

# Introduction to Text Analysis

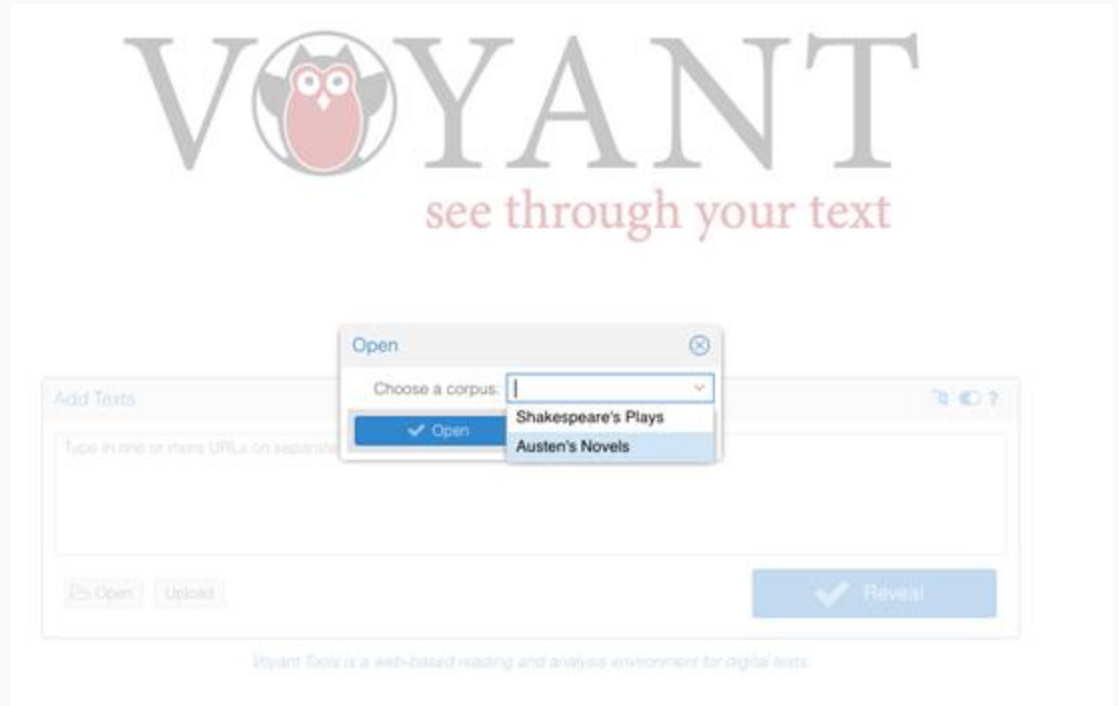
with Voyant

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An off-the-shelf alternative  
for exploratory data analysis:

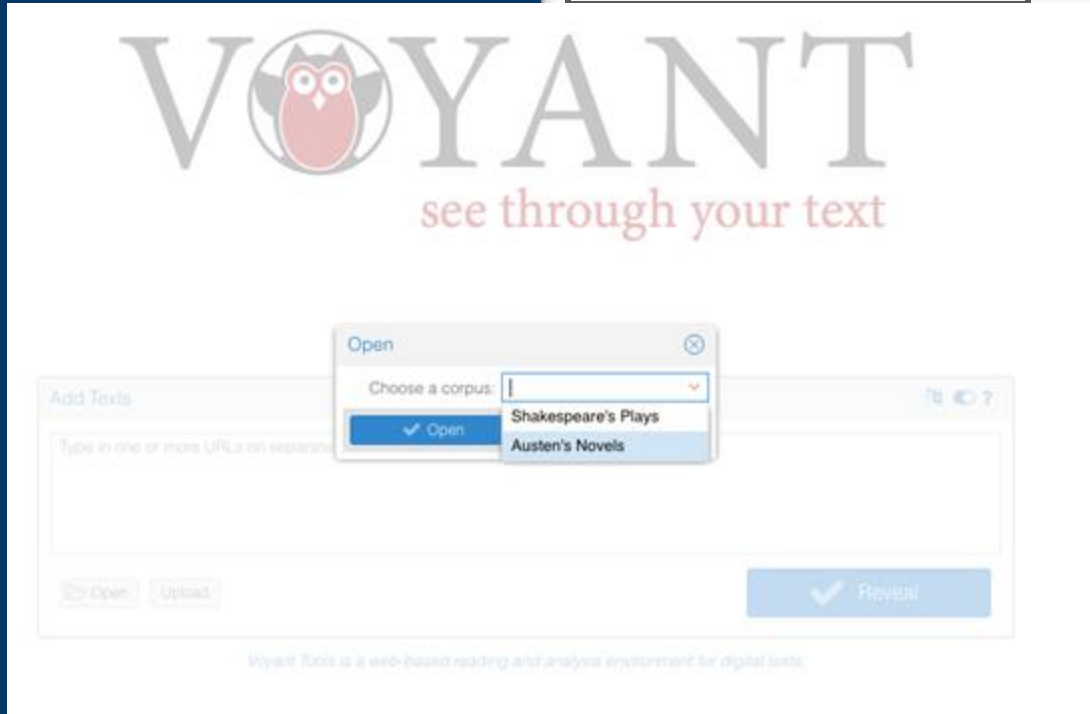
**Voyant is a basic dash-  
board for text analysis**

[voyant-tools.org](http://voyant-tools.org)



Let's try some text  
analysis!

Please go to:  
[voyant-tools.org](http://voyant-tools.org)



From the **Open**  
menu, choose the  
corpus **Austen's  
Novels**.

Then press **Reveal**.



