The Materiality of Ideology: Cultural Consumption and Political Thought after the American Revolution[1]

Mark Anthony Hoffman
Stanford University

This article uses the reading patterns of New York's earliest elites—including a significant number of the founding fathers—who checked out books from the New York Society Library (NYSL), to evaluate the shifting meaning of political affiliation in the years between the ratification of the Constitution and the War of 1812. The reading data come from two charging ledgers spanning two periods (1789–92 and 1799–1806) during which a new country was built, relations with foreign nations were defined, and contestation over the character of a new democracy was intense. Using novel combinations of text and network analysis, I explore the political nature of reading and the extent to which social, economic, and political positions overlapped with what people read. In the process, I identify the key social and cultural dimensions on which New York and, by extension, American elite society was politically stratified in its early years.

On March 4, 1801, Thomas Jefferson was sworn in as the third president of the United States of America. His electoral victory, in which he defeated his once friend, now foe, John Adams, in a highly contentious election, would mark a new era in American politics. The Federalist Party would never win another national election, Jefferson would rid the presidency of the trappings of mon-

[1] I thank the historians and librarians at the New York Society Library who digitized and made public this wonderful data set. I thank Ramina Sotoudeh, Peter Bearman, Shamus Khan, Adam Reich, Byungkyu Lee, the members of XS and Empirical seminars at Columbia University, and the *AJS* reviewers for their helpful comments and suggestions on previous drafts. Direct correspondence to Mark Anthony Hoffman, Sociology Department, 450 Serra Mall, Building 120, Room 160, Stanford, California 94305. Email: mark.a.hoffman@stanford.edu

0002-9602/2019/12501-0001$10.00

archy, and elections would be increasingly determined by national political parties and the popular vote (Wood 1991). For this reason, Jefferson, Madison, and many historians thereafter, would refer to this victory as "the Revolution of 1800";[2] for Jefferson, it was "as real a revolution in the principles of our government as that of 1776 was in its form."[3]

Jefferson's victory was made possible by his efforts and particularly those of his contemporaries in New York, to form a new political party—the Democratic-Republican party—and to gather the institutional, relational, and financial resources necessary for electoral success (Young 1967; Murphy 2015). Their organizational efforts, in the years bridging the ratification of the Constitution—in which Federalists faced off against Antifederalists—and Jefferson's election in 1800, produced a realignment in American politics leading to the creation of the first party system. This realignment has been extensively studied by historians and social scientists alike, not just because of its significance for American history as the origins of party politics, but because it reveals how changes in political systems and party configurations can affect identity, political institutions, culture, and social relations.

However, the analytical task of understanding the changes in politics that occurred during this period, and specifically how the shifting political alignments surrounding Jefferson's election affected American political and cultural life, has proved difficult. To understand the meaning and effects of political realignments social scientists use public opinion polling and evaluations of voter registrations and voting patterns to look at how people's beliefs, opinions, and party affiliations changed over time. But for most of American history, surveys, systematic polling data, information on party affiliation—really any data that can directly link individuals, other than politicians, to their political affiliations, behaviors, or beliefs—do not exist.

Scholars have compensated in a number of ways: by using direct references from newspapers (Banning 1980; Zagarri 2011), by tracing, somewhat haphazardly, the use of particular phrases and terms in people's correspondences, writings, and speeches (Adair 1943; Banning 1980; Appleby 1982; Wood 1991), or by performing ecological analyses of voting returns. While this kind of work is immensely important and revealing, it is ultimately unsatisfactory. In the case of early American history, it leads us to focus on political elites who dominated political discourse (Adair 1943; Banning 1980; Appleby 1982) and on a select few texts—such as Locke's *Two Treatises of*

[2] If, as historians increasingly claim, the Constitution was a counterrevolution against the democratic spirit unleashed by the Revolution, designed to check the worst tendencies of the democratic masses (Klarman 2016), then, from the perspective of the Democratic-Republicans, the Revolution of 1800 was the counter counterrevolution; a victory for the common man and the culmination of the revolutionary era.

[3] "From Thomas Jefferson to Spencer Roane, 6 September 1819," *Founders Online*, National Archives. https://founders.archives.gov/documents/Jefferson/98-01-02-0734. Accessed April 11, 2017.

Government or Montesquieu's *Spirit of the Laws*—that act as representatives of entire intellectual traditions or cultural milieus (Adair 1943). This suffices when studying the Constitutional Convention, which was led by prominent political elites who carried it out largely in secret, shielded from the public, such that its outcome can be reasonably understood solely via internal dynamics (Slez and Martin 2007), but as we try to understand the emergence of parties and a national politics and the broader intellectual contours of the politically engaged elite in the years after the ratification, a focus on the founding fathers is no longer enough, as it leaves out a number of significant actors and groups who shaped political culture and the vote. Analogously, a focus on only the most-well-known texts leaves out many others, whether philosophical or not, that imparted radical ideas of their own (Davidson 2004). By focusing only on a select set of actors or philosophical texts, we impoverish our ability to understand the broader intellectual contours of the period.

In this article I am concerned with assessing the effect that a moment of political realignment—the formation of the first party system in the United States—had on the nature of political belief and affiliation in a period for which we lack data on what people actually believed or how they affiliated. To do so, I take an unconventional approach. Ideologies, I argue, can be revealed not just by asking people what they think but also by studying the mediums through which beliefs are made available to others (Williams 1977, 2006; Darnton 1982). At the turn of the 19th century, books (and pamphlets and magazines) were the primary *material* means through which ideas—about one's interests, position, government, needs, or desires—were transmitted (Wood 1991; Davidson 2004). It was through their availability as intellectual resources to much of the elite and middle-class populations that books provided the material basis for the flourishing, diffusion, and persistence of ideologies. People, through their consumption (and production) of books, were brought into relation with ideas, and through this process they could both align and become aligned with systems of ideas.

This approach demands data that links people to the objects of their intellectual consumption, and it comes in the form of an equally unusual data set of the reading patterns of America's earliest political and economic elites, including most prominently a significant number of the founding fathers. The data are drawn from the complete circulation records for all books held in the New York Society Library (NYSL 2011). The readers who checked out books hail from all different backgrounds in New York. They are revolutionary leaders—the authors of the U.S. Constitution—people like Alexander Hamilton and John Jay and Aaron Burr. They are also the leading merchants of the time, individuals like John Jacob Astor and Willett Coles, who solidified old markets in Europe and built new markets in the Far East. Most, even if comparatively wealthy, left no mark on history: people like middle-class artisans, local politicians, educators, members of the clergy, and even

a number of women. The books the readers read include not just the classics—Burke's *Reflections on the Revolution in France*, Rousseau's *The Social Contract*—but more than 2,500 texts, including: magazines, novels, romances, travelogues, self-help books, poetry collections, textbooks (some written for men, others explicitly for women), translations, and gardening advice.

For two brief, but critical, moments in time the data enable us to know precisely what books members of New York elite public were reading, how long they held those books, what they read immediately before (and after), and who read the book immediately before and after them. If today we might infer something about the nature of political ideology from one's consumption of a range of cultural goods, for the New York elite in the years immediately after the Revolution, books were the key cultural goods with which readers could shape their thoughts, signal their orientations, and build identity. The data here then provide an exceptionally clear window into the ideational and cultural influences circulating among the American state-building elite at a critical moment in U.S. history.

By studying the reading habits of more than a thousand 18th-century New York elites, I will show that we can trace the crystallization and consolidation of party thinking and ideologies through the alignment of kinds of literatures and ideas with kinds of people. Thinking of material culture, and material ideology, in this way promises to unite a burgeoning literature in sociology and economics that seeks to elucidate how cognitive substructures, like schemas, are diffused across populations (Sewell 1992; DiMaggio et al. 1996) and the role of new information and new ways of thinking in creative and scientific process (Murdock, Allen, and DeDeo 2017). It also allows us to operationalize terms like *human capital*, which are often crudely reduced to kinds and distribution of educational degrees in a population and are therefore unable to account for the latent availability of intellectual capital within a culture (Buringh and Van Zanden 2009). By studying the consumption of texts, I can trace the processes through which people become attached to words, and by proxy, to ideas, and thereby, how ideologies are assembled to motivate large-scale changes in crucial moments in history.

I model the change of the reading patterns of the library members alongside the inventory of the library, that is, the opportunity structure of reading. This involves two distinct analyses. The first, which is now popular in the digital humanities, concerns how books are written: What is their content and how does that content differ from other books? I evaluate the semantic similarity of all books in the library and map their similarity as a network at two different moments in time (Rule, Cointet, and Bearman 2015; Bail 2016). Clusters of books in this semantic space accord with broad textual genres and topics: novels and romances, history and biography, geography and commerce to name a few. The result is a directly interpretable and dynamic macroimage of reading and writing after the Revolution.

However, as sociologists we should not be satisfied with simply mapping the content of texts. Texts do things: they mark group boundaries, communicate ideas, and are used as cultural objects and political signifiers by virtue of their relation to other texts (Bourdieu 1984; Hoffman et al. 2018). Thus, the second set of analyses, derived from a growing body of work on the associative study of culture, explores how cultural forms generally, here books, are used (Bourdieu 1984; Breiger 2000; Uzzi and Spiro 2005; Lizardo 2006; Jockers and Mimno 2013; Rule et al. 2015; Hoffman et al. 2018; Goldberg and Stein 2018). Using the reading choices of politicians and other elite actors, I identify books that were markers of political boundaries, evidenced by having been read by one political group and not another. The themes and content of these boundary books reveal the cultural bases of political polarization after the Revolution.

Books can also be used subsequently to evaluate the political nature of reading habits. If we know that Federalists were more likely to read Hume, for example, then we can in turn use Hume to understand the politics of all of the nonpoliticians who read him. I exploit this simple idea to explore the political ideologies of various demographic groups important to early American society, most of whom never held political office and therefore left little historical record as to their political affiliations and beliefs. In doing so, I am able to evaluate the social conditions associated with party ideologies.

I find that as political alignments shifted—from Federalist versus Antifederalist to Federalist versus Democratic-Republican—so too did patterns of cultural consumption. Members of different political parties increasingly read different kinds of books, and the cultural axes of politics shifted from centering around modern European versus ancient Roman and Greek political philosophies in the first period to the division between modernism and traditionalism in the second, a shift exemplified by the emergence of the novel as a particularly divisive and democratic form, most heavily associated with the Democratic-Republican readers. I find evidence of a social basis for ideological positions in both periods. In the first period, economic interest dominates, but by the second, political privilege becomes central, with those most lacking in status and title, such as women and artisans, increasingly reading Democratic-Republican books, and those with titles, privilege, and leisure time, such as professionals and members of the clergy, increasingly reading Federalist books. I am therefore able to reveal the joint effects of a change in the patterning of political orientation—on political affiliation and cultural consumption—that cannot be observed directly.

AMERICAN POLITICS AFTER THE REVOLUTIONARY WAR

American electoral politics following the Revolutionary War were surprisingly similar to electoral politics of the colonial period (Tully 2003). The lower classes still deferred to the aristocratic classes on matters of politics; elites con-

tinued to win elections and party nominations each year (Formisano 1974). And despite the language of equality that pervades the founding documents, in many ways, the American aristocracy in the years after the ratification of the Constitution was not much more open than that of Europe.[4] But while the extent of inequality did not change, American civic life changed over the course of the long 18th century.

The colonies underwent a series of changes in intellectual and political life, which saw the foundation and reformation of colleges (Geiger 2014), widespread distribution and discussion of Enlightenment ideas via print, and the emergence of large readerships of newspapers, such as Franklin's *Pennsylvania Gazette* and Hugh Gaine's *Mercury* (Botein 1975; Clark and Wetherell 1989), and the growth of liberal and republican ideals among the intellectual and political elites, most notably among the group of men who would become founding fathers (Warner 1986, 1990). As dissatisfaction with colonial rule grew, robust public discourse developed around criticism of the British government's goals and practices in the colonies, a critique facilitated by pamphlets, magazines, and newspapers (Bailyn 1968; Nash 2006)—Thomas Paine's *Common Sense* reportedly sold 100,000 copies in 1776 alone during the lead up to independence (Loughran 2006; Nash 2006). Changes in intellectual consumption were accompanied by changes in the structure of civic society. Over a 20-year period leading up to independence, colonists built networks of association and communication among like-minded patriots, and these networks would serve as the backbone of the revolutionary movement. They founded political societies in response to British oppression, most famously the Sons of Liberty, which relied on informal networks of relation and communication to mobilize opposition to British rule (Ramsbey 1987). These networks of communication, association, and political activity led disaffected colonial subjects to see their shared plight and thereby to the widespread crystallization of anti-British sentiment (Bailyn 1968; Nash 2006).

The Revolutionary War ended in 1784, but the work of creating a new nation did not. The networks of association and communication that served

[4] Slaves could not vote or participate democratically, could not determine when, for whom, or on what they worked, could not legally marry, or decide when and how to spend their free time or where to live. Even free black men and women were disenfranchised, free only with regard to a legally delimited set of economic and social matters. Women were also disenfranchised and rarely engaged in economic activity. Those women who did participate in the economy were part of the upper middle classes and elite, including wealthy widows who took control of their deceased husbands' estates as well as members of a limited set of professions open to women, including nursing, care taking, writing, and philanthropy. It follows that, at the time of the ratification of the Constitution, most of the U.S. population was disenfranchised and inactive in matters of economy, including most unpropertied white men (though this depended on state of residence), all women, and all black men and women, whether slave or free. For these reasons, the American Revolution has been characterized by some scholars as a fairly conservative revolution, one which overthrew an unjust foreign ruler, yet preserved other forms of unjust domestic rule (Palmer 1959).

the revolutionary purpose came to serve a new purpose, one of political dialogue and civic engagement, to inform the direction of the new national project (Schoenbachler 1998). In the decades following the revolution, a public sphere, similar to that which characterized British civic life, flourished, centered in reading societies, coffee houses, libraries and newspapers. Northern industrial cities were stitched together by urban organizations that served as loci for political and cultural activity (Shields 1997; Schoenbachler 1998; Warner 1990; Waterman 2007), organizations that would evolve into major 19th-century institutions, including the Society of the Tammany—the origins of Tammany Hall—and the Tontine Coffee House, the basis for the New York Stock Exchange. American civil society has its origins in these early postrevolutionary years.

As in Europe, in the public sphere of 18th-century elite urban America, equal and rational (Habermas 1991) men would gather in informal settings to read and debate political and social matters and to critique the state, a state that now consisted of friends and neighbors.[5] To critique required one to have an opinion, which in turn required one to be informed on matters related to that opinion, whether political, economic, or cultural (Habermas 1991). Clubs and societies that served political purposes also dually served literary purposes (Schoenbachler 1998; Waterman 2007; Eastman 2009) and the politically engaged elite public was assumed to be a literate one. In the process, these new organizations – coffee houses, reading societies, subscription libraries, and associational clubs – cultivated a reading public to provide the intellectual tools to interpret, critique, and reshape politics and art (Warner 1990; Eastman 2009; Haberman 2009). Other than the halls of Congress, it was in this emergent public sphere that new political identities, orientations, and ideologies emerged—as cleavages between old friends and acquaintances and as divisions between an elite class once united in opposition to Britain but now divided over matters of rule and philosophies of ruling.[6]

POLITICAL CONTENTION IN NEW YORK

New York played a particularly important role in the political developments and debates of this period, and historians often look there to under-

[5] This was of course only in principle. Debate in this emergent public sphere was at least as passionate as it was rational (Smelser 1958). And despite idealizing equality, the public sphere was not equally accessible to all; rather, it legitimated forms of class rule—white over black, propertied over unpropertied, man over woman (Fraser 1992).

[6] The American public was divided over independence, between Patriot and Tory, prior to the American Revolution. After the war, many Tories were forced to flee their homes and country and had their lands seized by state governments. Even those who were allowed to remain in the country lost much of what they owned. This led to the exodus of the much of the Tory population, which returned either to England or took root in Canada.

stand the changing nature of politics. New York was characterized by a great diversity of economic interests (Bonomi 2014). While the American South was economically limited in its commitment to plantation farming and slave labor and New England to whaling, sea trading, shipbuilding, and early forms of industrial labor, New York was the only state with a dual economy, where agricultural and commercial activity contributed equally to productivity (Bonomi 2014). All of the major economic classes—landowners, tenant farmers, slaves, merchants, and artisans—were represented in New York.

This diversity of interests contributed to a diverse and contentious politics characterized by coalition building and complex election campaigns long before they became the norms for American politics in general (Bonomi 2014). New York had, even in this early period, comparatively organized electoral politics, centered around parties who used many of the same tools as modern parties to organize the vote—newspapers to spread their messages, complex networks of patronage and information to induce allegiance, and, by the turn of the 19th century, banks and political machines to convert financial capital into political gain, and vice versa—even if they lacked the national institutional structure of modern parties (Young 1967; Maier 2010; Murphy 2015).

As a result, New York was one of the last states to ratify the Constitution, despite the fact that a number of the founding fathers, including Alexander Hamilton, Robert R. Livingston, and John Jay lived in New York City (Maier 2010). Much of the southern part of the state, including New York City, was Federalist, and even the working classes there supported the formation of a federal government, but the northern part of the state consisted largely of small farmers, or yeoman, most of whom were Antifederalists. The Antifederalists were well organized and had broad support, and when it came time to elect representatives to the state's ratification debate, they elected more than double the number of representatives as Federalists (Maier 2010).

The Federalists would win the debate over ratification, largely because the party was successful in most of the other states, triggering the formation of the federal government and leading Antifederalists to fear the economic and political consequences of exclusion (Maier 2010). Still, even as the debate over ratification ended, political contention did not. Washington would be nominated and elected president, with many hoping his widely respected character could mend the divisions that had emerged during the ratification process. But partisan politics, in New York especially, would only evolve further. Washington never affiliated with a party, but much of his cabinet came from the Federalist Party, which pushed a range of policies, including the formation of a national bank and the implementation of an excise tax, that were controversial. Broad-based opposition to the Federalists emerged and was amplified both by these controversial policies and the sentiments of the French Revolution.

This emergent opposition became an opportunity for political entrepreneurs in New York, like Aaron Burr and Robert Livingston, among others, to attain political power (Murphy 2015). The opposition used societies to forge the institutional relations required to build a political party that could challenge the Federalists, who dominated electoral outcomes until 1800 (Murphy 2015).[7] This nascent party would become known as the Democratic-Republican party, and though its most famous leaders were Virginians (Jefferson and Madison), its organizational and institutional center was in New York City.

