

# Building and Testing a Comparative Interface on Northwest European Historical Parliamentary Debates: Relative Term Frequency Analysis of British Representative Democracy

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## Abstract

Tensions between the people and parliament over representation are a normal feature of representative democracies. In this paper, we demonstrate how digital humanities analysis tools help in answering questions about the timing of debates on popular representation, tensions over its realization, and representatives' changing perceptions on their parliamentary role. Our long-term approach to the conceptual history of political representation is based on the analysis of digitized parliamentary debates as nexuses of multi-sited political discourse. We combine computer-assisted distant and context-sensitive close reading to consider diachronic trends and synchronic political struggles surrounding political representation. Collocation analyses and visualizations of relative term frequencies reveal long-term patterns and anomalies, lead to new research questions, and justify the selection of cases for qualitative analysis. Here we present the first steps in the construction of a comparative interface, *People and Parliament*, that will include debates from several Northwest European parliaments. The interface is built on I-Analyzer, a web-based text and data mining application developed by the Utrecht University Digital Humanities Lab. We illustrate its potential with an example from the British parliament since the 2000s to demonstrate how, under an unwritten constitution, various forms of participatory democracy ranging from e-democracy to referendums have gained ground against representative democracy. While the Brexit referendum first appeared as a response to calls for strengthening direct democracy, it revealed difficulties in reconciling representative and participatory democracy.

## Keywords

interface building, parliamentary debates, term frequency analysis, representative democracy, participatory democracy, conceptual history

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## 1. The Rationale of the Project

The methodological point of departure for conceptual history is that human interpretations of the world and the exact meanings of politically significant terms are unavoidably contested. As people create, (re)define, evaluate, (ab)use and reject concepts to construct much of their social reality, political concepts both mirror and produce historical change. Conceptual historical analysis focuses on the use of concepts by historical actors themselves in their political action [1].

Thanks to the mass digitization of parliamentary records, the conceptual history of meanings assigned to key terms by past politicians has experienced a parliamentary turn. Conceptual historians can now analyse both general trends in human conceptualizations quantitatively and uses of concepts by individuals in particular political struggles qualitatively. They approach parliamentary debates analytically as meeting places for concepts moving within and across multi-sited political discourses. Text-mining facilitates observing long-term trends in political discourse, locating political disputes that may have previously gone unnoticed, delimiting data for close reading, comparing national histories, and tracing transnational transfers [2].

Tensions between the people and parliament have been central for the legitimacy of political decision-making since the concepts of representation and democracy first merged in the late eighteenth century. Instead of writing the history of popular representation on the basis of philosophical treatises[3][4][5], our overall project aims to reconstruct competing conceptualizations of popular sovereignty and representation in historical parliamentary debates as documentation on the everyday language of politics [6]. Digitized data enables us to explore these evolving concepts in several Northwest European and North American states. Instead of analysing separate national narratives only, we proceed to cross-national comparisons and consider transnational interaction.

Bridging traditional conceptual history and digital history, we build a comparative interface based on I-Analyzer, a web-based text and data mining application, developed at the Utrecht University Digital Humanities Lab. While building the application, we recognize challenges in converting, cleaning, and enriching the data. Interoperability between the different national datasets is difficult to achieve, and machine translations are inadequate for tracing the slightest nuances of meaning. Debates in national parliaments need to be analysed in their national contexts before comparing conceptualizations in an analytical language (English).

The comparative interface provides us with a new perspective on the history of democracy, giving rise to questions that can then be investigated in more conventional historical analysis. In what follows, we first introduce I-Analyzer as an application useful for creating visualizations of relative term frequencies, and present the major datasets. We suggest that while term frequency analysis is more than well established in the digital humanities, its effect on the practice of conceptual history is still undertheorized.

For this paper, we first used a collocation tool to explore the most common and politically relevant combinations of the terms “democracy”, “representation”, and “parliament”. Visualizations of datasets (bigrams) that extend over two centuries gave us an overview of long-term trends in political discourse, demonstrating the rise and fall of expressions such as “representative”, “parliamentary” and “democratic government”. They reveal patterns and anomalies, give rise to hypotheses, and justify selections of cases for qualitative, contextual content analysis. Visual-

izations of relative term frequencies show where and when aspects of political representation have been debated over time.

In order to make digital humanities tools serve conceptual history, we base our conclusions regarding changing meanings on close reading, focusing on the exploitation of a political concept in particular political action. Close reading reveals shifting representative claims, tensions over who or what has been represented and changing conceptions of representation and democracy. To illustrate our approach, we selected a common present-day name for Western political systems, “representative democracy” as exploited in the British parliament, knowing that this covers only one yet very interesting aspect of the complex history of political representation.

## 2. Method: Building a Comparative Interface on the Data

The *People and Parliament* application for exploring parliamentary data is based on the text-mining tool *I-Analyzer*. This application was built by Utrecht University’s *Digital Humanities Lab* to meet the need of researchers (including historians and political scientists) to perform full-text search in newspaper corpora. *I-Analyzer* was built as a flexible and extensible text-mining tool, to which new corpora can be easily added.

