



## The Idea of Liberty 1600-1800: a distributional concept analysis

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Abstract:	This article uses computational and statistical methods for analysing the concept of liberty 1600-1800. Based on a bespoke set of tools for parsing conceptual structures it contributes to the literature on the concept of liberty and engages with the thesis concerning negative liberty first put forward by Isaiah Berlin and subsequently modified by Quentin Skinner.

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### The idea of Liberty, 1600-1800: a distributional concept analysis

Intellectual historians of early modern and enlightenment Europe have established a tradition of thought within which many of our contemporary ideas of politics find their roots. Of course, political concepts such as ‘republicanism’ were not invented in this historical time-frame, and most if not all of our contemporary political ideas can trace their histories back to classical times. Notwithstanding such *longue durée* accounts there is a place for more time constrained analyses and the following focus on the two hundred years between the start of the seventeenth century and the end of the eighteenth works within a well delineated tradition of scholarship that gives significant emphasis to this period.<sup>1</sup> This is to note that many of the ideas which contribute to our senses of contemporary social, legal and political life were given explicit and extensive attention during these two centuries in Britain. For present purposes, given the readership of this journal, one can call to mind the work of Quentin Skinner, John Pocock and Reinhart Koselleck and the intricate legacies produced by this work as a convenient shortcut for establishing a context for the following observations. This scholarship is not, of course, uncontested and in common with deep and powerful traditions of intellectual history it has produced revision and re-calibration.<sup>2</sup> This essay does not set out to adjudicate in any of the local arguments that appear in this tradition, rather it aims to outline the ways in which a new method for the history of ideas, based upon computational modes of inquiry, might contribute to it. This method has been developed within the (removed for blind review purposes) over the last three years.

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<sup>1</sup> This tradition is extensive but see *inter alia* Quentin Skinner, *The Foundations of Modern Political Thought*, 2 vols. (Cambridge: Cambridge University Press, 1978); J.G.A. Pocock, *Virtue, Commerce and History: Essays on Political Thought and History, Chiefly in the Eighteenth Century* (Cambridge: Cambridge University Press, 1985); C.B Macpherson, *The Political Theory of Possessive Individualism* (Oxford: Oxford University Press, 1962); Alan Craig Houston, *Algernon Sidney and the Republican Heritage in England and America* (Princeton: Princeton University Press, 1991); P. Pettit, *Republicanism: a Theory of Freedom and Government* (Oxford: Clarendon Press, 1997).

<sup>2</sup> Among others see: Annabel Brett and James Tully, with Holly Hamilton-Bleakley, *Rethinking the Foundations of Modern Political Thought* (Cambridge: Cambridge University Press, 2006).

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3 As its titles indicates, the essay seeks to investigate the idea of liberty across the  
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5 seventeenth and eighteenth centuries. Throughout our attention will be directed at its  
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7 operation within English, and the data upon which our investigations are based has been  
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9 extracted from the digital archives of printed materials, ECCO and EEBO-TCP. Comprising  
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11 some 180,000 titles, 200,000 volumes and more than 33 million pages of text, Eighteenth  
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13 Century Collections Online (ECCO) is well-known as the world's largest digital archive of  
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15 books from the eighteenth century, containing "every significant English-language and  
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17 foreign-language title printed in the United Kingdom between the years 1701 and 1800".<sup>3</sup>  
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19 The entire corpus has been scanned and optical character recognition has been applied to the  
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21 texts, resulting in a 'machine-readable' version of each that can be subjected to computational  
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23 analyses. A limitation of this resource is the high degree of error in the recognised text. The  
24  
25 Early Modern OCR Project, a project aiming to build a bespoke process for applying optical  
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27 character recognition (OCR) to early modern texts in such a way as to achieve high levels of  
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29 accuracy, ultimately was only able to achieve 86% accuracy, and even the most up-to-date  
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31 version of the OCR based ECCO texts offered by Gale Cengage have been estimated at only  
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33 89% accuracy.<sup>4</sup> Because OCR errors are far more likely to result in nonwords than they are  
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35 to transform words to other valid words, digital searches for particular terms (e.g., "freedom")  
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37 will underestimate the frequencies of these words. Our analyses primarily *compare*  
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39 frequencies and associations of particular terms ("freedom", "liberty") and phrases (e.g.,  
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41 "freedom to", "freedom for"), so it is proportions that are important rather than absolute  
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43 frequencies. As there is no reason *a priori* to believe that one of these words or phrases will  
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50 <sup>3</sup> Gale: Eighteenth Century Collections Online." Gale Cengage corporate website. 2018. Accessed July 6, 2018.  
51 <https://www.gale.com/primary-sources/eighteenth-century-collections-online>.

52 <sup>4</sup> Mandell, Laura C., Matthew Christy, and Elizabeth Grumbach. *EMOP Mellon Final Report. Report*. Initiative  
53 for Digital Humanities, Media, and Culture, Texas A&M University. September 30, 2015. Accessed July 6,  
54 2018. <http://emop.tamu.edu/news>. Mandell, Laura C., Clemens Neudecker, Apostolos Antonacopoulos,  
55 Elizabeth Grumbach, Loretta Auvil, Matthew J. Christy, Jacob A. Heil, and Todd Samuelson. "Navigating the  
56 storm: IMPACT, eMOP, and agile steering standards." *Digital Scholarship in the Humanities* 32, no. 1 (2017):  
57 189-194.  
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3 be vastly more subject to OCR error than the other, we have confidence that the OCR error is  
4 not having a disproportionate impact on our conclusions, but it must be kept in mind as a  
5 source of noise.<sup>5</sup>  
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10 Early English Books Online (EEBO) consists of over 125,000 books published in  
11 English, primarily between the years of 1600 and 1700, and drawn from Pollard &  
12 Redgrave's Short-Title Catalogue (1475-1640), Wing's Short-Title Catalogue (1641-1700),  
13 Thomason Tracts (1640-1661), and the Early English Books Tract Supplement (16th and  
14 17th centuries).<sup>6</sup> In contrast to ECCO, for which results of the application of OCR to the  
15 scanned images are licensed to universities with a subscription to the resource, this is not the  
16 case for EEBO. The Early Modern OCR Project (EMOP), the only research group of which  
17 we are aware that has attempted to apply OCR to the full EEBO corpus, ultimately achieved  
18 word accuracy levels of 68%, and produced files that can be searched online  
19 at [18thconnect.org](http://18thconnect.org). A researcher who makes manual corrections using this online interface is  
20 permitted to download the specific files that he or she has corrected. However, EMOP's  
21 license ultimately did not allow them to make a machine-readable version of the whole of  
22 EEBO available to the wider research community in a format suitable for text and data  
23 mining. For this reason, our analyses on EEBO are necessarily restricted to the manually  
24 transcribed texts of EEBO-TCP. EEBO-TCP continually grows in size as new texts are  
25 transcribed and added to the dataset. At the time we obtained access to the corpus, it  
26 contained 52,915 texts in total, over 90% of which fell between the years 1600 and 1700 and  
27 were therefore used in this analysis.  
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50 One further note of explanation with respect to the dataset ECCO will be useful. It is  
51 often remarked that books printed during this period have a complex relation to the notion of  
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55 <sup>5</sup> We have also applied a bespoke 'clean up' method in order to improve accuracy. A full explanation of this  
56 method can be found at: <http://.removed for blind review purposes>.