# Voyant Tools

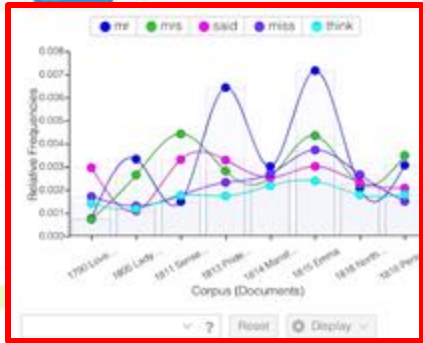
In the upper center square is the **TEXT of your CORPUS**.

This gives you the full text that you're analyzing, listed in order that they are labeled (in this case, by date). If you hover over a word, it will tell you how many times it appears in the collection.

Take a look at the text in the box. What do you notice? What kinds of problems might it pose for our analysis?



# Voyant Tools

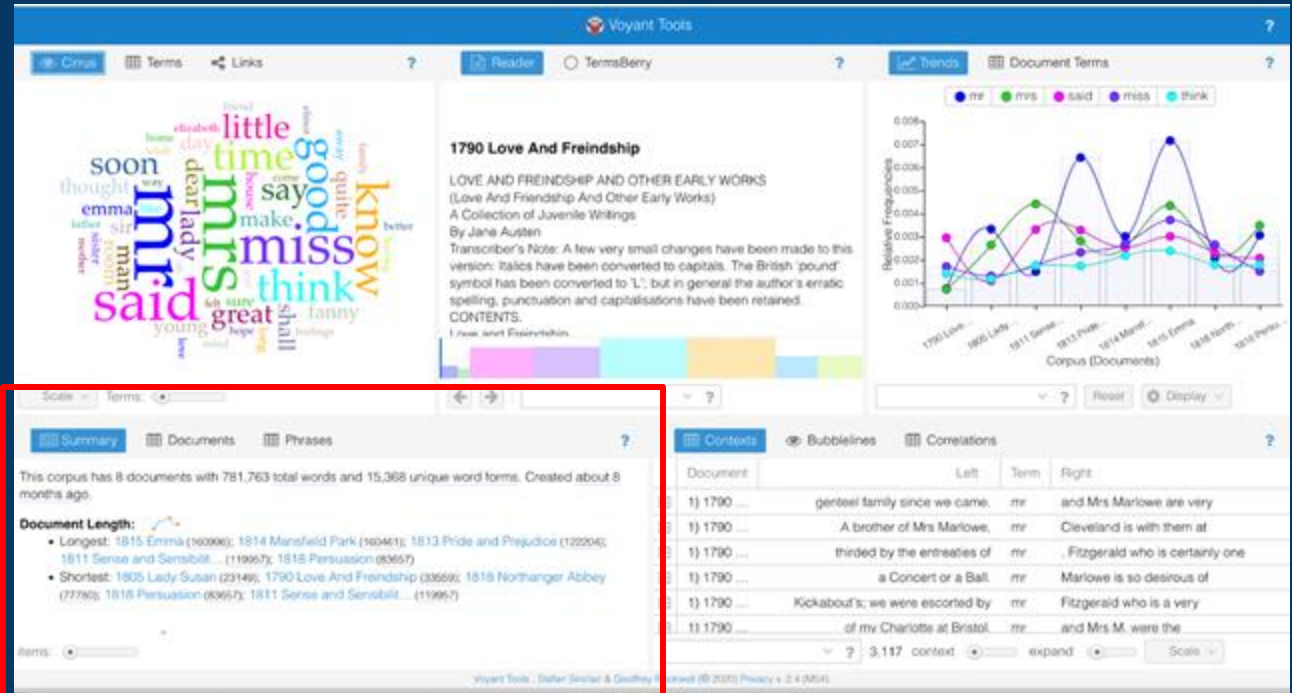


Document	Left	Term	Right
1j 1790 ...	genteel family since we came,	mr	and Mrs Marlowe are very
1j 1790 ...	A brother of Mrs Marlowe,	mr	Cleveland is with them at
1j 1790 ...	thirded by the entreaties of	mr	Fitzgerald who is certainly one
1j 1790 ...	a Concert or a Ball	mr	Marlowe is so desirous of
1j 1790 ...	Kickabout; we were escorted by	mr	Fitzgerald who is a very
1j 1790 ...	of my Charlotte at Bristol	mr	and Mrs M. were the

In the bottom left are STATISTICS about your corpus.

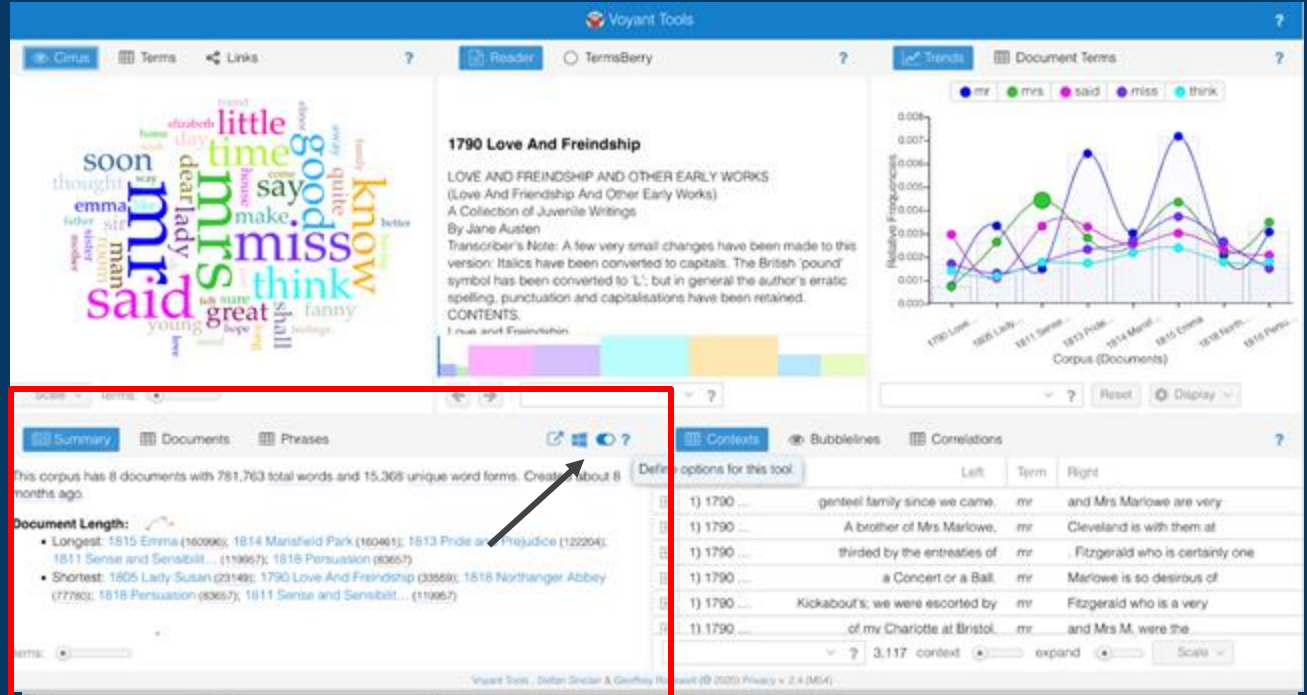
Scrolling down in the “Summary” view gives a longer list of some of most distinctive words in each text, the average document and sentence length. “Phrases” allows you to sort by short phrases.