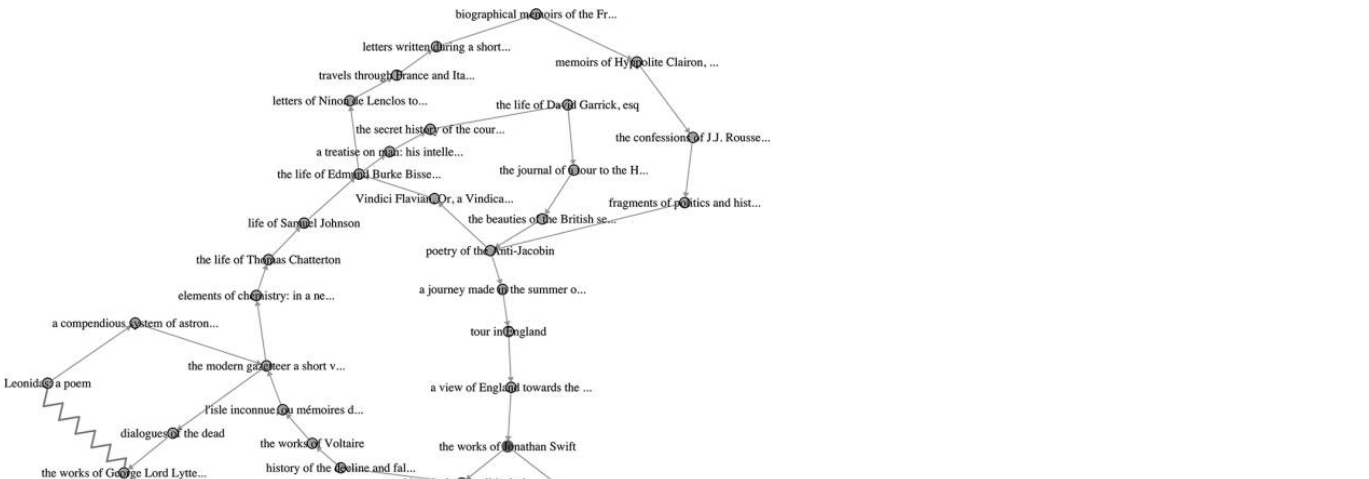
Federalists reacted to Democratic-Republican mobilization with a heavy hand, instituting a series of policies that stoked partisan passions. Federalist newspapers heavily critiqued, and eventually drove into obscurity, Democratic-Republican societies that had sprung up in New York City during, and in support of, the French Revolution (Schoenbachler 1998), and that Federalists saw as a threat not only to their power, but to the liberty and stability of the nation as a whole (Wood 1991; Schoenbachler 1998). At a national level, in 1798 during the Quasi-War with the French Republic, the Adams administration passed the infamous Alien and Sedition Acts, which targeted immigrants to the United States, a group that largely supported Democratic-Republicans, and made them easier to deport, and limited freedom of the press and criticism of the government (Davidson 2004). The Acts had the unstated intent of destroying the Democratic-Republican party and its associated movement (Davidson 2004), but ended up having the opposite effect: their tyranny generated outcry and mobilized public sentiment against the Adams administration, forever damaging the perception of Adams's character and leading eventually to the victory of Jefferson over his former friend in the election of 1800.

THE LIBRARY'S READERS

Books and newspapers were the primary cultural resource for political engagement in postrevolutionary America. New York's political polarization in the years leading up to the War of 1812 was characterized in particular by the emergence and crystallization of a Democratic-Republican ideology in opposition to the previously dominant Federalist one. It is within this political context that the library readers checked out books from a wide range of genres and topics, many of which engaged directly or indirectly with the dominant lines of political and cultural contention of their time.

From 1789 to 1795, the library occupied a room on the third floor of Federal Hall, located at 26 Wall Street. The national government was, in this

[7] Two examples of such organizations are the Society of St. Tammany, which began as a club for discussing the French Revolution but morphed into a political machine under the direction of Aaron Burr, and the Manhattan Bank, which was founded as a water company but through a clever clause in its charter was able to subvert Federalist control of financial regulation in the city and become an essentially political bank.



first period, located there, and the library served as the de facto and first Library of Congress until the federal government moved to Philadelphia at the end of 1790. All politicians received library privileges, helping explain the preponderance of founding fathers among the library's readers. Many of them, like William Few of Georgia and President John Adams of Massachusetts, continued to check out books long after the capital moved. New York's local politicians are even more widely represented: Alexander Hamilton and John Jay were readers, as were past and future governors, state representatives and senators, city alderman, political organizers, and the city's elite.

Many of the remaining members came from the New York and American elite classes. Prospective members were required to purchase shares of the library, which were priced at £5 (nominally $22) in the library's earliest period, rising to £20 (nominally $89) by the turn of the 19th century (Keep 1908; Officer 1983). This constrained who could be a member. According to tax assessment records (Willis 2006), the average New York City household had a net wealth of $455 (SE = $16), while NYSL readers from NYC, were, on average, three times wealthier, with a mean net wealth of $1,489 (SE = $139).

And yet, compared to other lending libraries in the country, the cost of a share was fairly affordable (Glynn 2015), and readers were not uniformly wealthy. Members of the middle and artisan classes read at the library too, as did people with little to no property. Of the New York–based readers, 37% had a net wealth of less than $100. And even though the library served in some capacity as a social club for the elite, especially the political elite, evidence from the historical record suggests that anyone who had the money to purchase a share, and applied, was accepted as a member (Glynn 2005).

In addition to library privileges, shares granted the holder the right to vote in the election of library trustees in April of each year. The library's trustees served as its administrators and curators, and most important for our purposes here, handled the selection and procurement of books (Keep 1908). This meant that the nature of the library collection was in large part a function of the taste of the trustees. It is important then to consider that trustees tended to be more socially, politically, and intellectually prominent than the average member. The longest tenured trustee during this period, for example, was William Samuel Johnson, a founding father and scholar who served simultaneously as the president of King's College.

FIG. 1.—The reading history of Aaron Burr. The network reveals Burr's sequence of reading. The red node, *The Works of Jonathan Swift*, was read first. The sequence follows the directions of edges. Books checked out on the same day are arranged according to the order in which they were checked out that day. However, this only occurs one time in Aaron Burr's reading history: *Elements of the Philosophy of the Human Mind* and *Things as They Are* were both checked out November 14, 1801. The jagged edge between *The Works of George Lyttelton* and *Leonidas, a Poem*, represents the missing years, from 1793 to 1798, for which the library's data are lost.

The elite backgrounds of many of the trustees could have led them to constrain the library collection, on intellectual and moral grounds, to genres like philosophy and religion. But, as I will show, the library collection included a great deal of unsophisticated reading: sporting magazines, European court gossip, and romantic and picaresque novels, among many others. In line with republican cultural values of being well-informed and widely read (Glynn 2005), the library trustees frequently expressed the desire to collect as many books and manuscripts as possible in order to build a wide-ranging and diverse collection (Keep 1908). Further, without a backing donor or estate to help with the library's upkeep and debts, the trustees had to sell shares by attracting new members to cover its costs. The library regularly published its catalog in newspapers, demonstrating the breadth and quality of its collection, often alongside notices soliciting new members (Keep 1908).

Thus, while the readers skewed elite, and the books tended toward elite tastes, both the library members and books were remarkably diverse for their time. This diversity will allow me to explore what different kinds of readers were reading, to link kinds of people to kinds of literatures, and in the process to reveal the meaning of reading and political identity, as they changed over the first decades after the American Revolution.

READING HISTORY

Even a single reading history can reveal much about a person's inner life. In figure 1, I plot Aaron Burr's sequence of reading from when he first checked out a book from the library on August 24, 1789, around the time of his appointment as New York State attorney general, to his last checkout on January 8, 1803, a little over a year before his duel with Hamilton. It centers around *The Works of Jonathan Swift*, the first text he checked out from the library in 1789, and again in 1801. From there, Burr reads political philosophy and world affairs; biographies, including that of Edmund Burke; and views on the French Revolution, including *The Anti-Jacobin*, an English magazine that denounced its radical ideology.

Historians and contemporaries alike accused Burr of being philosophically disinterested and unscrupulous because he lacked the high-minded demeanor of his more famous contemporaries, Jefferson, Adams, and Hamilton (Wood 1999). His reading history reveals at the very least that he was anything but disinterested in political affairs and philosophy. Moral philosophy, political satire, and world affairs feature prominently, as do the writings or biographies of some of the most prominent statesmen, critics, and philosophers of his era: Voltaire, Gibbon, Swift, and Burke.

But whether he was unscrupulous is harder to establish. His reading history, particularly the inclusion of Burke and *The Anti-Jacobin*, hints that he may have been more conservative than the average member of his political

party, the Democratic-Republicans, at least toward the French Revolution. And if he was indeed more conservative in private than he was in public, this may have given contemporaries cause to call him unscrupulous. But this specific fact—his conservativeness—is difficult to discern using a single reading history. It requires an extensive knowledge of the texts and the political positions they signaled in late-18th-century America. Using only a single reading history would lead us implicitly to focus on the books, authors, and figures who were well known and who put forward clear-cut positions on specific issues. It would force us to ignore the large number of texts whose content and meaning have been lost to us over the past 200 years.

Ideally, we could generate a view of the ideological and cultural space of American intellectual life and situate Burr within that space, along with all of his contemporaries. We may find, for example, that Burr's reading history, as conservative as it first seems, was actually fairly typical of Democratic-Republicans from that period: we know historically that the violence of the French Revolution led even some Americans who held steadfast to its general democratic principles to distance themselves from its more radical elements (Nash 1965).[8] Which is to say that, with the right analytical approach, we could better distill the ideological meaning in Burr's winding, haphazard, but philosophically and politically rich, reading past. And the goal of this article is to do just that, not only for Burr, but for all kinds of elites who lived in New York in the early American period, many of whom—women, artisans, merchants, doctors, and clergy members—left little historical record for understanding their ideological positions.

MAPPING THE STRUCTURE OF IDEOLOGY

Network analysis provides the tools for both mapping the structure of ideology (Goldberg 2011; Baldassarri and Goldberg 2014; Boutyline and Vaisey 2017; DiMaggio et al. 2018; Lee and Bearman 2017) and relating it to the beliefs and behaviors of people (Mohr 1998; Bearman, Faris, and Moody 1999; Breiger 2000; Rule et al. 2015; Bail 2016). Ideas or beliefs become nodes in networks, while relations between beliefs symbolize their intellectual or compositional proximity or that they tend to be expressed by similar sets of people (Goldberg 2011; Bail 2016; Boutyline and Vaisey 2017; Lee and Bearman 2017). Scholars have used bipartite network analysis in particular to show that culture and structure are coconstitutive (Breiger 1974, 2000; Breiger and Mohr 2004; Mohr and White 2008; Pachuki and Breiger 2010) and that meaning is fundamentally relational (Mohr 1998; Bearman et al. 1999;

[8] Comparing Burr's reading habits to those of every other politician in the data, reveals that his reading habits were, on average, fairly neutral with respect to political affiliation, leaning only slightly Democratic-Republican. He may have been politically unprincipled after all.

Kirchner and Mohr 2010; Rule et al. 2015; Hoffman et al. 2018), formalizing ideas that underpinned early sociological and anthropological thinking on culture and linguistics (Saussure 1916; Simmel 1950; Nadel 1957).

Most of the contemporary literature on mapping the structure of ideas, however, relies on public opinion surveys to both identify the set of ideas available to the population as well as the kinds of ideas that are held together (Goldberg 2011; Baldassari and Goldberg 2014; Boutyline and Vaisey 2017). Opinion surveys, and surveys in general, suffer from two problems that make them unsuited for this purpose. The first is the problem of boundary specification. Surveys ask only a limited set of questions from respondents about a highly selective set of opinions and beliefs. Analysts exacerbate this problem by further selecting a smaller set of variables to analyze from the superset of survey questions. This results in highly incomplete views of the structure of ideas or beliefs. Second, surveys, like most ideological theories of historical processes and contemporary forms of text analysis, disembed actors (survey respondents) from material social context and relations (Jerolmack and Khan 2014). Mapping the structures of beliefs (or of texts) attempts to reinsert relations into a purified analytical space, but the relations are necessarily artificial. A third and most important problem for our purposes here is that surveys of 19th-century Americans simply do not exist.

All of these problems can be overcome by embedding political ideology in material relations and material social processes. In cultural analysis, this has generally been achieved by taking one of two approaches. The first is institutional, emphasizing the ways that institutions structure our beliefs and afford particular constellations of practice and thought (DiMaggio 1982; Friedland and Alford 1991). In a negative sense, institutions structure the possible beliefs that can be had about the social world and thereby the types of actions that actors can conceive of taking (Althusser [1971] 2001); in a positive sense, they impart the ideology of a particular group (Abercrombie and Turner 1978).

An alternative school of thought (Williams 1977) argues that the materiality of ideology is rooted in the social processes that bring individuals into relation with ideas, in particular the production and consumption of cultural and intellectual goods. This orientation therefore emphasizes the role of creativity, both in what people write and in terms of how people assemble written materials into distinct constellations of ideas and beliefs. It also emphasizes the physical mediums through which ideas and culture are instantiated as books, movies, and media—referents that give ideas life and durability and the capability of being disseminated.

These orientations are complementary. Institutions structure much of our lives, but they do so in loose ways, providing space for ideological expression and creativity (DiMaggio 1987; Schudson 1989). Members of the NYSL constrained the kinds of ideas available through the collective choices they

made of bringing certain books, and not others, from Europe. But even so, and especially in a less rigid institution like a library, whose goal is to make available to members as much written material as possible, the number and variety of texts in the NYSL were enormous, far exceeding the number of people and the amount of time any given person had to read. In such a space—one that mirrors many modern institutions, especially the internet, but also markets in general—the structure, diffusion, and crystallization of ideologies cannot be reduced to the ideas available within the institution. Choice was central to the library experience, with the NYSL providing the potential for individual expression within the bounds of its enormous cultural content, as institutional resources were repeatedly configured and reconfigured by actors. We can trace the process through which members of an institution, within the bounds of that institution, cobbled together intellectual and cultural resources to form new and different ideological configurations, which in turn acted on the world by defining social categories and challenging political consensus.

I therefore analyze how (1) changes in the availability and composition of texts (What are the books, and kinds of books, available to readers at any given moment?) related to (2) changes in consumption (What books do people read and in what patterns?). Undertaking this analysis requires at least two bipartite matrices:[9] one linking books to words, revealing the kinds of ideas that NYSL members could encounter; a second linking people to books, revealing the agentic process of reading and of self-positioning in the linguistic space of the library.[10] Analyzing one or the other matrix alone will

[9] Both of these matrices have found widespread use in the social sciences for revealing the construction and evolution of meaning. The first—commonly referred to as a document-to-term matrix—undergirds much of modern text analysis. Rule et al. (2015), e.g., use a document-to-term matrix, where documents are State of the Union addresses and terms are noun phrases they contain, and its transformation into a term-to-term matrix, to map the changing political discourse over American history. Bail (2016) also uses a document-to-term matrix to compare the content of social media messages put out by autism advocacy groups, relying on its transformation into a document-to-document matrix to build cultural networks. The book-to-word network is therefore an intuitive formalization of "content"—as it pertains to directly to the relationship between the cultural items in question—books—and the concepts and symbols they contain—words. The second matrix links people to the books that they read. Such matrices undergird much of the quantitative study of culture (Breiger 1974, 2000; Mohr and Duquenne 1997; Bearman and Parigi 2004; Mohr and White 2008; Goldberg 2011) and modern recommendation systems, which use decompositions of bipartite graphs to recommend new items or articles to users (Goldberg et al. 1992). All of these analyses share a similar underlying logic: through a set of simple transformations, they are used to identify people with similar patterns of use or reading which is then theorized as a "structure" in the relational sense, or as an opportunity space for recommendation.

[10] This is because, in the case of reading, people do not interact with words except through the medium of a book or document. If people interacted directly with words, we would need a third a matrix that links people directly to words.

only reveal part of reading's meaning. Analyzing the book-to-word matrix alone would only reveal the content of the books in the library. We could evaluate this over time, but the insights would be limited to changes in writing or in the broad interests of the library patrons in terms of what kinds of books were procured. Analyzing only the person-to-book matrix, on the other hand, would reveal patterns and habits of reading, but not how they map to a space of ideas. People might be reading different books about similar things, but analyzing a person-to-book matrix in isolation will never tell us that. Thus, it is by relating these two analytic orders that we can come to understand not only the content and structure of reading, and by extension ideology, but their meaning as they change over time (Mohr and White 2008; White 2012). In the analyses that follow, I do just that over the two periods of reading. I first explore the content of the library's catalog by transforming the book-to-word matrix into a semantic similarity mapping of all of the texts in the NYSL at a given moment in time. I then map how members of different political groups traversed the semantic space so that I may identify their different and changing cultural bases.

DATA

The data for this study come from two charging ledgers of the NYSL—the first spanning 1789–92 and the second spanning 1799–1806—which were digitized and made freely available to the public online by NYSL historians and librarians in 2011. Overall, the ledgers include 140,000 transactions made by 1,058 different readers checking out 2,701 distinct books.

I added to the reading data additional information about patrons' professions, taken primarily from New York City directories published from 1786 through 1807 by David Frank and Thomas Longworth. For patrons of the library who resided in New York, a variety of source documents were used to identify their profession, including wills, contracts, and court documents. A full list is available upon request. I have data on profession for roughly 70% of the sample.

For all politicians, information on political affiliation was identified using election returns from the 1789–1807 period.[11] These data were supplemented with primary source data from newspaper articles of the same period, which often referenced the political positions and goals of lesser-known local politicians, and with information on political affiliation and position from *The Democratic Republicans of New York: The Origins, 1763–1797* (Young 1967), the premier history on political organizing in New York after the Revolution. While political affiliation was fairly stable over time, temporally re-

[11] These election returns have been aggregated and provided by Philip J. Lampi (2007), with assistance from the American Antiquarian Society and Tufts University (data and more information can be found at http://elections.lib.tufts.edu/).

solved election returns and historical narratives allowed for recording changes in political affiliation for those members who were politically active throughout the entire 17-year period. Political affiliation was recorded for every notable politician, local or national, from this period.

