

W10 COS30045

Lecture

Class

Agenda

Agenda

- 10.1 Designing interactions
- Stand-up 1

W10.2 COS30045

Lecture

Agenda

- Designing interactions

Reference

- Abbott, D (2024) Everyday Data Visualisation Chapter 7
Munzner (2014) Visualisation Analysis and Design Chapter 11

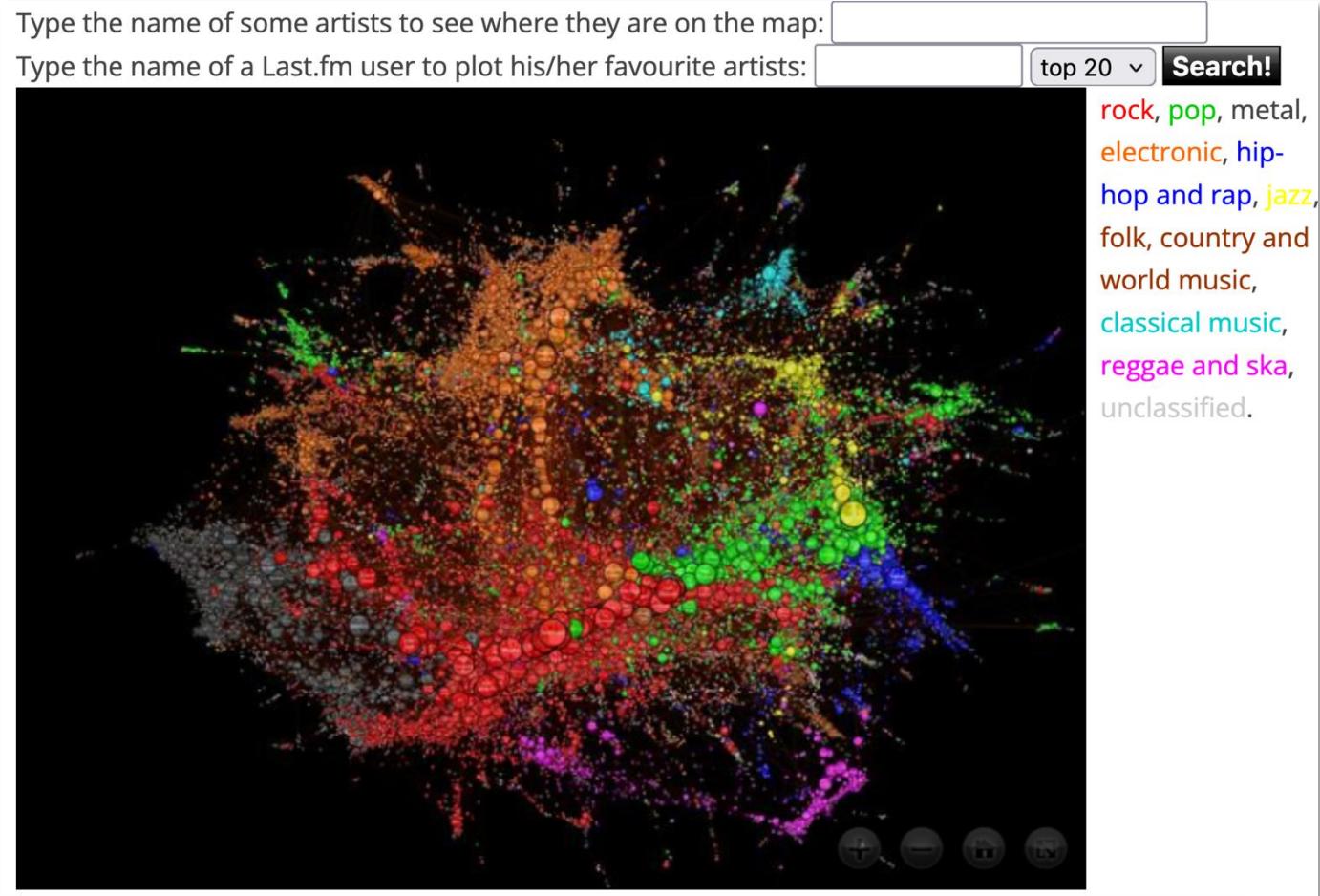
Interactions

Good for large complex data sets

- Difficult to understand if every data point displayed

Allows users to:

- Select subsets
- Change view data
- Increase or decrease the number of visual elements



http://sixdegrees.hu/last.fm/interactive_map.html

Shneiderman - Visual Information Seeking Mantra

Interactions

- Zooming
- Filtering
- Brushing

Focus + Context

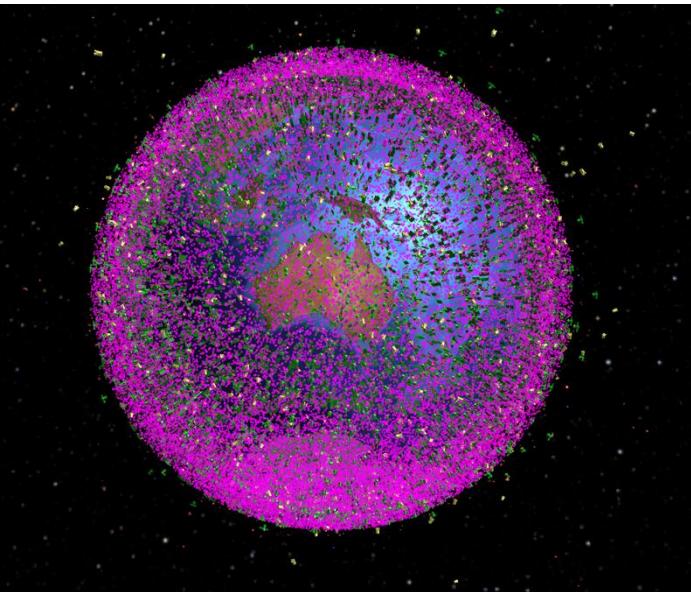
Overview first, zoom and filter, and details on demand.



