Storytelling in InfoVis

CS 4460 – Intro. to Information Visualization
September 2, 2014
John Stasko

Purpose

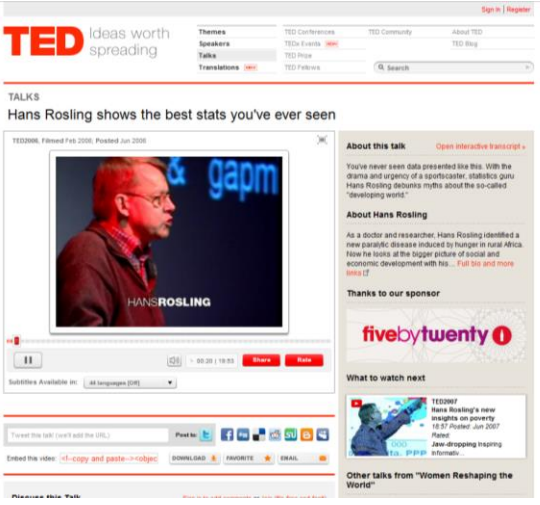
Review

- Two main uses of infovis
  - Analysis – Understand your data better and act upon that understanding
  - Presentation – Communicate and inform others more effectively
- Today we look at that second one more

Telling Stories

- Data visualization can help to communicate ideas, summarize, influence, unite, explain, persuade
- Visuals can serve as evidence or support

A Famous Example



Hans Rosling
Gapminder

2006

http://www.ted.com/index.php/talks/hans_rosling_shows_the_best_stats_you_ve_ever_seen.html

They Had Him Back

2007

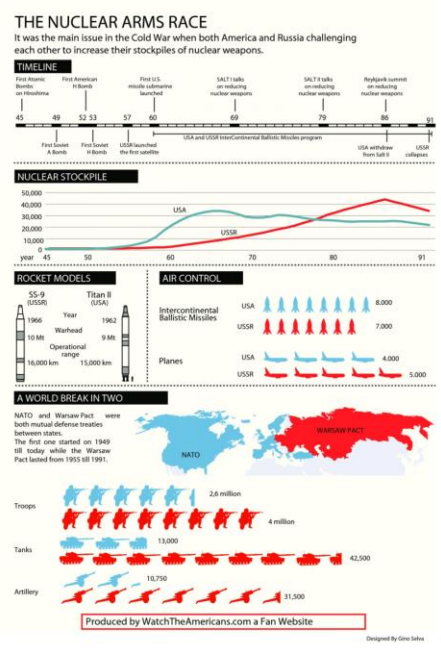
http://www.ted.com/index.php/talks/hans_rosling_reveals_new_insights_on_poverty.html

Discuss

- Why has this had such a big impact?

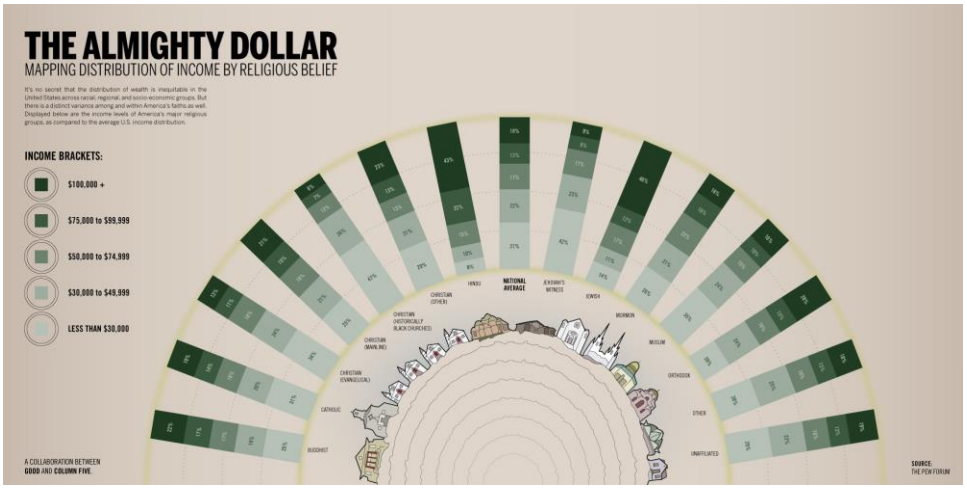
InfoGraphics

- See them everywhere today
- Perhaps a good example of infovis for presentation purposes
  - Typically not interactive though



