. Principle components analysis of the document term matrix does not reveal the one dimensional structure of the arguments in Riker’s *corpus*.

While no elements of the singular value decomposition of T_{Riker} correspond with the scaled locations from Riker’s taxonomy, first singular value, but not the fourteenth, does correlate with the θ parameter from wordfish at -0.4728 . The sign of this correlation is simply a matter of how the scalings are normalized. While wordfish is related to the first dimension of the singular value decomposition of the document term matrix.

WordScores

What of wordScores? Treating the remaining elements of Riker’s data not used to derive the word scores as virgin text, one derives scores for each document. Figure 3 portrays the relationship between the wordScores estimates and the document scores based on the Riker data. The correlation between these two measures is a meager 0.04769, and it is fair to say that using wordScores one would have obtained a very different view of the ratification debates.

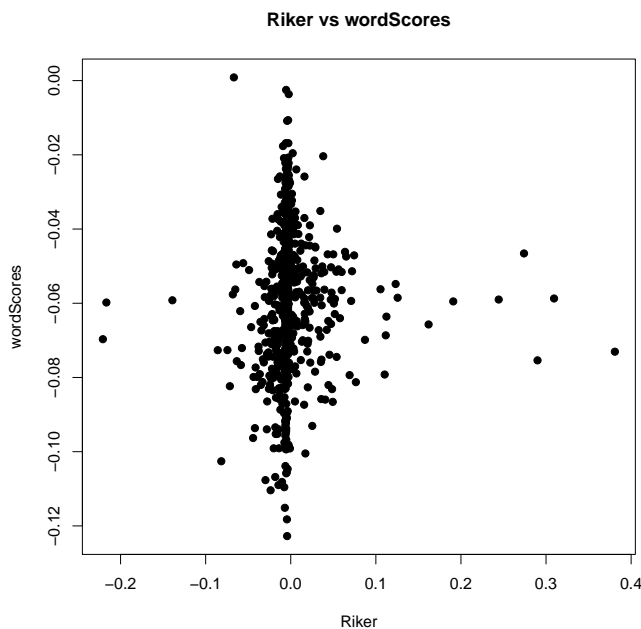


Figure 3: wordScores

The wordLASSO

Turning next to the wordLASSO, the correlation between the log odds the wordLASSO attributes to a document being Anti-Federalist for the same *sub-corpus* of Riker treated as “virgin text” by wordScores and the Riker scores is 0.4945, still low, but more informative than wordScores. Figure 4 compares the log-odds from the wordLASSO with the document scores derived from Riker. Notice that whereas the log-odds from the wordLASSO track the more Riker derived scores for the Anti-Federalist side, they are poor predictors of the Federalist works.

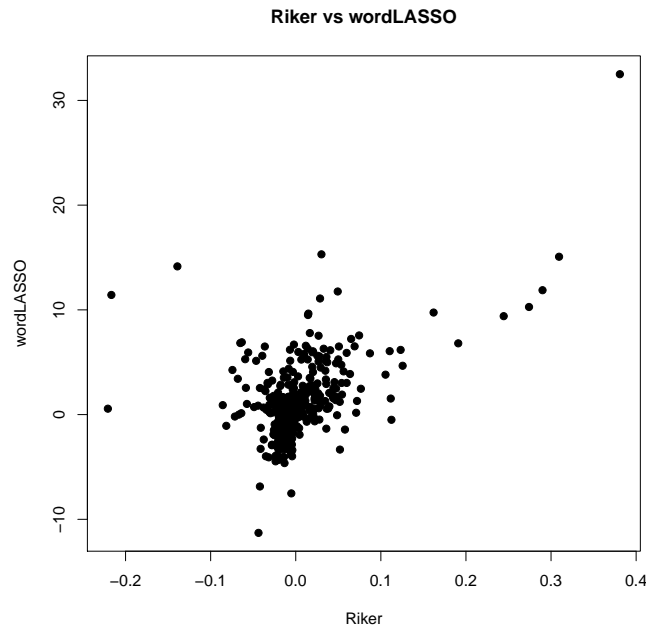


Figure 4: wordLASSO

Some insight as to the possible reason for this can be had by examining the density of the training set. Figure 5 shows that whereas Kenyon’s sample of Anti-Federalist works, which she selected with the purpose of creating a sample of documents that reflect the spectrum of Anti-Federalist opinion, spans a range of locations on the right, the *subcorpus* of Publius documents is concentrated near the right edge of the range of opinions encountered in Federalist writing.

The methodological message from this excursion into the alternative world without Riker’s taxonomy is a sobering one. Rich and complex political text of the variety we customarily analyze does not gladly give up its secrets. The unsupervised analysis of the document term matrix was far from recovering the structure of argument revealed by an analysis of Riker’s argument categories.

