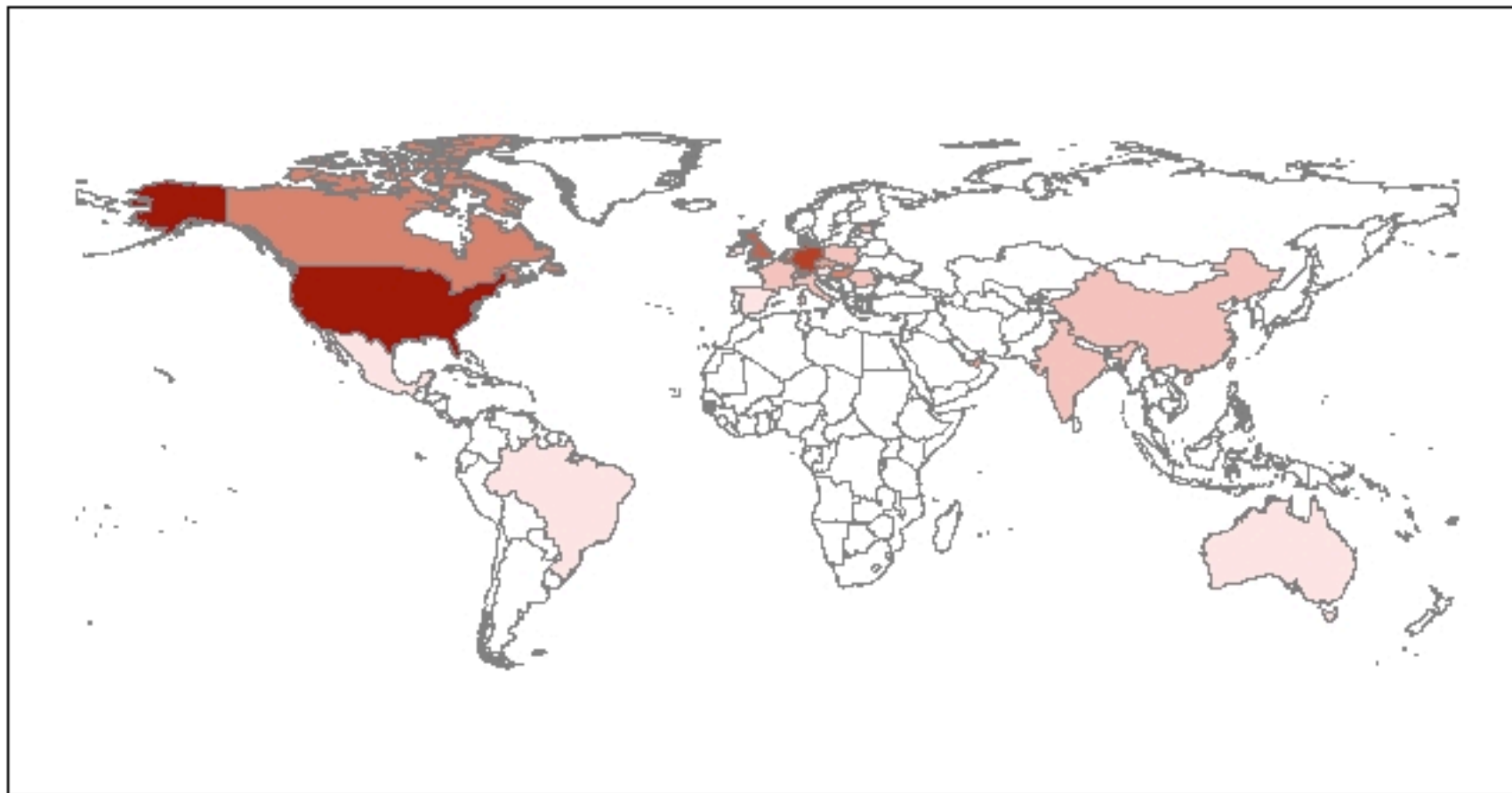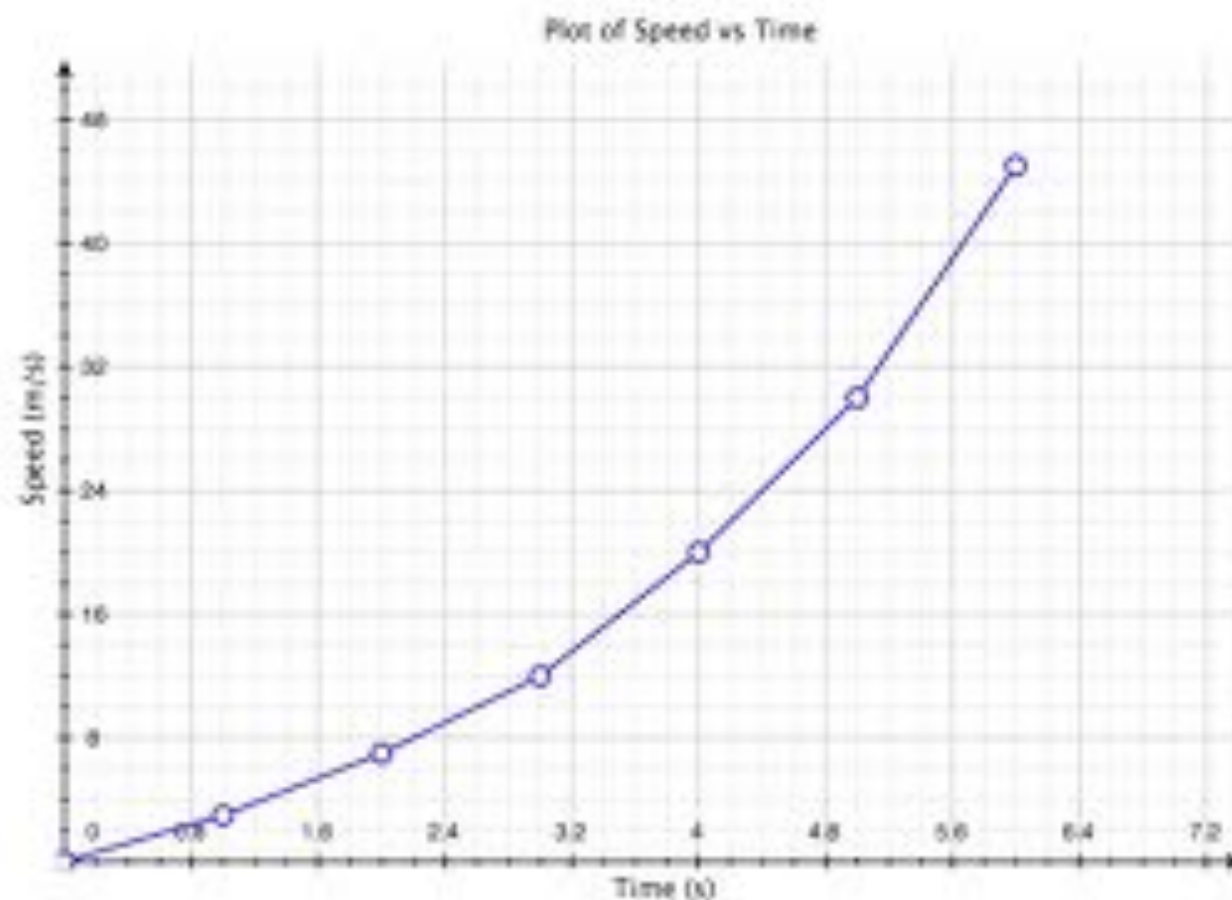# Visualizing Information