While we are aware of versatile open-source tools for text-mining, such as *Voyant*, and commercial software, such as IBM Watson, *I-Analyzer* covered two needs: first, the need to process data in different sources, formats, and standards, into one easily accessible format; second, the ability to tailor the interface according to specific needs.

### 2.1. Technical Implementation

The search engine behind *I-Analyzer* is *Elasticsearch*: this no-SQL database provides various text analysis functions such as tokenization, which make later text search efficient and fast. Besides text fields, dates, and keywords can be saved, and then used to perform filtering.

The application itself uses a combination of a client constructed in the *Angular* platform, and a server based on the Python web application framework *Flask*. *Flask* also provides plugins for user and access administration.

### 2.2. Corpus Definitions

The most essential step in making a collection of parliamentary speeches available for full-text search and filtering is the *corpus definition*. This is a Python document which describes fields, i.e., the information associated with a parliamentary speech. It provides instructions for *Elasticsearch* of how to assemble this information into an index: whether a given field contains date information, keywords, or text to be analysed.

Each collection of parliamentary speeches provides different kinds of information: while some collections provide identifiers for each speaker in a debate and their political affiliation, other collections do not provide much metadata, other than the time period in which the debate took place. Moreover, each collection may have its own dataformat, such as .xml files, or .csv files with one row per speech. The corpus definition makes use of *I-Analyzer*’s utility functions to deal with various data formats, and to pinpoint where in a given document to localize the

data associated with a field. Where possible, we broke up the data by the speeches in a given debate, to retain the identifiers of the larger contexts, such as the debate or meeting in which the speech was given. Some corpora do not provide detailed parsing of speeches or debates – in this case, the data is broken down to the smallest possible level.

The corpus definition also defines which fields may be tied to filters in the client: for instance, a field with date information may be used to filter speeches within a given time range. If a parliamentary corpus contains suitable metadata, speeches can also be filtered based on other information such as the house of parliament, or the role of the speaker.

The corpus definition instructs the client on the visualizations tied to a given field. For instance, the date of a speech is tied to a histogram visualization, showing the distribution of speeches over time.

### 2.3. Full-text Search

The full-text search makes use of Elasticsearch's [simple query string syntax](#). A search term entered into the search field will be matched against the text fields of the speeches. See Figure 1 for an example of the search interface. The returned search results are presented in the order of relevance by default, from most to least relevant. The relevance score is based on how often a given speech contains the search term, relative to its frequency over the whole corpus.

Speeches can be searched as plain text, but language specific analysers, such as stemmers, also make it possible to find words from the same root, such as *representation* when searching for *representative*. Complex search queries can be accomplished with Boolean operators; it is also possible to perform wildcard searches.

Another option is fuzzy search, in which characters in the documents are allowed to vary from the search term by a number of characters. This is especially useful when searching through text resulting from poor optical character recognition, in which a word such as *representation* may be incorrectly annotated as *reprentation*. In this case, a fuzzy search for *representation~1* will find speeches with such a misrecognized word.

### 2.4. Filters

The *People and Parliament* interface includes both date and multiple-choice filters. Date filters allow the researcher to narrow down a period of interest for parliamentary speeches, either by typing a date into an input field, or by using a calendar widget.

Multiple-choice filters are available for the house in which a speech took place (for instance, the Commons or the Lords in Britain). In some corpora, it is possible to filter on the role of the speaker in the parliament (e.g., chair, government member, or member of parliament), or the political party of the speaker. When clicking on a multiple-choice filter, numbers indicate the number of speeches in a given category.

Active filters can be deactivated while retaining the user choices, to quickly switch between the full list of search results and a selection; the filter can also be reset, which removes the user choices. This can be done individually or for all filters at once.

## Search “People & Parliament (UK)”

The screenshot shows the search interface for "People & Parliament (UK)". At the top, there is a search bar containing the text "-represent\*" and a "Search" button. To the right of the search bar is a "Download csv" button. Below the search bar, there are two tabs: "Search Results" (selected) and "Visualizations".

On the left side, there are three filter sections:

- Date:** A date range selector with "01-01-1800" and "31-12-2021" as the start and end dates.
- House:** A dropdown menu with "Choose" selected.
- Role:** A dropdown menu with "Choose" selected.

The main content area shows "9587281 results. Showing results 1 - 20:". Below this, there is a "SORT BY" section with a dropdown menu set to "Relevance" and a "Descending" sort order. To the right of the sort section is a "PAGES" section with a pagination control showing "1", "2", "3", "...", "500", "<", and ">" buttons.

The first result is displayed in a card format:

- Date:** 1803-11-22
- Speech:** moved that Lord Walsingham be appointed chairman of the committee of privileges for the present session.
- Relevance:** 100%