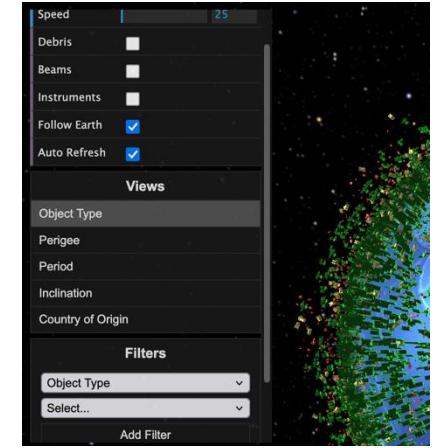
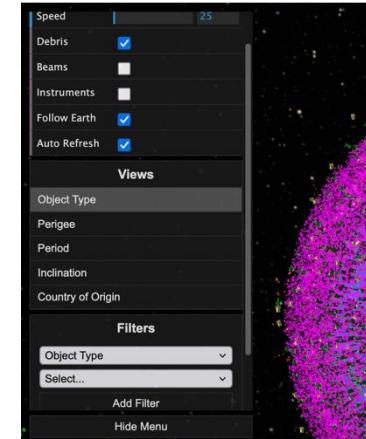
Ben Shneiderman
User interaction design guru

Low orbit visualisation

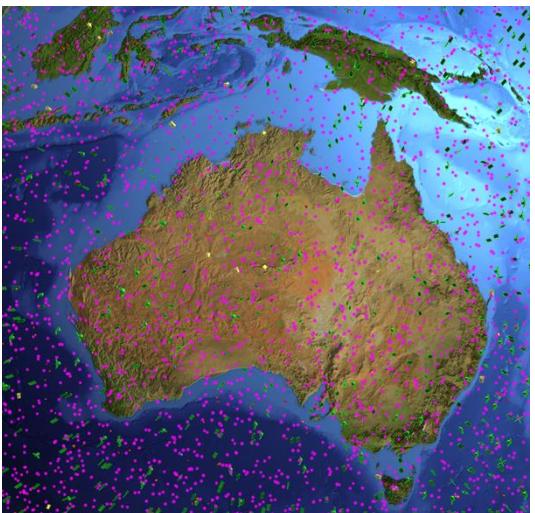
Overview



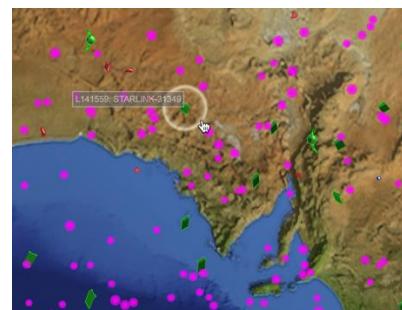
Filter



Zoom



Details on demand



<https://platform.leolabs.space/visualization>

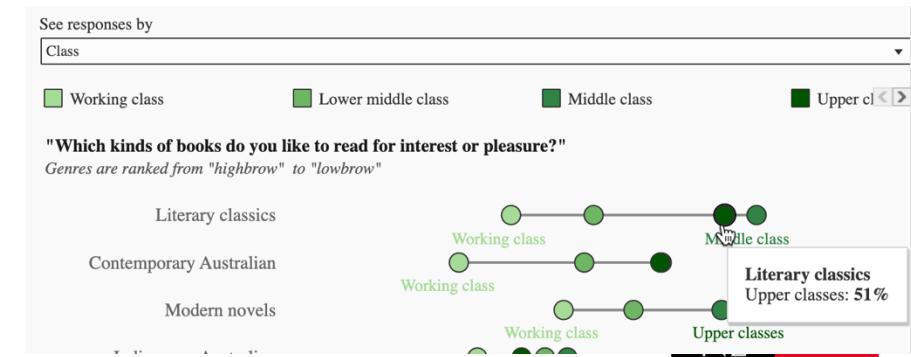
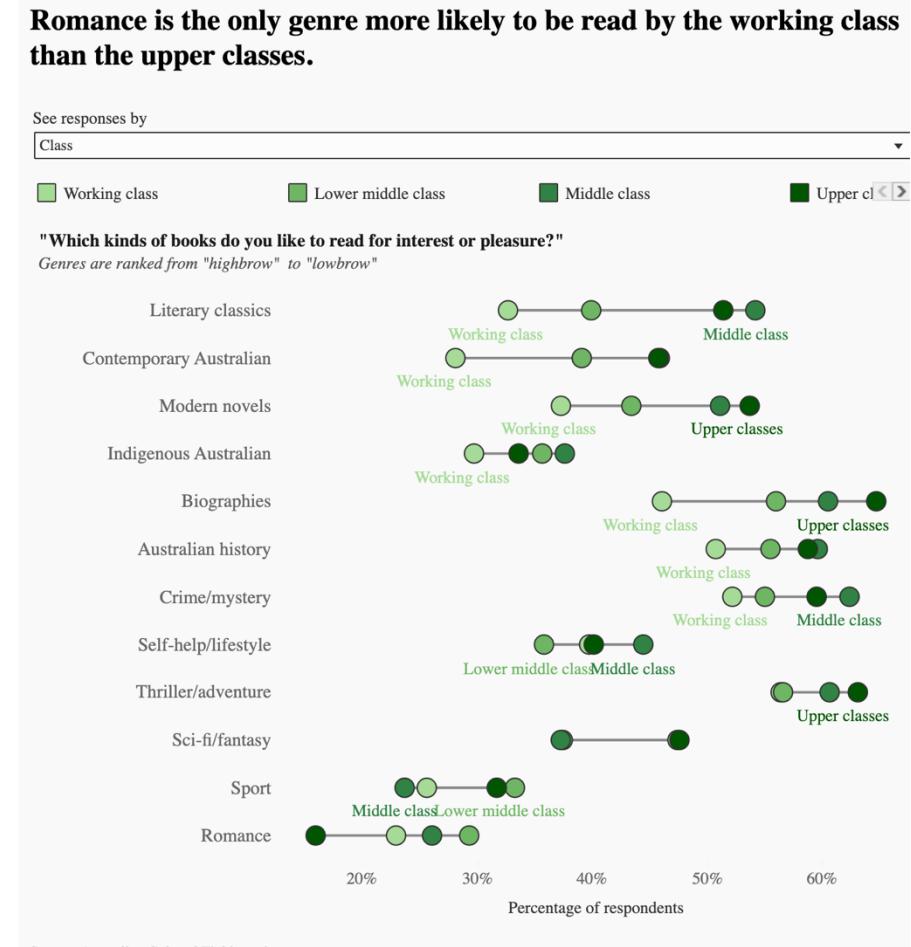
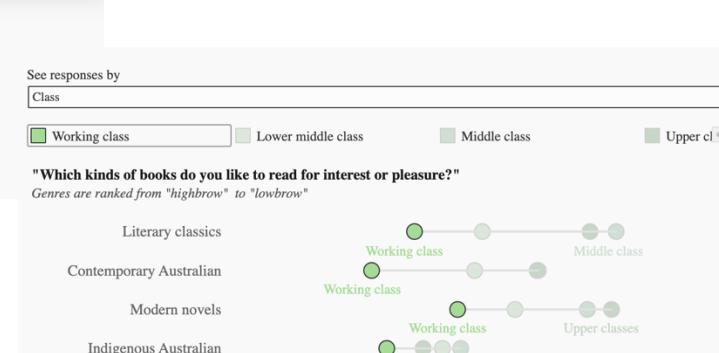
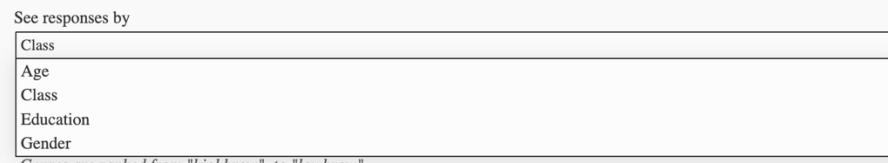
Change View: Interaction elements