Discovery and Exploration can be Fun!

J. Douglas Willen, Ph.D.
Swarthmore College ITS
October 26, 2010
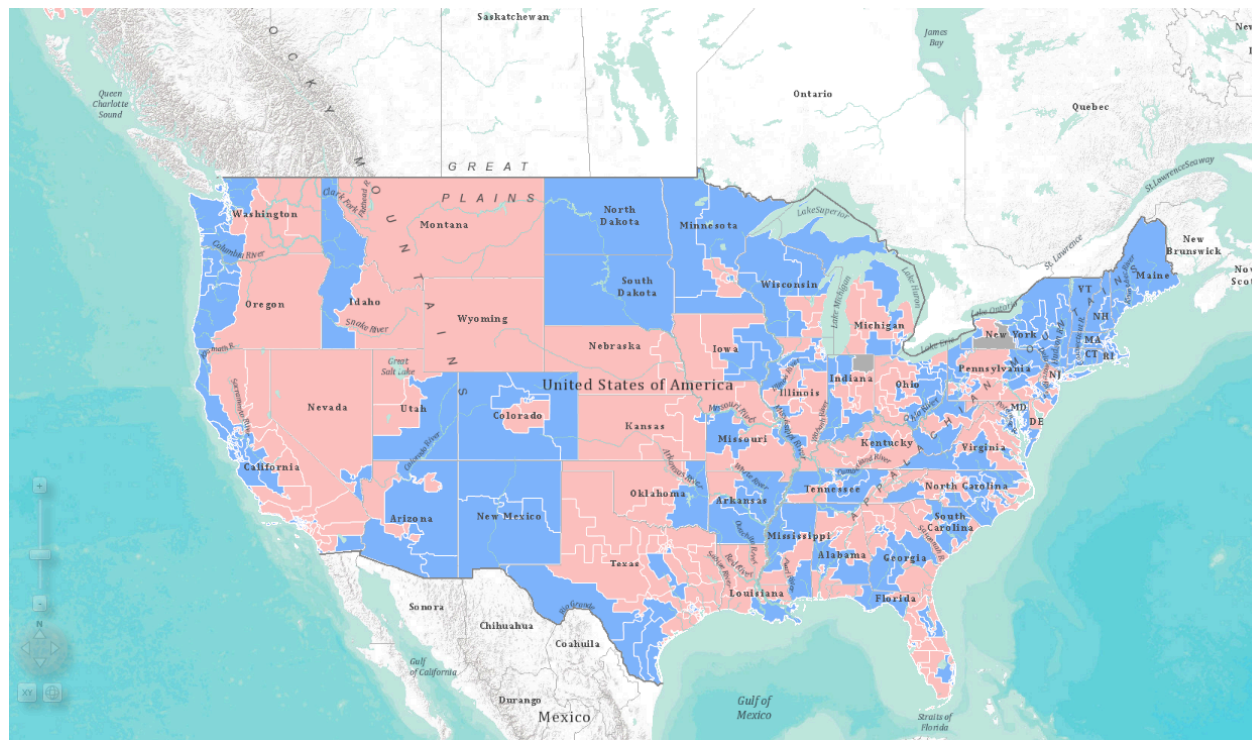

Countries from which people view Swarthmore's Streaming Server content, 2010

What is a Visualization?

A Scientific Graph?