Various other demographic and affiliative variables were collected using a vast array of historical records. Data on residence and property holdings, including slaves, was collected from the 1790, 1800, and 1810 censuses. Club and society memberships, for the most popular societies, were collected from manuscripts of club and society minutes. Gender, while largely discernible from name, was also coded by the librarians who provided the original data. In terms of its distribution, 97% of readers were men. However, a handful of women, some of whom were merchants or philanthropists, subscribed to the library—57 in all, 20 to 40 at a time, depending on the year. Many were prolific readers, consuming books ranging from natural philosophy to novels. Famous female readers include Elizabeth Ann Bayley Seton, the first Catholic saint to have been born in the American colonies, and founder of the first parochial school in the United States; Isabella Graham, educator and founder of numerous philanthropic societies in New York, including the Society for Promoting Industry among the Poor; and Henrietta Marie Colden, correspondent of Thomas Jefferson and friend of the Hamiltons and Burrs.

As for the books, titles in the ledgers were written in shorthand, so historians at the NYSL went through the laborious task of matching shorthand titles across entries to their proper full title in the library catalogs. Many inconsistencies remained, which I cleaned by hand. To obtain data on author and book content, I used two different services, Gale Artemis and the HathiTrust Digital Library, both of which host the metadata and digitized texts of the majority of books from this period. I identified metadata for over 95% of the books and text for 85% of books across both sources. Advances in optical character recognition (OCR) have greatly improved the quality of digitization over the past years, but it remains highly inconsistent, especially for texts published during the 18th century. To correct for inconsistencies, I employed a series of OCR correction scripts, written by Ted Underwood at the University of Illinois,[12] which identify and fix the "long S" problem typical of 18th-century English (e.g., *crofs* to *cross*), correct common misspellings, and rejoin words separated by line breaks.

METHODS

In the results that follow, three kinds of analyses are pursued. The first compares how books are written, relating books directly to each other on the ba-

[12] Scripts can be found online at https://github.com/tedunderwood/DataMunging

sis of their composition, revealing the opportunity structure of reading. The second identifies books that were more or less likely to be read by members of different political parties and reveals how the political valence of book maps onto the opportunity structure of reading. Finally, the third analysis examines the people and kinds of people who read Democratic-Republican or Federalist books. I perform each of these analyses for each of the ledgers and compare the results to evaluate not only the ideological structure of reading and cultural bases of political parties, but how they changed over time. Before turning to the results, I discuss the methods underlying each analysis in turn.

Semantic Network Analysis

In order to analyze and compare the texts of each book in the library, I followed a series of steps outlined by Rule et al. (2015), Bail (2016) and Hoffman et al. (2018) for producing semantic similarity networks. First, books not in English, French, or Latin were removed from the data set, which includes a very small number of texts in a heterogeneous set of languages: Greek, German, Persian, Arabic, and Italian. Books were then tokenized, which involved chopping them up into their individual words. For example, Rousseau's line, "Man is born free, and everywhere he is in chains," became a list of words [Man, is, born, free, and, everywhere, he, is, in, chains], commonly referred to as a "bag" of words. Words within each bag were then stemmed, or stripped of their suffixes and reduced to their root. The words "chains," "chaining," "chained," for example, all became "chain." Stop words—the most common words in a language, which for English include words like "he," "is," "and," "in," and "everywhere"—were removed from each book's list of tokens, as were punctuation, numbers, and Roman numerals. Finally, all words were made lowercase. Thus, at the end of the initial text-processing routine, Rousseau's sentence would become [man, born, free, chain]. Every book was transformed in this way.

I compared the bags of words for all books. The first step of comparison involved building a so-called document-to-term matrix, D_t, for each period t, where the rows in the matrix refer to the books in the ledger and the columns are counts of the words those books contain. Rousseau's sentence would have a 1 in the columns for "man," "born," "free," and "chain," and a 0 for all other words, such as "woman," "rights," and "serf." Unlike a single sentence, a given book might have as many as a million words before processing and hundreds of thousands after: Gibbon's magnum opus *Decline and Fall of the Roman Empire*, vols. 1–6, for example, has 43,113 unique words and 1,543,676 words total. This is reflected in the document-to-term matrix, where *Decline and Fall* has nonzero entries across a wide number of words (many of them highly specific to Roman history).

Document-to-term matrix for each period was transformed using tf-idf, which stands for "term frequency, inverse document frequency" and quantifies the importance of a given word to a document in relation to the overall corpus. It involves multiplying how frequently a term occurs in a document by the inverse of the number of documents it occurs in within the corpus. Thus, words that are rare in the overall corpus, but occur frequently in a document, are given the largest weights. These tf-idf weights are document specific in the sense, that "man" will have a document-specific weight depending on how frequently it occurs in each document. I use this new tf-idf matrix, T_t, in two ways. First, I use it to select the set of words to be included in the final analyses with the idea that we want to include those words that most discriminate between texts but are still reasonably frequent overall. I use a global tf-idf measure outlined in Wang and Blei (2011) to do so, which simply involves averaging the tf-idf score of each word over the entire corpus. I order these global scores from highest to lowest and, following Wang and Blei (2011), select the top 10,000 words for inclusion in the final matrix. I subset matrix T so that it only includes columns for these 10,000 words.

The resulting tf-idf matrix was transformed into a square book-to-book matrix using cosine similarity, where the similarity between book i and book j is the cosine of the angle of their tf-idf vectors over words. Cosine similarity ranges from -1 to 1, with 1 signaling that two vectors are highly similar and -1 signaling that they are highly dissimilar. In the case of this analysis, values less than 0 are never observed since tf-idf values cannot be less than 0.[13] The similarity matrix was sparsified using a quantile cutoff of 95%, such that only the cosine values in the top 5% of the distribution in the matrix were preserved, while the rest were set to zero. Results are entirely robust to the choice in cutoff value.

Finally, the matrix was graphed and analyzed as a weighted network, where nodes in the network represent books and ties are weighted by their cosine similarity score and represent similarity in composition. The Louvain clustering algorithm was used to identify groups in this network, and nodes were subsequently colored according group membership (Blondel et al. 2008). The modularity of this group partition was high—.75—signaling a strong semantic differentiation between textual clusters.

Text clusters were manually assigned names, which accompany the network visualizations. This was accomplished by identifying the top texts associated with each topic, defined as the most degree central texts to each topic, and using that information to interpret the topic's content.

[13] To be clear, term frequency and inverse document frequency are both nonnegative values. If both are at their lowest value—zero—after multiplication, tf-idf will also be zero.

Political Valence and Ideology

To understand reading and its relation to politics, I performed four complimentary analyses, all of which rely on nothing more than simple tabular analyses. At the core of these analyses are period-specific tables, B_t, which tabulate politics and reading at a given moment, such that rows correspond to political affiliations (Federalist and Antifederalist/Democratic-Republican), columns correspond to books, and a cell in the table denotes the number of people of a given political affiliation that read a given book in that period.

These tables can be used in a number of ways to explore the relationship between politics and reading. They can be analyzed as a whole, as I do in the first set of analyses, where I use Cramér's V, a normalization of the χ^2 test and a common measure of association for tables of size greater than 2x2,[14] to capture the extent to which members of differing political affiliations were distinguished in their reading habits. In doing so, I provide a simple way of measuring polarization as reading habits change over time.

They can also be analyzed book-by-book by taking the counts of Federalists and Antifederalists, for example, who read a given book, and summing over the counts for the remaining set of books in the table to identify the number of Federalists and Antifederalists who did not read that book. This results in a 2x2 contingency table, like the one presented in table 1, for each book.

I use G^2, also known as the likelihood-ratio test, to evaluate the extent to which having read book X and political affiliation overlapped.[15] The G^2 statistic, much like the χ^2, is an independence test, where higher values provide more evidence against the null hypothesis that row and column classifications are independent. This is achieved by comparing the observed value to the expected value for each cell in the contingency table. The precise equation, as presented in Agresti (1990), is

$$G^2 = 2\sum n_{ij} \log\left(\frac{n_{ij}}{u_{ij}}\right).$$

A G^2 statistic is produced for each book checked out in a given period, resulting in a vector G_{Xt}. However, on its own, the G^2 statistic does not tell us whether Federalists or non-Federalists were more likely to read book X. I therefore sign G_{Xt} by multiplying it by a second variable, λ_{xt}, which equals 1

[14] To be specific, it normalizes the χ^2 test using the formula V = SQRT(χ^2 / (n (k − 1))) so that the results can be compared across tables even when the size of the tables differs considerably.

[15] I opt for G^2 because it behaves well when cell counts are very low, as is the case for many of the books in the data. That said, many different measures could be used to identify books with strong political association and the results are remarkably robust to measure choice.

TABLE 1
An Example Contingency Table

	Federalist	Non-Federalist
Read	a	b
Did not read	c	d

if a higher percentage of Federalists read book X in time period t than non-Federalists and -1 otherwise. The final vector, P_{xt}, thereby captures both the extent to which having read book X overlapped with political affiliation and whether Federalists or non-Federalists were more likely to have read it.

The resulting values can be studied on their own to identify the books most associated with one political group or another. I also project the values onto the semantic networks, coloring nodes by their assigned value. The higher the value, the bluer it is colored; the lower, the redder. Many books were read only once or twice, making their political salience hard to interpret directly, so values were interpolated across nodes in the network in accordance with the political salience of their network neighbors (Hoffman et al. 2018). This is conceptually similar to smoothing lines in regression plotting and makes the coloring of the network akin to a heat map—revealing the relative distribution of political salience across the network space as opposed to directly reflecting the political salience of each book (Hoffman et al. 2018).

The G^2 values have another use as well. The large majority of the NYSL members held no political office in their lifetime, and they therefore left little to no historical record of their formal political affiliation or their beliefs on matters of politics. As I will demonstrate, we can look at the reading choices of a given reader, identify the political valences of their reading choices, and then use the average valence of those choices, at a given moment in time, to learn something about their political orientation.[16] That is to say, I can use the information about which books were most politically salient for each party to determine the political ideology of each library member's reading habits. I express an individual's reading ideology as

$$I_j = \frac{\sum_i^b r_i G_i}{\sum_i^b r_i}, \tag{1}$$

where b is the total number of books in the data, r_i denotes whether the actor in question read book i, V is the vector of political saliences for each book in

[16] These estimates work as long as their own reading habits and political affiliation are held out from the sample I use to calculate the initial valences of books.

the data, and G_i is the political salience (G^2) of book i.[17] By evaluating I as a function of people's attributes and commitments, we learn something about the reading habits of groups and demographics during this time.

A full list of the data sources used to identify reader demographics and descriptive tables concerning those demographics can be found in the appendix, as can information on the top 10 most central texts to each topic as well as the results of a number of robustness checks that establish that the results are robust to the numerous analytic choices described above.

RESULTS

Did reading habits polarize politically over time?

I begin by evaluating the relationship between politics and reading for the set of actors who publicly declared their political affiliations. In a given year, books were read by members of either party. I can therefore construct a contingency table for a given year where the rows are political parties, the columns are books, and a cell is the number of times a member of a given party read a given book in that year. I then use Cramér's V, to evaluate the extent to which members of different political parties were distinguished in their reading habits over time. Cramér's V relies on an underlying chi-squared value, which is inaccurate when cell counts are small, so I limit my analysis to books with more than five readers in a given year. This has the effect of excluding years at the boundaries of our periods—1789, 1799, and 1806—for which we have only a limited subset of the total checkouts from that year.

The results can be found in figure 2. In general, polarization is moderately high for all years with Cramér's V ranging in value from 0.32 to 0.44. This means members of different parties were indeed reading different books. A general upward trend is also revealed, signaling that reading habits became increasingly polarized over time for the years that I have data. Given the overlapping confidence intervals (constructed using Fisher's Z-transformation)

[17] In effect, this allows me to expand the political differences in reading of politicians to the full set of library patrons. It is functionally the same—and thus yields similar results—to treating an actor's political status as the proportion of Federalists and Antifederalists who are N steps away from them in a bipartite network. Hence, this method bears similarity to "seed expansion" methods, which attempt to identify groups in a network by starting from known members of those desired groups and expanding outward (Kloumann and Kleinberg 2014). The analyses here also bear similarity to Amazon recommendation systems and with GWAS/PGS methods in genetics, which identify SNPs correlated with some outcome (here, books associated with political affiliation) in one population (politicians) and uses that information to construct a risk score (political ideology) in a second population (nonpoliticians) (Sotoudeh, Conley, and Harris 2019).

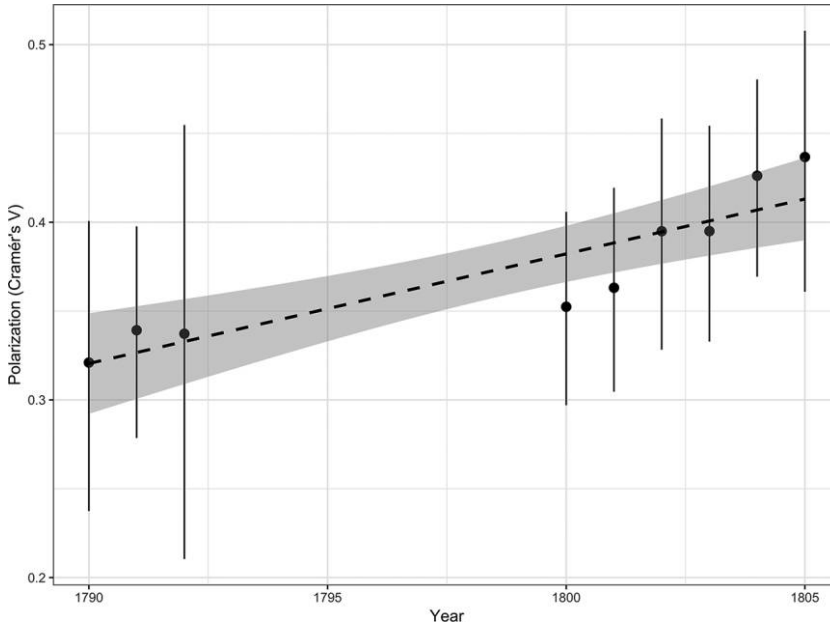


FIG. 2.—Polarization was marked and increased over time. Polarization is measured by Cramér's *V*. Error bars represent ± 2 standard errors. The best fit line was derived by regressing year on Cramér's *V*. The shaded region represents the 95% confidence interval for this fit.

for the earlier and later years, it is possible the observed increase in polarization is the product of chance, though coarser partitions of the year set reveal starker, and significant, divisions.

Did the Cultural Bases of Political Difference Change over Time?

The Political Valence of Classics of Enlightenment Philosophy

Having established an increase in polarization over time, I evaluate whether the content of political difference shifted over time. To be precise, rather than exploring whether reading became more polarized along political lines, I turn to identifying the semantic dimensions of that polarization. If we were to follow the analytic strategy of most histories of this period, we would evaluate this at the author level, focusing on the set of authors who formulated explicit political philosophical messages. This strategy produced figure 3, in which I plot the political salience, as defined in the methodology section, of famous authors from Enlightenment social philosophy and economics in each period. It serves as both proof of concept and an illustration of the social philosophers and philosophies most characteristic of each political party.

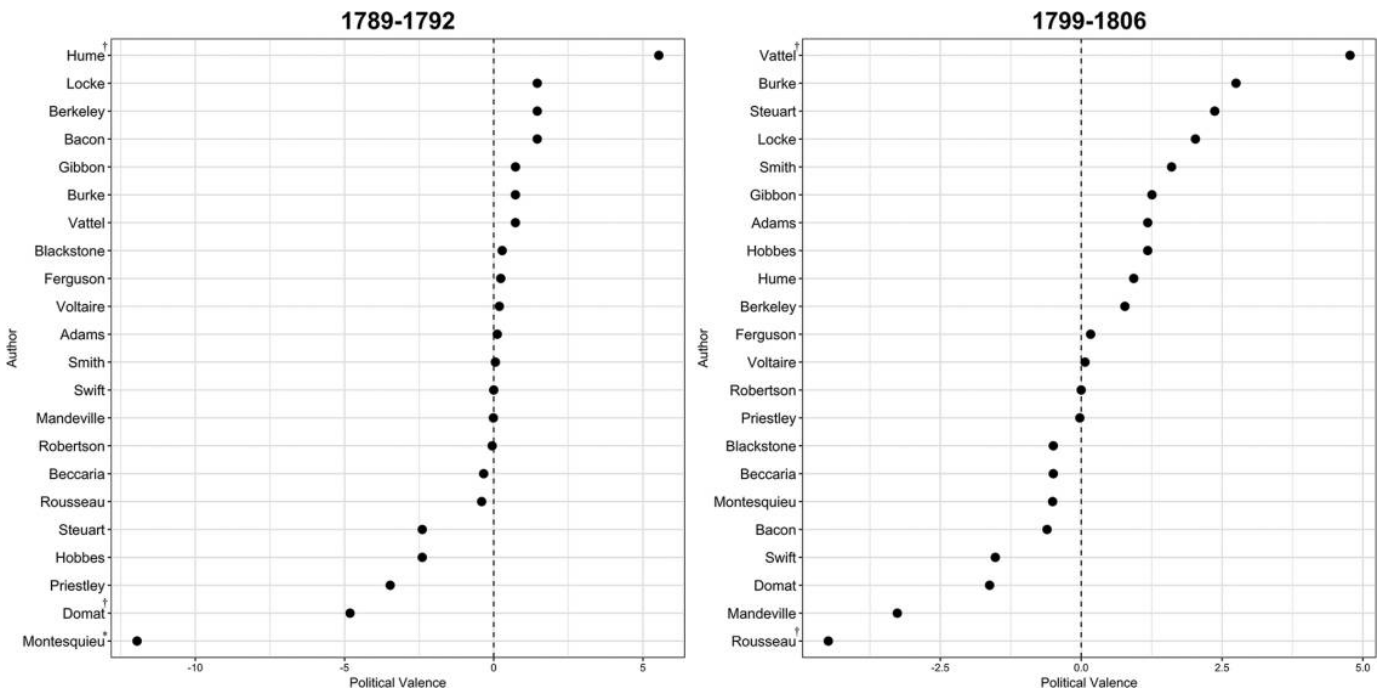


FIG. 3.—Democratic-Republicans read Montesquieu and Rousseau; Federalists read Hume, Burke, and Vattel. Authors with positive valences are associated with Federalist readers, while those with negative valences are associated with Democratic-Republicans. Authors statistically significantly associated with a political party at the 0.05 level are marked by a dagger (†), and those that remain significant following a Bonferroni correction (in this case, at the 0.002 level) are starred (*). Significance was determined using the G^2 statistic value.

