Text Analysis Techniques

A Brief Overview

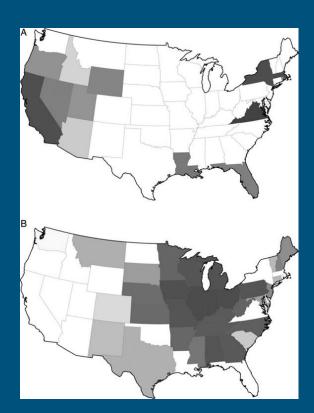
Text Analysis demystified: It's just counting.

Sense and Sensibility		Moby Dick	
to	4063	the	13721
the	3861	of	6536
of	3565	and	6024
secret	19	cold	30
discourse	19	jaws	30
hoped	19	won	30
age	19	harpoons	30

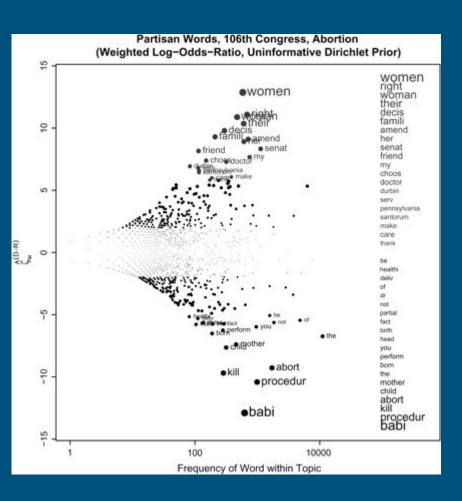
- Natural Language Processing (takes into account context)
 - o Part of Speech, Named Entities, Concordances, Word Similarities, semantics

Fig. 7: Dunning log-likelihood values for named-location counts in the full corpus measured against mean state populations, 1850–80. (a) States overrepresented relative to their populations; (b) underrepresented states. Darker shades indicate larger absolute values, hence greater under- or overrepresentation.

Wilkens, Matthew. 2013. "The Geographic Imagination of Civil War-Era American Fiction." *American Literary History* 25(4): 803-840.



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 - o Part of Speech, Named Entities, Concordances, Word Similarities, semantics
- Distinguishing Words
 - Difference of Proportions, TF-IDF, chi-squared, Dunning Log-Likelihood)



From: Fightin' Words: Lexical Feature Selection and Evaluation for Identifying the Content of Political Conflict Polit Anal. 2009;16(4):372-403. doi:10.1093/pan/mpn018
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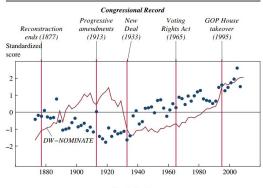
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- Dictionary Methods (themes)

Jensen, Jacob, Ethan Kaplan, Suresh Naidu, and Laurence Wilse-Samson. 2012. "Political Polarization and the Dynamics of Political Language: Evidence from 130 Years of Partisan Speech." *Brookings Papers on Economic Activity*.

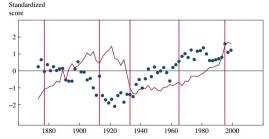
Brookings Papers on Economic Activity, Fall 2012

Figure B.2. Polarization Measured Using *t*-Statistic-Based Threshold and by DW-NOMINATE, 1873–2007^a

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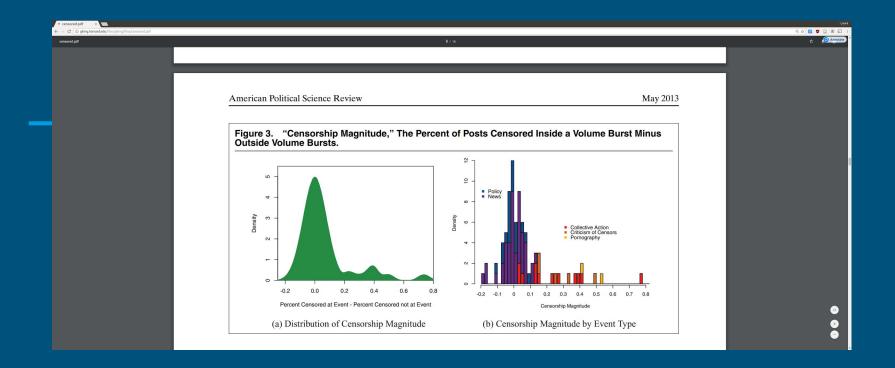
Google Books



Sources: Authors' calculations using data from the digitized Congressional Record, Google Books, and the legislator estimates on voteview.com/dwnomin.htm.