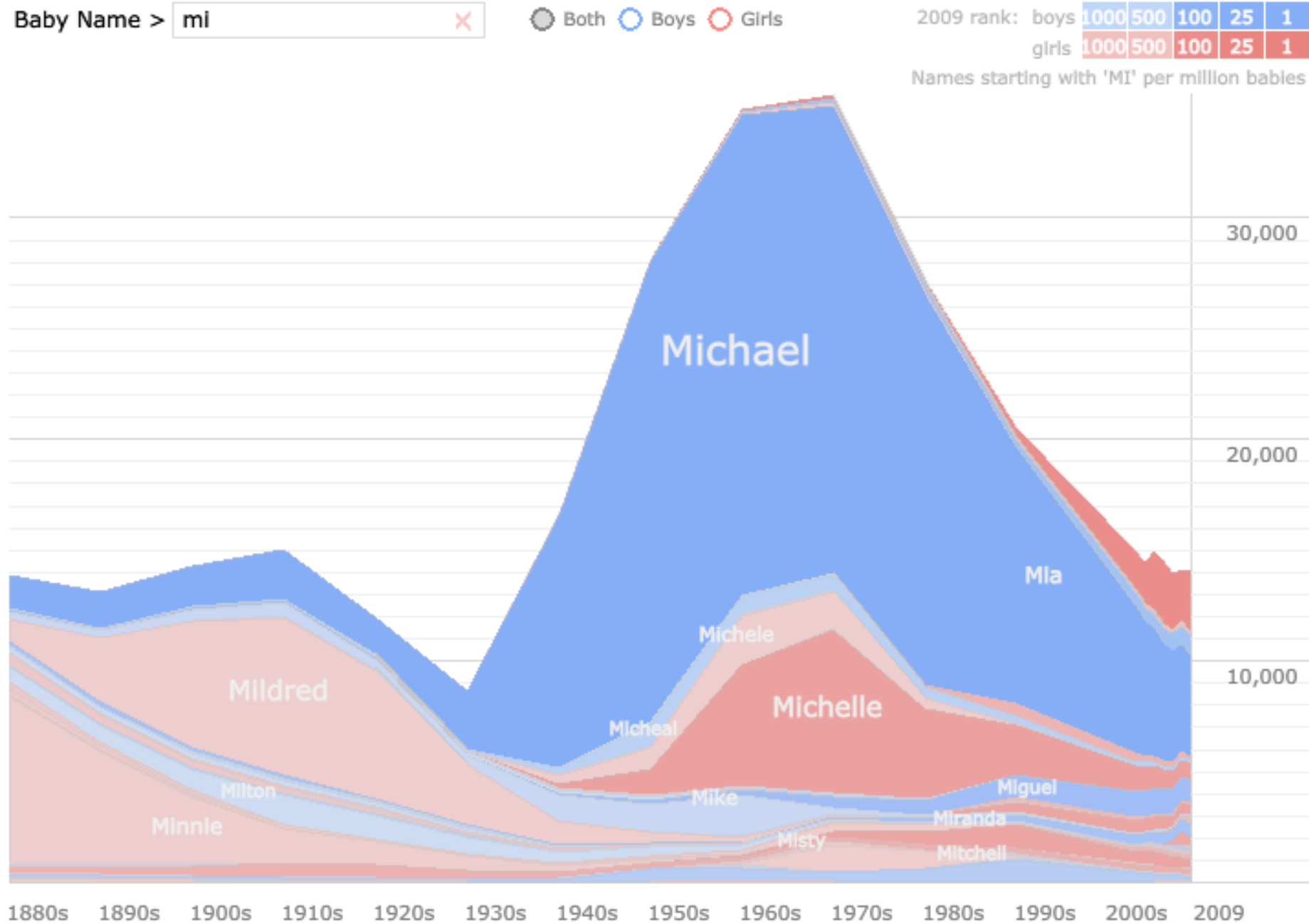Graph Source: http://commons.wikimedia.org/wiki/File:ScientificGraphSpeedVsTime.jpeg

How about a Map?

2008? Congressional Elections - http://explorer.arcgis.com/?open=e17842f4dc4b42bb87b291e090215645
US Topo Map - http://www.arcgis.com/home/webmap/viewer.html?webmap=931d892ac7a843d7ba29d085e0433465

Baby Name Wizard?

A

Visualization

is simply a
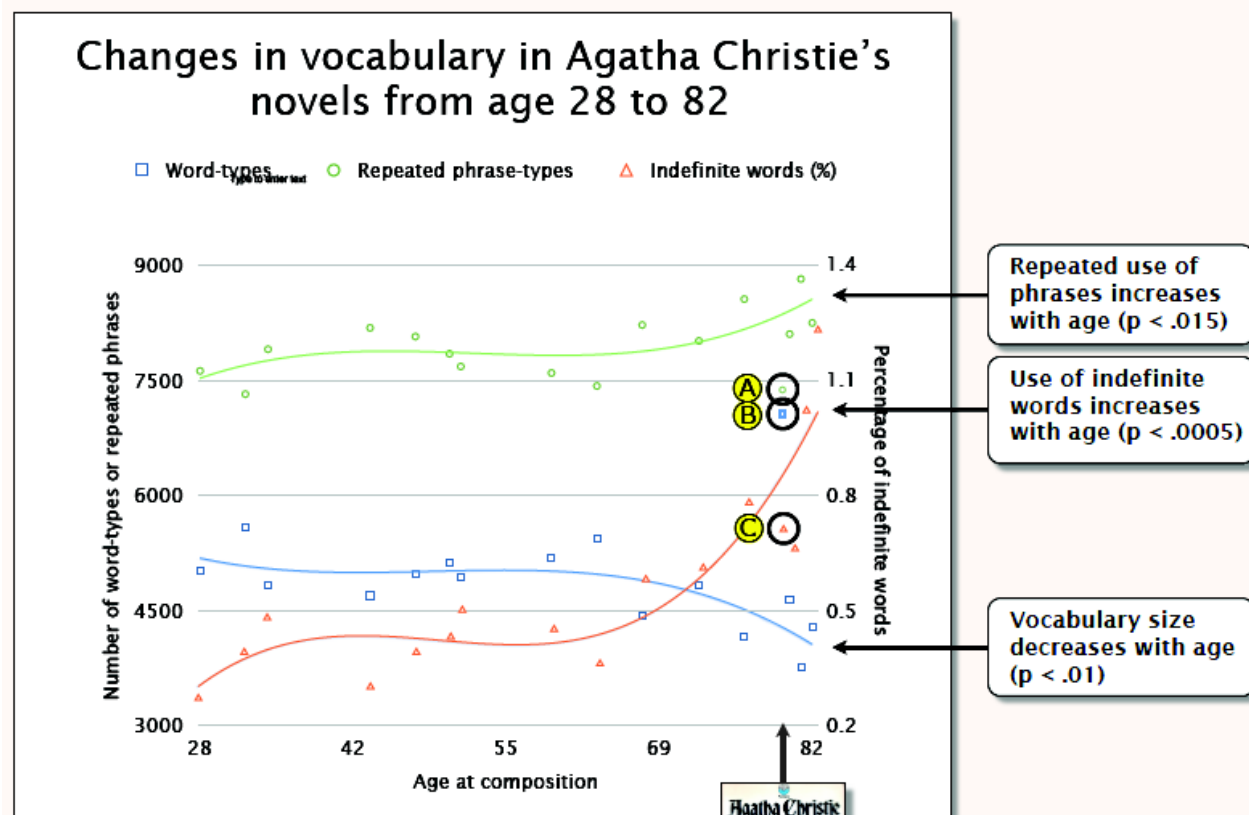
Visual Representation

of

Information

Exploring Information:
Tables Vs. Graphs

Changes in vocabulary in Agatha Christie's novels from age 28 to 82

Novel	Age at composition	Word-types	Repeated phrase-types	Indefinite words (%)
Styles	28	5027	7623	0.27
Adversary	32	5576	7320	0.39
Ackroyd	34	4833	7905	0.48
Orient	43	4692	8184	0.30
Appointment	47	4985	8071	0.39
Curtain	50	5131	7846	0.43
Towards Zero	51	4941	7680	0.50
Announced	59	5181	7596	0.45
Destination	63	5442	7426	0.36
Ordeal	67	4440	8221	0.58
Clocks	72	4827	8014	0.61
Endless	76	4159	8559	0.78
*Frankfurt**	79	5583	7418	0.71
Nemesis	80	4631	8103	0.66
Elephants	81	3762	8821	1.02
Postern	82	4275	8249	1.23