Because most authors were sparsely read in any given year, I operate at the period level, the first, 1789–92, covering the years of opposition between Antifederalists and Federalists, and the second, 1799–1806, covering the political division between Federalists and Democratic-Republicans. Results, however, are robust to periodization.

In both periods, Federalists read more English thinkers while Democratic-Republicans read French philosophers. In the first period, Federalists were most likely to read David Hume. Antifederalists, on the other hand, favored Montesquieu, whose relationship with Antifederalism is statistically significant even following a conservative Bonferroni correction. The association between Hume and Federalists is well known historically: Hume was the quintessential federalist, having written federalism's most famous philosophical justification until the appearance of *The Federalist Papers*. Likewise, the relationship between Montesquieu and Democratic-Republicans, in particular the thought of Madison and Jefferson, has been established (Adair 1943). In contrast to Hume, Montesquieu argued in favor of a confederacy, in which states were equal members that pooled resources for their joint security but were otherwise largely autonomous—as opposed to a federation, in which a nation with a centralized national body deliberates laws with input from member states but maintains always the right to overrule them (Føllesdal 2016). Montesquieu then provided a framework for balancing powers without depending on a centralized state, hence the attraction of his ideas to those wary of the development of monarchy in America.

The favored philosophers changed over time. In the second period, Emer de Vattel and Edmund Burke are most associated with Federalists, while Rousseau is most associated with Democratic-Republicans. Hume remains for Federalists and Montesquieu for Democratic-Republicans, though the strengths of their respective associations are attenuated. This signals that the content of political debate may have shifted to being about the events and radical ideas surrounding the French Revolution: Burke provided, after all, the most influential conservative critique of the French Revolution in *Reflections on the Revolution in France*, while Rousseau was one of the great philosophical influences of the French Revolution. Vattel's *The Law of Nations*, the authoritative text on international law for its time, became an essential part of the debate over the Treaty of Mortefontaine, which ended America's Quasi-War with France. President Adams discussed the book's arguments in a letter to the Senate to assure Federalists that a treaty with France would not harm their relations with Britain (Rohrs 1988).

Mapping the Semantic Structure of the Collection

So far, this exercise has been informative, but incomplete. It ignores the hundreds of other books and authors in the library, all of which may have

contained political valences of their own, limiting our ability to fully examine the cultural bases of political difference. I therefore turn to a more general look at differences in reading between members of political parties across time by mapping political valence to the semantic structure of the library collection.

This expanded look requires two steps. The first entails mapping the semantic structure of the library collection as a network in each period following the strategy outlined in methodology section. The second maps the book-level measure of political salience onto the network structure, revealing the cultural contours of political difference.

Semantic networks for each period can be found in figures 4 and 5. As in topic modeling, clusters accord with interpretable higher-level topics or genres in which similar kinds of books are nested. The advantages of the analysis strategy used here over topic modeling, however, are many. Most importantly, the network visualization gives a sense of the overall structure of the semantic space: certain topics are far apart—poetry is opposite natural philosophy; mercantile and political topics are opposite novels and romances. To achieve this kind of intuitive representation of the topic space, topic modelers often resort to constructing network plots of the topics anyway (Rule et al. 2015; Blei and Lafferty 2006; Blei and Moreno 2001)—here, intuitive representability is built directly into the method.[18]

It is first worth noting how structurally similar the semantic networks are for the two periods. The second period includes 1,300 more books than the first, all procured at some point between 1792 and 1806, and yet most of these new books fit into semantic clusters already defined and established in the first period. Thematic similarity between the two periods can be formally assessed using a Rand index, a measure of the overlap between two clustering solutions.[19] For every pair of points, the Rand index evaluates the extent to which they were assigned to the same cluster in both solutions. The index ranges from 0 to 1, returning 0 when the two clustering solutions disagree on the assignment of every pair of points and 1 when the two solutions are precisely the same. I apply the Rand index for the set of books that were present in the library in both periods to see if books assigned to the same cluster in the first period were also assigned to the same cluster in the second, despite changes in the semantic network. The index returns a value of 0.93, signaling remarkable consistency in topic assignments despite significant growth in the library collection.

The network speaks for itself, but a number of things are worth pointing out. First, both semantic networks resemble hub and spoke networks, with

[18] All of these results have been replicated using topic models. Topic models produce more topics—but the broad substantive findings are remarkably robust to how the books are analyzed.

[19] Thanks to Ramina Sotoudeh for suggesting this measure.

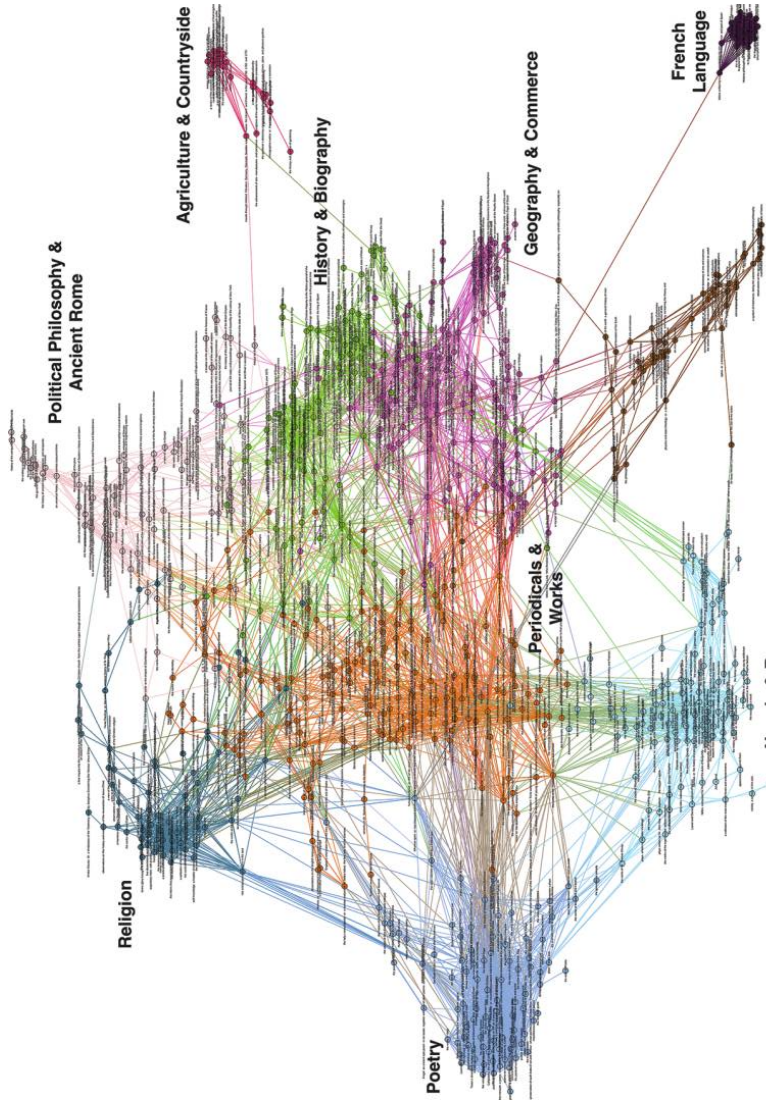


FIG. 4.—The structure of semantic similarity in the New York Society Library Collection, 1789–92.

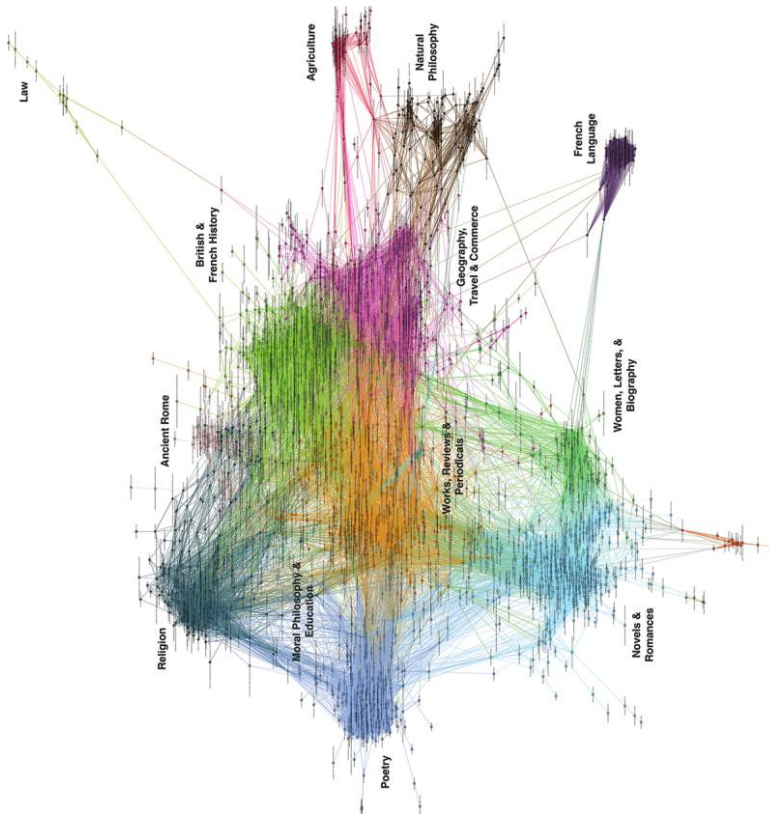


FIG. 5.—The structure of semantic similarity in the New York Society Library Collection, 1799–1806

a large orange cluster at the center serving as a bridge between clusters on opposite ends of the network. Texts in this cluster have by far the largest average betweenness centrality, and they become more between central over time. In the first period, they have an average betweenness centrality that is 1.4 times larger than that of the next most between cluster in the network; in the second period, their average betweenness centrality is nearly twice that of the next most-between cluster. These central clusters, which I have named Periodicals & Works and Works, Reviews & Periodicals in the first and second period respectively, include anthologies, and criticisms and celebrations of great writers and philosophers, such as Rousseau, Locke, and Gibbon. Genius and criticism bind the many disparate fields of human endeavor.

Second, at the bottom of the network, disjointed from the other clusters, are two clusters about novels—one with a focus on the lives and experiences of famous women and female characters, including feminist fiction by the likes of Mary Robinson, and a second including most British fiction and romances from the period. These two clusters are structurally disparate from the rest for two reasons. Unlike most of the other topics, novels, romances, and letters detail the intimacies of private rather than public life (Davidson 2004). This accounts also for their stronger association with women, whose activities were confined to domestic roles in the early modern period (Armstrong 1987). In addition, the novel specifically was the most modern literary form at the turn of the 19th century and contained a host of themes and archetypes unlike, and that often challenged, traditional literary forms (Davidson 2004). Its subversive nature is well-documented by historians and can be seen in the anxiety its popularity evoked from social authorities (Bakhtin 1981).

Third, equally informative as the topics that are present are the topics that are missing. No single cluster pertains to America or American history, unlike British and French or Roman history, because the American story was yet to be written. Books about American history, such as William Robertson's *The History of America* or William Gordon's *The History of the Rise, Progress, and Establishment of the Independence of the United States of America* are assigned to either British & French History or Geography & Commerce. Likewise, many aspects of the economy which are now taken for granted are not assigned distinct topics. Industry, which would become a dominant theme of the literature, science, and imagination of the 19th and 20th centuries, is subsumed in Geography & Commerce, and although agriculture made up much of New York's and the country's economic activity and output in this period, it is dwarfed in size by the Geography & Commerce topic, signaling the spatial and economic orientations of the country's elite at this time (Murphy 2015).[20] Books in the Women, Letters & Biogra-

[20] I wish to thank an *AJS* reviewer for pointing this out.

phy cluster discuss the roles and nature of women, but no cluster (or book) discusses the attributes or character of men. This is because all the other clusters are ostensibly the dominion of men.

Finally, the dimensions of the network space and the position of texts on those dimensions are informative of the larger literary field. The left-right dimension, for example, moves from poetry and religion on one end to industry and natural philosophy on the other, which could be characterized as a general opposition between the ineffable and the empirical. The top-bottom dimension moves from religion, Ancient Rome, and history on the one hand, to novels and romances on the other, an opposition that could be broadly construed as separating traditional and modern literary genres.

Identifying the Cultural Contours of Political Difference

I now map the political salience of books onto the networks presented in the previous section.[21] This provides a more detailed view into the concerns and interests of members of the two parties and of the possible ideological bases of opposition along which party division was constructed (see figs. 6 and 7).

In the first period, Antifederalists were more likely to read about Political Philosophy & Ancient Rome, Agriculture & Countryside, and books in French, while Federalists were more likely to read History & Biography. This portends subtle differences in their political philosophies—recall that Rome represented not only republicanism, but also Jacobin belief and dress, as noted by Marx in the "Eighteenth Brumaire" (Marx 1898); History & Biography, including Hume's *History of England*, in contrast expressed the tenets of British mercantile policy. These differences are reflected in the debates over the Constitution and the French Revolution, both of which coincide with this period.

The second period is markedly more polarized than the first with respect to the overall semantic structure. The top half of the semantic network is dominated by Federalist reading, the bottom half by Democratic-Republican reading. Democratic-Republicans moved from Rome to the newer literary forms—novels, romances, letters, and biographies of women—while Federalists stuck to traditional ones—Religion, Moral Philosophy, and Geography & Trade, signaling that the division between Federalist and Democratic-Republican was broadly cultural, as much about modernism and traditionalism as it was about specific political forms, democracy, and aristocracy. It

[21] In the first period, 87% of the books in the library's collection were read by at least two readers with political affiliations and were therefore able to be assigned political valences. Likewise, in the second period, 88% of books in the collection were read by at least two readers with political affiliations and assigned political valences.

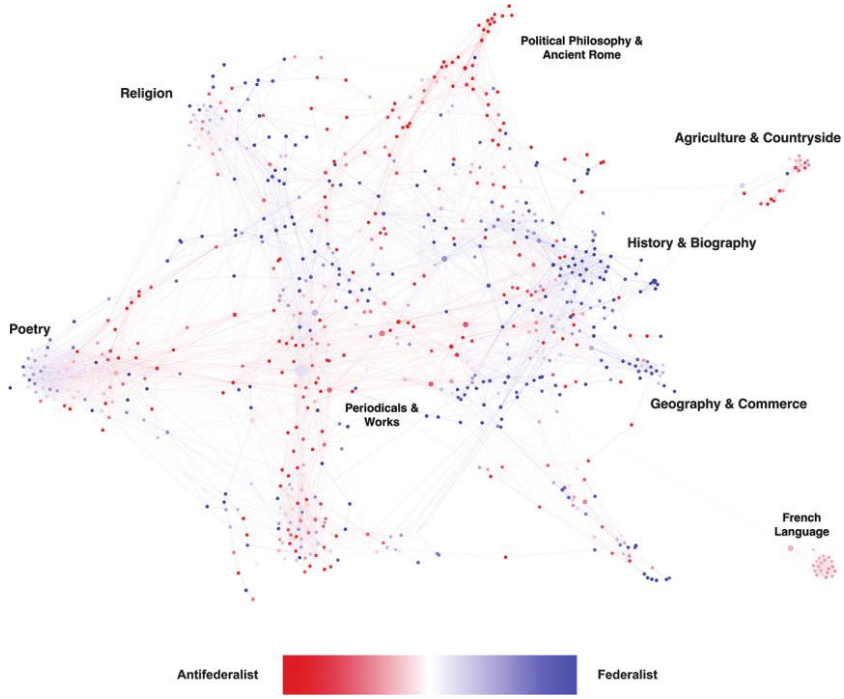


FIG. 6.—Content polarization was low from 1789 to 1792. Roman political philosophy is associated with Republicans; History & Biography with Federalists.

also systematically affirms the findings of the historical literature that argues for an affinity between the democratic and romantic movements in the United States (Davidson 2004; Waterman 2007; Warner 1990), in which the novel figures prominently for both literary and social reasons. The novel had a specifically democratic character, portraying a far wider set of characters and classes than traditional forms: orphans, beggars, widows, slaves, spinsters, aristocrats, explorers, laborers, and adventurers (Davidson 2004). It was often used as a vehicle for the articulation of radical social critiques of polite bourgeois society (Bakhtin 1981; Davidson 2004). At the same time, by using stories to express those critiques, it expanded the audience that could hear them beyond the political and educational elite (Davidson 2004). Many of the earliest Democratic-Republican societies even began as reading groups following the ratification of the Constitution, discussing not just the latest news from France, but the latest literary developments in Europe and the United States (Waterman 2007).

Not all topics can be so definitively associated with political affiliation. Texts in the topics Poetry, Periodicals, Works, & Reviews, and French Language were read by members of both parties in the second period. Further,

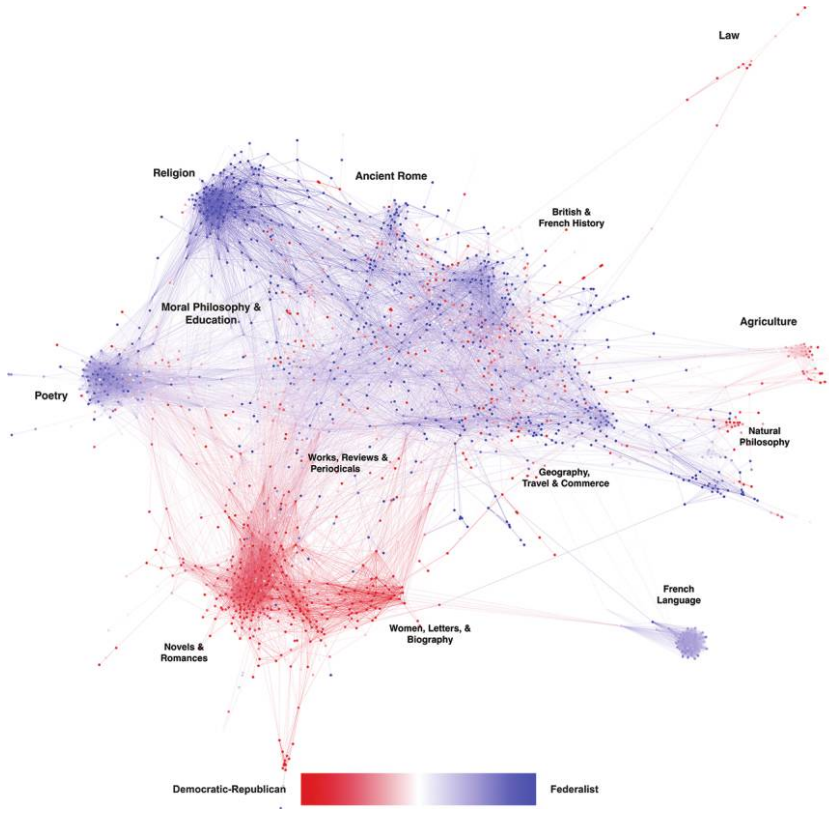


FIG. 7.—Content polarization is high from 1799 to 1806. Republicans read modern literary forms like novels and romances; Federalists read traditional forms like theology.

a couple of topics (British & French History and Natural Philosophy) show marked within-cluster polarization. In British & French History, for example, Federalists read British history, while Democratic-Republicans read French history, confirming the national orientations of the two groups first apparent in the analysis of famous philosophical works.