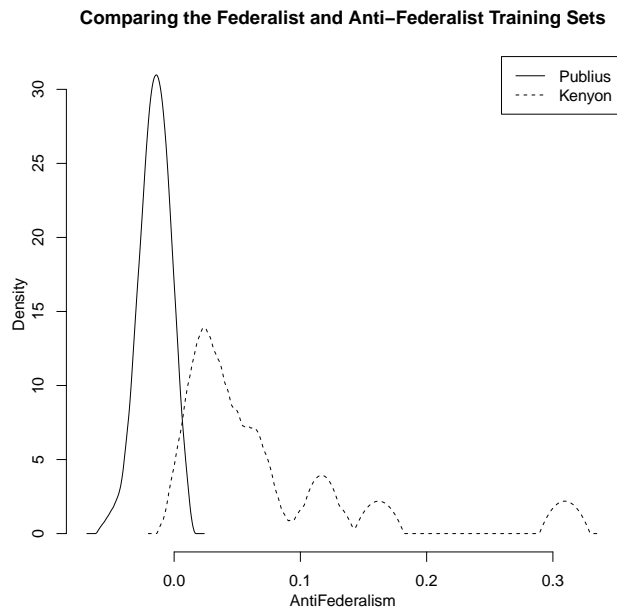


Figure 5: Training Sets: Publius and Kenyon

Supervised methods also encountered challenges, with the wordLASSO outperforming wordScores, at least in this context. However, the supervised approach is itself limited by the quality of the training set. When we have high access to a high quality representative sample, such as Kenyon’s compendium of Anti-Federalist works, the wordLASSO does a nice job of extrapolating to “virgin text”. When we make a judgment error in our selection of training texts, as in the use of “Publius” as the training set for Federalist opinion, we go astray. Of course, the Kenyon selection was as good as it was because Kenyon was familiar with the wider corpus of ratification text, so that by using her selection I was simply importing the “parameters” of the “Kenyon estimator”.

The analyst is left with a seeming paradox. Without a high quality training set, it is difficult to learn much about the spectrum of opinion contained in one’s *corpus*, but to assess the quality of one’s training set, one must first have a trustworthy measure of the reliability of the training set itself. At this point, were he here, Milton Friedman would doubtlessly have a pithy observation about the price of lunch.

5 Discussion

What does the preceding “radiography” of the polemics on both sides of the ratification debate provided by a look at the most extreme argument categories tell us about the original meaning of the constitution? It surely tells us little about the reasons the Federalists sought the new constitution. It is clear from the prevalence of reactive and emotive arguments among the extreme Federalist talking points that these were polemics meant for public consumption, and not reflections of the deeper motives of their authors.

The case for the Anti-Federalists’ objections is less clear cut, but save for their tangential success, the passage of the Bill of Rights, the Anti-Federalists failed to make their mark on the constitution, and so their motives for opposing it provide only a little indirect guidance about the original meanings of the provisions it contains.

But the actual motives of neither of these groups of polemicists, not “A Citizen of America”, not “Federal Farmer”, not even “Publius”, are the key to the original meaning of the constitution. That key was wielded by the citizenry and the representatives they chose for the state level ratifying conventions. It was at these decision makers that the arguments were targeted, it was their concerns that the polemicists addressed, and it is their interpretation of the Constitution that give it its original meaning.

In this light, it seems clear that “the people out of doors” as the public were sometimes called in those days, were not fully persuaded by the Anti-Federalists’ toxin call to panic, while the polemics regarding the deficiencies of the articles do appear among the extreme arguments initiated by the Federalists, and so deserve our attention in thinking about the intentions of those who adopted the Constitution. The reactive arguments of the Federalists appear to have assuaged the concerns raised by the Anti-Federalists’ substantive attacks on the constitution, but they should probably not be considered as revealing voters’ active motives for setting up a national government in place of the confederation.

The one area of Anti-Federalist victory was their demand for a “Bill of Rights”. As various historians have discussed, and as Riker makes clear in his discussion of ratification, when the elites who dominated the state conventions offered amendments they mostly affected the power of the national government relative to the states with respect to such matters as the budget, and they dealt with the details of organizing the Congress and the executive. Yet the theme of “liberty” was

a dominant one in the discourse, and after ratification it was the one area in which the Federalists ceded ground when they presented the Bill of Rights to Congress, though just before the campaign opened, during the final hours of the Federal Convention in Philadelphia, they had been quite ready to give short shrift to George Mason's request for just such an enumeration of rights. Reading between the lines, it would seem that the real authors of the bill of rights were "the people out of doors", who demanded to remain a free people in the new constitution.