From:
Vocabulary Changes in Agatha Christie's Mysteries as an Indication of Dementia: A Case Study
Ian Lancashire* and Graeme Hirst† University of Toronto, *Department of English and †Department of Computer Science
Ian.Lancashire, Graeme.Hirst @utoronto.ca

http://www.cs.toronto.edu/pub/gh/Lancashire+Hirst-extabs-2009.pdf

http://languagelog.ldc.upenn.edu/nll/?p=1957

What is "many eyes"

About many eyes:

Many Eyes was created in 2007 by the **Visual Communication Lab**, part of **Collaborative User Experience group**, at IBM Research. It is brought to you now jointly by the Visual Communication Lab and **the IBM Cognos software group**.
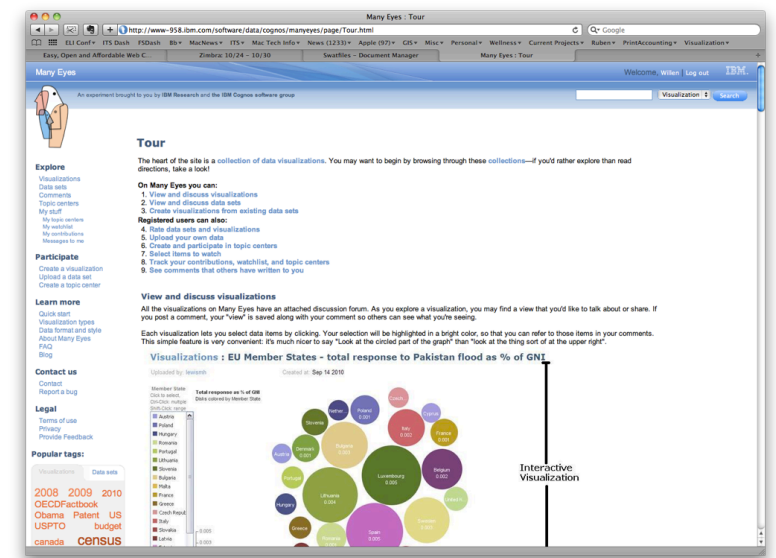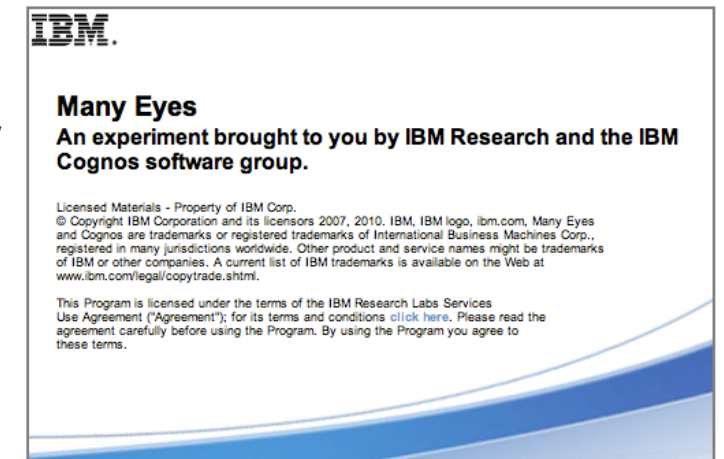

Visualization Types:

http://manyeyes.alphaworks.ibm.com/manyeyes/page/Visualization_Options.html

many eyes tour:

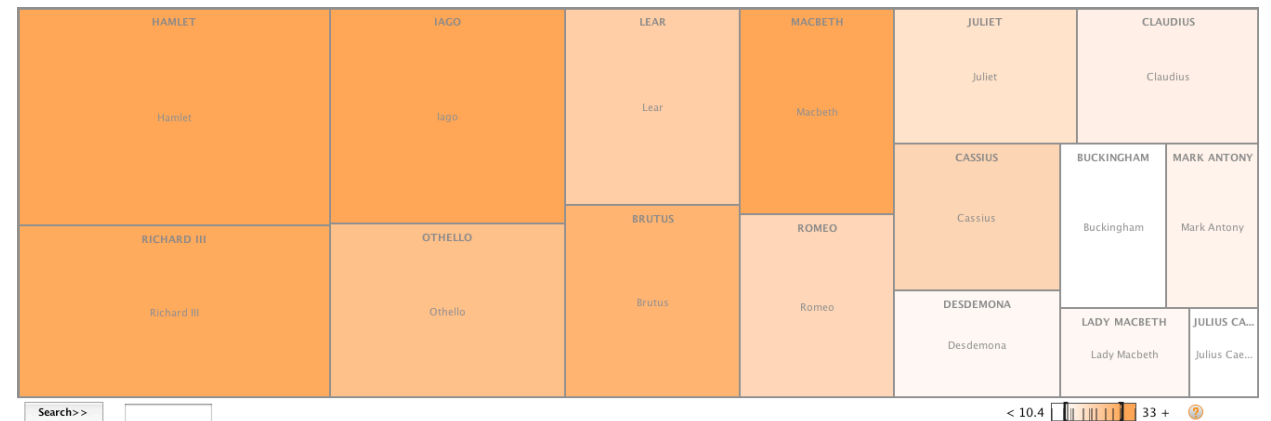http://manyeyes.alphaworks.ibm.com/manyeyes/page/Tour.html