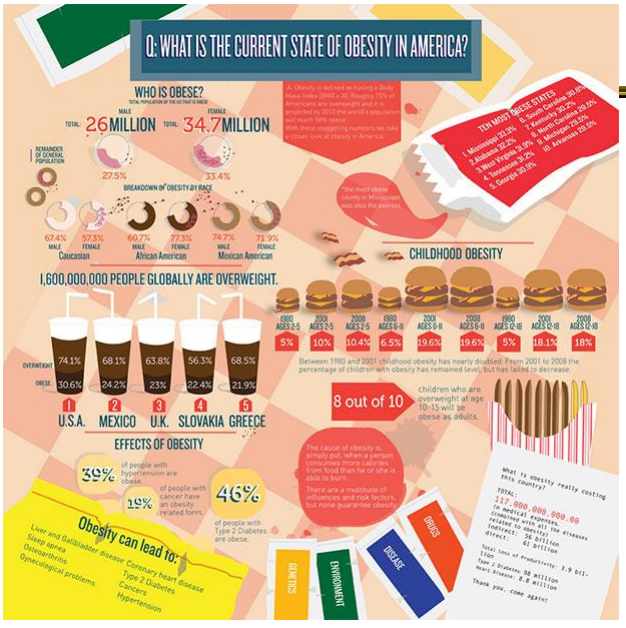
http://visual.ly/nuclear-arms-race

http://awesome.good.is/transparency/web/1002/almighty-dollar/transparency.jpg



http://www.mikewirthart.com/?cat=3

http://thedinfographics.com/2011/11/16/obesity-in-america-facts-statistics-and-lies/



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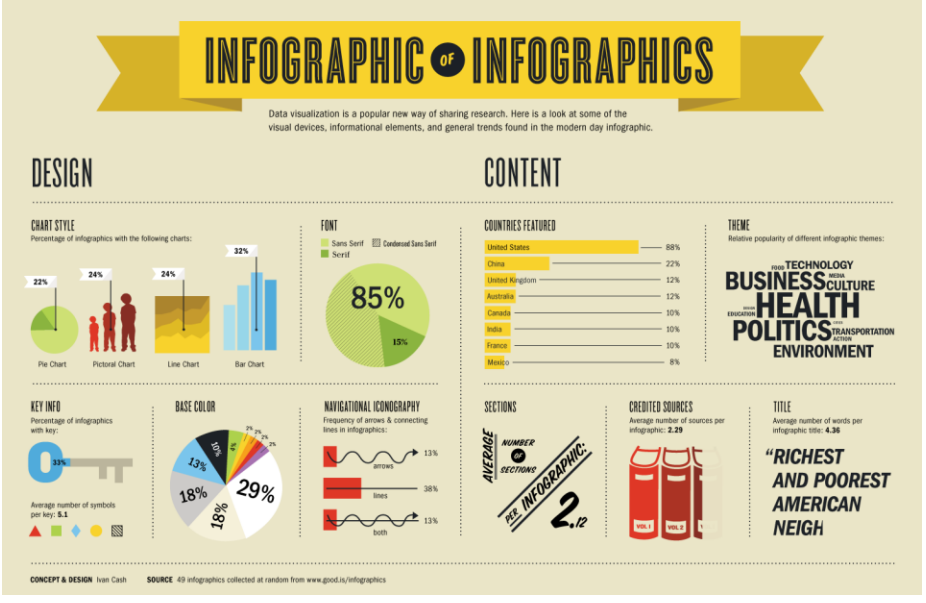
http://www.wired.com/2012/07/you-suck-at-infographics