**Figure 1:** A screenshot of the *People and Parliament* web interface.

### 2.5. Visualizations

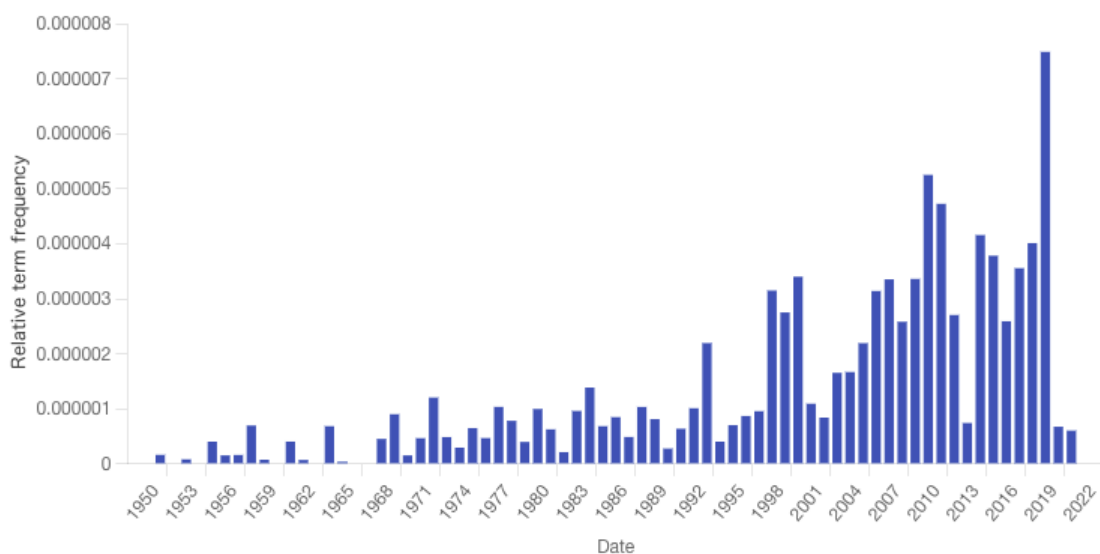
Visualizations are available in a dedicated tab. They interact with potential search terms or filters applied by the user, and show information such as the distribution of speeches over time, a word cloud of the most prominent words in the speeches, the frequency distribution of the search term over time, and the most prominent n-grams containing the search term over time.

The *People and Parliament* application extends the previous work on *I-Analyzer* with multiple new visualization types. For instance, originally it was only possible to see the date histogram of the *document frequency* of a given search query, i.e., how many documents contain the search term. In the *People and Parliament* interface, the user can now switch to view the *term frequency* instead, i.e., how many times the search query occurs over time. In this case, the raw counts can be normalized in different ways – as a ratio of all documents or terms, or as a ratio of documents or terms within a given time window. It is challenging to strike a balance between a simple interface – one key aspect of the previous *I-Analyzer* development – and ample customization options.

Moreover, some visualizations, such as frequent collocations with a search term, are computationally expensive, so that a user may need to wait to see the result. In future, a caching mechanism might reduce these waiting times – the data underlying a visualization may be saved, so requesting the same visualization again does not require computation on the fly.

### 2.6. Download

Data resulting from search queries and filtering, as well as visualization data, can be downloaded in .csv format to be processed offline with other text-mining or visualization software.



**Figure 2:** The relative term frequency of “representative democracy” in the both houses of the British parliament, 1950-2021. For each year, the number of occurrences of the query, divided by the total number of terms for that year, is shown. Source: *People and Parliament*.

## 2.7. Dataset

Ultimately, the project aims to cover debates from up to eleven different national parliaments from Northwestern Europe and Canada. The state of the available data for these parliaments varies widely, from datasets in almost immediately research-ready state to ones that need extensive processing. The current state of the datasets is summarized in Table 1. Some of these are awaiting completion of digitization projects at their respective parliaments or research organizations. The amount of work required to get the datasets research-ready is indicated in the “Processing” column.

The quantity of this parliamentary data is considerable and the quality is highly variable with regards to OCR errors, data structure, and availability of metadata. Our comparative project will remain unable to complete missing metadata, such as political affiliations or unique IDs of speakers. Nevertheless, significant effort needs to be devoted to processing the available datasets, before they are ready for incorporation into the project. In many cases foundational tasks need to be done first, such as structuring the data and basic metadata, including dates. In the French data, for example, the debates from 1998 onward in the National Assembly, and from 1996 in the Senate, are available in structured format, either HTML, or XML, which is relatively

<sup>1</sup>The Canadian data from 1867 to 1900 is available in PDF format, and might be included depending on time available.

<sup>2</sup>The Danish parliament is in the process of rescanning and digitizing the material from 1848 to 2008, scheduled to be done in spring 2022. Debates from 2009 to 2020 are already available.

<sup>3</sup>Additional Dutch data for 2012 to 2015 was kindly provided by Prof. Maarten Marx of University of Amsterdam.

Dataset	Period	Format	Source(s)	Availability	Processing
Canada	1901 <sup>1</sup> – 2021	xml	openparliament.ca, lipad.ca[7]	open	moderate
Denmark	1848 <sup>2</sup> – 2020	xml	Folketinget ftp	open	minimal
Finland	1907 – 2021	xml	SEMPARL-project	awaiting publication	minimal
France	1787 – 2021	pdf, xml, html	Assemblée Nationale, Sénat, Google Books	open	extensive
Germany	1867 – 2021	pdf, xml	MDZ API, opendiscourse.de	open	varies
Ireland	1919 – 2020	xml	Oireachtas API	open	minimal
Netherlands	1815 – 2020	xml	ParlaMint <sup>3</sup> , Overheid.nl	open	minimal
Norway	1814 – 2021	xml	National Library of Norway, data.stortinget.no	limited	minimal
Sweden	1720 – 2021	pdf, xml	data.riksdagen.se, data.kb.se	open	varies
United Kingdom	1803 – 2021	xml	Hansard, theyworkforyou.com	open	minimal