The Political Ideology of Readers

Overall, the results presented thus far show that not only were Federalists and Democratic-Republicans reading different books, but also that they were reading different kinds of books. This confirms ideological arguments for the emergence of Jeffersonian Democracy, but in an unusual way: political ideology became associated more with the cultural division between the novel and traditional literary forms than with political philosophy. This cul-

tural division was of course political, in that it divided members of political parties, but not purely so, since its content was not politics.

In the final set of analyses, I explore the social bases of ideology by evaluating the extent to which members of various social groupings were likely to read Democratic-Republican or Federalist texts. This allows us to understand the political leanings of a range of groups for whom there exists little historical record, beyond scattered newspaper resorts, of their political beliefs.

To do so, I take the average political valence of the books a library member read in a given period of time for every reader in the data. I then compare the average valence for readers of different demographic and affiliation groups at each period in time. I focus on three kinds of attributes in particular: (1) occupation, (2) club and society memberships, and (3) gender. The historical record provides some expectations for how these attributes should matter in determining one's political ideology.

Occupation

I begin by evaluating whether and how occupation modulated the political valence of reading for readers in each of our two periods. Occupation was an important basis for distinction in early American society. Men were known by their occupations, which made up an important part of their social identity. A large portion of New York society worked in agriculture, as landowners or farmers. Others worked as laborers, artisans, mechanics, and merchants, too, especially in the cities. Compared to later in the 19th century, occupational groups lacked internal cohesion, and interests were more occupationally specific than they would come to be during the workers' movements of the 19th and 20th centuries, which bound disparate occupations through the construction of common interest and common enemies (Thompson 1963). The implications for the early republic were that the potential for collective political action was lower, and oppositions between occupational groups were rarely stable (Wood 1991).

That being said, political divisions along occupational lines in this period have been characterized by historians in a number of ways. Some historical works on this period focus on broad divisions between commercial and agricultural interests (Beard 1915). Hamilton's financialization and commercialization of the young republic is often contrasted with Jefferson's ideal of a republic of small, independent farmers. As evidence, scholars have shown ecological associations between the number of banks in a county and its Federalist vote share (Beard 1914). That said, broad divisions between commerce and agriculture, were not the only, or necessarily the most important, occupational basis for political difference. More recent work has argued for the importance of occupational status—which divided the leisurely

and gentlemanly professionals (doctor, lawyer, and clergymen) from occupational groups engaged in, often physical, labor—in shaping political alignments (Wood 1991). Under these arguments, the egalitarian ethos of the Revolution led Americans to challenge the belief that professionals, and more generally those with leisurely and gentlemanly status, were disinterested and therefore better suited for politics and political engagement (Wood 1991), precipitating political divisions between those with and without status.

In figure 8, I illustrate my evaluation of the shifting relationship between occupation and political reading. In the first period, the most Federalist readers are members of the commercial and trade classes, including merchants, shareholders, and artisans and mechanics. Antifederalists on the other hand include members of the clergy and professional classes as well as individuals who owned large numbers of slaves. The opposition between the commercial and landed elite can be seen in these early years.

By the second period, however, the difference between the commercial and landed elite has attenuated. Instead, artisans and mechanics are pitted against professionals and members of the clergy, which signals that issues of status played a larger role in determining political ideology in the second period than the first. Lawyers, the largest group of professionals, were one of the only groups in early America that held a formal, institutionalized title: esquire. In a society that associated leisure with gentleman status (Wood 1991), clergymen and lawyers were among the most privileged, maintaining professions that required little if any physical exertion, even in comparison to other professionals like doctors and military officers. Beyond their gentlemanly associations, lawyers and clergy members had group-specific causes for their Federalist leanings too. The clergy, for example, was initially in favor of the French Revolution, and the most radical dissenters such as Joseph

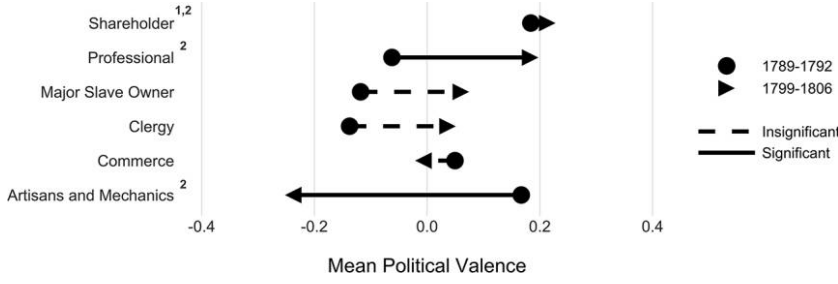


FIG. 8.—Status played a larger role in determining political ideology in the second period than the first. For figs 8–10, significant changes in political valence, determined with a *t*-test that compares a group's valences in period 1 to period 2 using a significance threshold of 0.05, are represented by solid lines, while insignificant changes are represented by dotted lines. Superscripts signify the periods for which a given group's valence is significantly different than 0: 1 for the period 1789–92, and 2 for the period 1799–1806.

Priestley remained so throughout much of its events; however, after the emergence of the party system, most clergymen sided with Federalists, both because of their association with tradition and law and order and because of Democratic-Republican support for the French Revolution, which had become increasingly associated with anticlericalism (Robinson 1916).

Artisans and mechanics shared many of the attributes of the professional and commercial classes—they had specialized skills and could often turn a successful workshop into a lucrative factory. However, they worked long hours, often with their hands, and thus, no matter their wealth, even if they could afford entrance into social and cultural societies, they were viewed as having lower status (Wood 1991). Further, they often came from little to no wealth, putting them at odds with clergymen and professionals, whose illustrious educational and family backgrounds served as the backbone of their professional legitimacy. In New York, winning the artisan and mechanic votes often determined the outcome of elections, since as a group, they made up a sizable portion of the city's workforce and electorate (Young 1964). Their ideological swing, from Federalist to Democratic-Republican, was consequential in the rise of the Democratic-Republican Party (Young 1964).

Clubs and Societies

Following the ratification of the U.S. Constitution and during the initial years of the French Revolution, democratic societies sprung up around the country, and especially in New York, in support of radical democratic ideals. These societies grew in popularity, increasingly seeing themselves as representatives of public sentiment and engaging in the shaping of public opinion and political discourse (Koschnik 2007). Federalists saw these first societies as threats to their power, and painted them, in newspapers and public discourse, as threats to social order because they constructed spaces for political action outside of the state (Koschnik 2001). Federalist arguments won out in the earliest years of the 1790s, but the mode of organization that democratic societies had innovated—one based on voluntary affiliation—became adapted by Federalists, and eventually Democratic-Republicans, to serve their own political purposes.

The 1790s and early 1800s saw the emergence of a number of voluntary associations in eastern cities, and especially New York, that served varying political, economic, and social purposes. Societies, clubs, and other institutions like banks and water companies became clandestine vehicles for partisan activity, which was still widely disdained (Murphy 2015). Through these associations, members forged political identities and engaged in partisan politics under a guise of free and disinterested association, fitting with republican culture. Whereas Toqueville saw voluntary association as the basis of a robust civic culture, historians now argue that voluntary associations played

an essential role in the production of political cleavages and the emergence of partisan identities (Koschnik 2007).

I evaluate the shifting relationship between voluntary associations and political reading. Eighteenth-century Americans had a broad understanding of what voluntary association encompassed, from literary societies to chartered companies; thus, a number of different associations are evaluated: (1) the Manumission Society, founded by John Jay with the express goal of freeing slaves in New York and the United States; (2) the Society of the Tammany, which began as a reading group focused on the French Revolution, but became Aaron Burr's political machine, engaging in electioneering and political organization; (3) the Society of the Cincinnati, which provided special status and connections for those who had either served as officers in the Revolutionary War or descended from such an officer; (4) the General Society of Mechanics and Tradesmen of the City of New York (hereafter Mechanic Society), an organization dedicated to serving skilled craftsmen and their families in New York; and (5) the Marine Society of New York, which served the families of ship masters and promoted maritime education (see fig. 9).

Manumissionists lean strongly Federalist in both periods, signaling that positions towards slavery influenced one's political affiliation. The Manumission Society consisted of high-ranking politicians, primarily of Federalist yoke like Jay and Hamilton, but Aaron Burr too, as well as a number of merchants and Quakers economically and morally opposed to the institution of slavery. Members of the Marine Society lean Federalist as well, though like the commercial class shown in figure 8, their association with Federalism tempers over time. By the second period, members of the Society of the Cincinnati lean Federalist too increasingly so over time. The Cincinnati Society came under frequent attack for being a hereditary society, the first and most significant such society in the United States. It also was increasingly used by Hamilton as a political counter to the Tammany Society. Hamilton fostered relations of patronage and affiliation with former Revolutionary War leaders and soldiers to ensure their political support, turning them into reliable elec-

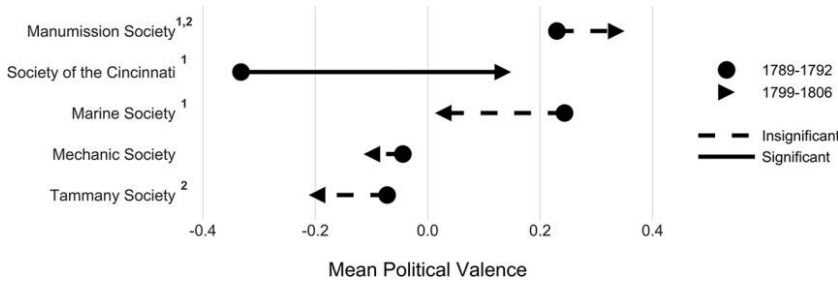


FIG. 9.—Activist and political associations polarized over time

toral votes and party mobilizers (Wood 1991). Through both of these processes, prominent Democratic-Republicans came to leave the society, and those that remained became more Federalist. This is reflected in the increasing Federalist valence of their reading habits.

On the other end of the spectrum are members of the Mechanic Society and members of the Tammany Society, who became more Democratic-Republican over time. Given that the Mechanic Society consisted primarily of artisans, it should be no surprise that their political valences look similar to artisans depicted in figure 8. In its early days, which include the first period of reading data from the NYSL, the Tammany Society could count Federalists among its ranks, even if support for the French Revolution and radical ideas regarding social reform prevailed. However, as political polarization increased and Democratic societies came under attack by Federalists, nearly all Federalist members of the Tammany Society withdrew (Paulson 1953). This resulted in an increasingly Democratic-Republican political machine, supportive of French Revolutionary ideals and opposed to Federalists at every turn.

Gender

Compared to what can be observed about men's occupations and societies, less is known about the politics of women. Even the detailed literature on 18th-century women's participation in politics lacks the data to say anything definitive about their average political ideology. There are reasons we would expect women to favor republicanism—most obviously because Democratic-Republicans preached universal suffrage. That said, Democratic-Republican party leaders never supported woman suffrage. Jefferson, for example, notoriously disdained female participation in politics, even as he favored educating his daughter in philosophy, Latin, and mathematics, in contrast with friend and contemporary Adams. Over time, it would become clear that "universal suffrage," referred only to white men (Zagarri 2011).

Still, the results, visualized in figure 10, signal that women may have been a latent source of Democratic-Republican sentiment in the United States during these early years, despite their exclusion from public affairs. They were

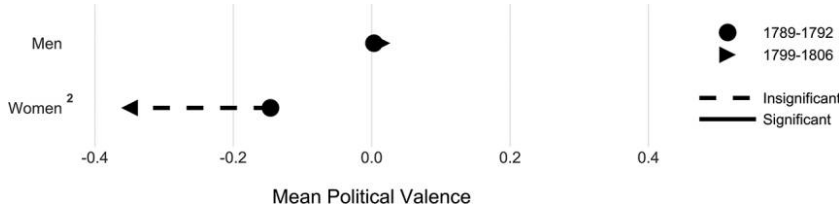


FIG. 10.—Women read like Democratic-Republicans

far more likely to read Republican texts compared to men, and this tendency increased over time.[22]

A cursory glance at popular books among female readers reveals some of their interests and how they might have related to wider Democratic-Republican reading habits. Female readers were more likely than their male counterparts to read Romantic novels. Especially popular among female readers were epistolary and sentimental novels which examined, and often critiqued, the role of women in aristocratic society, including *Delphine*, the publication and ensuing controversy of which led to exile of its author, Anne-Louise Germaine (Madame de Staël), by Napoleon, and various novels by Mary Robinson, which contrast the relative stature of women in bourgeois and aristocratic cultures. Female readers also read the biographies of well-known women in British and French society, including Marie Antoinette and Hannah More. French novelists and philosophers, most prominently Rousseau and Montesquieu, also found female readers.

DISCUSSION

Following the American Revolution, reading among New York elites changed, becoming more politically polarized over time. Federalists and Republicans not only held different policy positions, as the historical literature on this period points out, but they read different political theorists and came to read different topics and literary forms. The argument of this article is that it is these deep cultural differences contributed to the surface polarization that characterizes the formative years of the American democratic experiment. Similar processes are at work today.

I find evidence of a qualitative change in the kind of books Republicans were reading over time: from Montesquieu to Rousseau and from Roman political philosophy to romantic novels. The implication is that the cultural basis of opposition, between Federalist and Republican, changed as well, centering around different perspectives on rule—Roman versus English—in the first period to different intellectual cultures—modern (Romantic) versus traditional (Enlightenment and religion)—in the second. In the first period, the grounds of the debate are the same; in the second, members of the two parties are in completely separate cultural worlds. This may help explain why partisan passions in the second period were felt by historical actors to be irreconcilable—there existed very little cultural material that could bridge the emergent divide.

[22] To provide evidence for this conclusion, *t*-tests were performed comparing men and women's mean political valences for both periods. They show that women and men differed significantly in the political valences of their reading in time 2 ($t = 2.5239$, p-value $= 0.017$), but not time 1 ($t = 0.93069$, p-value $= 0.3747$).

Democratic-Republican readers increasingly came from groups outside of the main axes of political power—including women and artisans—and became increasingly opposed to those groups whose power was most institutionalized—lawyers, members of the clergy, and members of hereditary societies. This accords with a historical literature that shows that the basis of Democratic-Republican power became more populist as the party wrested national political control from the Federalists and with firsthand accounts of the period that claim that the issues of titles and aristocracy were central to party divisions, accounts that have often been dismissed by rigid materialists.

I find that clubs—the Society of the Tammany, the Manumission Society, and, most of all, the Society of the Cincinnati—became increasingly politicized over time. This accords with the historical institutional literature on the increasing politicization and weaponization of nongovernmental institutions and organizations for political gain (see Hall [(1987) 2006] for an overview, but also Koschnik [2007]). Following the American Revolution, Aaron Burr and Alexander Hamiltonbegan using the societies, banks, and organizations under their control to enact their political agendas and to organize the vote. As a result, organizations and institutions became seen as nonstate actors who nonetheless use resources and influence to shape governmental and social outcomes. An analysis of the political use of banks and cultural institutions for pursuing political goals is a possible starting point for a history of American institutions (Koschnik 2007; Murphy 2015).

Women's reading resembled that of Democratic-Republicans in both periods, signaling that female readers may have been a latent source of democratic sentiment. This is especially surprising given their exclusion from many of the public spaces that fostered political sentiment, including the all-male societies and voluntary associations that facilitated men's political participation (Koschnik 2007). Following Zagarri (2011), my future work will examine the processes through which women adopted radical politics and the extent to which it led to political action. My work here hints that reading may have played a more important role in forming women's political consciousness than previously known, as it gave women access to radical ideas that their social world may have otherwise discouraged.

Polarization in reading habits occurred to such great extent that, by the second period, the semantic network conforms almost perfectly with political ideology. The network plot from the second period looks identical to those that result from the analysis of modern reading data—whether of newspapers, blogs, or books—signaling that reading habits may have been as polarized in 18th- and 19th-century America as they are today. This finding has implications, first, for the historical political science literature on whether there was a "party in the populace" during the First Party System (Formisano 1974). Today, political parties are large-scale institutions that work to organize the vote, but at the turn of the 19th century, voting was

largely deferential, dependent on relations of patronage whereby elites would exchange alms for votes from local farmers and mechanics (Formisano 1974). It would take decades for Americans to conceive of the vote as an expression of their political identity, for elites to realize the instrumental value in mobilizing the masses for political gain, and for networks of patronage to evolve into large-scale political organizations (Martin 2009). However, even if parties were institutionally primitive compared to today (Sharp 1993), in terms of political identity and action they had real influence. This article shows this by finding political parties not in the vote but in reading patterns. And while readers did not make up the populace, they did have a disproportionate amount of political sway.