57 <sup>6</sup> See <https://historicaltexts.jisc.ac.uk/collections#eebo>  
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3 the 'original' edition or to reprints.<sup>7</sup> For this reason counts of the uses of words that are  
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5 based on the entire content of the dataset need to be tempered with respect to the vagaries of  
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7 eighteenth century 'publication'. Our own analyses of the dataset, however, indicate that for  
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9 these purposes the noise that is produced by multiple editions or printings of the same text is  
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11 not significant. ECCO contains approximately 207,628 texts, and the number of these that  
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13 are alternate editions of another work with the same title and volume is 7,679 (or 3.70 % of  
14  
15 the total number of texts). The number of these that are identical to another work with the  
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17 same title, volume, and edition but a different publisher's or printer's imprint is 6,482 (3.12 %  
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19 of the total number of texts). The number of outright duplicates is 1,362 (0.66 %).  
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23 Our aim in this paper is to test the efficacy of computational text mining techniques  
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25 for the history of ideas. More specifically, employing some strategies developed within  
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27 (removed for blind review purposes), we present here a counter example to mainstream  
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29 histories of ideas that are based upon the close reading of a small sample of texts, by reading  
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31 the archive in its totality. This entails using tools developed within digital forms of  
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33 scholarship which are based upon both computational and statistical methods.  
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37 The potential benefit of the strategy is the elaboration of a complementary account of  
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39 the history of the idea of liberty that is based upon its general dispersion within the print  
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41 culture as a whole. No one scholar can read the entire printed archive of this period, and it is  
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43 important to recognise that computers (accurately speaking) cannot do so either. But  
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45 software can be used to extract data from large datasets in order to help us build a picture of  
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47 the culture at large in so far as it has been preserved or sedimented within the archive of  
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49 printed books represented by our two datasets. Our approach, then, turns away from grand  
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51 theory, or the master tradition of thinking about ideas, in order to explore their dispersal and  
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55 <sup>7</sup> On the book trade in the period see James Raven, *The Business of Books: Booksellers and the English Book*  
56 *Trade 1450-1850* (New Haven: Yale University Press, 2007); James Raven, *Judging New Wealth: Popular*  
57 *Publishing and Responses to Commerce in England, 1750 -1800* (Oxford: Oxford University Press, 1992).  
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3 traction within the culture at large. To some extent the approach we take here can be  
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5 compared to some current projects in historical linguistics such as LDNA, based in Sheffield,  
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7 which also use methods developed in corpus and computational linguistics. This project  
8  
9 focuses on the early modern period, using a transcribed subset of Early English Books Online  
10  
11 (EEBO-TCP) in combination with a thesaurus categorisation of word senses from the period  
12  
13 to examine the change over time of raw word association frequencies and pointwise mutual  
14  
15 information scores between pairs of terms of interest.<sup>8</sup> A different project based in  
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17 Amsterdam, Texcavator, allows users to explore the development of sentiment around issues  
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19 in newspaper text, presenting results in the form of histograms of word clouds and word and  
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21 sentiment dictionary frequencies, alongside document metadata.<sup>9</sup> And a project based in  
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23 Brussels has created a method for multi-dimensional scaling of distributional semantic  
24  
25 change, in order to analyse a change in meaning in positive evaluative adjectives in American  
26  
27 English from 1860-2000, using PMI weighted co-occurrence scores derived from ten word  
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29 windows around the term of interest.<sup>10</sup> Lastly, there is also a project based in Helsinki which  
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31 aims to analyse publication trends in the field of history in early modern Britain and North  
32  
33 America in 1470–1800, based on English Short Title Catalogue (ESTC) data.<sup>11</sup> The major  
34  
35 difference between the work we present here and these other projects is our emphasis on  
36  
37 conceptual structure or behaviour as opposed to semantic shifts. We do not deny, however,  
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39 that changes in structure are likely to be congruent with changes in the meanings of terms.  
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47 <sup>8</sup> See Fitzmaurice, S., Robinson, J. A., Alexander, M., Hine, I. C., Mehl, S., & Dallachy, F., 'Linguistic DNA:  
48 investigating conceptual change in early modern English discourse.' *Studia Neophilologica*, 89 (sup1), (2017):  
49 21-38

50 <sup>9</sup> See Eijnatten, Joris van, Toine Pieters, and Jaap Verheul. 'Using Texcavator to Map Public Discourse'.  
51 *Tijdschrift voor Tijdschriftstudies* 35 (2014): 59-65.

52 <sup>10</sup> See Heylen, Kris, Thomas Wielfaert, and Dirk Speelman, 'Tracking change in word meaning. A dynamic  
53 visualization of diachronic distributional semantic models.' DGfS 2013-Workshop on the Visualization of  
54 Linguistic Patterns, University of Konstanz, Germany. Retrieved from [http://ling.unikonstanz.de/pages/home/hautli/LINGVIS/dgfs13\\_heylenetal\\_abstract.pdf](http://ling.unikonstanz.de/pages/home/hautli/LINGVIS/dgfs13_heylenetal_abstract.pdf), 2013.

55 <sup>11</sup> See Tolonen, Mikko, Leo Lahti, and Niko Ilomäki, 'A quantitative study of history in the English short-title  
56 catalogue (ESTC), 1470-1800'. *Liber quarterly* (2015). Also at <https://comhis.github.io/outputs/>

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3 An initial observation of the following kind helps orient our approach: let us say that  
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5 Hobbes had a theory of liberty which directed his thinking with this idea, but did his fellow  
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7 citizens mirror or adopt this thinking? Of course, we cannot answer that question with very  
8  
9 fine-grained detail since those citizens may have thought about the idea in numerous ways  
10  
11 that never fell into print transcriptions of such thinking. Nevertheless, we believe that a full-  
12  
13 scale survey of the printed text archive does provide us with valuable insights into the ways  
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15 in which a culture formulated and used ideas in the past.  
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19 One can grasp the trajectory of this endeavour by noting the following: since the  
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21 publication of Isaiah Berlin's lecture on the 'Two Concepts of Liberty' in 1958 intellectual  
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23 historians and political theorists have debated with some vigour the notion that liberty comes  
24  
25 in two different guises. The first, positive liberty, is based upon our freedom to choose what  
26  
27 we do. The second, negative liberty, is based upon our accepting constraints upon how we  
28  
29 act, freedom *from* slavery, for example. And this debate has a very clear contemporary  
30  
31 relevance: it helps us understand our own attempts to work within (or against) what has come  
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33 down to us as a theory of government and democracy based upon 'liberalism'. Our  
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35 concluding section outlines ways in which computational methods can shine a light on the  
36  
37 emergence or incubation of such a theory, effectively mapping the shifting lexical terrains  
38  
39 within which our two terms 'freedom' and 'liberty' operated in English at the end of the  
40  
41 eighteenth century. Such an account helps us understand how concepts coagulate or  
42  
43 constellate over time and provide the basis for the articulation of complex political ideas.  
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45 From the evidence of our data mining we believe that any close grained historical account of  
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47 what has become a contested but nevertheless widely accepted truth – broadly speaking the  
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49 identification of liberalism's triumph over republicanism,<sup>12</sup> or more narrowly the  
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51 interdependence of liberty and individual rights - based on English language sources (as this  
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56 <sup>12</sup> See for example Philip Pettit, *Republicanism: A Theory of Freedom and Government* (Oxford: Oxford  
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60 Univeristy Press, 1999), 41-50.

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3 study is and recognises as a limitation due to comparability of available datasets) is likely to  
4 find the last thirty years of the eighteenth century of particular importance. Indeed, a strongly  
5 formulated revision to the prevailing orthodoxy notes that the longer *durée* history of the  
6 political idea of liberty is likely to pass over the intense work of conceptual formation and  
7 adaptation that occurred in this thirty-year period. The sweep of our essay, then, moves from  
8 the well-embedded accounts of liberty both historically and philosophically, that is from  
9 Cambridge School accounts and the post Isaiah Berlin philosophical tradition, to a data  
10 supported conceptual micro-history that identifies forces active in the last decades of the  
11 eighteenth century.<sup>13</sup> It may be useful to note here that in our view ‘surface’ or ‘distant’  
12 reading (the terms that have become established for describing methods of interrogating  
13 digital text archives through computational means) is not an end in itself. Indeed, the very  
14 terms are misleading because machine modes of data extraction are not in any sense ‘distant’  
15 from the texts to which they are applied: such methods when applied at scale read  
16 exponentially closer than humans are capable of doing. Moreover, as the concluding sections  
17 of this essay suggest, reading at scale can have the effect of identifying very local effects that  
18 otherwise are unperceivable. When we uncover such spikes in a general trend they should be  
19 understood as diagnostic with respect to further interrogation of the underlying data. Thus,  
20 we propose this essay as an invitation to return to the more generously constructed historical  
21 context of our thirty-year period, thereby combining the new methods used here with more  
22 conventional modes of the history of ideas. Our hope is to extend and expand the field as it  
23 has evolved, not to supplant it. We begin, however, in the pre-history of this emergent  
24 political category ‘liberalism’, by asking the extent to which the dominant account of two  
25 types of liberty (as mapped by Berlin and his interlocutors) might have been recognisable to  
26 - say – an English gentleman in 1660.