## Voyant Tools



This box also allows you to control the global filters for the toolset.  
Hover over the upper right corner of this box and click on the “options” toggle

# Voyant Tools





# Voyant Tools

In the options box, click on “None.” Then click Confirm. What happened?

What you just removed was a “stop words” list.

Click on options again, and click on “auto-detect.” Then click on the Edit list button. What do you notice about the words?

When would you want to filter certain words out? When *wouldn't* you want to remove them? What are the implications?

The screenshot shows the Voyant Tools web interface. On the left, there is a word cloud for the text '1790 Love And Freindship'. The main panel displays the text of the document, which is a collection of juvenile writings by Jane Austen. On the right, there is a line graph showing the frequency of words across the corpus. An 'Options' dialog box is open in the center, with the 'Stopwords' dropdown menu set to 'None'. The 'Categories' dropdown is also set to 'Auto-detect'. The 'Confirm' button is highlighted in blue. A red arrow points from the 'Confirm' button to the text below.

Remember our discussion about **stopwords**? What implications do they have for our analysis here?

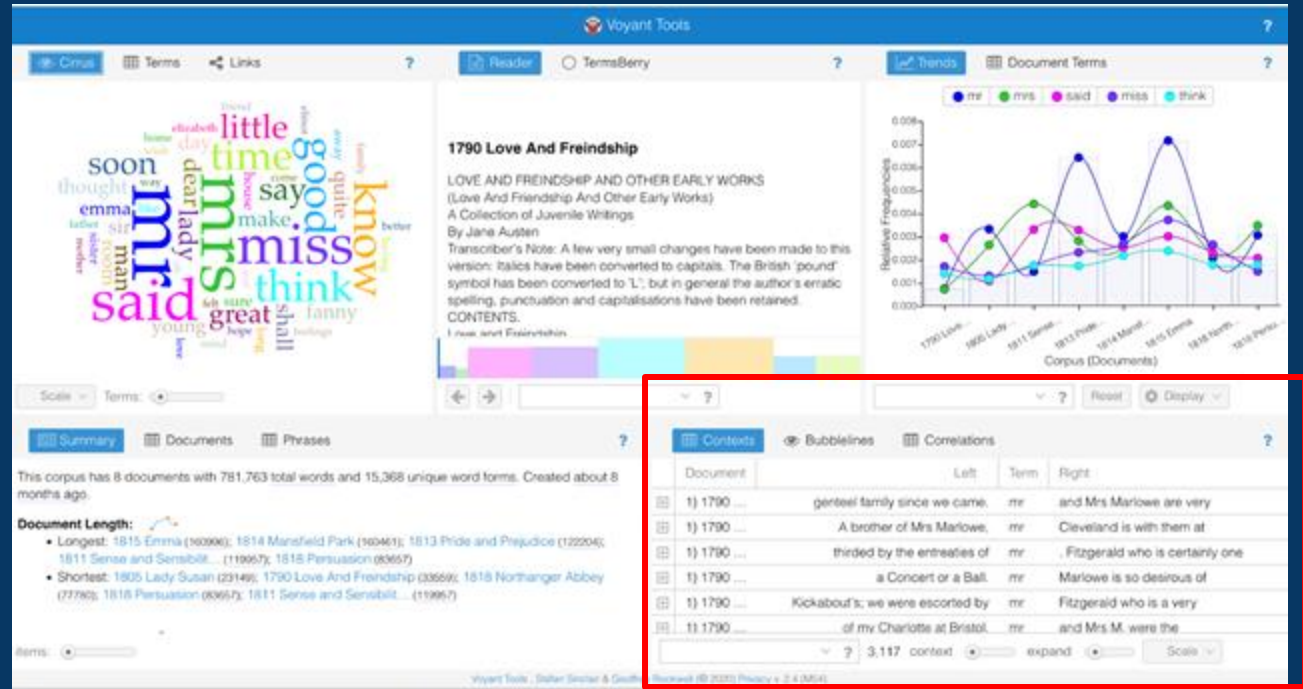
In the bottom right is a CONCORDANCE.

This gives you the context of words in your corpus as they appear in each document.

Try typing in “gentleman” and sorting by the words that appear on the left.

Toggle to the “Bubblelines” view. Type in “pounds,” “estate,” “money” and “inheritance.” What do you notice?