The polarization findings also have implications for the current debate on "echo chambers" and "lifestyle politics" in the social sciences. The rise in political polarization over the past 20 years has corresponded with the rise of the Internet, leading scholars to question whether the Internet may be exacerbating existing political differences (Bakshey, Messing, and Adamic 2015). The full mechanisms through which the Internet influences polarization are unknown, however, and if polarization in cultural consumption and reading habits in particular can be traced to 1800, then those mechanisms may not be specific to the Internet. Much like the lending library of 1800, what the Internet affords is a great deal of agency in what one consumes. Any system of choice creates the potential for polarization to emerge as individuals express their social and political differences through consumption (Bakshey et al. 2015). With this in mind, the story of increasing political polarization in our current age, particularly with respect to media consumption, may be more about the transition from broadcast television to the more diverse world of cable television and online publication. Contemporary arguments regarding lifestyle politics, especially those that treat it as the arbitrary outcome of network influence mechanisms (DellaPosta, Shi, and Macy 2015), miss the central role institutions play in structuring the potential for lifestyle differences. Only when large-scale institutional shifts are accounted for, can we explain *persistence*, in addition to emergence, and understand why, despite the emergence of new parties and the structural reorganization of social life over the past 200 years from largely agrarian to industrial and then to a service-based economy, the mass movement of Americans to the West and eventually into suburbs, that politics and consumption remain intertwined.

This leads to a larger point: cultural sociology needs a large-scale history of consumptions of all sorts. This kind of work is key to linking real cultural activity to identity over long periods of historical change. Further, it should improve our ability to understand cultural change and the emergence and decay of cultural epochs, and our ability to model the internal dynamics of consumption and predict the trajectory of current cultural movements. In

other disciplines, where the goal is to model the evolution of complex systems, such as climatology, the need for a longue durée perspective is well appreciated. Here I suggest that a similar perspective will be beneficial for our understanding of culture.

This article shows how this kind of a descriptive, historical mapping of people to the items they consume, as they relate to shifting social divisions and identities, might be achieved. By combining methods in statistics, text analysis, and network science we can reveal new things about the past (Bearman et. al 1999; Hoffman et al. 2018). The implication is that we can provide the same kind of large-scale characterizations of ideological structures and positions without disembedding actors' cultural activity from its social context (Williams 1977; Jerolmack and Khan 2014) as is so often the externality of cross-temporal survey analyses. Even though the data on which this study relies may seem exotic, they share fundamental similarity with consumption data, ubiquitous now with the rise of Amazon, Netflix, and Goodreads. These services link people to objects, all of which contain categorical and political meanings of their own (Shi et al. 2017). It follows that observational data such as the kind used here can serve as a historical link between past moments of polarization and those of our own.

Finally, this article provides a framework for a material text analysis that is rooted in the material social processes that make ideas and written culture available for consumption by groups of people who exist in relation. In the process, it challenges an emerging form of text analysis in sociology and the digital humanities that is truly ideological: texts are analyzed without reference to their role in social life, words are studied for their own sake, and ideas evolve without writers and without readers. I show instead that by linking actors to real cultural activity and relations in a meaningful institution (Mohr 1998; Williams 2006), we can reveal the ever-shifting and contextually dependent meanings of texts.

APPENDIX A

Provenance and Descriptive Statistics of Supplementary Data Sources

TABLE A1
SUPPLEMENTARY DATA SOURCES

Category	Sources and Location
Profession	*David Frank's New York City Directory*. Published in 1786. https://digitalcollections.nypl.org/ and http://archive.org.
	Longworth's American Almanac, New-York Register and City Directory. Iterations published in 1796, 1798, 1805, 1807. https://digitalcollection.nypl.org/ *and* http://archive.org.
	Barret, Walter. 1863. *The Old Merchants of New York City*. New York: Carleton.
Political affiliation	Martis, Kenneth C., Ruth Anderson Rowles, and Gyula Pauer. 1989. *The Historical Atlas of Political Parties in the United States Congress, 1789–1989*. New York: Macmillan. (for members of Congress)
	Young, Alfred. 1967. *The Democratic Republicans of New York: The Origins, 1763–1797*. Omohundro Institute of Early American History and Culture in Williamsburg, Virginia. Chapel Hill: University of North Carolina Press. (for state-level political officials)
	Lampi, Philip J. 2007. *Lampi Collection of American Electoral Returns, 1788–1825*. American Antiquarian Society. Accessed at: http://elections.lib.tufts.edu/.
Club affiliations	Thomas, William Sturgis 1929. *Members of the Society of the Cincinnati, Original, Hereditary and 222Honorary*. New York: T.A. Wright.
	New York Public Library, Manuscripts and Archives Division. *Society of the Tammany, or Columbian Order Records, 1791–1898 1916*.
	New-York Historical Society. 2011. *New-York Manumission Society Records, 1785–1849*. MS 1465.
	Trask, Gustavus, D. S. 1933. *The Marine Society of the City of New York, in the State of New York*.
	Earle, Thomas, and Charles T. Congdon. 1882. *Annals of the General Society of Mechanics and Tradesmen of the City of New York, from 1785 to 1880*.
Shareholding	Nevins, Alan. 1934. *History of the Bank of New York and Trust Company, 1784 to 1934*. New York: Private printer.
	Hubert, Philip Gengembre. 1980. *The Merchants' National Bank of the City of New York*. Ayer Publishing.
Slaveholding	Ancestry.com. 2010. *1790 United States Federal Census* [database online]. Provo, UT, USA: Ancestry.com Operations, Inc. Images reproduced by FamilySearch.
	Ancestry.com. 2010. *1800 United States Federal Census* [database online]. Provo, UT, USA: Ancestry.com Operations, Inc. Images reproduced by FamilySearch.
Book data[a]	Gale Artemis and HathiTrust Digital Library

[a] Book data sources contain book metadata—full title, author, year and location of publication—in addition to digitized book text. Gale Artemis's digitized texts are derived from a set of historical literary databases, of which I included *Eighteenth Century Collections Online, Nineteenth Century Collections Online, Sabin Americana, 1500–1926, The Making of Modern Law*, and *The Making of the Modern World*. HathiTrust's digitized collection is derived from Google Books. Book titles were cleaned by hand before being input into Artemis's and HathiTrust's online search engines. If a match was found, metadata and book text were then collected.

TABLE A2
Proportion of People in Each Demographic Category, Both Periods

Demographic Group	1789–92	1799–06
Politics:		
Known political Affiliation	.37	.26
Federalist	.68	.58
Antifederalist	.32	.42
Founding Father	.06	.02
Congressman	.05	.02
Gender:		
Man	.97	.96
Woman	.03	.04
Occupation:		
Slave owner	.52	.30
Commerce	.45	.30
Professional	.23	.16
Lawyer	.66	.63
Doctor	.23	.22
Academy and education	.14	.18
Shareholder	.13	.09
Clergy	.04	.03
Artisan	.02	.03
Voluntary associations:		
Member of at least one association	.32	.30
Tammany Society	.35	.42
Society of the Cincinnati	.28	.18
Manumission Society	.26	.35
Marine Society	.23	.20
Mechanic Society	.12	.05
N	476	809

APPENDIX B

How Topics Were Named

To name topics I followed a procedure common in the text analysis literature. For each topic, I identified 10 texts most central to it using a weighted degree centrality measure. In essence, these are the texts that are the most similar, on average, to the other texts in the topic, a simple measure of their representativeness. I then used the content and titles of those 10 texts to understand what the topic is about and from there produced a name that seemed to capture its contents. The titles of the 10 most central texts for each topic are presented in table B1 below. Their full text content is available from the author upon request.

TABLE B1
Top Ten Most Central Titles to Every Topic

1789–92	1799–1806
Natural Philosophy:	**Agriculture:**
1. *Cyclopdia or an universal dictionary of arts and sciences*	1. *The farmer's calendar*
2. *Ferguson's lectures on select subjects in mechanics*	2. *The complete English farmer or a practical system of husbandry*
3. *The school of arts or an introduction to useful knowledge*	3. *Letters and papers on agriculture and planting*
4. *A view of Isaac Newton's philosophy*	4. *The modern improvements in agriculture*
5. *A plain and familiar introduction to the Newtonian philosophy*	5. *Annals of agriculture and other useful arts*
6. *A course of lectures in natural philosophy*	6. *Museum rusticum et commerciale or select papers on agriculture, commerce, arts and manufacture*
7. *The chemistry of Gilbert*	7. *The agricultural magazine*
8. *An introduction to natural philosophy*	8. *A synopsis of husbandry being cursory observations in the several branches of rural economy*
9. *An essay towards a system of mineralogy*	9. *A new system of husbandry from experiments never before made public*
10. *The gentleman farmer being an attempt to improve agriculture*	10. *The gentleman farmer being an attempt to improve agriculture*
Agriculture & Country:	**Ancient Rome:**
1. *The complete English farmer ora practical system of husbandry*	1. *The history of Rome from the Foundation of the City by Romulus the Death of Marcus Antonius*
2. *The modern improvements in agriculture*	2. *The history of the progress and termination of the Roman republic*
3. *The gentleman farmer being an attempt to improve agriculture*	3. *The lives of the first twelve Caesars*
4. *Rural economy or essays on the practical parts of husbandry*	4. *The method of teaching and studying the belles lettres*
5. *A six months tour through the north of England*	5. *An universal history from the earliest account of time*
6. *Minutes of agriculture made on a farm of 300 acres of various soils near Croydon Surry*	6. *Historical and critical dictionary"*
7. *A new system of husbandry from experiments never before made public*	7. *Memoirs of the court of Augustus"*
8. *A six weeks tour through the southern counties of England and Wales*	8. *The history of the revolutions that happened in the government of the Roman republic*
9. *The farmer's guide in hiring and stocking farms*	9. *The history of the Arts and Sciences of the Ancients*
10. *Essays relating to agriculture and rural affairs*	10. *The select orations of Marcus Tulius Cicero*
Geography & Commerce:	**British & French History:**
1. *A new geographical commercial and historical grammar*	1. *The history of France from the earliest times till the death of Louis Sixteenth*
2. *The annual register or a view of the history politicks and literature for the year*	2. *The history of modern Europe*
3. *Navigantium atque itinerantium bibliotheca*	3. *History of Great Britain from the Revolution to the accession of the House of Hanover*
4. *A view of the history of Great Britain during the administration of Lord North*	4. *History of England*
	5. *A concise history of England*

TABLE B1 (*Continued*)

1789–92	1799–1806
5. *A new geographical and historical grammar* 6. *The new universal traveler* 7. *The American geography* 8. *The universal dictionary of trade and commerce* 9. *History and present state of all peoples* 10. *Travels through Turkey in Asia and the Holy Land and Arabia and Egypt*	6. *Monsieur de Thou's History of his own time* 7. *The reign of Louis the Sixteenth and complete history of the French Revolution* 8. *The lives and characters of the most illustrious persons, British and foreign* 9. *The history of England* by David Hume 10. *The beauties of the British senate*
French Language: 1. *Manners of the French* 2. *The works of Despraux* 3. *Fables amusantes* 4. *Les aventures de Télémaque* 5. *Gil Blas* 6. *Contes et nouvelles en vers* 7. *Short stories of de la Fontaine* 8. *Oeuvres de Monsieur Scarron* 9. *La paysanne parvenue or the memoires of madame la Marquise* 10. *Les journées amusantes dediées au roy*	**French Language:** 1. *Delphine* 2. *Paul et Virginie* 3. *Les aventures de Télémaque* 4. *The student of nature* 5. *Manners of the French* 6. *The works of Moliere* 7. *Études de la nature* 8. *Le comte de Saint Méran* 9. *Victorine* 10. *Fables amusantes*
Religion: 1. *A Christian directory, guiding men to their eternal salvation* 2. *Sermons by the late Reverend George Carr* 3. *The works of the Reverend John Witherspoon* 4. *Sermons on practical subjects* 5. *Expository notes with practical observations upon the New Testament of our Lord and Saviour Jesus Christ* 6. *English preacher* 7. *The American preacher or a collection of sermons from some of the most eminent preachers* 8. *The works of the late Reverend James Hervey* 9. *A collection of the letters of the late Reverend James Hervey* 10. *Rise and progress of religion in the soul*	**Geography & Travel:** 1. *A new system of modern geography* 2. *Universal geography formed into a new and entire system* 3. *The American universal geography* 4. *The new universal traveller* 5. *Navigantium atque itinerantium bibliotheca"* 6. *An historical account of the most celebrated voyages travels and discoveries from the time of Columbus to the present period* 7. *A new geographical commercial and historical grammar* 8. *Travels through Turkey in Asia and the Holy Land and Arabia and Egyptand other parts of the world* 9. *History and present state of all peoples* 10. *Travels in the two Sicilies*
Novels & Romances: 1. *The fair Hibernian* 2. *Memoirs of Miss Sidney Bidulph* 3. *Female stability or the history of Miss Belville* 4. *Celestina, a novel* 5. *The Sylph, a novel* 6. *Zoriada or village annals* 7. *Letters from Juliet Lady Catesby to her friend Lady Henrietta Campley* 8. *Adventures of Roderick Random*	**Law:** 1. *Commentaries on the laws of England* 2. *Reports of cases adjudged in the Superior Court of the state of Connecticut* 3. *An introduction to the law relative to trials at Nisi Prius* 4. *Every man his own lawyer* 5. *A new institute of the imperial or civil law* 6. *The pleader's guide: a didactic poem* 7. *History of the English law*

TABLE B1 (*Continued*)

1789–92	1799–1806
9. *Arundel* 10. *Moral tales of Marmontel*	8. *View of the laws of England* 9. *The Frederician code or a body of law for the dominions of the king* 10. *The law of bills of exchange*
Poetry: 1. *The speaker, or, miscellaneous pieces selected from the best English writers* 2. *Miscellany poems containing variety of new translations of the ancient poets* 3. *Trifles by Robert Dodsley* 4. *A collection of poems in six volumes* 5. *The lady's poetical magazine or beauties of British poetry* 6. *The beauties of Popes* 7. *The works of Alexander Pope* 8. *Complete poems of Francis Thompson* 9. *The poems of Philip Freneau* 10. *The works of Richard Savage Esq.*	**Moral Philosophy & Education:** 1. *A review of the principal questions in morals* 2. *The preceptor containing a general course of education* 3. *Essays on the principles of morality and natural religion* 4. *Elements of moral science* 5. *Philosophical essays on various subjects* 6. *Dissertations on the English language with Dr. Franklin* 7. *The British grammar* 8. *The lady's encyclopedia or a concise analysis of the belles lettres the fine arts and the sciences* 9. *Letters addressed chiefly to a young gentleman upon subjects of literature* 10. *Theory of language*
History & Biography: 1. *Biographia Britannica or the lives of the most eminent persons* 2. *The history of modern Europe* 3. *The history of England by David Hume* 4. *An historical and critical account of the life of Oliver Cromwell* 5. *Political magazine and parliamentary naval military and literary journal* 6. *The lives and characters of the most illustrious persons British and foreign* 7. *A collection of scarce and valuable tracts on the most interesting and entertaining subjects* 8. *The Harleian miscellany* 9. *Discourses concerning government* 10. *History of my own time*	**Natural Philosophy:** 1. *Memoirs of science and the arts* 2. *The elements of natural or experimental philosophy* 3. *Cyclopdia, or, an universal dictionary of arts and sciences* 4. *An introduction to natural philosophy* 5. *A plain and familiar introduction to the Newtonian philosophy* 6. *Institutes of natural philosophy* 7. *A view of Isaac Newton's philosophy* 8. *History of the progress and present state of animal chemistry* 9. *The chemistry of Gilbert* 10. *Elements of chemistry*
Periodicals & Works: 1. *New York Magazine* 2. *Harrison's British classicks* 3. *The London magazine or, gentleman's monthly intelligencer* 4. *The beauties of history or Pictures of virtue and vice drawn from real life* 5. *The lady's magazine or entertaining companion for the fair sex* 6. *The matrimonial preceptor a collection of examples and precepts*	**Novels & Romances:** 1. *Celestina, a novel* 2. *The fair Hibernian* 3. *Hermione, or the orphan sisters* 4. *The children of the abbey* 5. *A tale of the times* 6. *The officer's tale* 7. *Women as they are* 8. *The house of Tynian* 9. *Exhibitions of the heart* 10. *The advantages of education, or, the history of Maria Williams*

TABLE B1 (*Continued*)

1789–92	1799–1806
7. *The works of Mr. Thomas Brown serious and comical* 8. *The lucubrations of Isaac Bickerstaff* 9. *The wit's magazine or library of Momus* 10. *Emilius or an essay on education* **Political Philosophy & Ancient Rome:** 1. *The Roman history from the foundation of the city of Rome to the destruction of the Western empire* 2. *Memoirs of the court of Augustus* 3. *An universal history from the earliest account of time* 4. *A defence of the constitutions of government of the United States of America* 5. *The constitution of England* 6. *Reflections on the revolution in France* 7. *Reflections on the rise and fall of the ancient republics* 8. *The history of the progress and termination of the Roman republic* 9. *Rom antiquae notitia* 10. *The history of the revolutions that happened in the government of the Roman republic*	**Poetry:** 1. *The speaker, or, miscellaneous pieces selected from the best English writers* 2. *The lady's poetical magazine* 3. *Principles of elocution* 4. *Trifles by Robert Dodsley* 5. *A collection of poems in six volumes* 6. *Miscellany poems* 7. *The British album, containing the poems of Della Crusca* 8. *The new foundling hospital for wit* 9. *The works of Alexander Pope* 10. *American poems, selected and original* **Religion:** 1. *A paraphrase and comment upon the epistles and gospels* 2. *The works of the Reverend John Witherspoon* 3. *Expository notes with practical observations upon the New Testament of our Lord and Saviour Jesus Christ* 4. *Sermons on practical subjects* 5. *An examination of a book intituled the true gospel of Jesus Christ asserted* 6. *Christianity as old as the creation* 7. *The American preacher or a collection of sermons from some of the most eminent preachers* 8. *Eleven select sermons* 9. *No cross, no crown* 10. *A Christian directory, guiding men to their eternal salvation* **Women, Letters & Biography:** 1. *Female biography or memoirs of Illustrious and celebrated women* 2. *The rival mothers or Calumny* 3. *Letters from Lord Rivers to Sir Charles Cardigan* 4. *Letters from the marchioness of Sevigne to her daughter the countess of Grigna* 5. *Adelaide and Theodore or letters on education.* 6. *Eccentric biography or memoirs of remarkable characters, ancient and modern* 7. *Lessons of a governess to her pupils* 8. *Memoirs of a baroness* 9. *Women their condition and influence in society* 10. *The fortunate country maid*

TABLE B1 (*Continued*)

1789–92	1799–1806
	Works, Reviews & Periodicals: 1. *New York Magazine* 2. *Harrison's British classicks* 3. *The Edinburgh repository for polite literature* 4. *The annual review of history and literature* 5. *Winter evenings or lucubrations on life and letters* 6. *The microcosm, a periodical work* 7. *The monthly anthology and Boston review* 8. *The London magazine or, gentleman's monthly intelligencer* 9. *The works of Arthur Murphy* 10. *The critical review, or, annals of literature*

APPENDIX C

Evaluating the Significance of the Semantic Network Results

The extent to which semantic structure and political ideology overlap can be formally assessed using a modularity-based measure. Modularity is a goodness-of-fit measure for network group detection algorithms that compares the number of ties between nodes of the same group to the number of ties between nodes of different groups (Newman 2006). The higher its value, the more modular the network and the more successful the group detection algorithm is at identifying distinct groups (Newman 2006; Shwed and Bearman 2010). I first identify clusters of books using a Louvain group detection algorithm (Blondel et al. 2008), which tells us the most likely group structure given a state-of-the-art group detection algorithm (this is the same measure used to cluster texts into topics). I treat the modularity value attained under the Louvain algorithm as the maximal modularity value, M, of the semantic network. I then classify books according to their political valence, such that if a given book has a political valence greater than zero I assign it to group 1 (Federalist), while if it has a political valence less than zero, I assign it to group 2 (Democratic-Republican/Federalist). I evaluate modularity for this group classification scheme, returning a political modularity value of P, a measure of the extent to which political valence is a meaningful classifier of network structural divisions. I divide P by M to get an estimate of the extent to which the political valence of texts overlapped with the topic structure of the semantic network, or, framed differently, the extent to which the topic structure is accounted for by political ideology. The results show

that politics increasingly conformed to the semantic structure over time, by nearly threefold. In time period 1, the proportion of group structure associated with political valence is 0.12, while in time period 2, the proportion is 0.36.