"**many eyes**" is a bet on the power of human visual intelligence to find patterns. The goal is to "democratize" visualization and to enable a new social kind of data analysis. "**many eyes**" exemplifies the design goal of transforming visualization from a solitary activity into a collaborative one, utilizing interactive visualizations to help people see and exchange information in novel ways.
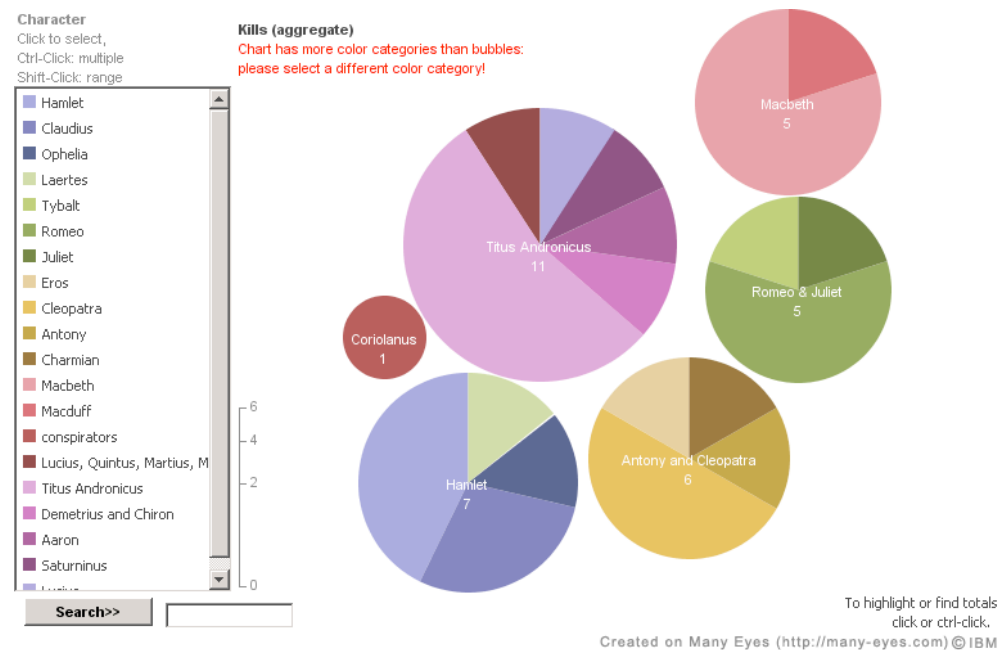
Literature

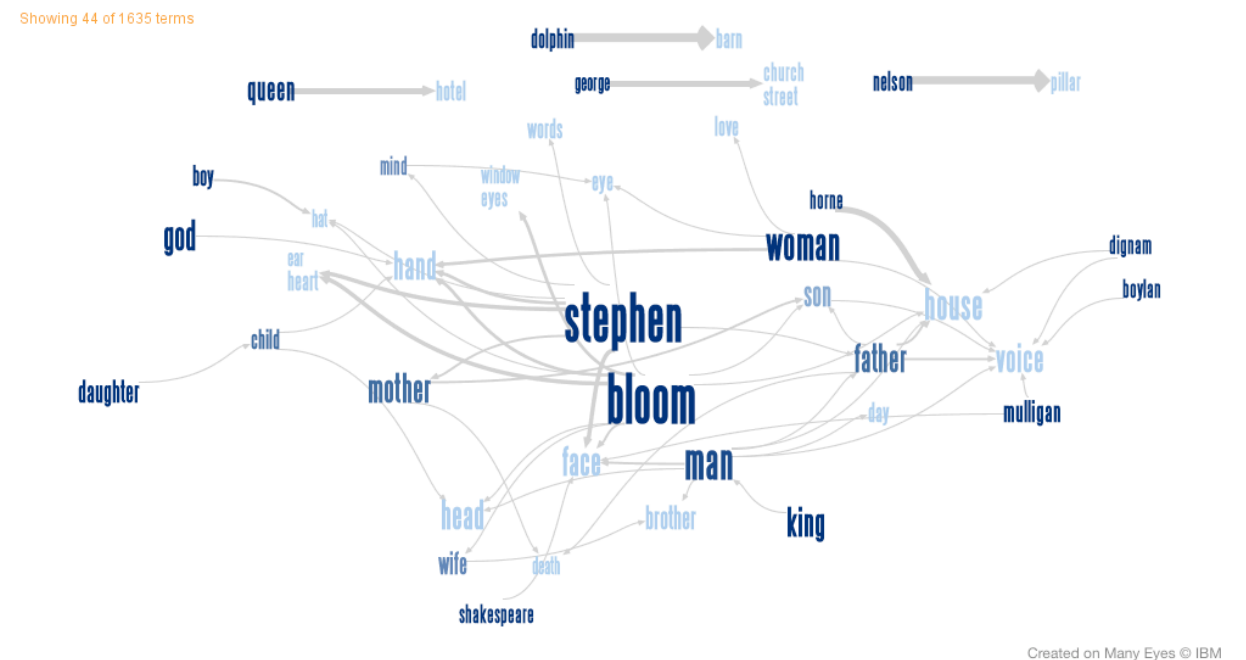### Tag Cloud of 600+ Poems by William Butler Yeats