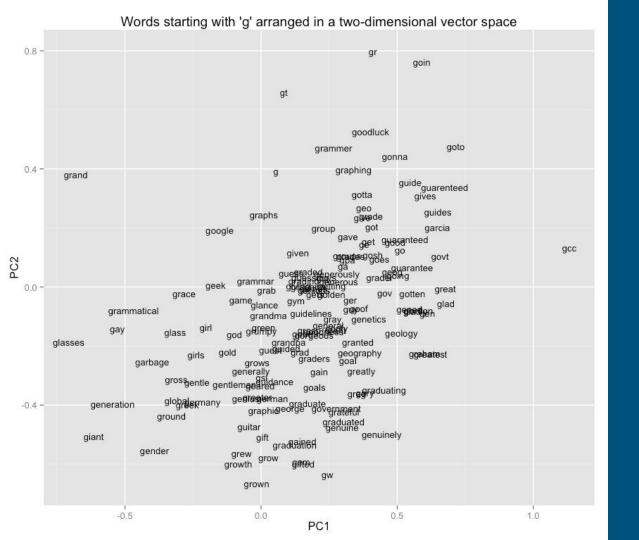
a. All measures are standardized to have a mean of zero and a variance of 1.

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King, Gary, Jennifer Pan, and Margaret E. Roberts. 2013. "How Censorship in China Allows Government Criticism but Silences Collective Expression." *American Political Science Review* 107(2): 1-18.

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 - Clustering, document distance

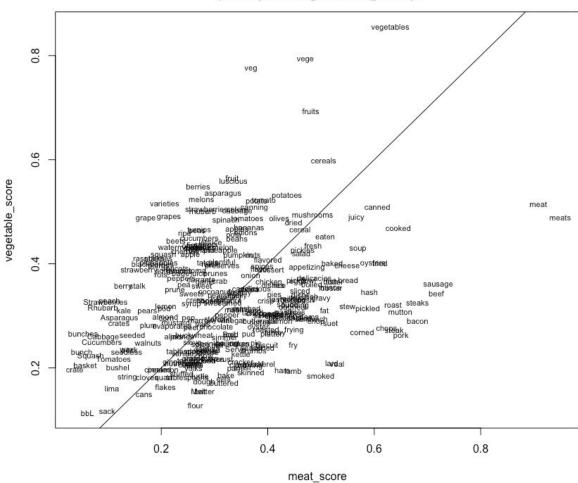


Ben Schmidt, <u>Word</u> <u>Embeddings Models</u>.

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- Word embeddings
 - Word2Vec, GloVe

Top 300 food words plotted by their similarity to meats (x axis) and vegetables (y axis).



Ben Schmidt, <u>Word</u> Embeddings Models.

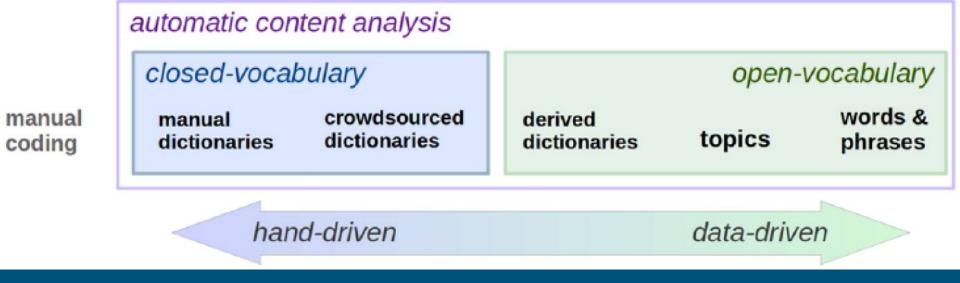


Figure 1 Categorization of Content Analysis Techniques

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