To evaluate whether either of these values are significantly different from what we should expect by chance, I use a bipartite rewiring procedure (Gobbi et al. 2014) to randomly rewire the underlying reading ledgers (i.e., the linkages between people and books), such that each person read a random set of books, while preserving, for each reader, the number of books that they read, and for each book, the number of times it was checked out. I then recalculate the political valences of books, reclassify books according to political valence, and reevaluate the modularity measure outlined above. This allows us to answer this question: If readers randomly selected the books they read, irrespective of their own political affiliation, how often should we expect to get a modularity-proportion value (P/M) as large or larger as the one we observe here?

I perform this procedure a thousand times, producing a distribution of modularity-proportion values, and evaluate where the observed modularity-proportion value falls in the distribution of simulated results. The results of this exercise for each time period can be found in figures C1 and C2. In the first period, the observed value falls near the median of the simulated distribution, signaling that the observed value for that first period is not significantly larger than we should expect by chance, while in the second period, the observed value lies far outside the 95% interval. In fact, only a single simulation produced a modularity-proportion value as large as that observed in the second period, signaling a strong and significant relationship between politics and the topic structure in the second period.

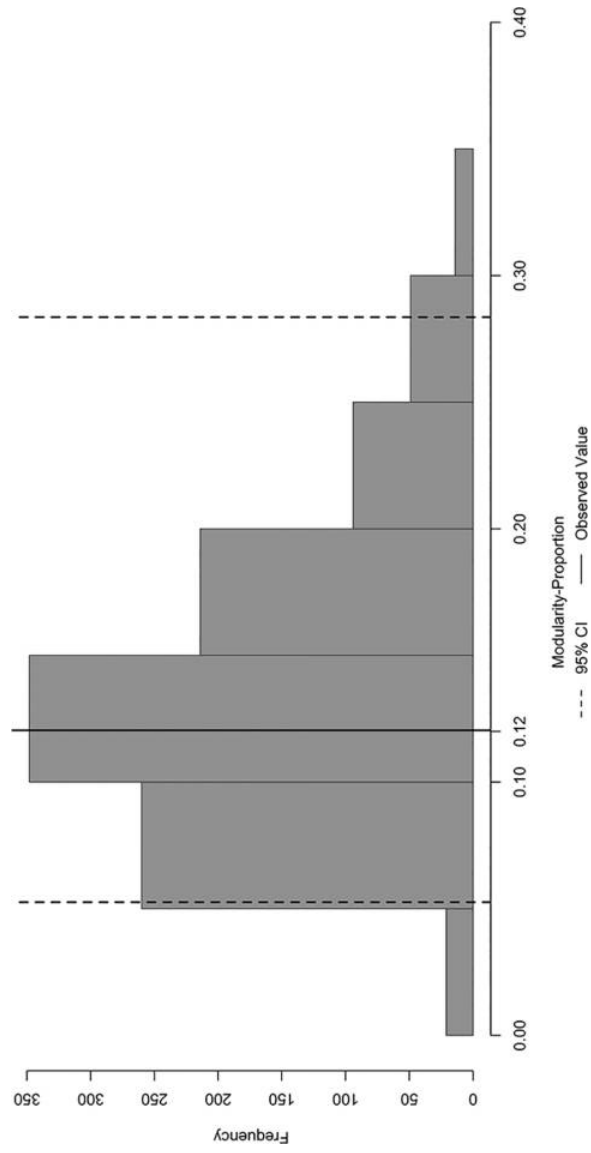


FIG. C1.—The observed modularity-proportion value falls well within 95% interval for the period 1789–92.

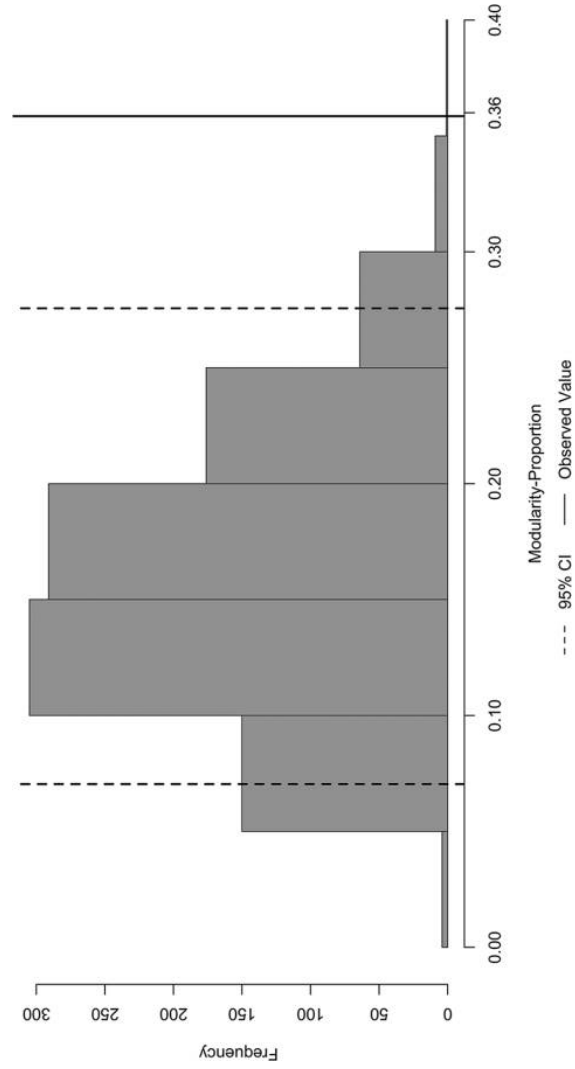


FIG. C2.—The observed modularity-proportion value falls outside the 95% interval for the period 1799–1806.

Are New Members of the Library Driving the Polarization Findings?

In addition to the composition of the library's catalog changing, it is also possible that the composition of the library's members changed over time. Analyzing this might help us account for what is driving the polarization findings. Two distinct hypotheses can explain why reading became more polarized: first, the library expanded over time and this might have brought more politically radical individuals into its membership, leading to starker political differences overall; or people could have actually changed their politics and how and what they read over time as a result of the increasingly politicized environment. I assess these alternatives by rerunning the modularity-proportion analysis for the second period. I look specifically at the results that obtain if only the original members of the library (those who checked out books in both periods) are included in analysis. I compare them to those that obtain when only new library members (those who checked out books only in the second period) are included and those that attain when the entire politician sample (i.e., including both newcomers and original members) is included.

The results can be found in figure C3. Regardless of which sample I use, the observed modularity-proportion value lies outside the 95% interval. At the same time, the observed value for new members is higher than that for original members. This means that both hypotheses put forward above are likely true: original members' reading habits became more political over time and new members had more political reading habits than original members. The observed modularity-proportion value reported in the main text of this article reflects both of these factors.

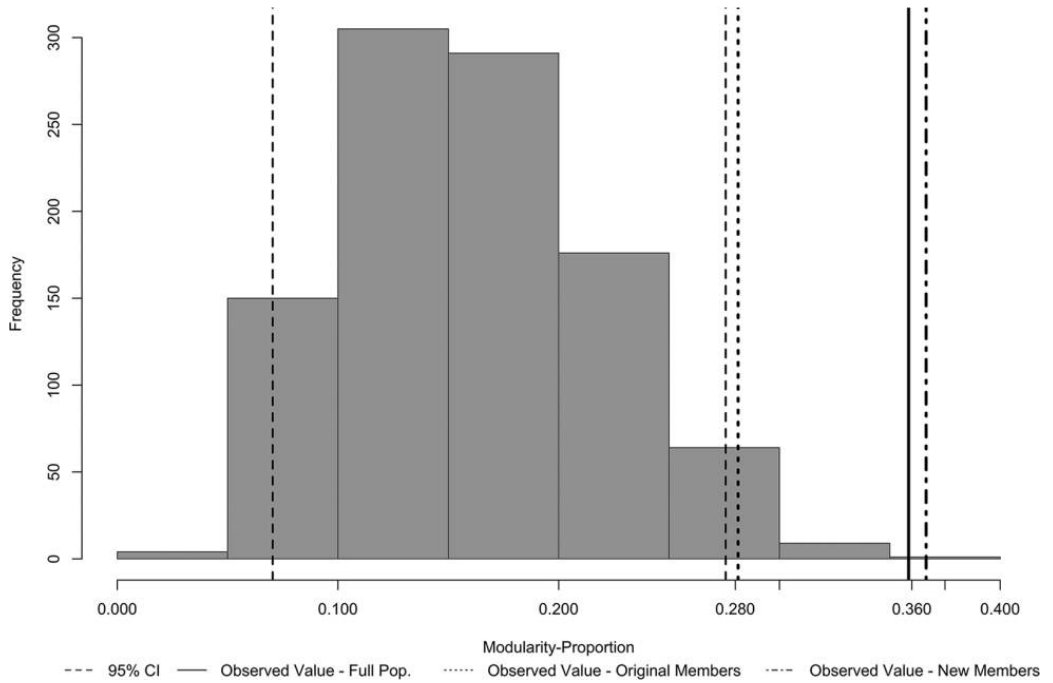


FIG. C3.—The original library members and newcomers both exhibited polarized reading habits above and beyond what we would expect by chance.

Are Differences in Political Valence between Network *Topics* Statistically Significant?

In the main text, I show that political valence increasingly conformed to network structure. Throughout the discussion of the figures, I use the network clusters to understand how political difference related to the broad topics and genres of the library's collection. To justify the descriptions in the text, in this appendix I also assess the mean and standard error of political valence for each topic and use them to both build confidence intervals around each topic's mean and then assess whether the interval crosses zero or overlaps with the intervals of other topics. The results can be found in figure C4. They confirm that in the first period Federalists favored History & Biography, while Antifederalists favored Political Philosophy & Ancient Rome, and that the axis of cultural difference shifted, in the second period, to be being between Novels & Romances and Women, Letters, & Biography, on the one hand, and Religion, Moral Philosophy & Education and Geography & Travel, on the other.

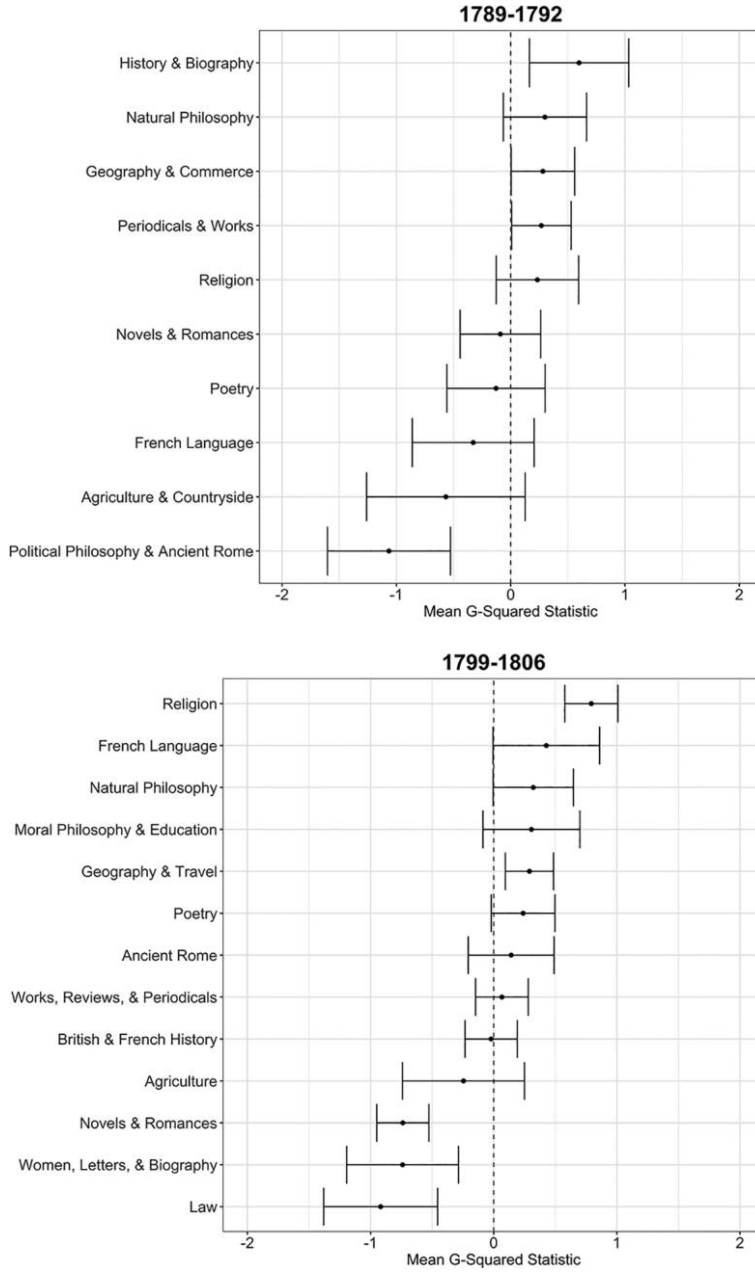


FIG. C4.—Mean valence by topic for each period

APPENDIX D

Does Using Different Measures of Political Valence Affect the Results?

To evaluate how choice in measure affected the assignment of political valence to books, I generated political valences using six different measures: correlation, logistic regression, chi-squared, Cramér's *V*, a partial log-likelihood ratio measure outlined in Rayson and Garside (2000), and the G^2 statistic used in this article. I then correlated the resulting political valences produced by each measure with those produced by every other measure (see fig. D1). The results for all measures are very highly correlated, especially for G^2, correlation, Cramér's *V*, and chi-squared, signaling that they are highly robust to measure choice. For the book-level results, G^2 was selected because it is better able to handle matrices with sparse counts, allowing every book to be included in the analysis. When the full table is analyzed, and therefore comprehensiveness is less of a concern as in the case of the polarization results, Cramér's *V* was used because the number of checkouts varied greatly year to year, and thus, a normalization for *N* was needed to make sense of the results. That said, as is evidenced here, the results are entirely robust to these choices.

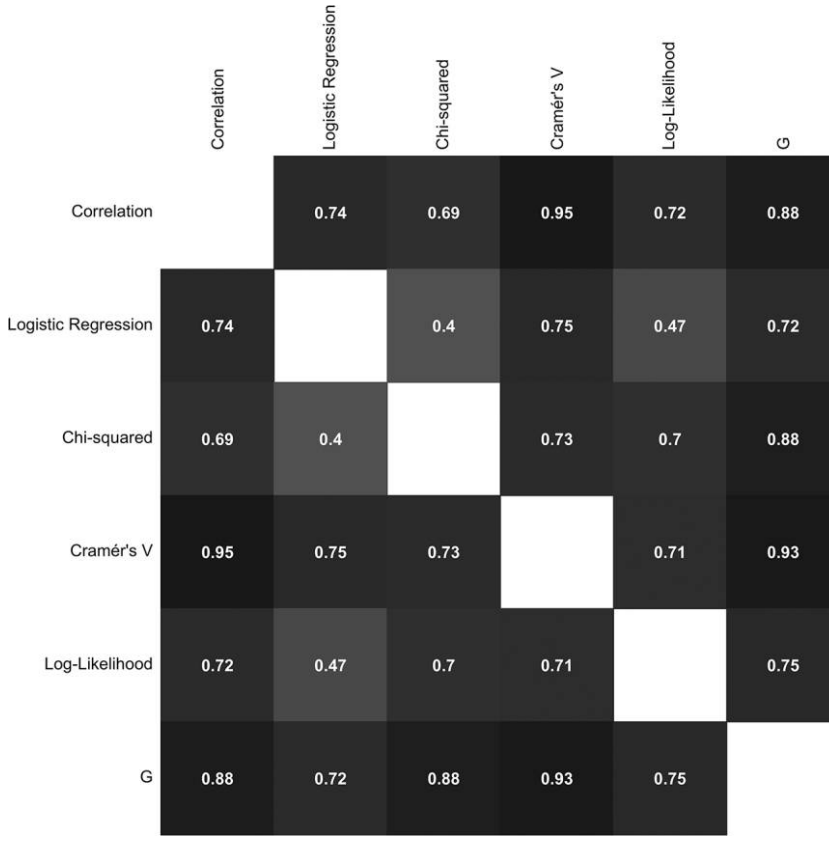


FIG. D1.—Matrix of correlations between political valences produced by six different measures

REFERENCES

Abercrombie, Nicholas, and Bryan S. Turner. 1978. "The Dominant Ideology Thesis." *British Journal of Sociology* 29 (2): 149–70.

Adair, Douglass. 1943. *The Intellectual Origins of Jeffersonian Democracy: Republicanism, the Class Struggle, and the Virtuous Farmer*. New Haven, Conn.: Yale University Press.