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<sup>13</sup> See Quentin Skinner, *Liberty before Liberalism* (Cambridge: Cambridge University Press, 1998).



## 1. Raw frequency

Our procedure in the following is incremental: we begin with some rudimentary exercises in data extraction from our two datasets before employing some more sophisticated techniques for parsing conceptual forms. As the evidence accumulates we believe a clear picture emerges over the course of two centuries and this picture has some elements in common with some extant accounts which we shall comment upon at the close of the essay. Let us begin with a very simple enquiry of our data: what did the noun ‘liberty’ associate with over the first one hundred years of our restricted time period? And how frequently did it do so? Did agents in the seventeenth century speak of ‘liberty from servitude’? Did they think of themselves as free from persecution? We can quickly find answers to these questions by searching through the EEBO-TCP dataset in order to find all the uses of the phrase ‘liberty from’. The results indicate that liberty was most commonly understood to be *from* sin (or sinne in its variant spelling), a total of fifty-seven occurrences across the century. The next most common was bondage, a total of thirty-six occurrences. Law (24), prison (15), necessity (13), God (12), power (11), king (10), oppression (9), tyranny (9), imprisonment (8) and coercion (8) are the next most frequent terms.

A very elementary comparison with the phrase ‘freedom from’ helps us begin to see an outline. The same search for this alternative yields the following results: freedom *from* was most commonly attached, once again, to sin (including sinne) – a total of three hundred and thirty-nine occurrences across the seventeenth century. And bondage was the next most common, with seventy-one occurrences. Law (55), guilt (49), punishment (47), death (38), arrests (36), evil (35), curse (33), power (31), pain (31), condemnation (30), persecution (27), misery (27) and trouble (25) are the next most common. Here one can see that although the two phrases were applied equally commonly to sin, bondage, and law, for the most part they shared very few nouns to which the phrases were applied. This initial inspection of the data

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3 leads us to suppose that ‘liberty’ and ‘freedom’ certainly shared habits of usage – let us say  
4 they operated in a similar ideational terrain – but they were clearly not identical. We shall  
5 keep this firmly in view as we begin to investigate the extent to which we can identify two  
6 different ideas or concepts – liberty and freedom - at work across the two centuries.  
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12 In our second data extraction we have inspected the raw frequency of the two variants  
13 of the phrases ‘liberty to’ and ‘liberty from’ and compared these with ‘freedom from’ and  
14 ‘freedom to’. The data is presented in the following table:  
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19 Insert table 1  
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25 As one can see, the data indicates that ‘freedom from’ was far more common than ‘liberty  
26 from, and, correspondingly, the frequency of the phrase ‘freedom to’ is far smaller than  
27 ‘liberty to’: five hundred and eleven occurrences compared to 3,143. This clearly marks a  
28 distinction in the uses for the two words and one might begin to hazard that this difference is  
29 determined by the positive or negative senses of the concept of liberty. Although one could  
30 think of freedom in its positive inflection, freedom to choose what one might do, that  
31 conception was much more commonly articulated in the verbal expression ‘*liberty to*’ do  
32 something. Conversely, the negative inflection, liberty from restraint was more commonly  
33 articulated in the verbal expression ‘*freedom from*’.  
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45 If we now extract the data for these uses across the two centuries we can begin to note  
46 how the idea of liberty slowly but surely became distinct from the idea of freedom:  
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3 These raw frequencies of the phrases indicate clearly that over the two centuries the uses of  
4 freedom in both the positive and negative liberty senses evens out: where ‘freedom from’ in  
5 the early seventeenth century is clearly more common than ‘freedom to’, by the end of the  
6 eighteenth century there is no clear preference. The story with liberty is markedly different:  
7 ‘liberty to’ is far more common across the two hundred years. If we are to understand  
8 ‘liberty’ as a distinct idea from ‘freedom’ these data suggest that liberty was articulated in the  
9 positive sense: liberty to act as one wished. In the case of ‘freedom’ there seems to have  
10 been no clear preference for the positive or negative sense.  
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## 21 **2. Distributional probability**

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24 In our next data extraction we have used a more sophisticated tool for analysing very  
25 large datasets of language use. In this case we are using statistical methods for predicting the  
26 likelihood of two terms co-associating. The use of the term ‘co-associating’ is intended to  
27 signal that our approach is slightly different from most corpus linguistic studies which use the  
28 term ‘co-occurrence’. Firstly, the use of ‘association’ underlines our focus on ideas which  
29 are said to be linked in the mind through a process of association: when we derive data on  
30 words or terms appearing in a text stream at different proximities we mean to be directing  
31 attention away from their purely linguistic attributes or functionality, that is away from  
32 grammar or syntax, towards an underlying conceptual architecture. Secondly, when we  
33 derive data from co-occurrence at wide spans – say one hundred words away – we are not  
34 likely to be picking up on grammatical or syntactic coherence: the words do not occur with  
35 each other in a sense that may be explained by the rules of natural language. Their appearing  
36 in some kind of stretched linkage may be more likely explained by the fact that the text is  
37 concerned with a topic – hence words that contribute to the semantic field which  
38 characterises, say, our discussion of the weather are likely to be scattered across lengthy  
39 segments of text. ‘Co-association’, then, across varying spans or distances is intended to  
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3 capture the fact that we are building a picture of a unit of thinking or understanding that in  
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5 common speech we call an idea.  
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8 Our measure of distributional probability, *dpr*, is created by first observing the raw  
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10 frequency of occurrence of the target term and then calculating the statistical probability of  
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12 such a term co-associating with every other term in the dataset. This enables us to create a  
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14 measure against which we can compare the actual occurrences of every co-associated pair of  
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16 terms. We generate a numerical value from these calculations, the *dpr*, which gives us an  
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18 index to the degree to which lexis is statistically co-associated throughout the dataset. This  
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20 measure can be plotted above a baseline which is calculated by assuming that the target term  
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22 could in theory be found in proximity to every other term were that term to be randomly  
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24 distributed within a string of lexis. It is important to note that our measure is not sensitive to  
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26 grammar or syntax which allows us to inspect co-association at large spans or distances  
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28 between terms. Thus, our tool enables us to inspect spans from close up (five words either  
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30 ante or post the target term) to far away (one hundred words either ante or post). The purpose  
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32 of doing this is to capture information on lexical behaviour through the discovery of patterns  
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34 of co-association between terms so as to construct a ‘conceptual signature’, a unique  
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36 identification for any concept based upon data derived from distributions in lexical use. Most  
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38 linguistically slanted research that utilizes similar techniques based on neo-Firthian  
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40 distributional semantics is interested in the features of a language that enable or construct  
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42 coherence.<sup>14</sup> And in work of this kind aimed at understanding conceptual relations statistical  
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44 regularities in grammatical structure are a key component. Our approach differs in that it  
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46 does not use this method, and does not try to detect relations like meronymy and hypernymy,  
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53 <sup>14</sup> See Sinclair, J., Jones, S., Daley, R. and Krishnamurthy, R. *English Collocational Studies: The OSTI Report*  
54 (London: Continuum, 2004); Hoey, M., Mahlberg, M., Stubbs, M. and Teubert, W, *Text, Discourse and*  
55 *Corpora: Theory and Analysis* (London: Continuum, 2007); and for a review of the field see Tony McEnery and  
56 Andrew Hardie, *Corpus Linguistics: Method, Theory and Practice* (Cambridge: Cambridge University Press,  
57 2012).  
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3 rather we detect a general association relation from supra-sentential co-occurrences.<sup>15</sup> Thus  
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5 the co-association data we have captured in the following analysis helps us identify the  
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7 widest lexical terrain within which a target term operates without regard to immediate  
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9 syntactic placement or grammatical aspect. When we inspect both close up and increasingly  
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11 distant behaviour of two co-associated terms we can begin to assess the strength of ‘binding’  
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13 that occurs between any two terms. In this way we can move from strictly semantic or  
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15 syntactic binding – as in phrases that are common in the English language – to a different  
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17 kind of binding that we think of as more narrowly ‘conceptual’. In this way we can start to  
18  
19 map the lexical terrain within which ideas circulate and are given shape, structure and form.  
20  
21