6 Conclusion

Riker's data on the ratification debates provide a valuable window on this highly structured and sharply contested political competition. As such, there are lessons that are likely to generalize to other political campaigns. Moreover, because ratification was so important in its own right, the details of the discourse surrounding its adoption are of intrinsic interest. Finally, because of the high degree of resolution embodied in Riker's coding of the arguments employed during the contention, this venue provides a useful benchmark for assessing the performance of unsupervised and supervised methods based on the more limited information typically available to analysts of political text.

My analysis indicates that the debate was a unidimensional one, taking place between advocates of the constitution and its opponents. Using the more extreme works on each side to reveal the contours of debate provides an outline of the main areas of contention. Works by extreme Anti-Federalists such as "A Columbian Patriot", "A Federal Farmer", and "Centinel" tended to raise substantive comments about standing armies, a powerful executive, and the lack of a Bill of Rights, interlaced with more polemical aspersions on the constitution and its proponents. The more extreme Federalists, "A Citizen of America" and "Aristides" for example, focused on rebuttal of the substantive Anti-Federalist claims, and on creating a general atmosphere of urgency about supplanting the Articles of Confederation with the Constitution. All of these points of contention were subsumed into a single dimension of conflict as advocates on both sides were meant to persuade undecided voters, not to bare the souls of the debate participants to posterity, they tell us more about what politicians on each side thought would appeal to voters than they do about the underlying motives of their authors.

References

- Borden, Morton. 1965. *The Anti-Federalist Papers*. East Lansing: Michican State Univeristy.
- Christian Arnold, David Doyle, Nina Wiesehomeier. 2016. “Presidents, Policy Compromise and Legislative Success.” *Journal of Politics* Forthcoming.
- Clinton, Joshua, Simon Jackman and Doughlas Rivers. 2004. “The Statistical Analysis of Roll Call Data.” *American Political Science Review* 98:355–370.
- Couyoumdjian, Juan Pablo, Eugenio Guzman, John Londregan and Francesca Parodi. 2016. “Terms of Engagement.” Working Paper.
- Eckart, Carl and Gale Young. 1936. “The approximation of one matrix by another of lower rank.” *Psychometrika* 1:211–53.
- Efron, B. and R.J. Tibshirani. 1994. *An Introduction to the Bootstrap*. Chapman & Hall/CRC Monographs on Statistics & Applied Probability Taylor & Francis.
URL: <https://books.google.com.au/books?id=gLlpIUxRntoC>
- Gerrish, Sean and David Blei. 2011. “Predicting Legislative Roll Calls from Text.” *Proceedings of the 28th International Conference on Machine Learning*.
- Herzog, Alexander and Kenneth Benoit. 2015. “The Most Unkindest Cuts: Speaker Selection and Expressed Government Dissent During Economic Crisis.” *Journal of Politics* 77:1157–75.
- Kaminski, John and Gaspare Saladino. 1986. *Commentaries on the Constitution*. Vol. 1-4 of *Commentaries on the Constitution* Wisconsin Historical Society.
- Kenyon, Cecilia. 1966. *The Anti-Federalists*. Indianapolis: Bobbs-Merrill.
- Kim, In Song, John B. Londregan and Marc Ratkovic. 2017. “Estimating Preferred Outcomes from Votes and Text.” *Political Analysis* Forthcoming.
- Kogan, S., D. Levin, B.R. Routledge, J.S. Sagi and N.A. Smith. 2009. “Predicting Risk from Financial Reports with Regression.” *ACL Human Language Technologies*.

- Laver, Michael, Kenneth Benoit and John Garry. 2003. "Extracting policy positions from political text using words as data." *American Political Science Review* 97:311–331.
- MacRae, Duncan. 1958. Dimensions of Congressional Voting. Technical Report. University of California Publications in Sociology and Social Institutions.
- Main, Jackson Turner. 1961. *The Anti-Federalists*. Chapel Hill: University of North Carolina.
- Poole, Keith T. and Howard Rosenthal. 1985. "A Spatial Model for Legislative Roll Call Analysis." *American Journal of Political Science* 29:357–84.
- Rakove, Jack N. 1990. *James Madison and the creation of the American Republic*. Glenview: Scott Foresman/Little Brown.
- Riker, William. 1996. *The Strategy of Rhetoric*. New Haven: Yale University Press.
- Schwartz, Daniel, Denise Traber and Kenneth Benoit. 2015. "Estimating Intra-Party Preferences: Comparing Speeches to Votes." Working Paper.
- Slapin, Jonathan B. and Sven-Oliver Proksch. 2008. "A Scaling Model for Estimating Time Series Party Positions from Texts." *American Journal of Political Science* 52:705–722.
- Storing, Herbert J. 1981. *The Anti-Federalist*. Chicago: University Chicago.