Agresti, Alan. 1990. *Categorical Data Analysis*. New York: Wiley.

Althusser, Louis. (1971) 2001. *Lenin and Philosophy and Other Essays*. Translated by Ben Brewster. New York: Monthly Review Press.

Appleby, Joyce. 1982. "Commercial Farming and the 'Agrarian Myth' in the Early Republic." *Journal of American History* 68 (4): 833–49.

Armstrong, Nancy. 1987. *Desire and Domestic Fiction: A Political History of the Novel*. Oxford: Oxford University Press.

Bail, Christopher A. 2016. "Combining Natural Language Processing and Network Analysis to Examine How Advocacy Organizations Stimulate Conversation on Social Media." *Proceedings of the National Academy of Science* 113 (42): 11823–28.
Bailyn, Bernard. 1968. *The Ideological Origins of the American Revolution*. Cambridge, Mass.: Harvard University Press.
Bakhtin, Mikhail M. 1981. *The Dialogic Imagination: Four Essays*. Austin: University of Texas Press.
Bakshey, Eytan, Solomon Messing, and Lada A. Adamic. 2015. "Exposure to Ideologically Diverse News and Opinion on Facebook." *Science* 348 (6239): 1130–32.
Baldassarri, Delia, and Amir Goldberg. 2014. "Neither Ideologues nor Agnostics: Alternative Voters' Belief Systems in an Age of Partisan Politics." *American Journal of Sociology* 120 (1): 45–95.
Banning, Lance. 1980. *The Jeffersonian Persuasion: Evolution of a Party Ideology*. Ithaca, N.Y.: Cornell University Press.
Beard, Charles A. 1914. "Some Economic Origins of Jeffersonian Democracy." *American Historical Review* 19 (2): 282–98.
———. 1915. *Economic Origins of Jeffersonian Democracy*. New York: Macmillan.
Bearman, Peter, Robert Faris, and James Moody. 1999. "Blocking the Future: New Solutions for Old Problems in Historical Social Science." *Social Science History* 23 (4): 501–33.
Bearman, Peter, and Paolo Parigi. 2004. "Cloning Headless Frogs and Other Important Matters: Conversation Topics and Network Structure." *Social Forces* 83 (2): 535–57.
Blei, David M., and John D. Lafferty. 2006. "Correlated Topic Models." *Advances in Neural Information Processing Systems*: 147–54.
Blei, David M., and Pedro J. Moreno. 2001. "Topic Segmentation With an Aspect Hidden Markov Model." Pp. 343–48 in *Proceedings of the 24th Annual International ACM SIGIR Conference on Research and Development in Information Retrieval*. New York: ACM.
Blondel, Vincent D., Jean-Loup Guillaume, Renaud Lambiotte, and Etienne Lefebvre. 2008. "Fast Unfolding of Communities in Large Networks." *Journal of Statistical Mechanics: Theory and Experiment* 10, P10008.
Bonomi, Patricia U. 2014. *A Factious People: Politics and Society in Colonial New York*. Ithaca, N.Y.: Cornell University Press.
Botein, Stephen. 1975. "Meer Mechanics and an Open Press: The Business and Political Strategies of Colonial American Printers." *Perspectives in American History* 9:127–228.
Bourdieu, Pierre. 1984. *Distinction*. Cambridge, Mass.: Harvard University Press.
Boutyline, Andrei, and Stephen Vaisey. 2017. "Belief Network Analysis: A Relational Approach to Understanding the Structure of Attitudes." *American Journal of Sociology* 122 (5): 1371–1447.
Breiger, Ronald L. 1974. "The Duality of Persons and Groups." *Social Forces* 53 (2): 181–190.
———. 2000. "A Tool Kit for Practice Theory." *Poetics* 27:91–115.
Breiger, Ronald L., and John W. Mohr. 2004. "Institutional Logics from the Aggregation of Organizational Networks: Operational Procedures for the Analysis of Counted Data." *Computational and Mathematical Organization Theory* 10:17–43.
Buringh, Eltjo, and Jan L. Van Zanden. 2009. "Charting the 'Rise of the West': Manuscripts and Printed Books in Europe, a Long-Term Perspective from the Sixth through Eighteenth Centuries." *Journal of Economic History* 69 (2): 409–45.
Clark, Charles E., and Clark Wetherell. 1989. "The Measure of Maturity: The *Pennsylvania Gazette*, 1728–1765." *William and Mary Quarterly* 46 (2): 279–303.
Darnton, Robert. 1982. *The Literary Underground of the Old Regime*. Cambridge, Mass.: Harvard University Press.
Davidson, Cathy N. 2004. *Revolution and the Word: The Rise of the Novel in America*. Oxford: Oxford University Press.

DellaPosta, Daniel, Yongren Shi, and Michael Macy. 2015. "Why Do Liberals Drink Lattes?" *American Journal of Sociology* 120 (5): 1473–1511.
DiMaggio, Paul. 1982. "Cultural Entrepreneurship in Nineteenth-Century Boston: The Creation of an Organizational Base for High Culture in America." *Media, Culture and Society* 4 (1): 33–50.
———. 1987. "Classification in Art." *America Sociological Review* 52 (4): 440–55.
DiMaggio, Paul, John Evans, and Bethany Bryson. 1996. "Have Americans' Social Attitudes Become More Polarized?" *American Journal of Sociology* 102 (3): 690–755.
DiMaggio, Paul, Ramina Sotoudeh, Amir Goldberg, and Hana Shepherd. 2018. "Culture out of Attitudes: Relationality, Population Heterogeneity and Attitudes toward Science and Religion in the U.S." *Poetics* 68:31–51.
Eastman, Carolyn. 2009. "A Club Is a Nation in Miniature." Pp. 115–44 in *A Nation of Speechifiers*. Chicago: University of Chicago Press.
Føllesdal, Andreas. 2016. "Federalism." In *the Stanford Encyclopedia of Philosophy*, edited by Edward N. Zalta. Accessed at https://plato.stanford.edu/archives/sum2016/entries/federalism/.
Formisano, Ronald P. 1974. "Deferential-Participant Politics: The Early Republic's Political Culture, 1789–1840." *American Political Science Review* 69 (2): 473–87.
Fraser, Nancy. 1992. "Rethinking the Public Sphere: A Contribution to the Critique of Actually Existing Democracy." Pp. 56–80 in *Habermas and the Public Sphere*, edited by Craig Calhoun. Cambridge, Mass.: MIT Press.
Friedland, Roger, and Robert R. Alford. 1991. "Bringing Society Back In: Symbols, Practices, and Institutional Contradictions." Pp. 232–66 in *The New Institutionalism in Organizational Analysis*, edited by Walter W. Powell and Paul J. DiMaggio. Chicago: University of Chicago Press.
Geiger, Roger L. 2014. *The History of American Education*. Princeton, N.J.: Princeton University Press.
Glynn, Tom. 2005. "The New York Society Library: books, authority, and publics in colonial and early republican New York." *Libraries and Culture* 40 (4): 493–529.
———. 2015. *Reading Publics: New York City's Public Libraries, 1754–1911*. Oxford: Oxford University Press.
Gobbi, Andrea, Francesco Iorio, Kevin J. Dawson, David C. Wedge, David Tamborero, Ludmil B. Alexandrov, Nuria Lopez-Bigas, Mathew J. Garnett, Giuseppe Jurman, and Julio Saez-Rodriguez. 2014. "Fast Randomization of Large Genomic Datasets While Preserving Alteration Counts." *Bioinformatics* 30 (17): i617–i623.
Goldberg, Amir. 2011. "Mapping Shared Understandings Using Relational Class Analysis: The Case of the Cultural Omnivore Reexamined." *American Journal of Sociology* 116 (5): 1397–1436.
Goldberg, Amir, and Sarah K. Stein. 2018. "Beyond Social Contagion: Associative Diffusion and the Emergence of Cultural Variation." *American Sociological Review* 83 (5): 897–932.
Goldberg, David, David Nichols, Brian M. Oki, and Douglas Terry. 1992. "Using Collaborative Filtering to Weave an Information Tapestry." *Communications of the ACM* 35 (12): 61–70.
Haberman, Robb K. 2009. *Periodical Publics: Magazines and Literary Networks in Post-Revolutionary America*. Doctoral dissertation. University of Connecticut.
Habermas, Jürgen. 1991. *The Structural Transformation of the Public Sphere*, translated by Thomas Burger. Cambridge, Mass.: MIT Press.
Hall, Peter Dobkin. 2006. "A Historical Overview of Philanthropy, Voluntary Associations, and Nonprofit Organizations in the United States, 1600–2000." Pp. 32–65 in *The Nonprofit Sector: A Research Handbook*, edited by Walter W. Powell and Richard Steinberg. New Haven, Conn.: Yale University Press.
Hoffman, Mark Anthony, Jean-Phillipe Cointet, Philip Brandt, Newton Key, and Peter Bearman. 2018. "The (Protestant) Bible, the (Printed) Sermon, and the Word(s): The

Semantic Structure of the Conformist and Dissenting Bible, 1660–1780." *Poetics* 68:89–103.
Jerolmack, Colin, and Shamus Khan. 2014. "Talk Is Cheap." *Sociological Methods and Research* 43 (2): 178–209.
Jockers, Matthew L., and David Mimno. 2013. "Significant Themes in 19th-Century Literature." *Poetics* 41 (6): 750–69.
Keep, Austin B. 1908. *History of the New York Society Library, with an introductory chapter on libraries in colonial New York, 1698–1776*. New York: De Vinne Press.
Kirchner, Corinne, and John W. Mohr. 2010. "Meanings and Relations: An Introduction to the Study of Language, Discourse and Networks." *Poetics* 38 (6): 555–66.
Klarman, Michael J. 2016. *The Framers' Coup: The Making of the United States Constitution*. Oxford: Oxford University Press.
Kloumann, Isabel M., and Jon M. Kleinberg. 2014. "Community Membership Identification from Small Seed Sets." Pp. 1366–75 in *Proceedings of the 20th ACM SIGKDD International Conference on Knowledge Discovery and Data Mining*. DOI: 10.1145/2623330.2623621.
Koschnik, Albrecht. 2001. "The Democratic Societies of Philadelphia and the Limits of the American Public Sphere, circa 1793–1795." *William and Mary Quarterly* 58 (3): 615–636.
———. 2007. *"Let a Common Interest Bind Us Together": Associations, Partisanship, and Culture in Philadelphia, 1775–1840*. Charlottesville: University of Press of Virginia.
Lampi, Philip J. 2007. *Lampi Collection of American Electoral Returns, 1788–1825*. American Antiquarian Society. Accessed at: http://elections.lib.tufts.edu/.
Lee, Byungkyu, and Peter Bearman. 2017. "Important Matters in Political Context." *Sociological Science* 4:1–30.
Lizardo, Omar. 2006. "How Cultural Tastes Shape Personal Networks." *American Sociological Review* 71 (5): 778–807
Loughran, Trish. 2006. "Disseminating *Common Sense*: Thomas Paine and the Problem of the Early National Bestseller." *American Literature* 78 (1): 1–28.
Maier, Pauline. 2010. *Ratification: The People Debate the Constitution, 1787–1788*. New York: Simon & Schuster.
Martin, John Levi. 2009. *Social Structures*. Princeton, N.J.: Princeton University Press.
Marx, Karl. 1898. *The Eighteenth Brumaire of Louis Bonaparte*, translated by Daniel De Leon. New York: International.
Mohr, John W. 1998. "Measuring Meaning Structures." *Annual Review of Sociology* 24 (1): 345–70.
Mohr, John W., and Vincent Duquenne. 1997. "The Duality of Culture and Practice: Poverty Relief in New York City, 1888–1917." *Theory and Society* 26:305–56.
Mohr, John W., and Harrison White. 2008. "How to Model an Institution." *Theory and Society* 37 (5): 485–512.
Murdock, Jaimie, Colin Allen, and Simon DeDeo. 2017. "Exploration and Exploitation of Victorian Science in Darwin's Reading Notebooks." *Cognition* 159:117–26.
Murphy, Brian P. 2015. *Building the Empire State: Political Economy in the Early Republic*. Philadelphia: University of Pennsylvania Press.
Nadel, Siegfried F. 1957. *The Theory of Social Structure*. London: Cohen & West.
Nash, Gary B. 1965. "The American Clergy and the French Revolution." *William and Mary Quarterly* 22 (3): 392–412.
Nash, Gary B. 2006. *The Unknown American Revolution*. New York: Penguin Books.
NYSL (New York Society Library). 2011. City Readers. Database. http://cityreaders.nysoclib.org/. Accessed February 2016.
Newman, Mark E. J. 2006. "Modularity and Community Structure in Networks." *Proceedings of the National Academy of Sciences* 103 (23): 8577–82.
Officer, Lawrence H. 1983. "Dollar-Sterling Mint Parity and Exchange Rates, 1791–1834." *Journal of Economic History* 43 (3): 579–616.

Pachuki, Mark A., and Ronald L. Breiger. 2010. "Cultural Holes: Beyond Relationality in Social Networks and Culture." *Annual Review of Sociology* 36:205–24.
Palmer, R. R. 1959. *The Age of Democratic Revolution*. Princeton, N.J.: Princeton University Press.
Paulson, Peter. 1953. "The Tammany Society and the Jeffersonian Movement in New York City, 1795–1800." *New York History* 34 (1): 72–84.
Ramsbey, Thomas W. 1987. "The Sons of Liberty: The Early Inter-Colonial Organization." *International Review of Modern Sociology* 17 (2): 313–35.
Rayson, Paul, and Roger Garside. 2000. "Comparing Corpora Using Frequency Profiling." *Proceedings of the Workshop on Comparing Corpora* 9:1–6.
Robinson, William Alexander. 1916. *Jeffersonian Democracy in New England*. New Haven, Conn.: Yale University Press.
Rohrs, Robert C. 1988. "The Federalist Party and the Convention of 1800." *Diplomatic History* 12 (3): 237–60.
Rule, Alix, Jean-Phillipe Cointet, and Peter Bearman. 2015. "Lexical Shifts, Substantive Changes, and Continuity in State of the Union Discourse, 1790–2014." *Proceedings of the National Academy of Science* 12 (35): 10837–44.
Saussure, Ferdinand, de. 1916. *Course in General Linguistics*. New York: Columbia University Press.
Schoenbachler, Matthew. 1998. "Republicanism in the Age of Democratic Revolution: The Democratic-Republican Societies of the 1790s." *Journal of the Early Republic* 18 (2): 237–61.
Schudson, Michael. 1989. "How Culture Works." *Theory and Society* 18 (2): 153–80.
Sewell, William H., Jr. 1992. "A Theory of Structure: Duality, Agency, and Transformation." *American Journal of Sociology* 98 (1): 1–29.
Sharp, James R. 1993. *American Politics in the Early Republic: The New Nation in Crisis*. New Haven, Conn.: Yale University Press.
Shi, Feng, Yongren Shi, Fedor A. Dokshin, James A. Evans, and Michael W. Macy. 2017. "Millions of Online Book Co-Purchases Reveal Partisan Differences in the Consumption of Science." *Nature Human Behaviour* 1 (4): 0079.
Shields, David S. 1997. *Civil Tongues and Polite Letters*. Chapel Hill: University of North Carolina Press.
Shwed, Uri, and Peter S. Bearman. 2010. "The Temporal Structure of Scientific Consensus Formation." *American Sociological Review* 75 (6): 817–40.
Simmel, Georg. 1950. *The Sociology of Georg Simmel*, edited by Kurt H. Wolff. Glencoe, Ill.: The Free Press.
Slez, Adam, and John Levi Martin. 2007. "Political Action and Party Formation in the United States Constitutional Convention." *American Sociological Review* 72 (1): 42–67.
Smelser, Marshall. 1958. "The Federalist Period as an Age of Passion." *American Quarterly* 10 (4): 391–419.
Sotoudeh, Ramina, Dalton Conley and Kathleen Harris. 2019. "Metagenomic Effects in Human Behavior: The Case of Adolescent Smoking." *PNAS*, forthcoming.
Thompson, E. P. 1963. *The Making of the English Working Class*. New York: Vintage Books.
Tully, Alan. 2003. "The Political Development of the Colonies after the Glorious Revolution." Pp. 29–39 in *A Companion to the American Revolution*, edited by Jack P. Greene and J. R. Pole. Oxford: Blackwell.
Uzzi, Brian, and Jarrett Spiro. 2005. "Collaboration and Creativity: The Small World Problem." *American Journal of Sociology* 111 (2): 447–504.
Wang, Chong, and David M. Blei. 2011. "Collaborative Topic Modeling for Recommending Scientific Articles." Pp. 448–56 in *Proceedings of the 17th ACM SIGKDD International Conference on Knowledge Discovery and Data Mining*. Association for Computing Machinery.

Warner, Michael. 1986. "Franklin and the Letters of the Republic." *Representations* 16:110–30.
———. 1990. *The Letters of the Republic*. Cambridge, Mass.: Harvard University Press.
Waterman, Bryan. 2007. *Republic of Intellect*. Baltimore: Johns Hopkins University Press.
White, Harrison C. 2012. *Identity and Control*. Princeton, N.J.: Princeton University Press.
Williams, Raymond. 1977. *Marxism and Literature*. Oxford: Oxford Paperbacks.
———. 2006. "The Analysis of Culture." Pp. 32–40 in *Cultural Theory and Popular Culture*, edited and with an introduction by John Storey. Harlow: Prentice Hall.
Willis, Edmund P. 2006. *Tax and Census Records, New York City, 1789–1790 and 1810*. Ann Arbor, Mich.: Inter-university Consortium for Political and Social Research [distributor].
Wood, Gordon S. 1991. *The Radicalism of the American Revolution*. New York: Vintage.
———. 1999. "The Real Treason of Aaron Burr." *Proceedings of the American Philosophical Society* 143 (2): 280–95.
Young, Alfred. 1964. "The mechanics and the Jeffersonians: New York, 1789–1801." *Labor History* 5 (3): 247–76.
Young, Alfred. 1967. *The Democratic Republicans of New York: The Origins, 1763–1797*. Chapel Hill: University of North Carolina Press.
Zagarri, Rosemarie. 2011. *Revolutionary Backlash: Women and Politics in the Early American Republic*. Philadelphia: University of Pennsylvania Press.