**Table 1:** Summary of parliamentary debates datasets.

straightforward to process. The earlier data is only available as PDFs, requiring significantly more effort just to extract the relevant text, and towards the nineteenth century, even the quality of the scans decreases. This leads to decreasing data quality towards the beginning of the period, both in quality of the text itself, and in quantity and quality of the associated metadata. In other cases, larger datasets have already been prepared and published in other research projects, and we are able to incorporate this processed data into our project. Good examples here include the ParlaMint project[8] and the the Every Single Word project on German data[9], which both included extensive metadata, and can be more or less used as they are. ParlaMint follows the Parla-CLARIN format, which seems to be emerging as the standard format for parliamentary data.

Due to resource and time constraints, and the amount of data we aim to include, we have decided not to aim for a unified data model for all the various national datasets, but rather handle each one individually, and take the processing steps that are realistic to achieve within the limits of our resources. Further refining of the datasets is planned for continuation projects, and the data is processed here in a way that can be expanded on in the future. Therefore, both the metadata fields and data structure vary from dataset to dataset. Ideally, and when possible (as it is for the Canadian House of Commons and German Bundestag data) we include extensive metadata. The metadata may include the parliamentary session, the topic(s) of the debate, the date and time of the speech, the order of the speeches, their type (speech, intervention, etc.), name and identifier for the parliamentarian, their political affiliation, constitution, and biographical data. In these cases, the individual data element is a single speech (with speeches

in a specific session, or on a certain date, etc. accessible through the metadata).

In other cases, as with the majority of the French or German data (Reichstag 1867–1942), the structure of the raw data does not allow easy extraction of extensive metadata, or detection of the boundaries between individual speeches. In these cases, we have adopted a two-stage approach. Initially we extract the text mostly as it is, with only rudimentary cleaning of redundant information such as tables of contents or page headers and footers. To this we add a limited amount of more general metadata, including dates of the sittings and identifiers for the parliamentary sessions. The data unit here is usually a single sitting. When all the datasets in the project have been incorporated on at least this rudimentary level we will start processing them further, if time allows. We have tested refining a subset of the French data based on the page layout, font information and text formatting in the PDFs, and good results can be obtained, given sufficient OCR quality. Even though no manual steps are required, the process is still laborious as both the document layout and quality of OCR in the source data varies widely and frequently, even within a single national dataset.

In this article, we use British data that is also available through Historic Hansard with full-text search tool for debates until 2005, Hansard Corpus with a collocation tool until 2005, Hansard at Huddersfield with a (not ideally working) relative term frequency tool until 2021, and Hansard Viewer with tools for word embeddings for the nineteenth century. Despite remaining challenges with cleaning, enriching and opening the data for our comparative interface with a variety of analytical tools and extending from the early nineteenth century to the present, we are positive about the usefulness of the computer-assisted analysis of parliamentary debates for writing the long-term comparative conceptual history of political representation.

### **3. Initial Results: Challenging the Timeline of the Politicization of “Representative Democracy”**

Building on digitised parliamentary debates searchable through the *People and Parliament* application, conceptual history of political representation can start by observing macro-level long-term trends in the everyday language of politics, and then focus on close reading of one finding, such as the rise and politicization of “representative democracy” in parliament. Trends need to be observed with an awareness of possible distortions in the data and of simplistic contextual explanations for linguistic change. The observations mainly help in selecting datasets for further analysis and/or contextualizing close reading.

Close reading remains essential for revealing rhetorical nuances created by historical speakers in a highly competitive parliamentary setting who sought to sway multiple audiences. While the more exact meanings of the concepts can only be reconstructed through contextual analysis, conceptual history no longer needs to base its arguments about quantitative change, exceptionality, and conventionality on selected quotations only but can use statistical data, for instance on changing frequencies. Interpretations of conceptual change can thus be based on the systematic combination of quantitative and qualitative analysis, on an interactive dialogue between digital and traditional research.

The prototype of *People and Parliament*<sup>4</sup> produces data on the relative term frequencies of

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<sup>4</sup> We hope to be able to open at least some of the national corpora to the public by 2024.



the vocabulary of representation in British and Dutch parliamentary debates since the early nineteenth century. The following illustrative analysis is based on annual relative frequencies of word combinations derived from “representation”, “democracy” and “parliament”, traced first with the Hansard Corpus collocation tool (available until 2005). Next potentially disputed word combinations were explored using the *People and Parliament* interface. Its bigram illustrations suggested when the use of certain bigrams has been extended and when the word combination was potentially politicized, redefined, or associated with conventional arguments in the parliamentary context. Such moments in the history of talk about representation call for conceptual analysis by more conventional means. Our close reading then focused on debates in which the analysed bigram occurred frequently, was considered important by the speakers, became an object of dispute, and potentially changed meaning. Answering questions of causality in linguistic change required contextual analysis of the texts and consideration of potentially divergent timings in extra-parliamentary discourses.