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A Lead Paper

Segel & Heer
TVCG (InfoVis) '10

- Studied storytelling: Described topics as "Narrative Visualization"
  - How does this differ from traditional forms of storytelling
  - Reviews the design space
  - Characterizes genres
  - Describes a framework

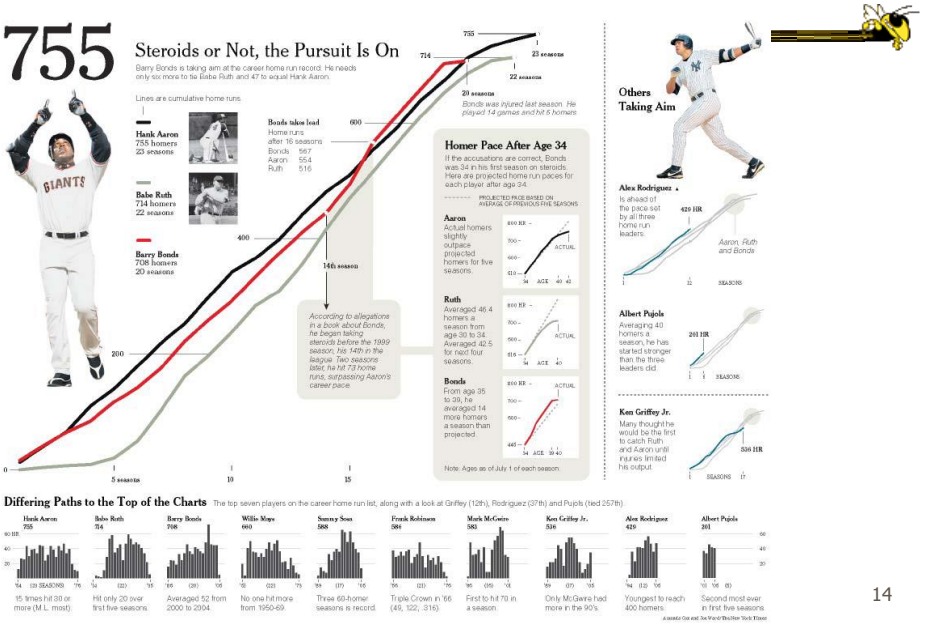
IEEE TRANSACTIONS ON VISUALIZATION AND COMPUTER GRAPHICS, VOL. 16, NO. 6, NOVEMBER/DECEMBER 2010

Narrative Visualization: Telling Stories with Data

Edward Segel and Jeffrey Heer

Case Studies

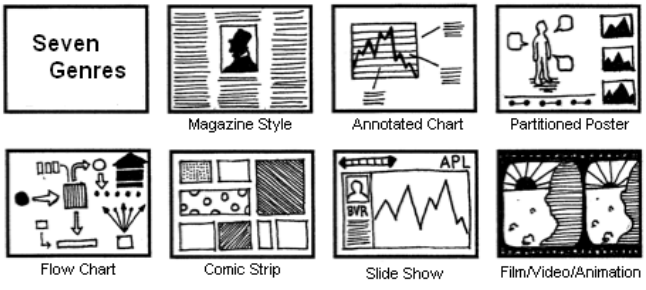
NY Times 2006



Design Space Dimensions

- Genre (next slide)
- Visual Narrative Tactics
  - Visual structuring
  - Highlighting
  - Transition Guidance
- Narrative Structure (non-visual mechanisms to assist narrative)
  - Ordering
  - Interactivity
  - Messaging

Genres

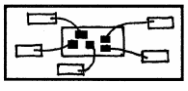


Observations

- Clusters of different ordering structures
- Consistency of interaction design
- Under-utilization of narrative messaging