Number of Lines per Character in Shakespeare's Plays

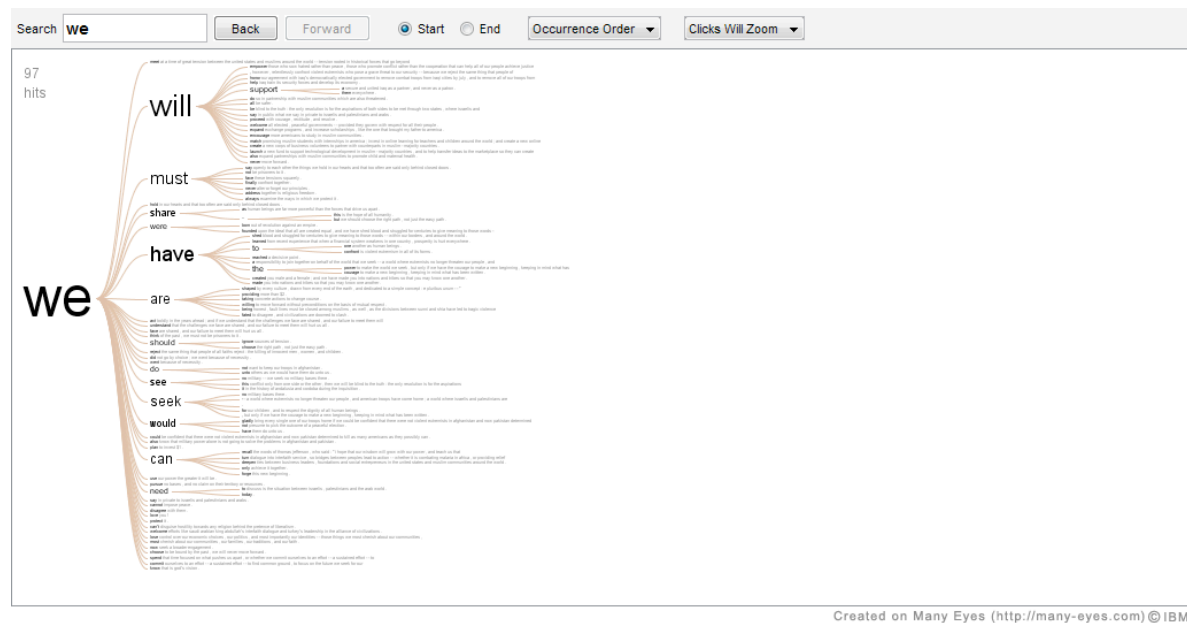### "Kills" per Character in Shakespeare's Plays
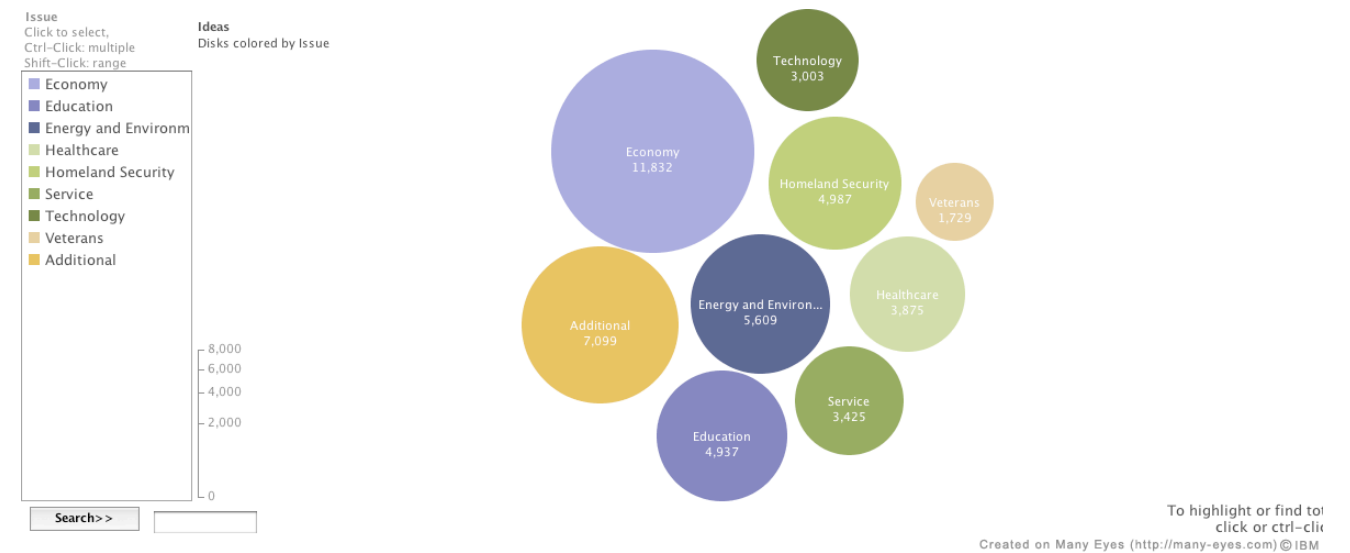

Word Network for Ulysses by James Joyce
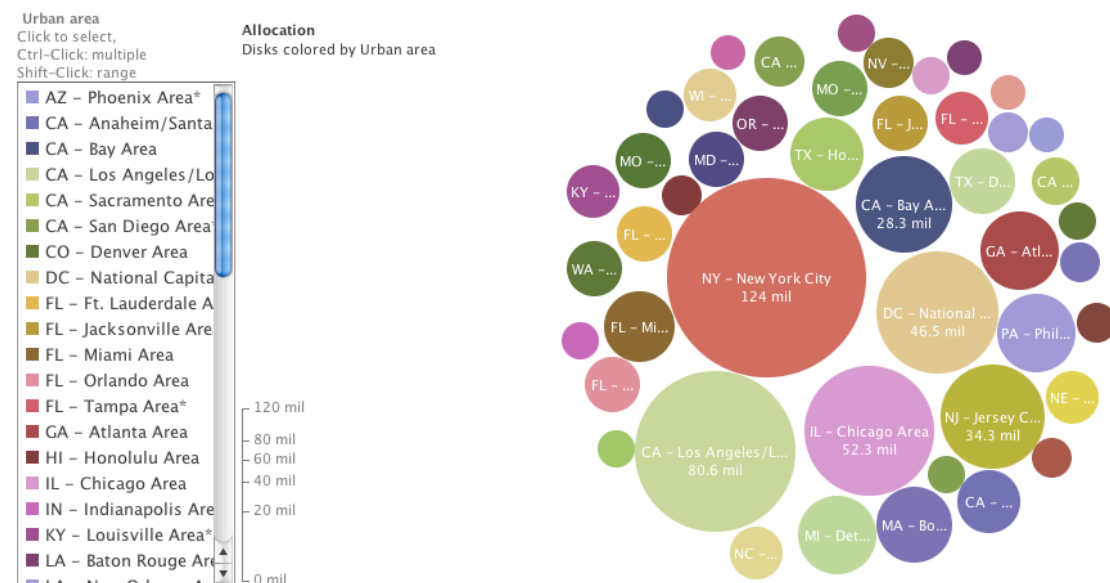
Politics / Economics
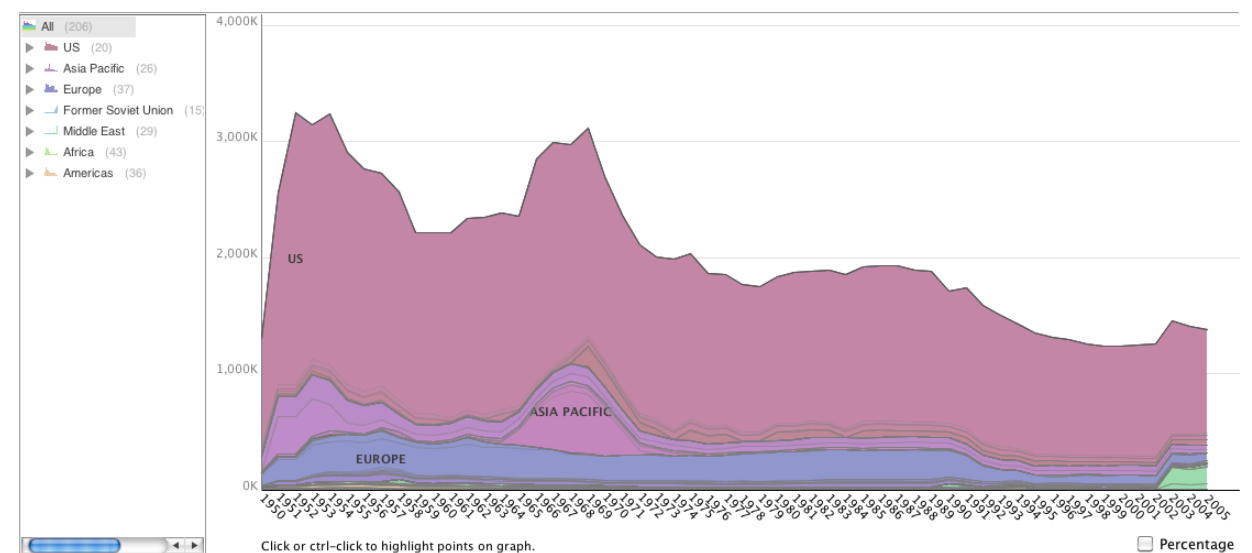
Obama's Cairo Speech: Words following "we"