Selection types:

- selected vs not selected
- mouse hover

UI elements

- Dropbox, checkbox, radio button, buttons, selecting elements (brushing)....

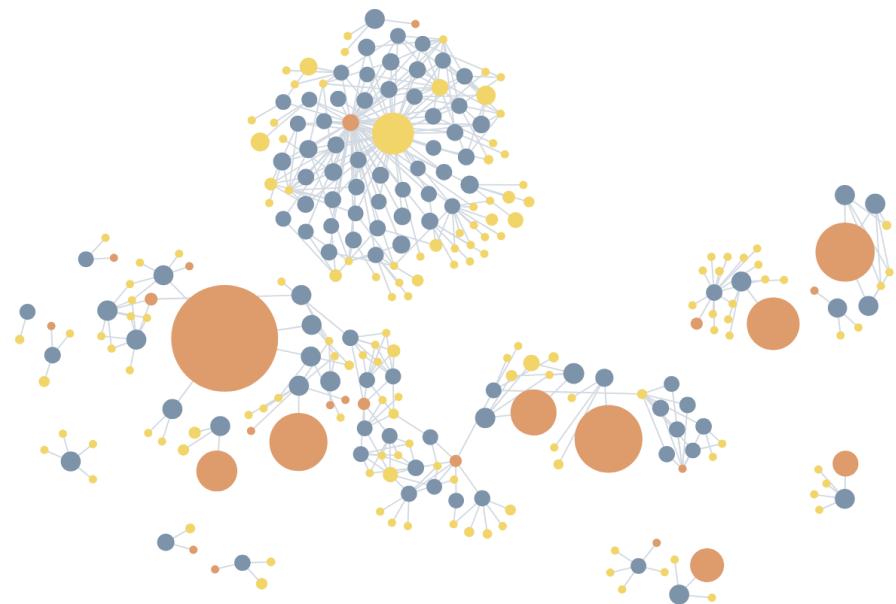


Overview, filter, details...

Discover inventors and assignees behind the top 100 most-cited patents granted since 2003.

● Patents ● Inventors ● Assignees

↓ EXPORT



SHOW PATENTS FOR:
select a location or tech area

RELATED LOCATIONS

U.S. STATE

A grid of state abbreviations representing locations for patents. The states are arranged as follows:

- Row 1: AK, ME
- Row 2: VT, NH, MA
- Row 3: NY, RI
- Row 4: CT
- Row 5: DE
- Row 6: MD
- Row 7: VA, SC, D.C.
- Row 8: GA
- Row 9: OK, LA, MS, AL
- Row 10: TX
- Row 11: HI, FL
- Row 12: AZ, NM, KS, AR, TN, NC
- Row 13: KY, WV
- Row 14: MO
- Row 15: IA, IN, OH, PA, NJ
- Row 16: IL, WI, MI
- Row 17: MN, ND, SD
- Row 18: CO, NE
- Row 19: UT, NV, WY, SD
- Row 20: OR, CA

COUNTRY

Canada

Japan

United States

RELATED TECH FIELDS



Filtering - static

Filtering (change view)

- Select a subset of the data by clicking a button...
- drop down box,
- slider,
- check box... lots of different interface controls suitable



Global migration (link available on [wayback machine](#))

Filtering - static

Filtering (change view)

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Filtering – dynamic (brushing)