## Voyant Tools



# Voyant Tools

Take a minute to play around some of the features. Toggle the amount of words in the CONCORDANCE, or the “items” in the STATISTICS box.

**Brainstorm** a few questions that you could explore with this kind of interface.

What kind of questions could you ask?

What kind of questions could you not ask?

## Uploading our own texts

We can also upload our own corpus of plain text files. Let's try the corpus of U.S. Inaugural Addresses



Add Texts 🔍 ⚙️ ?

Type in one or more URLs on separate lines or paste in a full text.

Upload one or more documents from your computer

*Voyant Tools is a web-based reading and analysis environment for digital texts.*

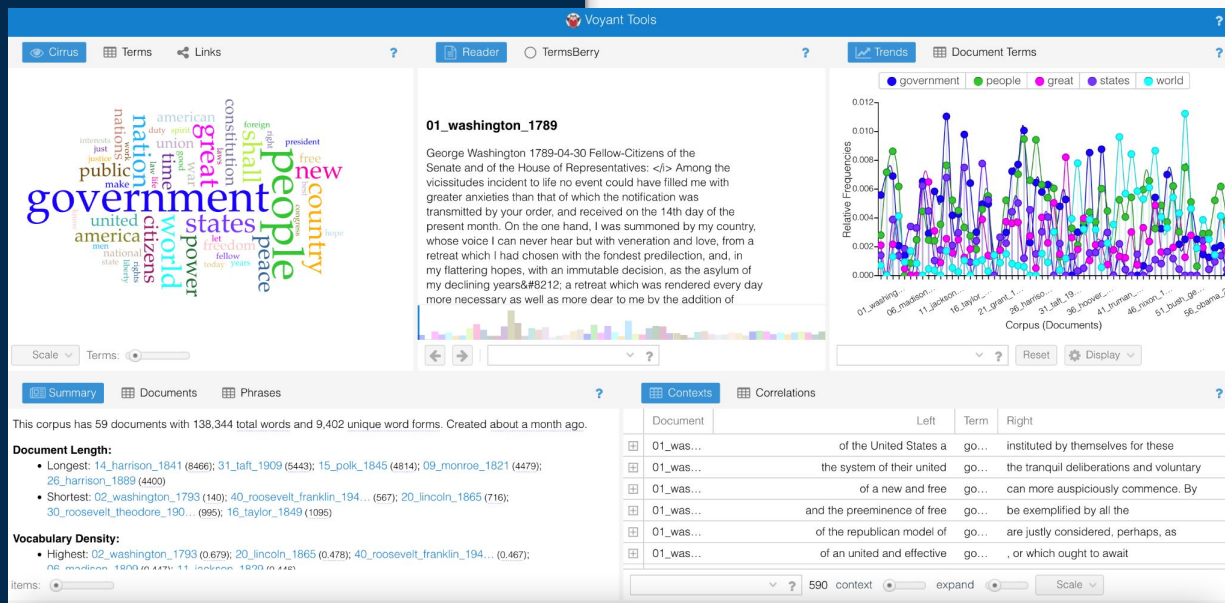
Select the **Upload** menu, and upload all the text files that we downloaded from our U.S. Inaugural Addresses dataset

Alternately, go to:  
[tinyurl.com/InauguralAddresses](http://tinyurl.com/InauguralAddresses)

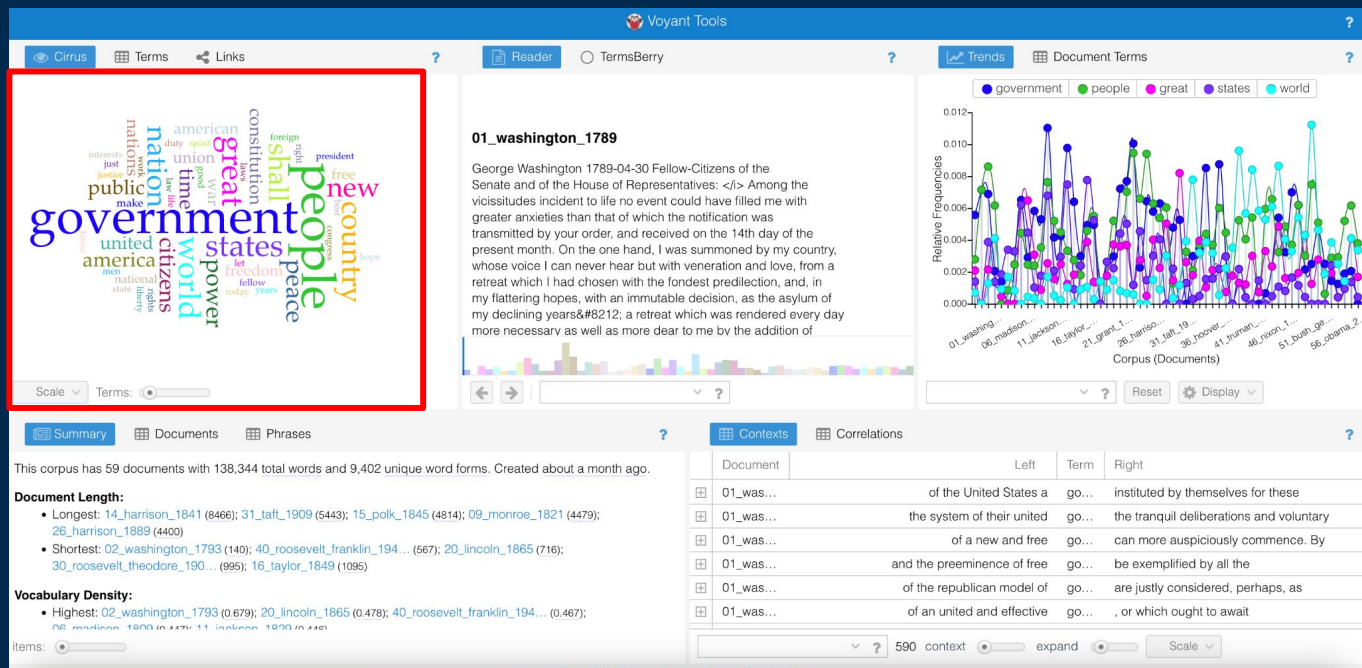
# Let's try some text analysis!