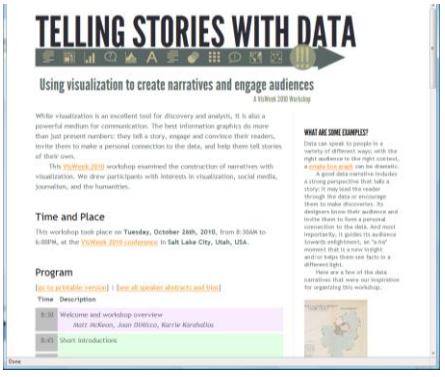
Approach

- Author-driven vs. reader-driven
- Common patterns
  - Martini glass
  - Interactive slideshow
  - Drill-down story

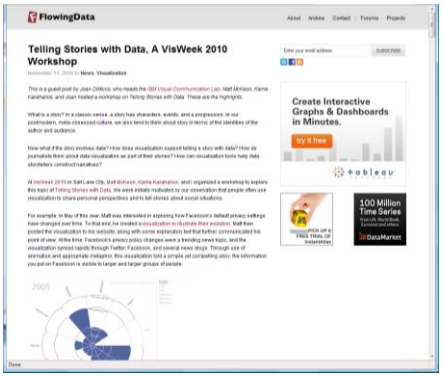


A Hot Topic

VisWeek 2010 Workshop
Reprised again Fall 2011
Continued papers at later InfoVis



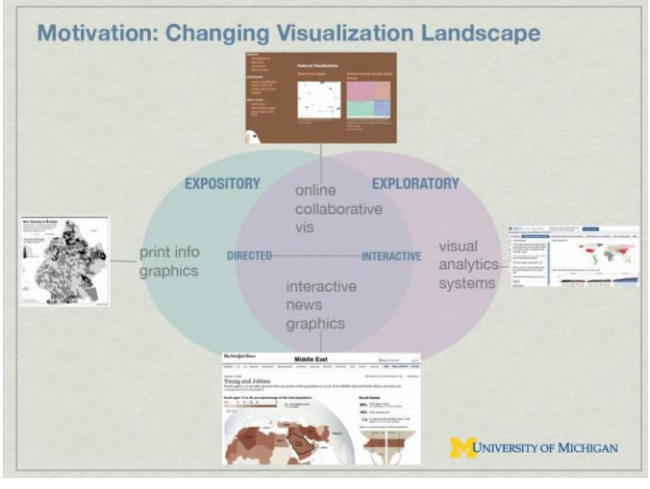
http://thevcl.com/storytelling/



http://flowingdata.com/2010/11/11/telling-stories-with-data-a-visweek-2010-workshop/