Uses principles of direct manipulation

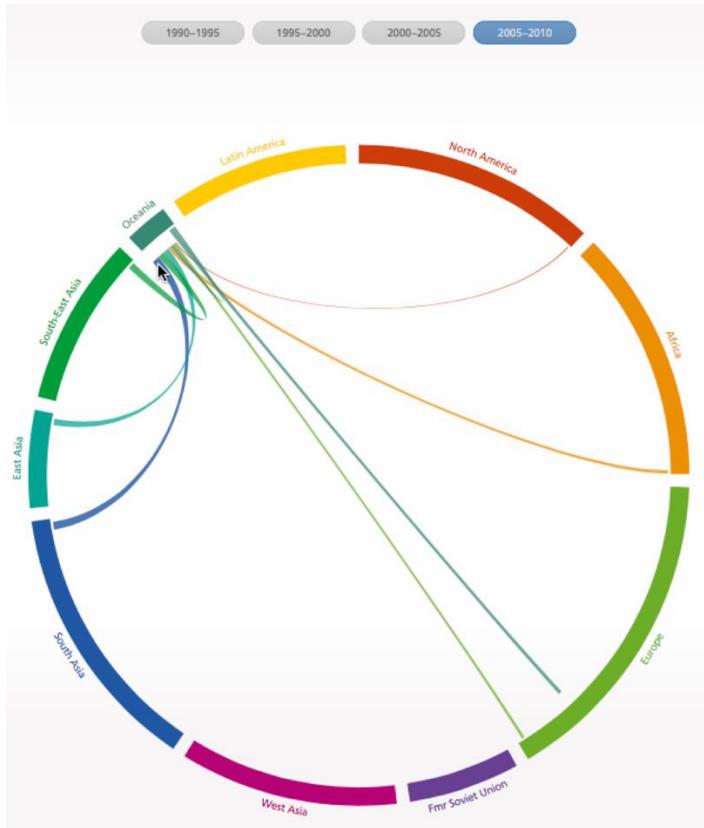
- Visual representation of query attributes
- Continuous feedback
- Use of pointer rather than typing



Filtering – dynamic (brushing)

Mouse over area

- selects detail
- preserves context



Interaction

Detail on demand

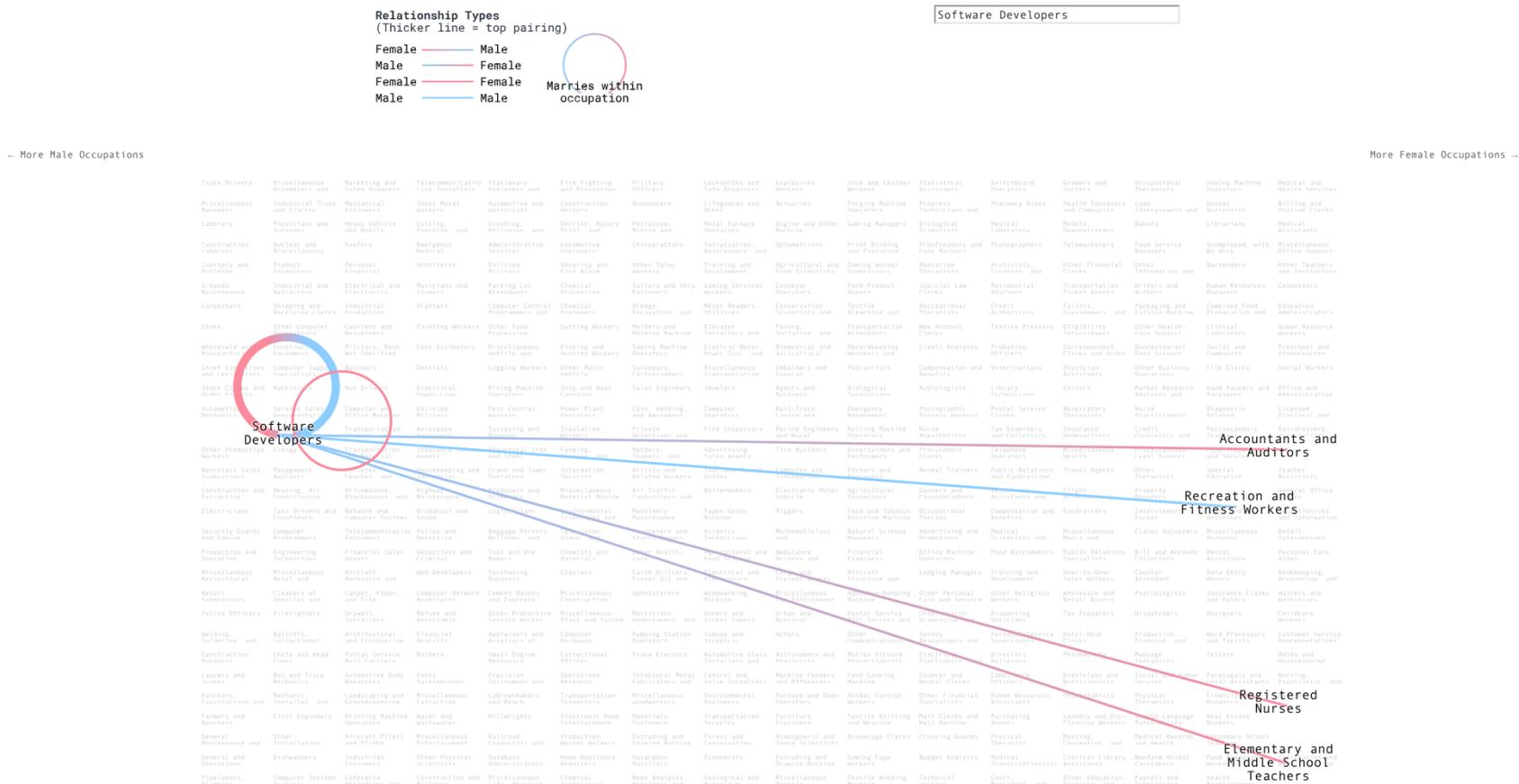
- mouse hover gives individual data values



Brushing

By Adam Pearce and Dorothy Gambrell
February 11, 2016

When it comes to falling in love, it's not just fate that brings people together—sometimes it's their jobs. We scanned data from the U.S. Census Bureau's 2014 American Community Survey—which covers 3.5 million households—to find out how people are pairing up. Some of the matches seemed practical (the most common marriage is between grade-school teachers), and others had us questioning Cupid's aim (why do female dancers have a thing for male welders?). High-earning women (doctors, lawyers) tend to pair up with their economic equals, while middle- and lower-tier women often marry up. In other words, female CEOs tend to marry other CEOs; male CEOs are OK marrying their secretaries.