Please go to:

[tinyurl.com/InauguralAddresses](http://tinyurl.com/InauguralAddresses)



# Voyant Tools



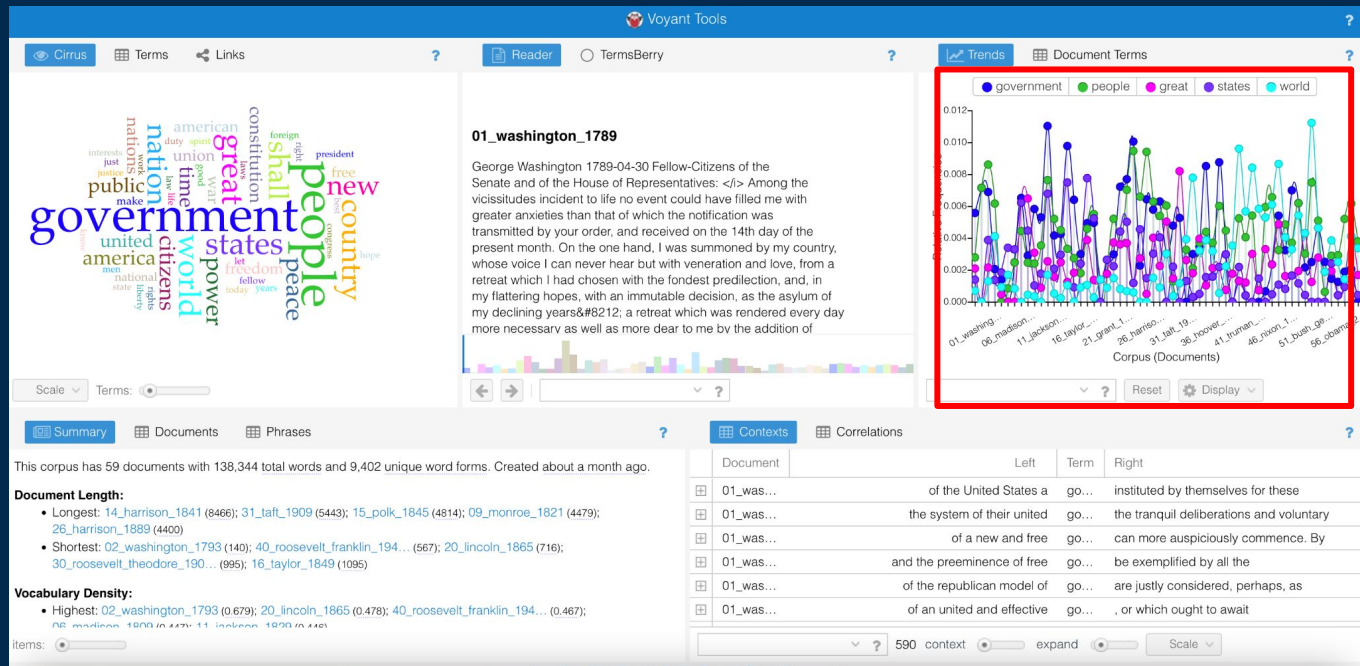
# Voyant Tools

[illegible]



# Voyant Tools

In the upper right is the WORD FREQUENCY visualization.  
This shows you how frequently a word appears in each of the documents in the corpus.  
Try typing in “America” in the search bar at the bottom of this box. What do you notice?





Scrolling down in the “Summary” view gives a longer list of some of most distinctive words in each text, the average document and sentence length. “Phrases” allows you to sort by short phrases.