http://thevcl.com/storytelling/docs/jessica_hullman.pdf

Narratology



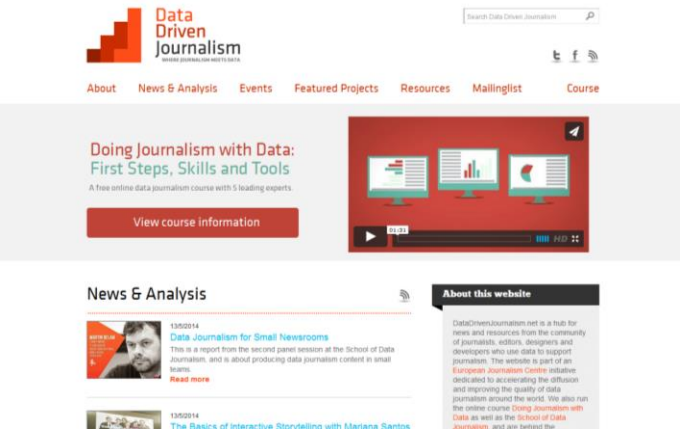
Interesting talk at workshop

Jessica Hullman
Univ. Michigan

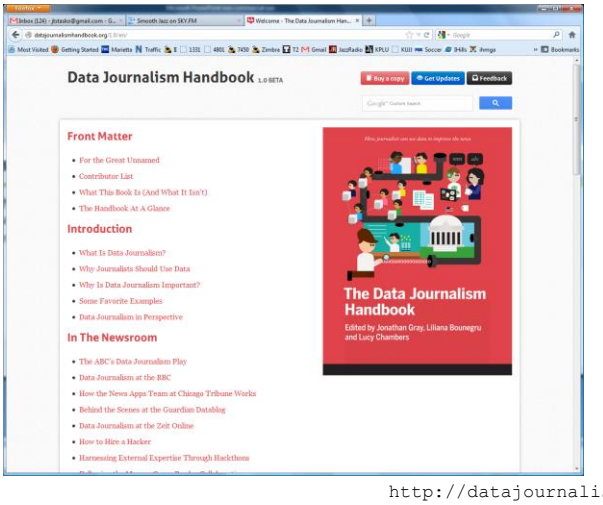
Expanded upon in subsequent papers

http://datadrivenjournalism.net

Journalism Angle

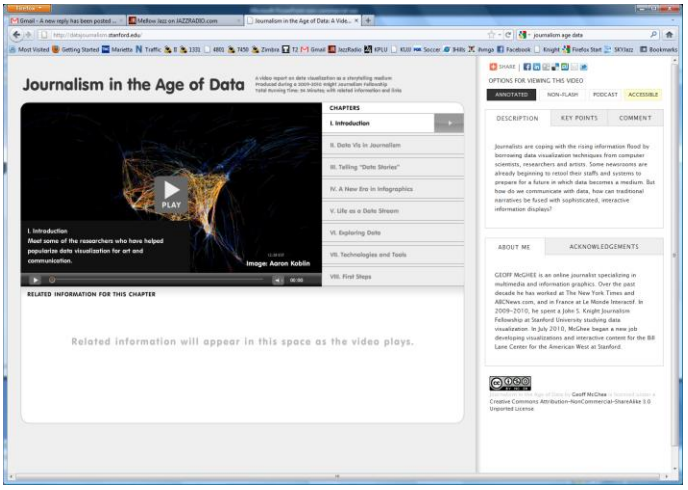


Data Journalism Handbook



http://datajournalismhandbook.org/1.0/en/

Journalism in the Age of Data



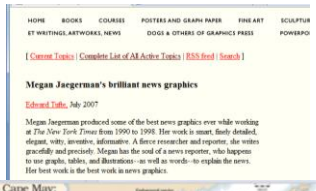
Video

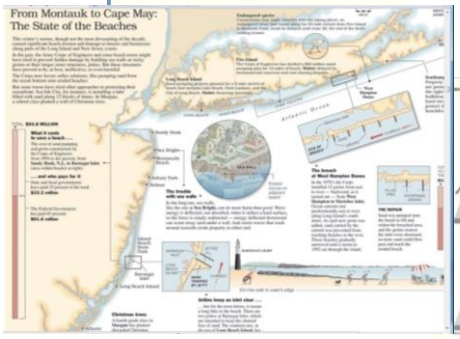
http://datajournalism.stanford.edu/

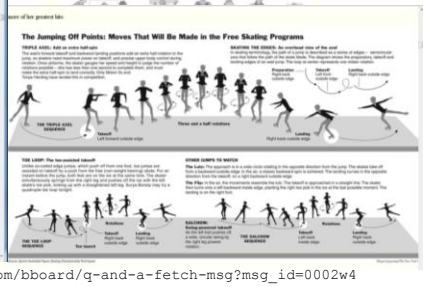