2016: Who marries who (<https://www.bloomberg.com/graphics/2016-who-marries-whom/>)

Brushing

Silver Linings Playbook

"Silver Linings Playbook" follows the standard model for trailers, according to [Bill Woolery](#), a trailer specialist in Los Angeles who once worked on trailers for movies like "The Usual Suspects" and "E.T. the Extra-Terrestrial." While introducing the movie's story and its characters, the trailer largely follows the order of the film itself.



Silver Linings Playbook

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<https://archive.nytimes.com/www.nytimes.com/interactive/2013/02/19/movies/awardsseas/on/oscar-trailers.html>

Dissecting a Trailer: The Parts of the Film That Make the Cut

How scenes from five of the nine best picture nominees were reassembled to promote the films.

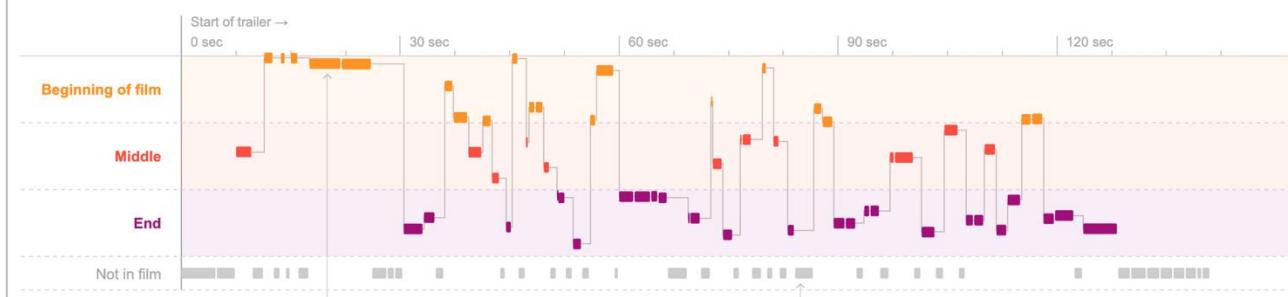
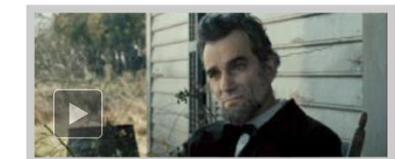
Silver Linings Playbook

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Lincoln

The "Lincoln" trailer is more like the typical teaser than a trailer, according to Stephen Garrett, who owns [Jump Cut](#), a trailer house that specializes in foreign, independent and documentary films. While trailers often focus on plot or character descriptions, teasers establish the mood and tone of a film. Teasers "don't have to be chronological," Mr. Garrett said.



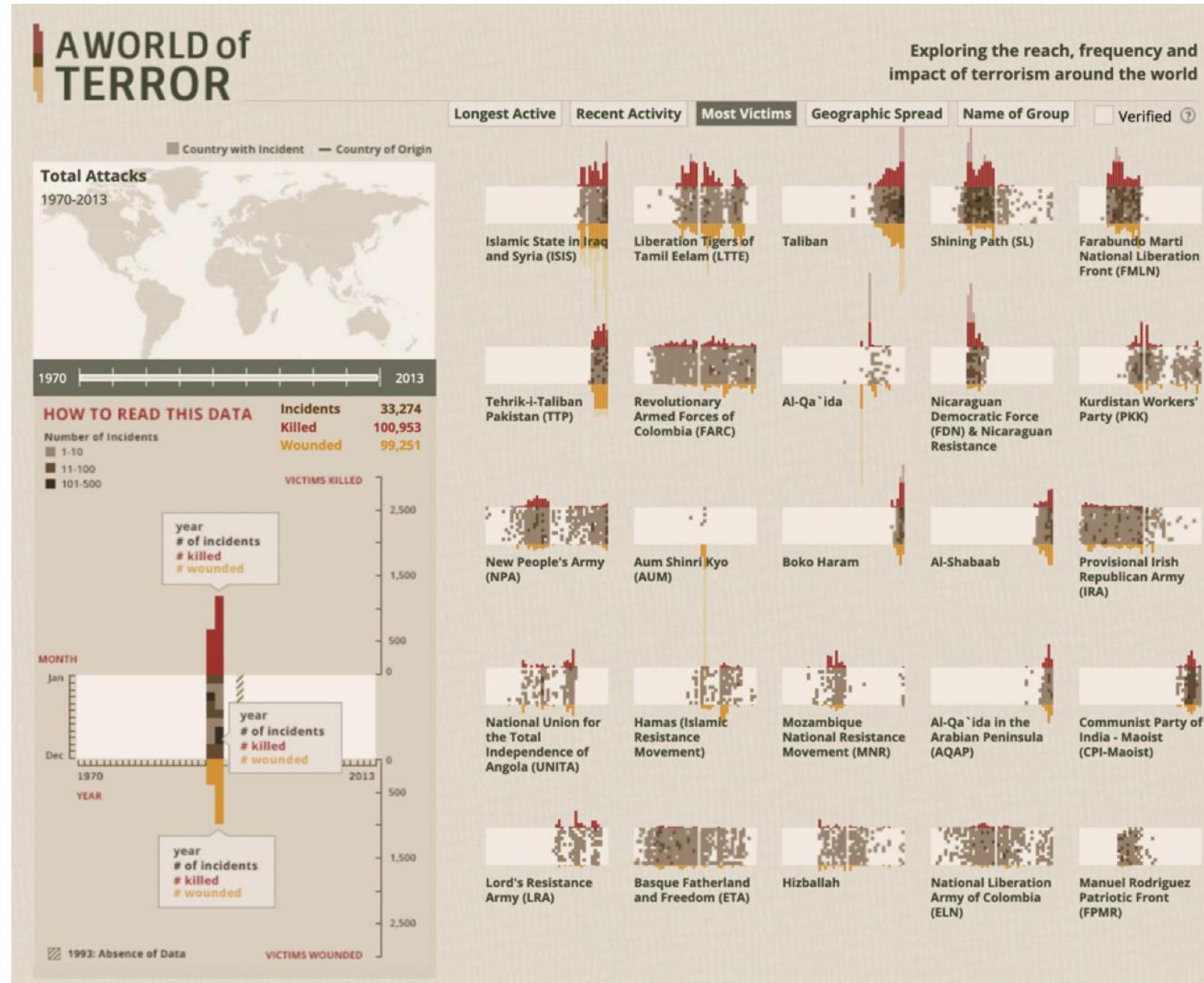
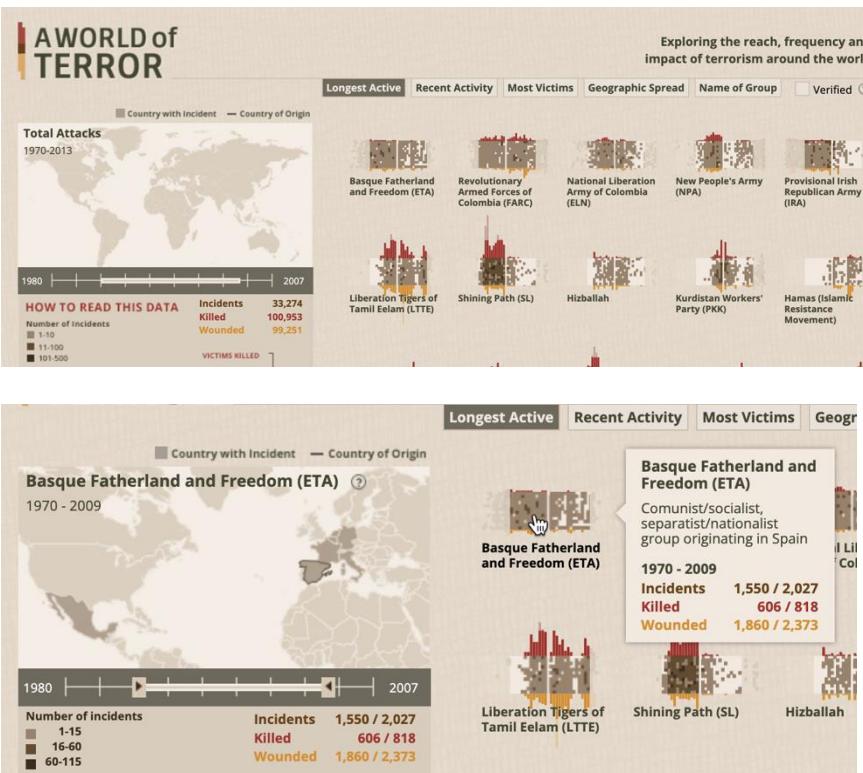
Features of chart