22  
23 In the following analyses we used our tool to inspect the number of highly co-  
24  
25 associated terms for a selected target term as distance from the target increases. We have  
26  
27 done this for sample decades over the two centuries. The first line in the table indicates the  
28  
29 number of new terms that appear in the co-association list for any given span and the second  
30  
31 line indicates the percentage of terms that are preserved from the previous span. This is the  
32  
33 first data for the term liberty in the decade 1620-30:  
34  
35

36  
37 Insert table 3  
38  
39  
40  
41

42  
43 As one can see ‘liberty’ does not preserve a common set of co-association: at each span  
44  
45 increase new lexis enters the co-association list. Thus, between distance ten and twenty 158 new  
46  
47 terms appear in the list. Between distance ninety and one hundred 149 new terms appear.  
48

49 The percentage report tells the same story from the other angle: very small amounts of lexis  
50  
51

52  
53  
54 <sup>15</sup> See J. R. Firth, ‘The Technique of Semantics’, *Transactions of the Philological Society* 34, no. 1: 36-73; J.  
55 Sinclair, *Corpus, Concordance, Collocation* (Oxford: Oxford University Press, 1991); and for a good overview  
56 of historical semantics see Christian Kay and Katheryn L. Allan, *English Historical Semantics* (Edinburgh:  
57 Edinburgh University Press, 2015).  
58  
59

1  
2  
3 are preserved as the distance lengthens. This can be compared to the report for the later  
4  
5 decade, 1680-90:

6  
7  
8 Insert table 4  
9

10  
11  
12  
13 Here we can see that the preservation of the same words as distance varies is greater than in  
14 the earlier decade. If one compares what happens at close range, between five and ten terms  
15  
16 away in the two time slices, we see that the increase from 1620-30 to 1680-90 is marked:  
17  
18 12.9% to 37.4%, and then in the next distance window 9.2% to 29.2%. The reports from the  
19  
20 two corresponding decades in the eighteenth century follow. This is the data for 1720-30:  
21  
22  
23

24  
25 Insert table 5  
26  
27  
28  
29  
30

31 In this decade of the eighteenth century we can immediately see a very different pattern:  
32  
33 ‘liberty’ hardly attracts any new co-associated lexis as distance or span increases. Or, to put  
34  
35 that the other way, the preservation of the same co-associated lexis runs at around 70% for  
36  
37 most of the distance markers. This is report for 1780-90:  
38  
39

40  
41 Insert table 6  
42  
43  
44  
45

46 Now the preservation is closer to 80% right across the spans. The data gives us a very clear  
47  
48 picture of the shape of binding for the word ‘liberty’ across two centuries. In the early  
49  
50 seventeenth century ‘liberty’ operates in a varied lexical terrain. At close span it has strong  
51  
52 binding with a wide variety of other terms, and as distance increases this varied binding  
53  
54 persists, adding new lexis to its operational terrain at each distance marker. At the end of the  
55  
56  
57  
58  
59  
60

1  
2  
3 eighteenth century the picture has reversed: close to the varied pattern of binding is  
4 maintained but as the span increases the number and variation of bound terms falls  
5 dramatically, which is to note that the bound terms are *predominantly the same* as distance  
6 increases.  
7  
8  
9  
10

11  
12 We can compare this binding profile with ‘freedom’s’. This is the report for 1620-30,  
13 using the variant spelling ‘freedome’:  
14  
15

16  
17 Insert table 7  
18  
19  
20  
21  
22

23 And the following for ‘freedom’ 1680-90 (because the variant spelling had become rare by  
24 the end of the seventeenth century) demonstrates a very similar profile:  
25  
26  
27

28 Insert table 8  
29  
30  
31  
32  
33

34 In common with ‘liberty’ over the course of the seventeenth century, ‘freedom(e)’ binds with  
35 a wide range of other terms and as distance increases it attracts new and different terms. If  
36 this is then compared to the reports for the eighteenth century the following picture emerges.  
37  
38  
39

40 This is the data for 1720-30:  
41  
42

43 Insert table 9  
44  
45  
46  
47  
48

49 And this is the data for the later time slice, 1780-90:  
50  
51

52 Insert table 10  
53  
54  
55  
56  
57  
58  
59  
60

1  
2  
3 Here one can note that the preservation of bound tokens over distance increases  
4  
5 diachronically but to a lesser degree than for 'liberty'. Where 'freedom' has a maximal  
6  
7 preservation between any distance marker of 51.6% in the date range 1780-90, 'liberty'  
8  
9 preserves 84.2% of bound lexis in the same date range. Another measure helps us capture  
10  
11 further the difference between the two terms with respect to change over time. Here we have  
12  
13 compared the preservation of lexis at the same distance (ten terms apart) between two dates  
14  
15 in the eighteenth century, 1720-30 and 1780-90, for each of the two terms:  
16  
17

18  
19 Insert table 11  
20  
21  
22  
23

24  
25 We are now seeing a consistent pattern: liberty operates in a very stable lexical terrain over  
26  
27 the course of the eighteenth century. The opposite is the case for 'freedom'.  
28  
29

### 30 **3. The convergence of the ideas of 'liberty' and 'freedom'**

31  
32 In our analyses so far we have identified differences in the behavior of the two terms  
33  
34 'liberty' and 'freedom' across the seventeenth and eighteenth centuries. We contend that this  
35  
36 difference in lexical behavior maps onto a difference in conceptual structure: although they  
37  
38 share a lexical terrain, and as shall become evident below, these terrains converge by the end  
39  
40 of the eighteenth century, we believe that 'liberty' and 'freedom' are nevertheless structured  
41  
42 differently as concepts. If we track the common co-associated lexis at distances between five  
43  
44 and one hundred over the two centuries this difference is clearly observable, as is the  
45  
46 convergence noted above. The following table provides the data for the overlap between the  
47  
48 co-association lists for the two terms 'liberty' and 'freedom' (the number of co-associated  
49  
50 terms on these lists is given in columns two and three, and the number of terms that are  
51  
52 common to both lists in column four):  
53  
54

55  
56 Insert table 12  
57  
58  
59  
60



1  
2  
3  
4  
5  
6  
7  
8  
9 This can be compared with the later time slice:

10  
11 Insert table 13  
12  
13  
14  
15  
16  
17  
18

19 One can note that there is a very narrow common terrain between the two terms – at best they  
20 share fifty-four terms. This is data for the eighteenth century, first the earlier date range  
21 1701-40:  
22  
23

24 Insert table 14  
25  
26  
27  
28  
29  
30  
31

32 It is important to note that at the distance of one hundred terms the eleven common words in  
33 the co-association lists contain five ‘stop’ words, that is the most common words in a  
34 language such as ‘the’, and’ and so forth. This is to say that there are only six terms of any  
35 significance in common. And the following presents the data for the last forty years of the  
36 eighteenth century:  
37  
38  
39  
40  
41

42 Insert table 15  
43  
44  
45  
46  
47  
48  
49  
50

51 By the end of the century the overlap in lexical terrain between ‘liberty’ and ‘freedom’ has  
52 been transformed: the forty-three terms that are held in common between the co-association  
53 lists at distance one hundred represents 51.2% of all of the terms on freedom’s list. Or, to  
54  
55  
56  
57  
58  
59  
60

1  
2  
3 look at it from the side of ‘liberty, the one hundred and seventy-five common terms at  
4 distance five comprise 45.6% of the terms in liberty’s list. The lexical terrain in which the  
5 two terms operated had converged by the end of the eighteenth century.  
6  
7  
8  
9

#### 10 11 **4. Common bound lexis** 12

13 The stability of the lexical terrain within which ‘liberty’ operates might be thought about in  
14 terms of a network or constellation of terms which together comprise the circumscribed semantic  
15 space that we call an idea. The code developed by (removed for blind review purposes) enables us to  
16 drill down further into these spaces and discover the tight lexical networks operating in our datasets.  
17 And, given the fact that we can derive this data chronologically, we can track how these networks  
18 change over time. In the following data analysis we have constructed the network by identifying  
19 which terms are in each other’s lists of bound terms, thereby isolating the common bound lexis to all  
20 the terms in the network. Such networks or cliques are generally not large in size, that is they do not  
21 number more than a handful of terms – as one can intuit from the observation that as the set size  
22 increases the rule that each term must be on each of the other’s list is likely to constrain very large  
23 sets. This is indeed borne out by the data.  
24  
25  
26  
27  
28  
29  
30  
31  
32  
33  
34