Some Examples

News Stories

Tufte praises the work of Megan Jaegerman at NY Times

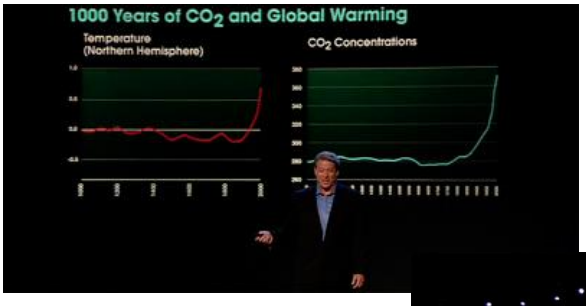






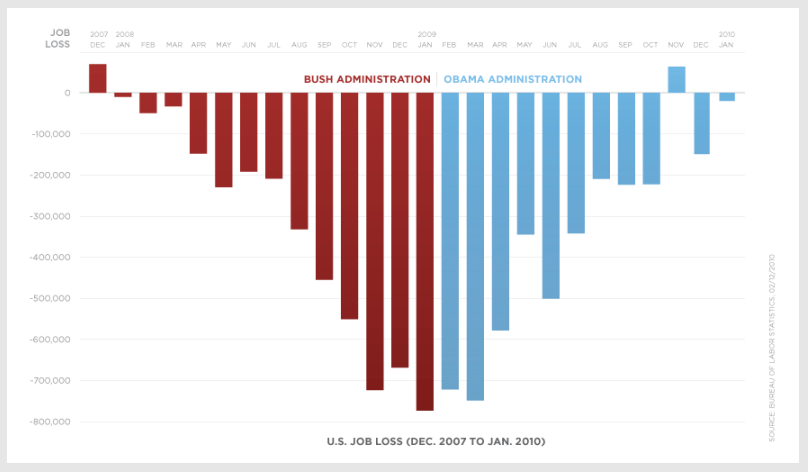
http://www.edwardtufte.com/bboard/q-and-a-fetch-msg?msg_id=0002w4

An Inconvenient Truth



Gore made extensive use of data graphics

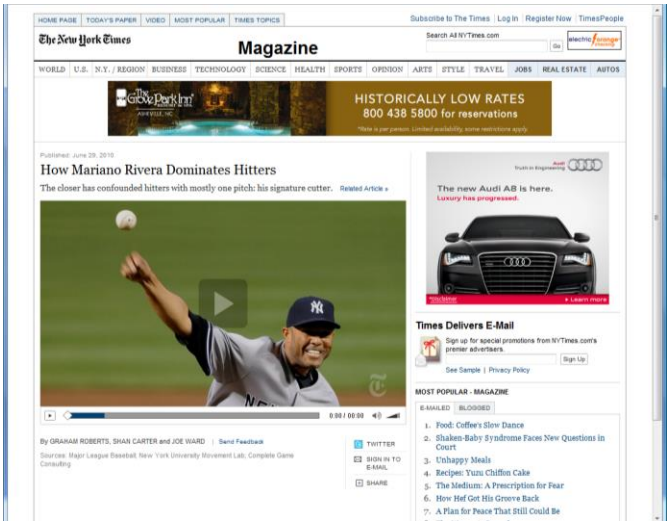
Job Losses



Controversial, see http://soquelbythecreek.blogspot.com/2010/02/what-does-obama-job-chart-really-mean.html

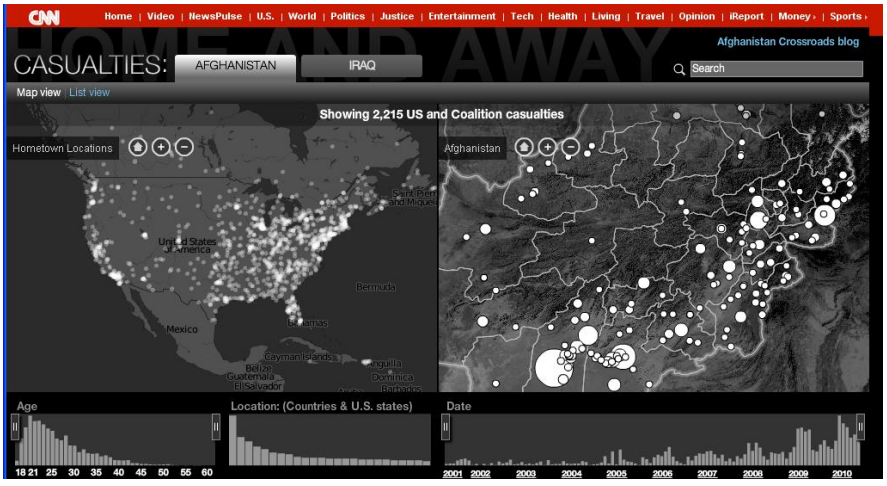
http://www.nytimes.com/interactive/2010/06/29/magazine/rivera-pitches.html?ref=multimedia