The *People and Parliament* interface points out 837 occurrences of the term “representative democracy” (our chosen example) in the plenary debates of the two houses of the British parliament since 1803. Even though this a low number in relative terms, the users of the term typically analysed the state of the political system. While collocation tools are helpful in skimming through the results, researchers using these alone may miss less obvious yet politically relevant examples. Hence, all occurrences since 2006 were read as keywords in context and the most relevant ones coded by hand according to categories of argument.

A graph presenting the relative frequency of the bigram “representative democracy” (Figure 2) demonstrates that we may have to rethink the long history of the concept and that there are more discontinuities in its use than general histories of democracy might suggest. The idea of representative democracy was articulated already by seventeenth-century English parliamentarians, some suggest [10], and late eighteenth-century combinations of “representation” and “democracy” can be traced [11] [12]. As Figure 2 shows, however, “representative democracy” was mentioned in the British parliament, the very nexus of political debate under the British constitution, only rarely until the late 1950s and was made an object of repeated political discussion only from around 1968. A simplified contextual explanation might be that 1968 was the year when representative democracy became widely challenged in the discourses of the New Left around Western Europe [13][14].

Our relative term frequency observation suggests that while the idea of representative democracy can be traced far back in the past, how political thinkers and politicians spoke about it through history changed in important ways. It is common to think of conceptual history, which focuses on historical language (and usually draws on the work of Reinhart Koselleck and Quentin Skinner), to produce so-called short histories, whereas the history of ideas (usually drawing on Arthur Lovejoy) puts more emphasis on continuity and so-called long histories [15][16]. It appears that we escalate this tendency towards short histories by emphasizing frequency, i.e., how often historical actors spoke of the concepts we are trying to historicize.

Our observation on the late parliamentary politicization of “representative democracy” relates to public discourse. The Google Ngram Viewer of English-language printed books Google Ngram Viewer of English-language printed books [17] suggests that there was some time lag between general public and parliamentary discourses: there had been some debate on represen-

tative democracy in printed literature around 1920 and 1940 but only individual parliamentary references, whereas there was a considerable rise in the intensity of public debate between 1954 and 1964. This began to inspire interventions in parliament, though 1968 is the year when a distinct rising trend in references to representative democracy is traceable. A JSTOR search shows further that in English-language academic journals “representative democracy” had been used a few hundred times by the mid-1950s, a couple of thousand times by the 1990s, and over 13,000 times after 1990. The 1960s thus appears as a take-off phase in public debates as well. Together these trends suggest that our close reading of the occurrences of “representative democracy” in parliament should start from the late 1960s.

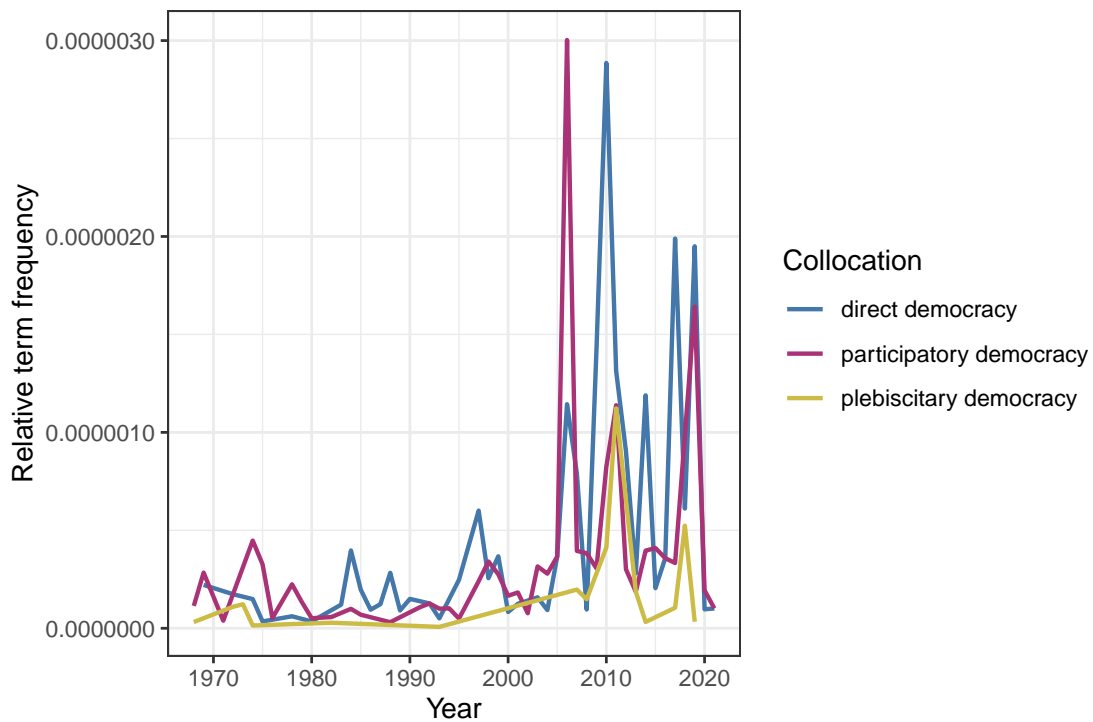
Political scientists have pointed to the fragmentation of traditional values (such as religion and nationalism) and hierarchies as a consequence of structural change in Western societies, which has weakened engagement in class politics and trust in political parties and governmental institutions. Rising levels of education have increased interest in, capability of, and willingness to challenge elites and influence policies, and the development of mass communication has supported these tendencies [18]. Others have noted that electoral turnout, party membership, and trust in representatives (as a professional class) as measured by opinion polls have declined and indifference in politics has increased. Traditional representative democracy has been seen as fracturing, while calls for participatory and direct democracy have risen [19, 20].