35 In the early seventeenth century, 1630-40, ‘liberty’ can be found on the binding list of six  
36 other terms each of which also contain the other terms in the set of seven terms. These terms are:  
37 liberty, bondage, freedome, slavery, thraldome, servitude and freed. When we inspect the data for the  
38 later decade 1690-1700 the largest set within which ‘liberty’ operates is six terms and they are:  
39 thraldom (in the modern variant spelling), bondage, freedom, liberty, slavery and free. Once again we  
40 note the stability of this lexical terrain. When we move to the far end of the eighteenth century the  
41 picture has changed. In the period 1770-1800 liberty is a member of eighty-two sets of eight terms,  
42 and the six most strongly associated comprise a set of variations on the following terms: anarchy,  
43 aristocracy, democracy, government, liberty, monarchy, republican, tyranny, equality, revolution,  
44 republic. Interestingly, however, the profile for freedom is very divergent. In the same time period,  
45 the last decades of the eighteenth century, the largest set size within which this term appears is six,  
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1  
2  
3 and there is only one such set: democracy, freedom, government, liberty, revolution, tyranny. Once  
4  
5 again our earlier data analyses are confirmed: the uses of liberty and freedom converge over the two  
6  
7 hundred years, and the tight lexical terrain within which liberty operates has, by the end of the  
8  
9 eighteenth century, become very evidently established. Whereas the seventeenth century thought  
10  
11 liberty in conjunction with slavery, that is it thought liberty as an adjunct of person, by the end of the  
12  
13 eighteenth century liberty had become an adjunct of the state.<sup>16</sup>  
14  
15

## 16 17 **5. Liberties as rights.**

18  
19 What contribution can the preceding computational and statistical approach to the history of  
20  
21 ideas make to the long tradition of inquiry into the foundations of our modern concept of freedom or  
22  
23 liberty which underlies the contemporary understanding of liberalism? In this section we shall  
24  
25 address this question by focusing on the work of the intellectual historian who, more than any other,  
26  
27 has with remarkable tenacity and consistently compelling scholarship taught us how to read the  
28  
29 genealogy of the concept: Quentin Skinner. As is well known Skinner began his long career as a  
30  
31 scholar immersed in the traditions of thinking modern political concepts in the late 1960's when he  
32  
33 presented his Cambridge lectures that were the basis for *The Foundations of Modern Political*  
34  
35 *Thought*. But it was in the 1980's that he turned most consistently to the historical reconstruction of  
36  
37 the various traditions of thinking that developed the idea of liberty.<sup>17</sup>  
38

39  
40 In his 1984 essay 'The idea of negative liberty', Quentin Skinner gives an historical  
41  
42 account of two opposing ideas. One is 'negative liberty', in which the individual's social  
43  
44 freedom is guaranteed only by the absence of limiting factors such as state intervention,  
45  
46 responsibilities to one's communities, and other externalities. In this scheme, liberty can only  
47  
48 be defined negatively, as Thomas Hobbes has it at the start of his chapter 'Of the liberty of  
49

---

50  
51 <sup>16</sup> As Quentin Skinner notes, Hobbes was the first thinker to effect this change by constructing the state as a  
52  
53 particular kind of person. See Quentin Skinner, *Liberty Before Liberalism* (Cambridge: Cambridge University  
54  
55 Press, 1998), 4-5.

56  
57 <sup>17</sup> The best account of the development of Skinner's thought at this time is Marco Guena, 'Skinner, pre-  
58  
59 humanist rhetorical culture and Machiavelli', in Annabel Brett and James Tully, with Holly Hamilton-Bleakley,  
60  
*Rethinking the Foundations of Modern Political Thought* (Cambridge: Cambridge University Press, 2006), 50 –  
72, esp. 64-69.

1  
2  
3 subjects' from *Leviathan*: 'liberty or freedom signifieth (properly) the absence of  
4  
5 opposition.'<sup>18</sup> Skinner contrasts this with an ideal of liberty in which the operative factor is  
6  
7 the virtue and value of public service. According to this way of seeing things one is only  
8  
9 consummately free when one acknowledges one's social responsibilities and carries out  
10  
11 virtuous acts of public service. These contrasting ideas of liberty are named by Canadian  
12  
13 philosopher Charles Taylor as the 'opportunity concept' and the 'positive exercise concept'.<sup>19</sup>  
14  
15 The former relies purely on the absence of constraint and prescribed social objectives  
16  
17 (freedom from), whereas the latter involves positive action in the service of the state or  
18  
19 community (freedom to).<sup>20</sup> Skinner sets out to demonstrate that the early modern period  
20  
21 *combined* these two notions of liberty, writing:

24 I shall try to show that, in an earlier and now discarded tradition of thought about  
25  
26 social freedom, the negative idea of liberty as the mere non-obstruction of individual  
27  
28 agents in the pursuit of their chosen ends was combined with the ideas of virtue and  
29  
30 public service in just the manner nowadays assumed on all sides to be impossible  
31  
32 without incoherence.<sup>21</sup>  
33  
34

35 In his inaugural lecture as Regius Professor of Modern History in 1997 Skinner returned to  
36  
37 this material and subsequently published a short book on the topic entitled *Liberty Before*  
38  
39 *Liberalism*.<sup>22</sup> Once again he stressed the combination of negative and positive liberty in the  
40  
41

---

42  
43 <sup>18</sup>Thomas Hobbes, *The Clarendon Edition of the Works of Thomas Hobbes*, Vol. 4: *Leviathan: The English and*  
44 *Latin Texts*, ed. Noel Malcolm, (Oxford: Clarendon Press, 2012), 324.

45 <sup>19</sup> See C. Taylor, *Philosophy and the Human Sciences: Philosophical Papers*, vol. 2 (Cambridge: Cambridge  
46 University Press, 1985).

47 <sup>20</sup> The classic account of this distinction remains Isaiah Berlin, *Two Concepts of Liberty* (Oxford: Oxford  
48 University Press, 1958)

49 <sup>21</sup>Quentin Skinner, "The idea of negative liberty", in *Philosophy in History: Essays on the Historiography of*  
50 *Philosophy*, ed. Richard Rorty, J.B. Schneewind and Quentin Skinner (Cambridge: Cambridge University Press,  
51 1984), 197.

52 <sup>22</sup> Quentin Skinner, *Liberty Before Liberalism* (Cambridge: Cambridge University Press, 1994). The topic has,  
53 of course, been deeply embedded in much of Skinner's work. See, for example, Quentin Skinner, *The*  
54 *Foundations of Modern Political Thought* (Cambridge: Cambridge University Press, 1978); Quentin Skinner,  
55 "Machiavelli on the Maintenance of Liberty," *Politics* 18 (1983): 3-15; Quentin Skinner, "The Paradoxes of  
56 Political Liberty," in *The Tanner Lectures on Human Values* (Cambridge: Cambridge University Press, 1985),  
57 227-50; Quentin Skinner, "Pre-humanist Origins of Republican Ideas," in *Machiavelli and Republicanism*, ed.  
58 G. Bock, Q. Skinner, and M. Viroli (Cambridge: Cambridge University Press, 1990); Quentin Skinner, "The  
59  
60

1  
2  
3 neo-Roman tradition which he claims was dominant in political discourse in England  
4  
5 immediately following the regicide in 1649. His aim, in both this short book and the original  
6  
7 essay published in 1984, is to revise, even dissolve our modern assumption that liberty is  
8  
9 incoherent outside a theory of rights. Early modern republican writers, he insists, understood  
10  
11 liberty from constraint within the context of behaviour that was based in notions of virtue and  
12  
13 public service.<sup>23</sup>  
14

15  
16 If the period in general thought liberty in this way – that is in harness with or  
17  
18 articulated around notions of virtue, one would expect the lexical terrain within which the  
19  
20 two terms circulated to have intersections or commonalities. Such a common terrain derived  
21  
22 from co-association data could, of course, be either supportive or critical of the notion that  
23  
24 Skinner proposes, which is to note that co-association in and of itself does not give an index  
25  
26 to the senses in which terms qualify each other. Notwithstanding this caveat we can begin  
27  
28 by noting that while Skinner’s reading of the classic texts – those by Harrington and Sidney  
29  
30 prime amongst them – certainly makes a convincing case, the extent to which this neo-roman  
31  
32 account of liberty penetrated the culture needs to be assessed. A first pass through the  
33  
34 datasets we have been using suggests that the overlapping lexical terrain between liberty or  
35  
36 freedom and virtue was negligible. In the following table we have tracked this overlap across  
37  
38  
39  
40  
41  
42  
43

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44  
45 Republican Ideal of Political Liberty,” in *Machiavelli and Republicanism*, ed. G. Bock, Q. Skinner, and M.  
46 Viroli (Cambridge: Cambridge University Press, 1990); Quentin Skinner, “Thomas Hobbes on the Proper  
47 Signification of Liberty,” *Transactions of the Royal Historical Society* 40 (1990): 121-51; Quentin Skinner,  
48 *Reason and Rhetoric in the Philosophy of Hobbes* (Cambridge: Cambridge University Press, 1996).