Mariano Rivera



http://www.cnn.com/homeandaway

Casualties of War



The President Going Interactive

2011 State of Union Address

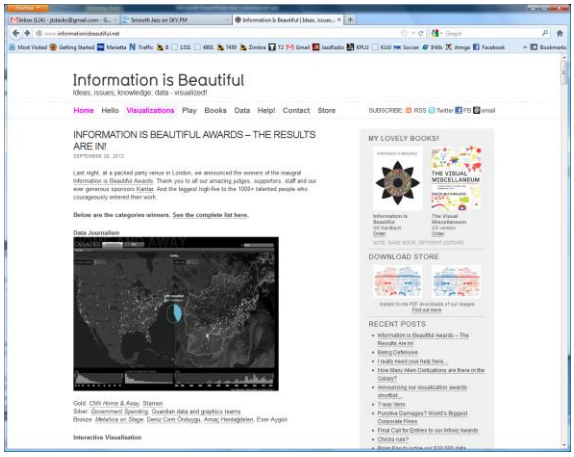
Side channel data visualizations accompanied speech

Data Matters

David McCandless

http://www.ted.com/talks/david_mccandless_the_beauty_of_data_visualization.html

McCandless Website



http://www.informationisbeautiful.net/

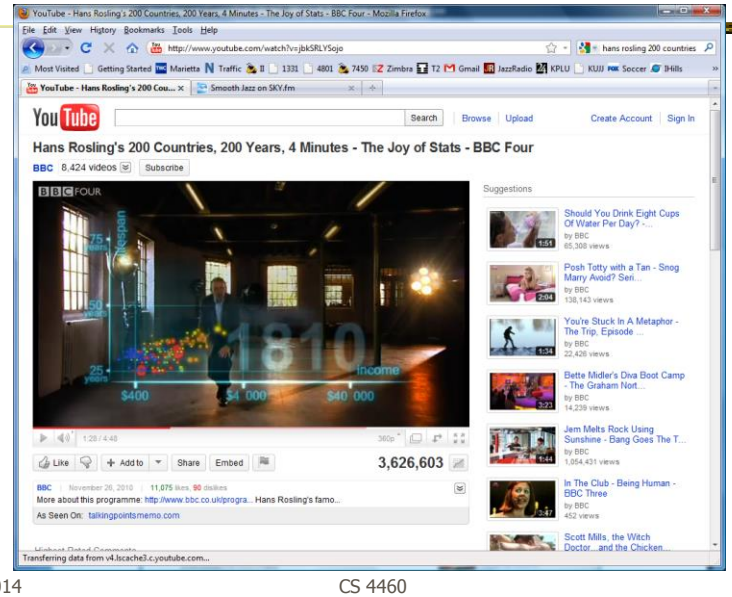
More Visualization Stories

Aaron Koblin

http://www.ted.com/talks/aaron_koblin.html

http://www.youtube.com/watch?v=jbkSRLYSojo

Back to Where We Started



Questions

- How do these types of visualizations differ from "traditional" infovis?

Questions

- What is emphasized in "presentational" infovis versus "analytic" infovis?

My Reflections

- InfoVis for analysis and presentation are different
  - Apples & oranges (both fruit though)
- How?

HW 1 Discussion

- Some examples
- Thoughts

Project

- More topic ideas
- Team formed?

Upcoming

- Multivariate Data & Table/Graph Design
  - Reading:
    Munzner chapter 2

- Few's Design Guidance
  - Reading:
    Now You See It, chapters 5-12