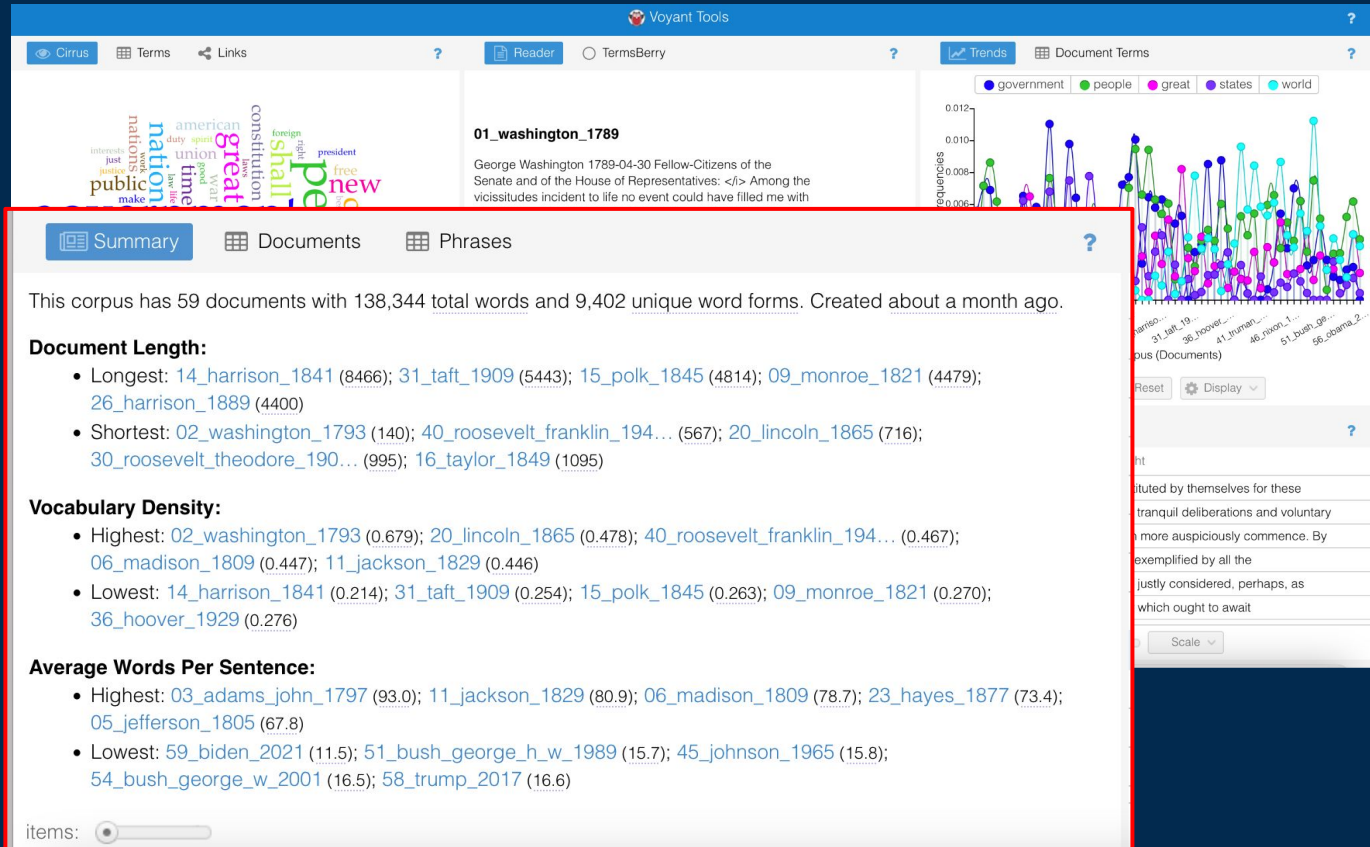
The screenshot displays the Voyant Tools web application interface. At the top, navigation tabs include 'Cirrus', 'Terms', 'Links', 'Reader', 'TermsBerry', 'Trends', and 'Document Terms'. The main content area is divided into three sections:

- Word Cloud:** A large word cloud on the left side, with 'government' being the most prominent word. Other visible words include 'people', 'states', 'world', 'power', 'freedom', 'citizens', 'united', 'american', 'nation', 'public', 'interests', 'just', 'nations', 'make', 'time', 'life', 'great', 'constitution', 'foreign', 'shall', 'president', 'free', 'new', 'country', 'peace', 'today', 'years', 'fellow', 'rights', 'state', 'seven', 'national', 'state', 'twenty', 'hope', 'union', 'duty', 'spirit', 'poor', 'voice', 'will', 'make', 'time', 'life', 'great', 'constitution', 'foreign', 'shall', 'president', 'free', 'new', 'country', 'peace', 'today', 'years', 'fellow', 'rights', 'state', 'seven', 'national', 'state', 'twenty', 'hope'.
- Document List:** A list of documents on the right side, including '01\_washington\_1789', '06\_madison\_1800', '11\_jackson\_1829', '16\_taylor\_1849', '20\_lincoln\_1865', '21\_grant\_1869', '26\_hannibal\_1869', '31\_taft\_1909', '36\_roosevelt\_1901', '41\_juman\_1901', '46\_nixon\_1969', '51\_bush\_2001', and '56\_obama\_2009'.
- Frequency Graph:** A line graph at the bottom showing the relative frequency of words across the documents. The y-axis is labeled 'Relative Frequencies' and ranges from 0.000 to 0.012. The x-axis is labeled 'Corpus (Documents)'. The graph shows multiple lines representing different words, with 'government' and 'people' being the most frequent.

At the bottom of the interface, there are tabs for 'Document Terms', 'Contexts', and 'Correlations'. The 'Document Terms' tab is currently selected, showing a table with columns for 'Document', 'Left', 'Term', and 'Right'. The table lists the top terms for each document, such as 'of the United States a', 'the system of their united', 'of a new and free', 'and the preeminence of free', 'of the republican model of', and 'of an united and effective'.

With this same “Summary” box, you’ll have descriptive statistics on the text or corpus (collection of texts) that you’re working with. These include “Document Length”, “Vocabulary Density”, “Average Words Per Sentence” You’ll also see “Most Frequent Words” in the corpus and Most Distinctive Words in each document. If you want to know what exactly these are measuring, click on the question mark in this box’s upper right corner.

## Voyant Tools





# Voyant Tools

In the options box, click on “None.” Then click Confirm. What happened?

What you just removed was a “stop words” list.

Click on options again, and click on “auto-detect.” Then click on the Edit list button. What do you notice about the words?

When would you want to filter certain words out? When *wouldn't* you want to remove them? What are the implications?

The screenshot shows the Voyant Tools interface. On the left is a word cloud with terms like 'government', 'people', 'states', 'citizens', 'power', 'world', 'time', 'great', 'new', 'country', 'peace', 'shall', 'union', 'constitution', 'american', 'nations', 'public', 'make', 'united', 'citizens', 'power', 'world', 'time', 'great', 'new', 'country', 'peace', 'shall', 'union', 'constitution', 'american', 'nations', 'public', 'make'. In the center is a text excerpt titled '01\_washington\_1789' by George Washington, dated 1789-04-30, discussing the Senate and House of Representatives. On the right is a line graph showing 'Relative Frequencies' for various terms across documents. An 'Options' dialog box is open, with 'Stopwords' set to 'Auto-detect'. The dropdown menu is expanded, showing a list of categories: 'None', 'New User-Defined List', 'Ancient Greek', 'Arabic', 'Armenian', 'Basque', 'Breton', 'Bulgarian', 'Catalan', 'Chinese', and 'Czech'. The 'Confirm' button is highlighted.