49  
50 <sup>23</sup>Skinner returned to this theme in his London Review of Books lecture ‘A Third Concept of Liberty’,  
51 subsequently published in *London Review of Books*, Vol. 24, No. 7, 4 April, 2002. There is also a large  
52 literature that engages with his argument. See, among others, Phillip Pettit, *Republicanism: A Theory of*  
53 *Freedom and Government* (Oxford: Oxford University Press, 1997); P. Van Parijs, *Real Freedom for All*  
54 (Oxford: Oxford University Press, 1995); *Republicanism: History, Theory and Practice*, ed. D. Weinstock and  
55 C. Nadeau (London: Frank Cass, 2004); *Republicanism and Political Theory*, ed. C. Laborde and J. Maynor,  
56 (Oxford: Blackwell, 2008); C. Larmore, ‘Liberal and Republican Conceptions of Freedom’, in *Republicanism:*  
57 *History, Theory and Practice*, ed. D. Weinstock and C. Nadeau (London: Frank Cass, 2004).  
58  
59  
60

1  
2  
3 the two centuries by creating *dpf* lists for the terms at a span of ten terms and have included  
4 data for the variant spellings ‘libertie’ and ‘freedome’<sup>24</sup>;

5  
6  
7 Insert table 16  
8  
9  
10  
11  
12

13 At a proximate distance, here 10 terms apart, one would expect to pick up semantic behavior, but as  
14 the data indicates the lexical terrain within which liberty and freedom operated did not have strong  
15 connections to the terrain within which virtue appeared. At the longer span of one hundred terms,  
16 where we expect to find a different kind of binding, the story is substantially the same:  
17  
18  
19  
20

21 Insert table 17  
22  
23  
24  
25  
26  
27

28 This data seems to contrast with Skinner’s argument, at least in so far as he supposes the neo-roman  
29 account to have widespread currency. But it also supports another strand of his thesis which points  
30 out the virtual hegemony of a Hobbesian ‘negative liberty’. If we drill down further into the datasets  
31 and create similar reports for some candidates for specific virtues the story is pretty much the same.  
32 Here we have taken the terms benevolence, magnanimity, charity, generosity and virtue and run  
33 a similar analysis, this time across fifty year segments of the two centuries:  
34  
35  
36  
37  
38  
39

40 Insert table 18  
41  
42  
43  
44  
45  
46

47 These data indicate that these virtues – represented here by the lexis that designates them –  
48 were not thought about within the same semantic space as either liberty or freedom. If we  
49 inspect the actual terms that appear in these lists – remembering that the number of terms  
50 here is very small and entering due caution with respect to generalisations from such sparse  
51  
52  
53  
54

55  
56  
57 <sup>24</sup> The numbers in brackets indicate the total number of terms that are common to both *dpf* rank lists.  
58  
59  
60

1  
2  
3 data - another strand of Skinner's argument hoves into view. The three terms that appear on  
4  
5 the co-association lists for benevolence, magnanimity and generosity in the seventeenth  
6  
7 century are: slavery, servitude and arbitrary. And these terms fall out of the lists in the  
8  
9 eighteenth. It is also noteworthy, given Skinner's insistence that the Hobbesian view has  
10  
11 such trouble with the accommodation of a theory of the state as person with a theory of  
12  
13 negative liberty which constructs citizenship as effectively independent of the servitude that  
14  
15 occurs when arbitrary power is exercised, that the following two terms enter these lists:  
16  
17  
18 volition and rights.  
19

20           We believe this to indicate that the forces which solder rights to liberty really only  
21  
22 began to have effects within the conceptual architecture we shall investigate in our  
23  
24 concluding section towards the end of the eighteenth century. For Skinner the *long duree*  
25  
26 account is more persuasive as he draws out the implications of the "Hobbesian claim that any  
27  
28 theory of negative liberty must in effect be a theory of individual rights."<sup>25</sup> In contrast we  
29  
30 see the tectonics underlying the formulation of a linked or constellated set of terms which  
31  
32 contribute to a theory of liberty in a slightly broader perspective outlined below. Let us keep  
33  
34 with Skinner's point as way of sharpening that observation: note that he claims that 'any  
35  
36 theory of negative liberty' must be congruent with, even inserted within a theory of rights.  
37  
38 As we have noted above, Skinner is certainly correct in stating that the Hobbesian version of  
39  
40 negative liberty quickly became hegemonic and that our history of this idea is to some extent  
41  
42 a history of forgetting, of the erasure of different ways of thinking that idea. Noting the  
43  
44 linkage of negative liberty and rights, he writes:  
45  
46  
47

48           As we have seen, this has reached the status of an axiom in many contemporary  
49  
50 discussions of negative liberty. Liberty of action, we are assured, 'is a right'; there is  
51  
52  
53

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54  
55 <sup>25</sup> Quentin Skinner, "The idea of negative liberty," in *Philosophy in History: Essays on the Historiography of*  
56 *Philosophy*, ed. Richard Rorty, J.B. Schneewind and Quentin Skinner (Cambridge: Cambridge University Press,  
57 1984), 218.  
58  
59  
60

1  
2  
3 a ‘moral right to liberty’; we are bound to view our liberty both as a natural right and  
4  
5 as the means to secure our other rights. As will by now be obvious, these are mere  
6  
7 dogmas. A classical theory such as Machiavelli’s helps us to see that there is no  
8  
9 conceivable obligation to think of our liberty in this particular way. Machiavelli’s is a  
10  
11 theory of negative liberty, but he develops it without making any use whatever of the  
12  
13 concept of individual rights.<sup>26</sup>  
14

15  
16 When we inspect the data we can see how accurate this account of the soldering of liberty to  
17  
18 rights is. Here we have tracked the shared lexical terrain between ‘liberty’ and rights’ across the  
19  
20 two centuries. This is the data for the percentage of common co-associated lexis at a distance of ten  
21  
22 terms:  
23

24 Insert table 19  
25  
26  
27  
28

29  
30 And if we inspect the data for a longer span of one hundred words, where we pick up what  
31  
32 we consider to be weak syntactic binding and stronger conceptual binding, the picture is even  
33  
34 clearer. Thus, the same inquiry but in this case looking at the co-association at distance one  
35  
36 hundred yields the following:  
37

38 Insert table 20  
39  
40  
41  
42  
43

44 The data indicates that by the end of the eighteenth century the Hobbesian version of negative  
45  
46 liberty was, effectively, the only game in town.  
47  
48  
49

## 50 **6. From liberty to liberalism** 51 52 53 54 55

---

56 <sup>26</sup> Skinner, “The idea of negative liberty,” 218.  
57  
58  
59  
60