Idea Submissions on change.gov

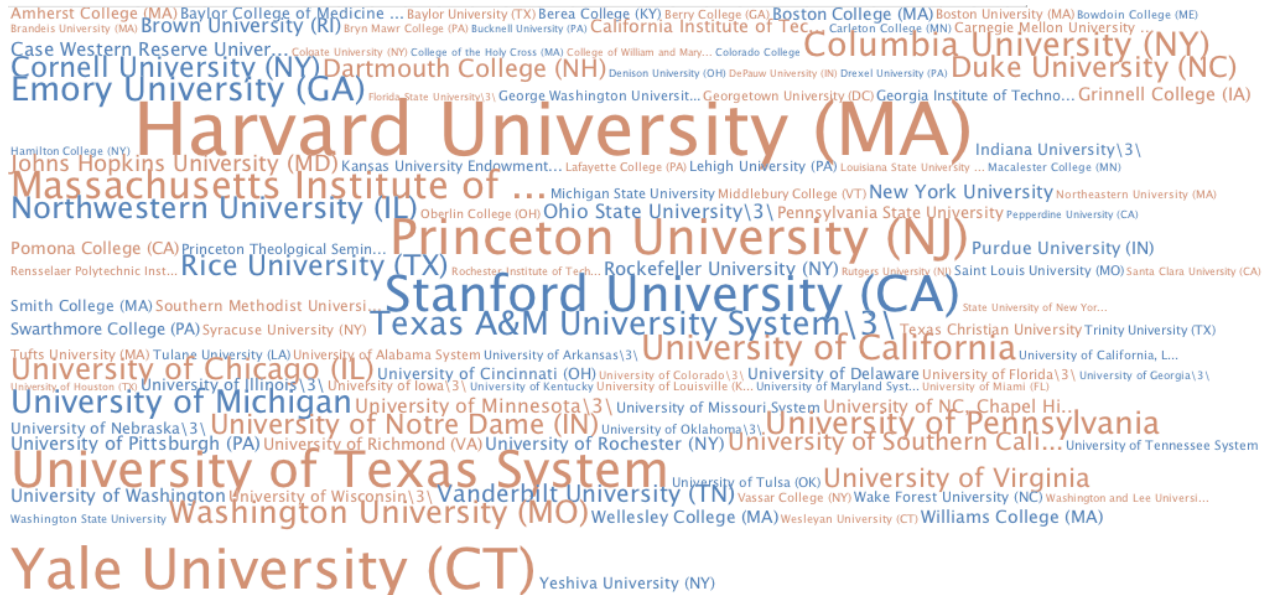## Homeland Security Urban Area Grants
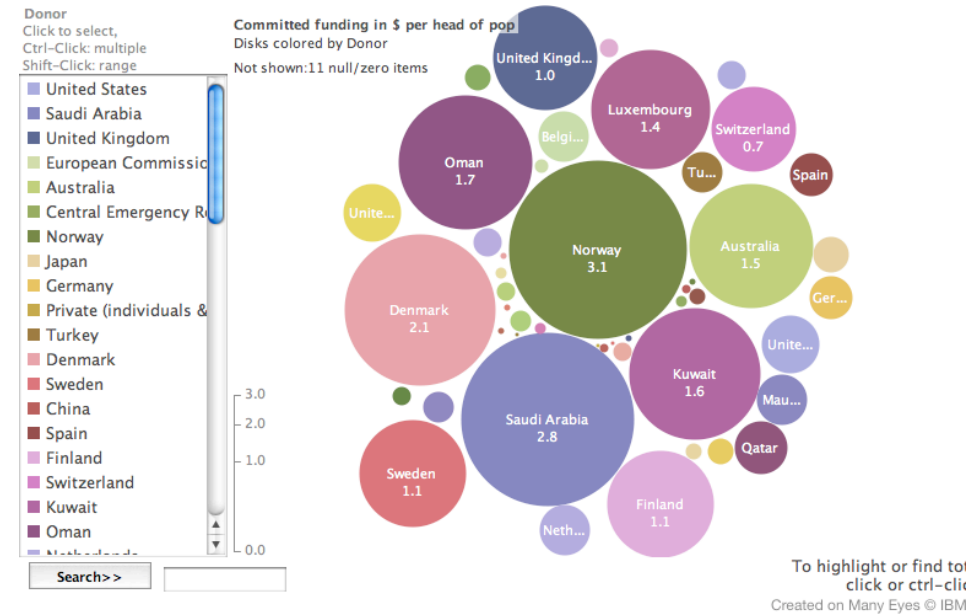