Criticism of the available models of democracy may have contributed to a sense of representative democracy being in crisis [21][13]. Referendums, in particular, have challenged parliamentary legitimacy [22]. Since the 1990s, the Internet has provided new digital forms of deliberation and participation that have weakened the distinction between representatives and the represented[23] and tended to polarize views. Some theorists have emphasized that representative institutions must adapt to “audience” democracy [24], while others suggest that in an emerging “monitory” democracy decision-makers come under public scrutiny through other mechanisms than parliamentary representation [12].

In what follows, we analyse the trends taken up in literature, focusing on the British parliamentary discourse on “representative democracy”, also considering its most obvious counter-concepts (Figure 3). Aspects deserving particular attention include (i) challenges to representative democracy from “direct democracy”; (ii) defences of representative democracy with appeals to parliamentary rather than popular sovereignty; (iii) rising calls for “participatory democracy”; (iv) the role of European integration in definitions of representative democracy; (v) estimates on the impact of the Internet on representative democracy; and (vi) debates on referendums (“plebiscitary democracy”) as an addition or counter-concept to representative democracy. Representative democracy was debated in several other contexts as well; the chosen sub-themes all concern constitutional aspects of representative democracy at the national level.

Figure 2 suggests and close reading demonstrates that concerns about direct democracy challenging representative democracy grew with an extra-parliamentary statement by Peter Mandelson, a minister without portfolio in Tony Blair’s Labour government. In March 1998, 30 years after the beginning of regular references to representative democracy, Mandelson had stated that the age of pure representative democracy might be approaching its end as people wanted to become more involved. Plebiscites, focus groups, lobbies, citizens’ movements, and the Internet had become the means of democratic change.

In the coming years, “representative democracy” turned into a highly party-politicized concept



**Figure 3:** The relative term frequencies of “direct democracy”, “participatory democracy” and “plebiscitary democracy” – all alternatives to “representative democracy” – in the British parliament over time. The relative term frequencies – the ratio of occurrences over total terms for each year – are very low but demonstrate clear increase in the aftermath of the Expenses Scandal of 2009. Source: *People and Parliament*.

as the Conservative leader William Hague, for instance, attacked the prime minister, suggesting that Mandelson’s argument reflected the government’s hostility to representative democracy [25, 13 July 2000, c1084, c1096]. Prime Minister Tony Blair conceded that “our task is to try – in so far as is possible and consistent with representative democracy – to do the people’s will.” [25, c1098] Elsewhere he encouraged people and communities to find their own solutions instead of expecting decisions from political leaders [20].

Since 2000, awareness has grown that direct democracy has been adopted to the British constitution to supplement indirect or representative democracy, most famously in the form of referendums, as a response to decline in citizens’ trust in parliament. Yet claims about the need to move from representative to direct democracy have also received widespread criticism. While all British parties have been divided over direct democracy, division on referendums has been most obvious among the Conservatives. As direct and representative democracy had collided most evidently in the Brexit referendum, Justice Secretary Robert Buckland (Con) concluded that “the whole concept of parliamentary representation is itself on trial. It is on trial in a way that perhaps none of us had ever envisaged” [25, 22 October 2019].

Key aspects of representative democracy became subject to debate since the 2000s, especially

in the Lords. Meanings assigned to sovereignty, representation, deliberation and accountability/responsibility – the central concepts of parliamentarism [26] – were recycled by some MPs and peers, and redefined by others. In line with patterns of thought following the Second World War, representative democracy and parliamentary sovereignty had long been prioritized over popular sovereignty. Yet even a political theorist who questioned the universal validity of liberal democracy, now redefined parliamentary sovereignty favourably to referendums. According to Bhikhu Parekh (Lab), the basic principle of the British political system is “popular sovereignty” whereas “Parliament is not sovereign” and “people have right to speak if they feel that the Parliament does not fully represent them” [27, 19 July 2018]. Of particular interest here is the nexus of academic and political debates arising from the move from hereditary to life peerages in the British House of Lords.

Representation, another concept of democratic theory, has been advocated by most speakers with an emphasis on elected representatives of the people as opposed to mere delegates – often with references to the eighteenth-century Edmund Burke. Yet doubts about the functioning of the representative system were also expressed, particularly towards the end of the Brexit debates. According to John Bird, the co-founder of the Big Issue who brings a voice from civil society into the Lords, the current “unrepresentative” system differed from what he called “a cognitive democracy” in that it could not “bring enough people together to share this representation”. The “confounding” Brexit process was, according to Bird, devaluing “the whole process of what we call representative democracy” [27, 16 June 2019].

By contrast, the centrality of deliberation to parliamentary procedure has not been questioned, despite some references to alternative forms of deliberation outside parliament. Tensions between these forms are visible in Alan Howarth’s (Con) wish for “more deliberative parliamentary government, and more decisions made insulated from the pressures of politics and the 24-hour news media” [27, 28 January 2010].