For more about stopwords—their history and their role in computational analysis today—see this article by Daniel Rosenberg, “Stop, Words.” *Representations* 127, no. 1 (August 1, 2014): 83–92.

<https://doi.org/10.1525/rep.2014.127.1.83>.

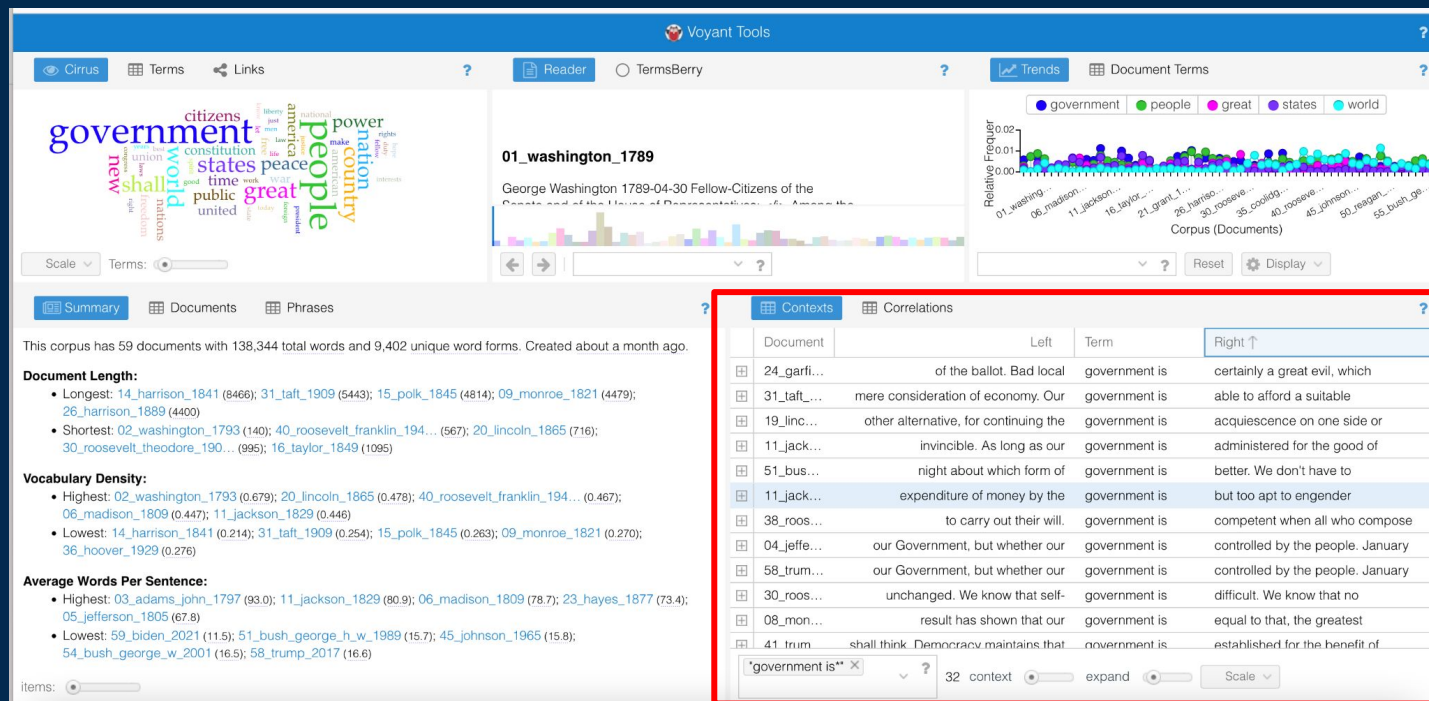
Toggle to the “Bubblelines” view. Type in “America,” “government,” “liberty.” What do you notice?

# Voyant Tools





# Voyant Tools



Hover over the upper right corner of the Concordance view and click on the arrow and box export view

[illegible]

Finally, Voyant will also allow you to download data and visualizations. Hover over the upper right corner of the Concordance view and click on the arrow and box export view. You should see a pop up menu.

## Voyant Tools

The screenshot displays the Voyant Tools web application interface. The top navigation bar includes tabs for Cirrus, Terms, Links, Reader, TermsBerry, Trends, and Document Terms. The main content area is divided into several sections:

- Word Cloud:** A word cloud on the left side of the main area, with 'government' and 'people' being prominent words. Below it are controls for 'Scale' and 'Terms'.
- Document List:** A list of documents on the right side of the main area, including '01\_washington\_1789' and 'George Washington 1789-04-30 Fellow-Citizens of the People and of the House of Representatives, etc. American...'. Below the list is a bar chart showing the relative frequency of terms across documents.
- Summary Panel:** A panel on the left side of the main area, containing sections for 'Document Length', 'Vocabulary Density', and 'Average Words Per Sentence'. Each section lists the highest and lowest values for various documents.
- Export Menu:** A pop-up menu titled 'Export' is open, showing options for exporting data. The options are: 'a URL for this view (tools and data)', 'Export View (Tools and Data)', 'Export Current Data', 'export current data as HTML', 'export current data as tab separated values (text)' (selected), 'export all available data in JSON', and 'export all available data as tab separated values (text)'. There are 'Export' and 'Cancel' buttons at the bottom of the menu.

The bottom of the interface shows a search bar with the text 'government is' and a '32 context' indicator.