Sorting (button)

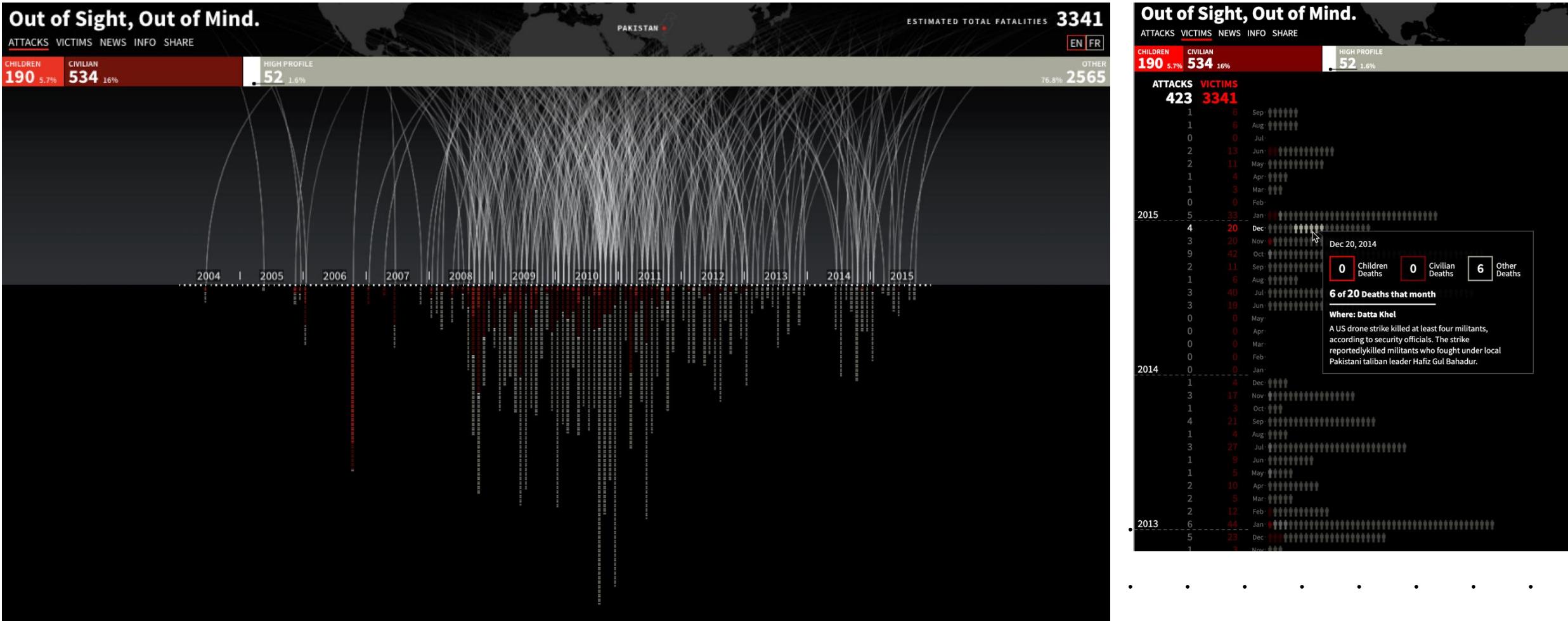
Brushing (drag timeline)

Small multiples

Details on demand...