1  
2  
3 The data extraction presented so far indicates that the theory of liberty based upon  
4  
5 positive individual rights – what Skinner describes above as ‘liberty of action’ – slowly  
6  
7 emerged during the eighteenth century, no doubt framed by practical political action resulting  
8  
9 from the two large constitutional events of the second half of the century: the war with the  
10  
11 colonies and the British reaction to the French revolution.<sup>27</sup> In broad brushstrokes these  
12  
13 forces have generally been examined within a longer timeframe which observes a European  
14  
15 shift in political conceptual sensibility, from roughly speaking a late seventeenth century  
16  
17 formulation of republicanism to what Skinner takes to be a hegemonic modern concept of  
18  
19 liberalism based on subjective rights. The one, liberalism, replaced the other, republicanism:  
20  
21 both are seen as opposed or antagonistic to each other. As J.G.A Pocock notes the tradition  
22  
23 of republicanism is based upon a completely different set of principles and vocabulary from  
24  
25 what emerged in the nineteenth century as the classic account of liberalism.<sup>28</sup> Such a reading  
26  
27 is no doubt supported by selective consideration of the major philosophical and political texts  
28  
29 within this long period. But when we take a more holistic view from the position of the  
30  
31 aggregated archive another model for the establishment of modern liberalism becomes  
32  
33 discernible. This account sees liberalism as effectively the genetic mutation of liberty as it  
34  
35 becomes infected by republicanism. And contrary to the longer historical sweep of a pan-  
36  
37 European tradition of republicanism our data analyses based on ECCO suggest a much  
38  
39 narrower time scale in which something far more explosive and forceful occurred. This  
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41 began to happen in the 1770s and by the end of the century English language attempts to  
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43 wrestle with or adapt and alter the concept of republicanism succeeded in transforming the  
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49  
50 <sup>27</sup> See in particular in the vast literature on these topics J.C.D. Clark, *The Language of Liberty 1660-1832: Political Discourse and Social Dynamics in the Anglo-American World* (Cambridge: Cambridge University Press, 1994); Michael Zuckert, *The Natural Rights Republic: Studies in the Foundation of the American Political Tradition* (Notre Dame, Ind.: University of Notre Dame Press, 1996); Craig Yirush, *Settlers, Liberty, and Empire: The Roots of Early American Political Theory, 1675-1775* (Cambridge: Cambridge University Press, 2011); Pamela Clemit, ed., *The Cambridge Companion to British Literature of the French Revolution in the 1790s* (Cambridge: Cambridge University Press, 2011).

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56 <sup>28</sup> J.G.A Pocock, “Virtues, Rights, and Manners: A Model for Historians of Political Thought,” in *Virtue, Commerce, History* (Cambridge: Cambridge University Press, 1985).

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3 idea of liberty. Republicanism was, effectively the catalyst for liberalism. The data,  
4  
5 therefore, not only supports the revision to the Skinnerian account proposed by Andreas  
6  
7 Kalyvas and Ira Katznelson, it also allows us to track with considerable granularity the  
8  
9 decisive expansion of the lexical terrain at the core of the concept of liberty, essentially  
10  
11 providing a window onto the infectious insertion of the idea of republicanism within liberty.  
12  
13 And this, we contend, provided the means for the rapid development of what has come to be  
14  
15 one of the most consequential Western political concepts since the nineteenth century:  
16  
17 liberalism.<sup>29</sup>  
18  
19

20           Using the same techniques for ascertaining distributional probability outlined in  
21  
22 section 2 above we can create a conceptual signature we call a ‘core’. This is determined by  
23  
24 aggregating the co-associated lexis for a target term at three distances, ten, fifty and one  
25  
26 hundred words away both before and after the focal term. This concentrates the more  
27  
28 populated networks within which a term operated at any time slice in the dataset so as to  
29  
30 identify what persists, what lies at the heart of the concept. As our analyses above have  
31  
32 already indicated ‘liberty’ is a very stable term over the eighteenth century, and its core  
33  
34 comprises the following five terms until the 1750s: slavery, volition, tyranny, freedom. Some  
35  
36 five more terms enter into the core before that decade and these are: servitude, toleration,  
37  
38 free, government, licentiousness. The story for ‘republican’ is very different as can be seen  
39  
40 from the following chart which plots the core for ‘liberty’ against that for ‘republican’ with  
41  
42 respect to the number of co-associated terms that are common across the three distances:  
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46           Insert table 21  
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55 <sup>29</sup> See Andreas Kalyvas and Ira Katznelson, *Liberal Beginnings: Making a Republic for the Moderns*,  
56 (Cambridge: Cambridge University Press, 2008), esp. 5-17.  
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But it is not simply the fact that the core of ‘liberty’ began to increase in the decade of the 1750s, it is the overlap in lexical terrain between the two conceptual cores of ‘republican’ and ‘liberty’ that provides insight in this process of infection. Here is the table of common terms from 1750:

Insert table 22

The data clearly indicate that from the 1770s on the idea of liberty, which for over a hundred years had remained stable and resistant to mutation, began to alter under pressure from the attempts within British political theory and debate to conceive of republicanism in a modern dress. This is borne out by the fact that for the first half of the eighteenth century there is no common lexical core shared by ‘liberty’ and ‘republican’ at all (the one term in common by 1740 is ‘government’ which persists as the single term through the 1750s) and that by the end of the century fifty one percent of liberty’s core is held in common with republican’s. The following map, based upon the same *dprf* information but now expressed within a network graph, indicates that this effort was in large part coincident with the attempts to understand or negotiate the concept of despotism, a word that first appears in English in 1708 but was hardly used for the first fifty years of the century, occurring only one hundred and eighty-nine

1  
2  
3 times in all English printed text up until 1750.<sup>30</sup> During the last decade of the century it  
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5 appears over fourteen thousand times.

6  
7 Insert table 23  
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20 Here we see that route of the infection of idea of ‘liberty’ by that of ‘republican’ was through  
21 the agent ‘despotism’. Seen from the other side, ‘liberty’ can be thought of as holding off  
22 ‘republican’ by means of the antigen ‘despotism’. In this way, we suggest, the modern  
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Here we see that route of the infection of idea of ‘liberty’ by that of ‘republican’ was through the agent ‘despotism’. Seen from the other side, ‘liberty’ can be thought of as holding off ‘republican’ by means of the antigen ‘despotism’. In this way, we suggest, the modern conception of liberalism inoculated itself from republicanism and the conceptual history of these two ideas from the nineteenth century to the present day bears this out.

---

54 <sup>30</sup> This observation is based on the ECCO dataset which does not capture *all* lexical use across the Anglophone  
55 eighteenth century, so to this extent the claim is subject to qualification. For the first use see Rev Thomas  
56 Cooke, *The Universal Letter-Writer; or, New Art of Polite Correspondence*, (London: A Millar, W. Law and R.  
57 Cater, 1708), 123.

Table 1

	1600-1640
Liberty to	3143
Liberty from	234
Freedome to	511
Freedome from	1285

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Table 2

	1600-1640	1660-1700	1700-1740	1760-1800
liberty from	234	1272	2791	5934
liberty to	3143	19913	68788	154122
freedom from	1285	431	5890	15667
freedom to	511	189	5639	12597

Table 3

Span	5-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100
No terms	175	158	125	153	160	132	151	143	164	149
% preserved	12.9	9.2	10.7	5.6	4.8	7.0	5.6	6.5	4.1	8.6

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Table 4

Span	5-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100
No terms	57	46	41	44	42	51	48	43	42	49
% preserved	37.4	29.2	30.5	21.4	23.6	17.7	15.8	12.2	14.3	9.3



Table 5

Span	5-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100
No terms	20	15	10	13	7	13	9	6	8	4
% preserved	71.8	70.6	67.7	59.4	70.8	50	59.1	68.4	65.2	76.5

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Table 6

Span	5-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100
No terms	26	13	14	9	10	12	9	8	7	6
% preserved	74.8	82.4	78.1	82.7	80	77.8	81.6	81.4	83.3	84.2

Table 7

Span	5-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100
No terms	253	263	274	267	266	288	266	283	274	272
% preserved	12.8	10.8	11.6	7.9	8.3	5.6	5.7	6.6	7.1	4.6

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Table 8

Span	5-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100
No terms	121	101	102	110	111	100	85	100	103	94
% preserved	18.8	9.0	10.5	7.6	8.3	9.9	14.1	9.9	8.0	8.7

Table 9

Span	5-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100
No terms	130	97	78	80	95	79	83	72	63	63
% preserved	24.4	21.1	19.6	14.0	10.4	9.2	12.6	13.3	14.9	12.5