There was also general agreement on responsibility and accountability as particular strengths of representative democracy. Philip Norton, professor of government, contrasted representative democracy in which “electors choose those who will govern on their behalf and can then hold them to account for their actions” with referendums that lacked accountability and were actually “an irresponsible act” [27, 13 June 2019].

Increasing uncertainty about the role of the MPs after the Brexit referendum characterized many of the interventions. Some Brexiteer Conservatives tended to redefine direct and representative democracy as equal elements of the British constitution [25, Liam Fox, 19 October 2019]. The Conservative government’s solution was to call early parliamentary elections in December 2019. As the Brexiteers won a majority, Brexit was carried out, and explicit constitutional debate on the state of representative democracy ceased in parliament, though it certainly continued elsewhere.

These shifts in discourse on representative democracy need to be interpreted in the longer-term context of rising calls for participatory democracy. Even though there are indications of awareness of extra-parliamentary discourses on participatory democracy from around 1970, *People and Parliament* shows that more considerable parliamentary discussions started only in the late 2000s (Figure 3). Parliament was not necessarily late in this: While Google Books Ngram Viewer shows that “participatory democracy” had been discussed in English-language publications since the 1960s, Worldwide Political Science Abstracts demonstrate that academic

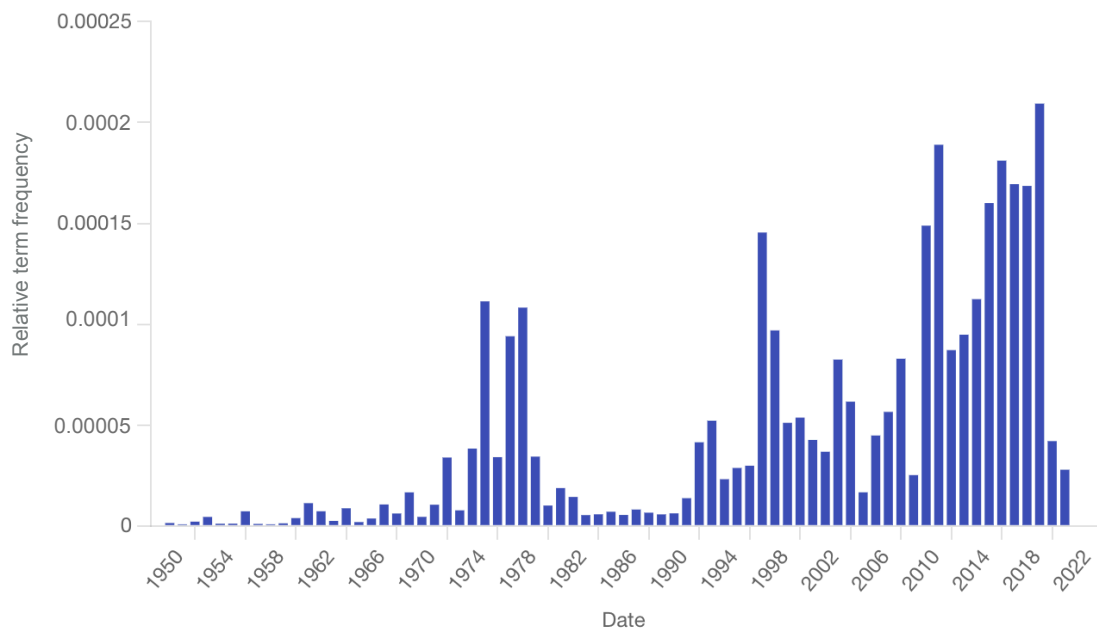
debates expanded only in the 2000s.

In 2006, the Labour government's report "Democracy: Power Enquiry" launched a debate for and against participatory democracy as the future of politics. Philip Gould, a strategist of the Labour Party, shared its conclusion that citizens would reach equally reasoned decisions as elected representatives when given clear information and forums to deliberate [27, 15 June 2006]. Forms of participatory democracy such as citizens' initiatives and juries received further support as Chancellor the Exchequer Gordon Brown (Lab) suggested that representative democracy should be developed by "devolving more power directly to the people" [25, 3 March 2007]. Other ministers agreed that popular expectations had changed and that the constitution should be updated accordingly. These discourses were revived and reinforced by the Expenses Scandal of 2009: representatives of the other parties, too, increasingly saw referendums as the way to revive public trust in parliament.

This suggests that the dynamics of the debate were domestic rather than transnational. Even though rising criticism of the European Union was characteristic of British parliamentary discourse, European integration was rarely explicitly associated with representative democracy. As membership was first debated, optimism about Britain strengthening representative democracy in the EEC was common. By the end of the 1990s, associations between representative democracy and the European Union had taken a very different tone, as Eurosceptics accused the Union of democratic deficit. Norman Blackwell (Con) pointed at the challenge to nation states, arguing the Union had – in the European Constitution – redefined itself as "representative democracy where citizens are represented directly at Union level in the European Parliament" [27, 5 December 2007, 1 April 2008].