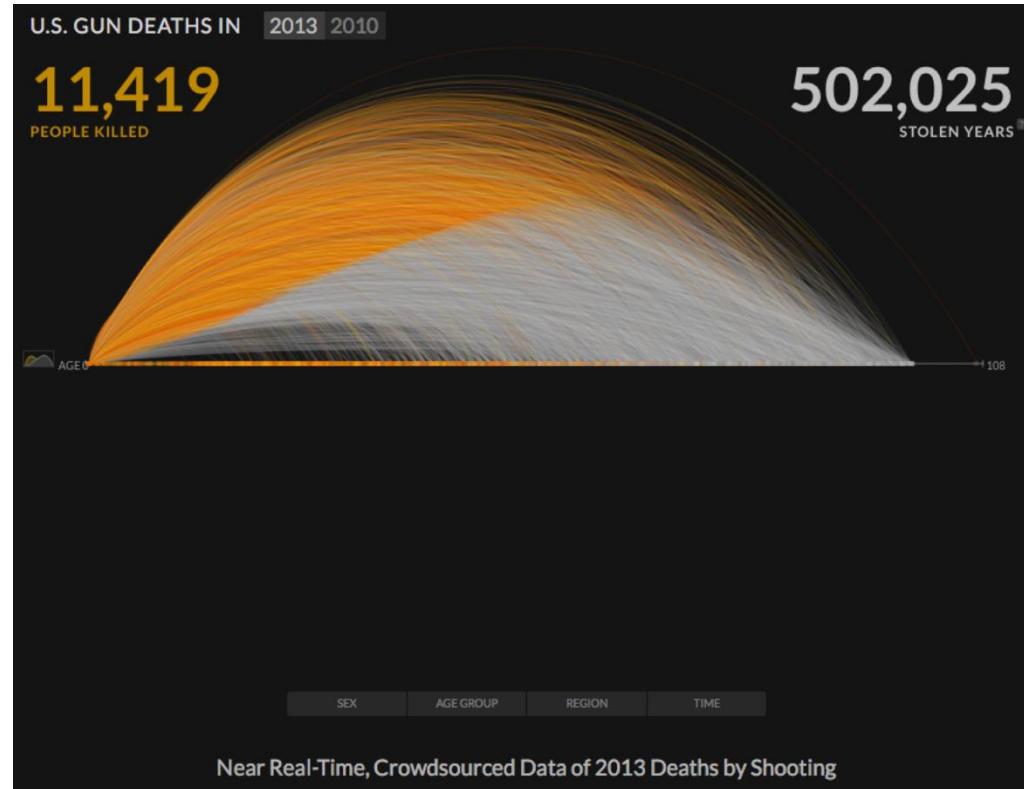


Storytelling and animation

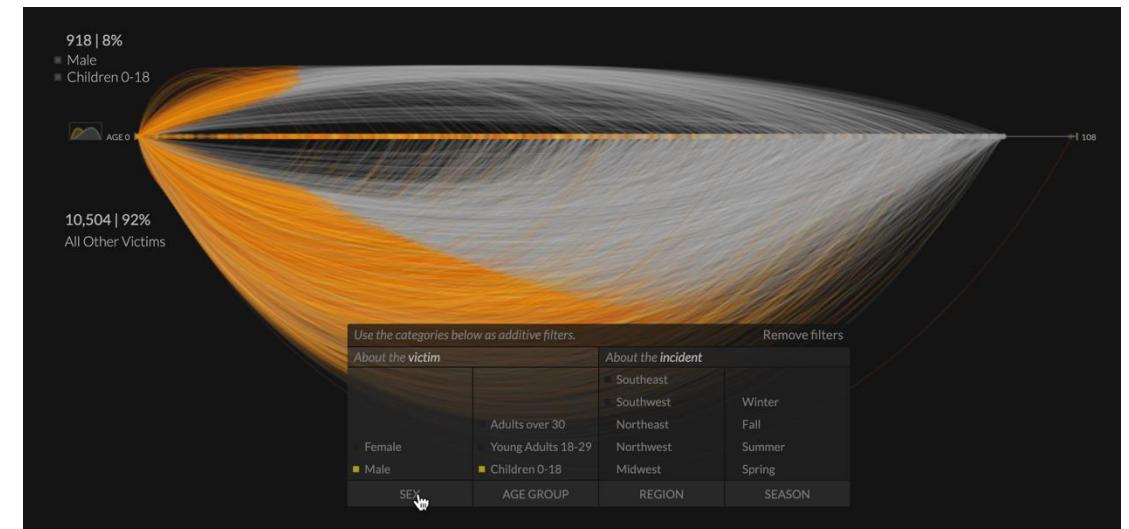
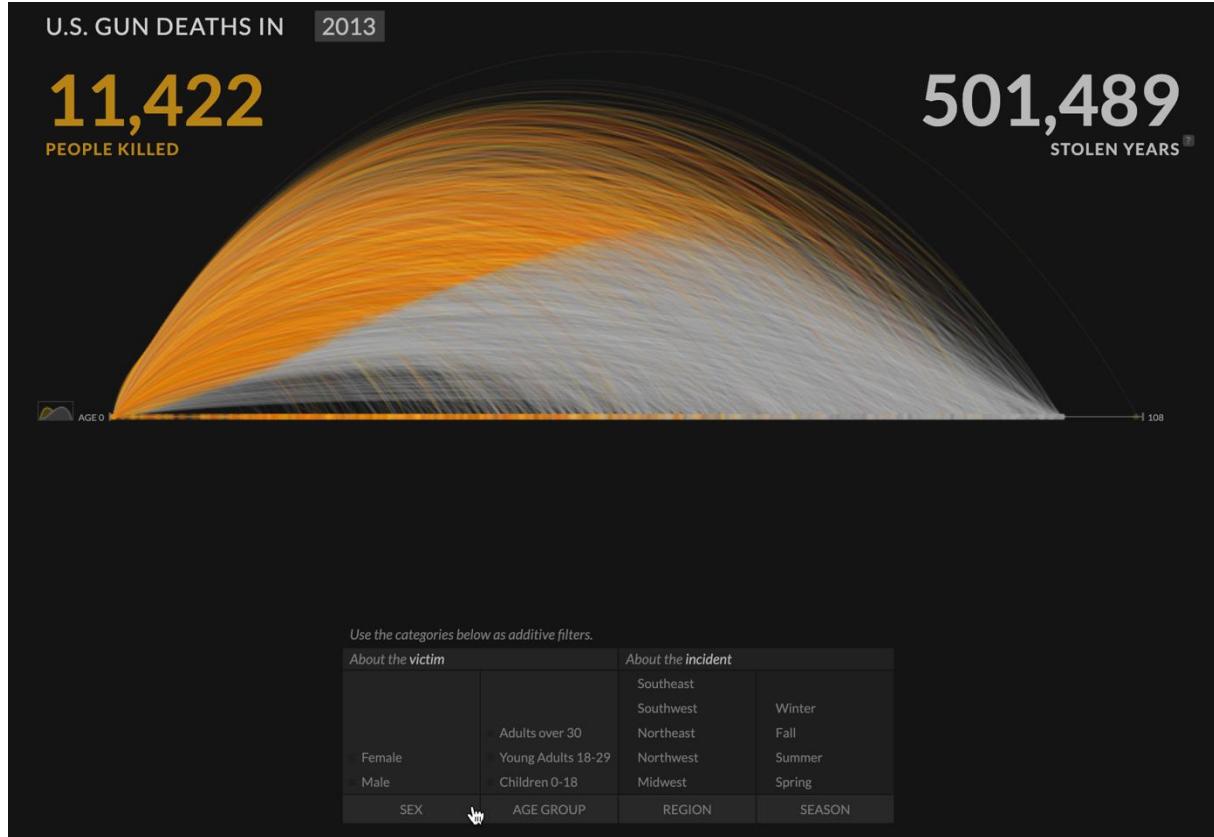