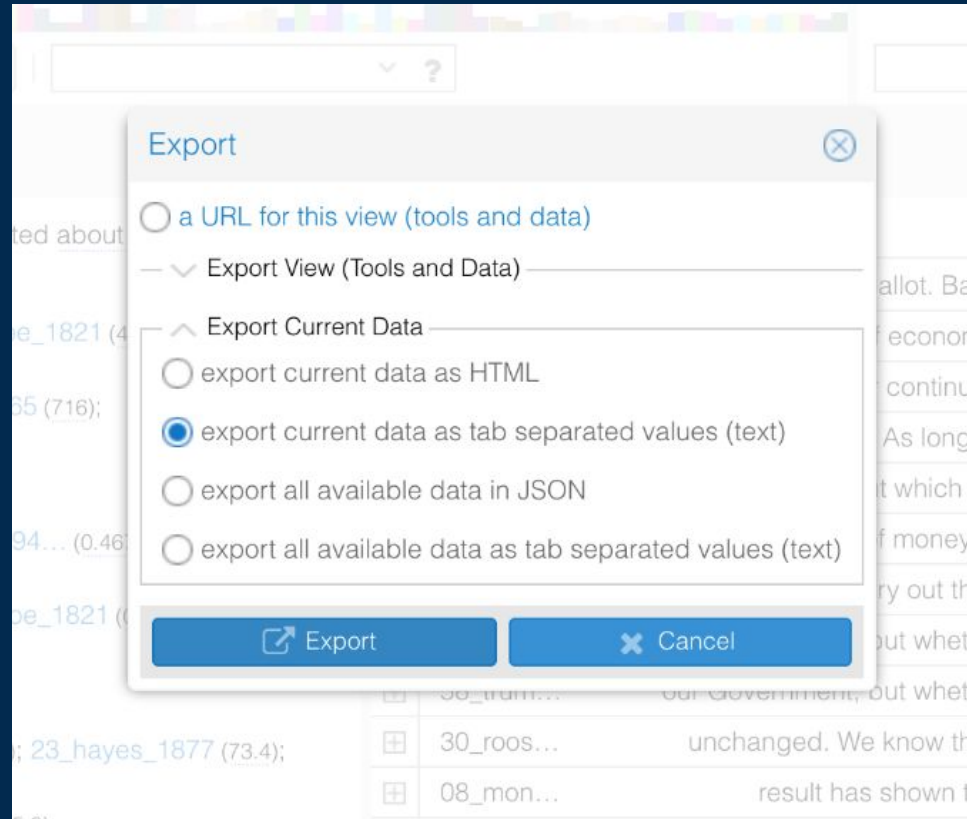


## Voyant Tools

Finally, Voyant will also allow you to download data and visualizations.

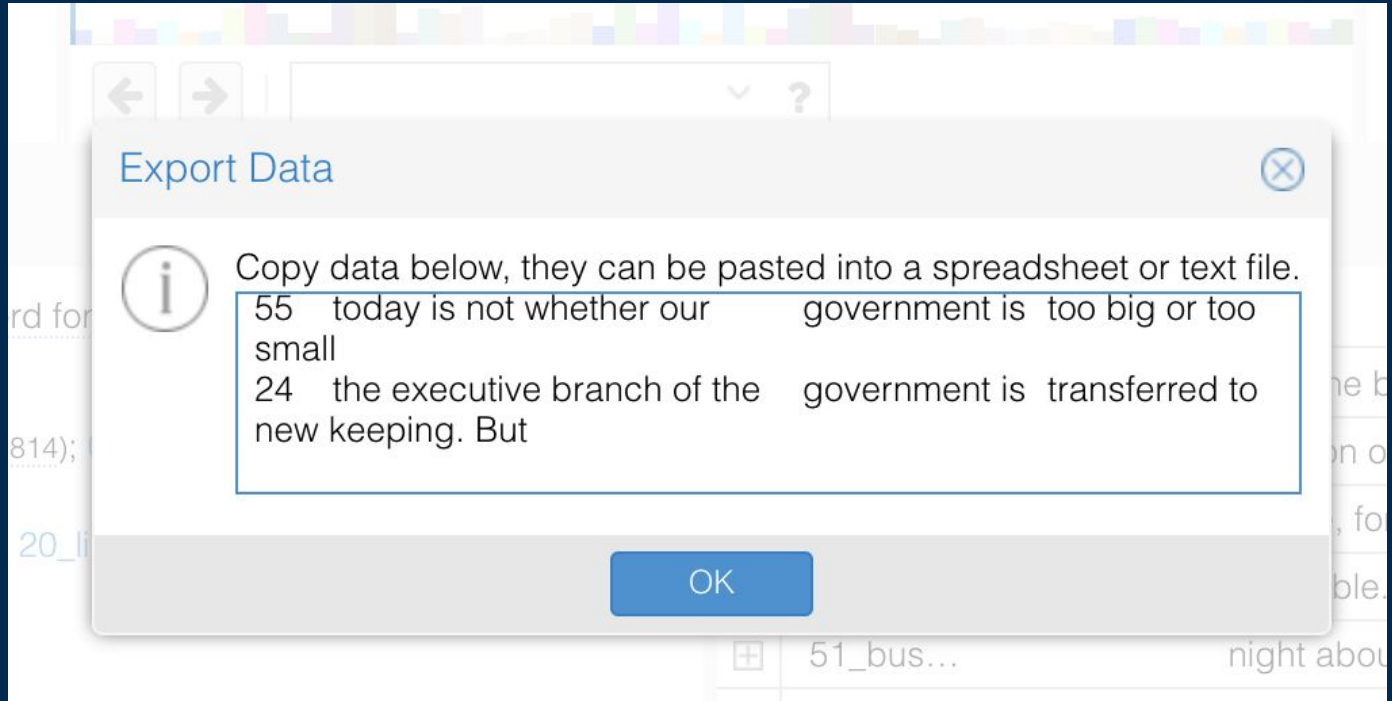
Hover over the upper right corner of the Concordance view and click on the arrow and box export view

You should see a pop up menu. Click on the third option to “Export Current Data” and select tab sep. values



Exporting the current data as tab separated values (text) will give you a second popup window with data formatted in TSV that can be copied into a spreadsheet (like Excel or Googlesheets) or a simple text editor

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