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Table 10

Span	5-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100
No terms	82	82	45	50	42	38	32	31	35	20
% preserved	50.3	41.0	51.6	41.2	40.8	44.1	44.8	45.6	30.0	44.4

Table 11

	liberty	freedom
% preserved	70.40%	22.70%
no terms	50	24

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Table 12

	Liberty 1600-40	Freedom 1600-40	No shared
D:5	183	443	30
D:10	116	443	10
D:50	106	435	5
D:100	101	453	2



Table 13

	Liberty 1660-1700	Freedom 1660-1700	No shared
D:5	177	179	54
D:10	101	98	21
D:50	41	76	6
D:100	39	67	4

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Table 14

	Liberty 1701-40	Freedom 1701-40	No shared
D:5	276	295	105
D:10	113	180	45
D:50	55	91	19
D:100	44	51	11

Table 15

	Liberty 1760-80	Freedom 1760-80	No shared
D:5	383	451	175
D:10	222	275	99
D:50	133	137	55
D:100	114	84	43

Table 16

	1620-30	1680-90	1720-30	1780-90
liberty/virtue % shared	0 (0)	0 (0)	7% (5)	4.9% (5)
libertie/virtue	0 (0)	0.2% (1)		
freedom/virtue	2.1% (5)	0.7% (1)	1.7% (3)	3.6% (6)
freedome/virtue	1.7% (5)	0.7% (1)		

Table 17

	1620-30	1680-90	1720-30	1780-90
Liberty/virtue % shared	0.6% (1)	0 (0)	23.5% (4)	13.2% (5)
libertie/virtue	0.5% (1)	0 (0)		

Table 18

	number of shared terms			
	1600-50	1650-70	1700-50	1750-1800
liberty/benevolence	4	0	2	11
freedom/benevolence	13	3	15	26
liberty/magnanimity	1	1	4	19
freedom/magnanimity	8	2	10	31
liberty/charity	0	0	2	6
freedom/charity	4	3	1	11
liberty/generosity	4	1	3	7
freedom/generosity	8	5	11	21
liberty/virtue	1	0	2	13
freedom/virtue	0	0	0	0

Table 19

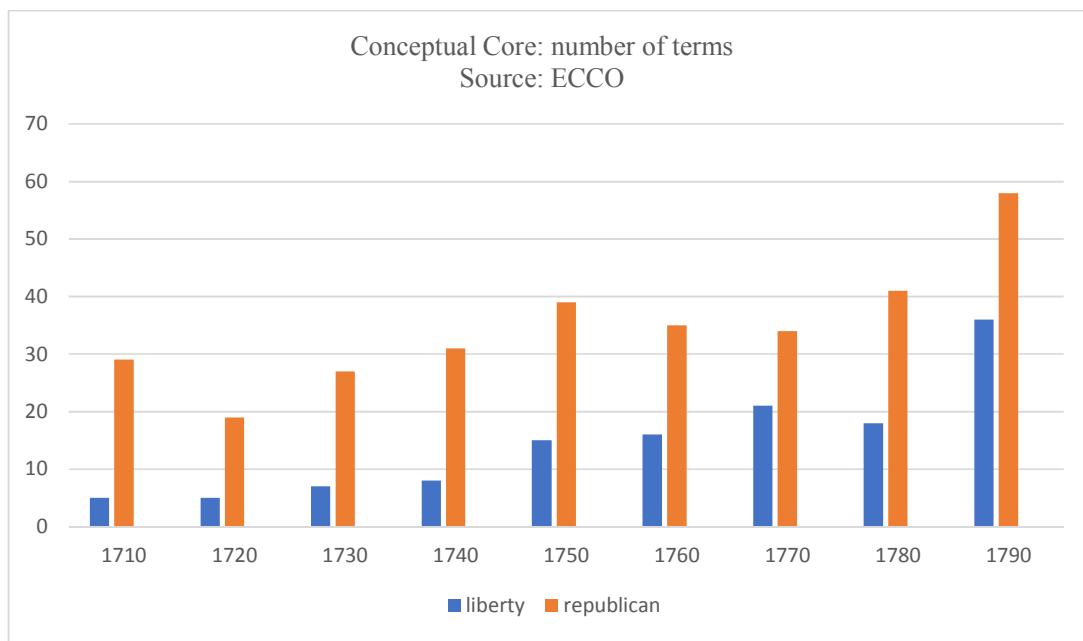
	1620-30	1680-90	1720-30	1780-90
liberty/rights	1.5% (3)	4.7% (4)	25.4% (18)	42.7% (44)

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Table 20

	1620-30	1680-90	1720-30	1780-90
liberty/rights	1.2% (2)	0 (0)	35.3% (6)	63.2 (24)



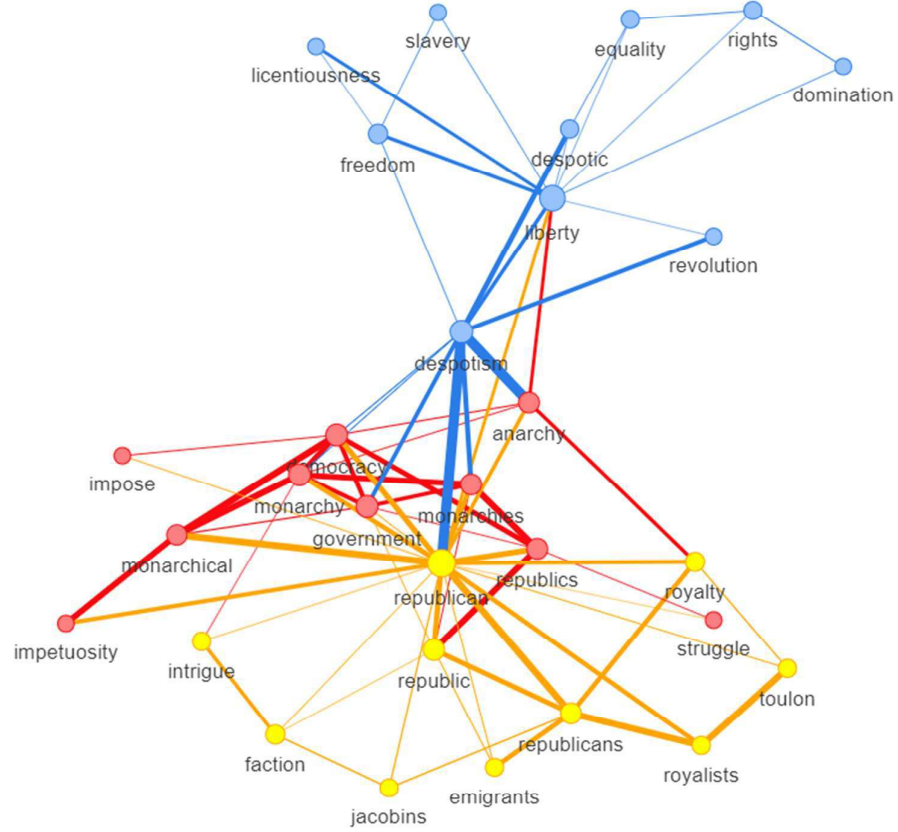


overlap cores liberty/republican	1750-60	1760-70	1770-80	1780-90	1790-1800
	liberty	despotic	government	arbitrary	despotism
	republican	government	despotism	constitution	rights
	government	liberty	constitution	government	tyranny
			laws	political	tyrants
			despotic	independence	constitution
			republican	legislative	government
			liberty		equality
					republican
					revolution
					anarchy
					despotic
					citizens
					governments
					republic
					people
					monarchy
					convention
					national
					citizens
% of liberty's core	18.00%	17.60%	30.40%	33.30%	51%

Source: ECCO

Network plot of liberty 1790-1800

Dpf at distance 100



Captions for tables

1. Data from EEBO
2. Data from EEBO
3. Data from EEBO
4. Data from EEBO
5. Data from ECCO
6. Data from ECCO
7. Data from EEBO
8. Data from EEBO
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12. Data from EEBO
13. Data from EEBO
14. Data from ECCO
15. Data from ECCO
16. Data from EEBO and ECCO
17. Data from EEBO and ECCO
18. Data from EEBO and ECCO
19. Data from EEBO and ECCO
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