The Internet, too, appeared as more challenging to representative democracy. Peter Mandelson's suggestion about representative democracy approaching its end politicized discussions on the implications of new media. While Tony Blair's Labour government was optimistic about possibilities for engaging people using the Internet, the Conservative opposition was sceptical, suggesting that the government was planning to replace parliamentary government with an "electronically driven computer game of policy making" [25, Andrew Rowe, 28 July 2000]. By the end of the decade, as email and social media use exploded, expectations about the Internet as a forum for direct democracy had become less enthusiastic in both leading parties. Some Liberals reasoned that referendums would provide a more orderly form of direct democracy than e-democracy. Tom Brake envisioned a fundamental constitutional change as "new technology has provided the means to move from our existing representative democracy to a participatory democracy" [25, 10 March 2015]. After the Brexit referendum, however, several peers concluded that parliamentarians had lost contact with the new forms of media and hence with the electorate. David Puttnam – later appointed the chair of a select committee on democracy and digital technologies – suggested that "we live in a far more fragile democracy than we appreciate", one characterized by "an ill-informed and prejudiced referendum" and "the catastrophic loss of trust in public and private institutions" that undermined representative democracy [27, 26 January 2017].

Of all the challenges to representative democracy addressed in British parliamentary debates, referendums were thus either the most menacing or the favoured response to calls for participatory democracy. Discussions on a referendum had emerged during Britain's prospective EEC membership in the early 1970s (Figure 4). Even though the speakers had generally seen



**Figure 4:** The relative term frequency of the query “referend\*” in the both houses of the British parliament between 1950 and 2021, reflecting three waves of challenges to representative democracy in 1975, the late 1990s and after the Expenses Scandal of 2009. Source: *People and Parliament*.

referendums as incompatible with representative democracy, one was held in 1975. As the majority then voted in line with the views of the political elite, the procedure posed no challenge to representative democracy. More considerable debate on referendum followed after the rise of the Internet, discourses on participatory democracy, the deepening of European integration and the Expenses Scandal of 2009. By the time of European Union (Referendum) Bill, referendum was justified with appeals to the legitimacy of and trust in representative democracy.

After the referendum in 2016, referendum became an ever more politicized concept. Some saw such an appeal “to the will of the people” as having led to an existential crisis of representative democracy. Others argued that representative democracy had made a contract with the people and that parliament should act according to the majority decision. The Public Administration and Constitutional Affairs Committee concluded in 2019 that “confusion as to the possible consequences of a referendum result serves only to heighten the potential tensions between referendums and representative democracy and risks increasing public’s disenchantment with politics.” [27, Cited by George Young (Con), 13 June 2019].

#### 4. Conclusion

Our term frequency analysis based on the *People and Parliament* application thus leads to conclusions relevant for the overall evolution of democracy. We have seen how both academic

and political debate on representative versus participatory democracy rose in Britain in the 2000s as Internet use expanded, which is a reflection of a universal societal change following the development of the new media.

While these findings are in line with structural societal change indicated in political science research, close reading shows particular British features: Under the unwritten, flexible constitution, representative democracy has not only been under pressure from various forms of direct democracy but has also responded to them. Sovereignty, representation, deliberation, and responsibility have been defended but also sometimes redefined. Discussion on participatory democracy was introduced to parliament by the Labour government, accelerated by the redefinition of the EU as based on representative democracy and the Expenses Scandal of 2009, and increasingly adopted in the early 2010s – irrespectively of counter-arguments to direct democracy built on the Internet and referendums. The Brexit referendum, introduced by Prime Minister David Cameron (Con) in order to win a general election, was generally viewed as a response to demands for more participation but turned into a major challenge to representative democracy, revealing loss of contact with voters in an era of the new media. Once the Brexit decision was reached, debate on the tensions between representative and direct democracy ceased in parliament, but the problem did not disappear.

Our frequency analysis of British “representative democracy” indicates that quantitative analysis of past language can nuance the periodization of political thought, probably also in the case of other key bigrams of democracy, parliament and representation. Future research needs to determine whether (due to the dominance of the English language and transnational Euroscepticism) these British discourses have transferred to other European countries, including discourses on the relative legitimacy of representative and participatory democracy, or whether similar discourses have emerged out of national contexts there.

The *People and Parliament* interface could be supplemented with other digital humanities tools: collocation analysis showing the relative frequencies of keyword combinations of the discourse and analysis of word vector representations (embeddings) to aid reconstruction of the broader semantic fields of “democracy” and “representation” appear the most promising. We see analysis of larger semantic fields through collocations and word embeddings as a quantitatively sounder way to understand trends in the transformation of political language, the object of interest of conceptual history.

To consider differing timings of debates in various forums, we need to be aware of how common the key terms are in academic and public debates, not only in parliaments as meeting places for concepts. To understand the relationship of observed discursive changes to structural societal changes and to explain why an individual MP took up certain concepts in a particular political context, we need a dialogue with historians studying representation by more conventional means. To estimate why the construction of parliamentary legitimacy by talking about representative democracy and its alternatives succeeded in one context and failed in another, we need to discuss the issue with political theorists. In such multidisciplinary dialogue, relative term frequency analysis and other digital humanities tools can provide a point of departure, provoking fruitful scholarly debate and leading to reconsiderations of the long-term conceptual history of democracy.

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