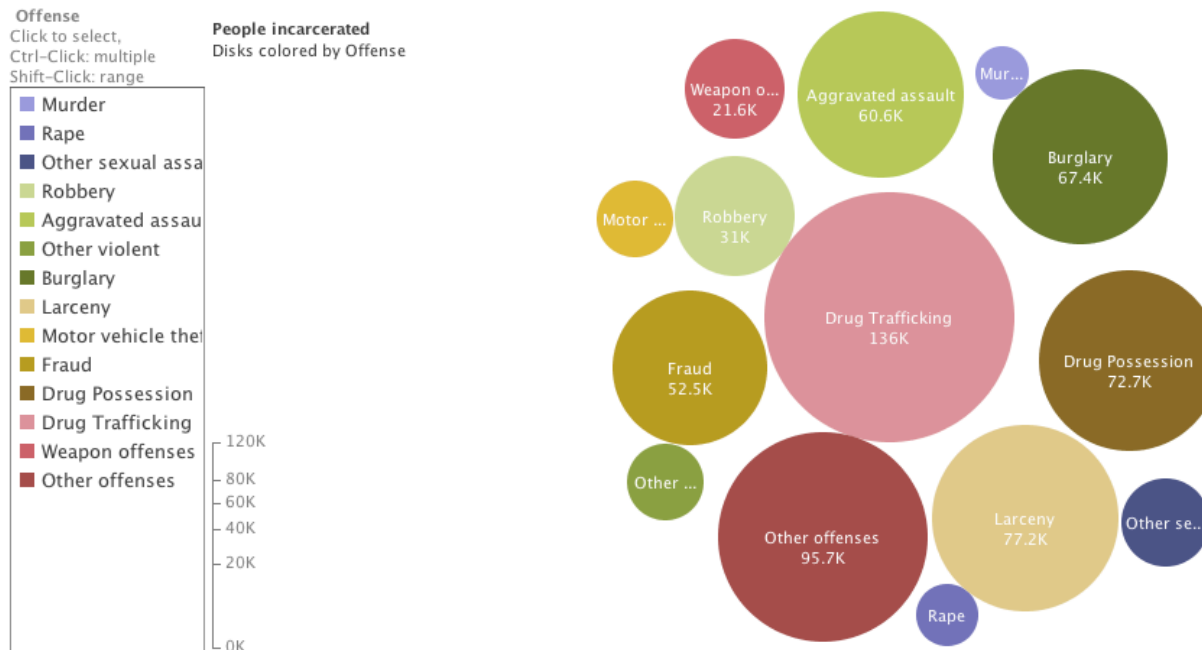## US Troop Deployments: 1950 - 2005

Economics / Social Policy

Leading College & University Endowments

Pakistan Food Aid (Per Capita)

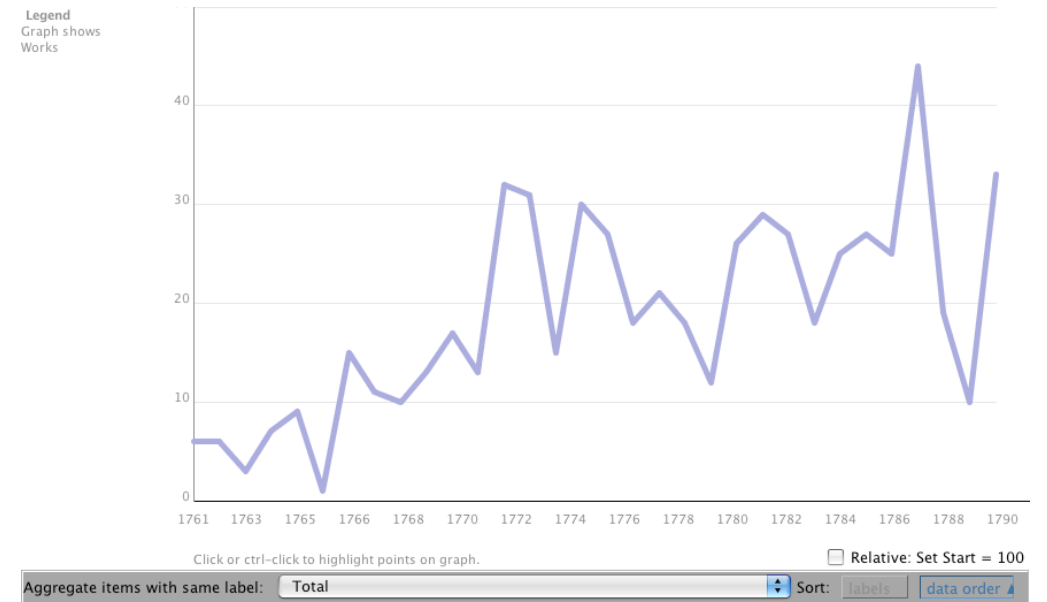
Felons in Jail in the US, 2002

Music

Beatles Lyrics Word Cloud

Mozart Compositions Per Year

Required Music by Artist

Tuesday, October 26, 2010
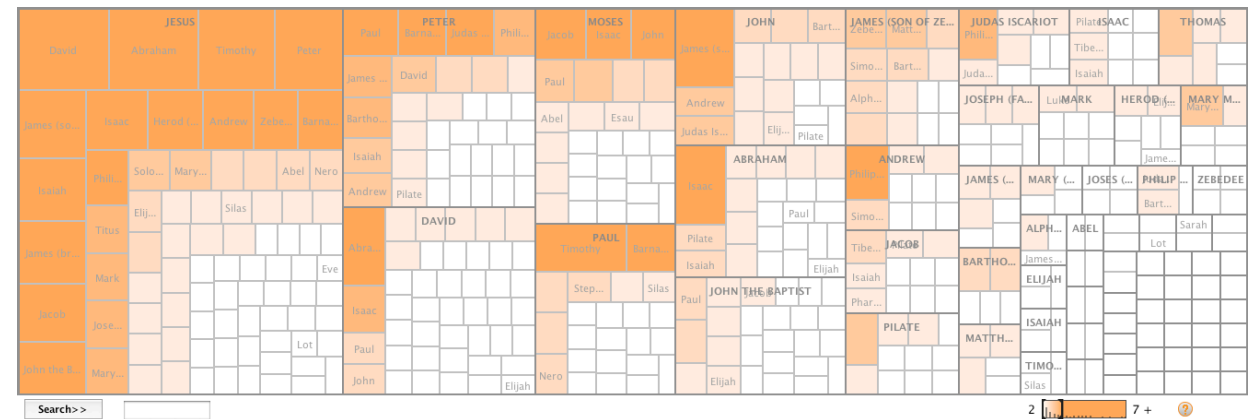
Miscellaneous Examples

Baby Name Tag Cloud

New Testament Name Co-Occurrences

Gun Ownership (%) Vs. Murder by Firearms