2015: <https://drones.pitchinteractive.com/>

Storytelling and animation...



Filtering

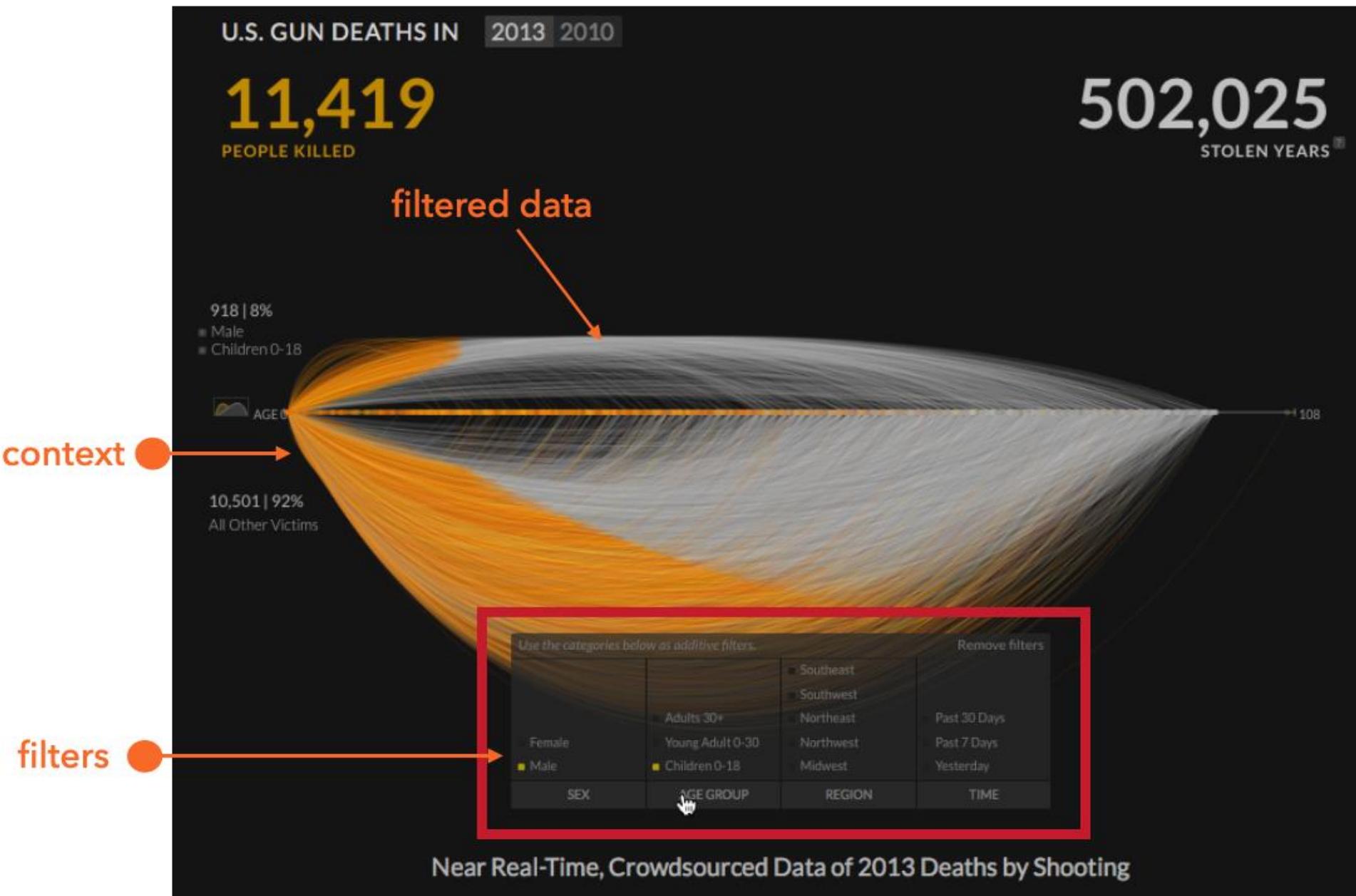


<https://guns.periscopic.com/?year=2013>

Filtering

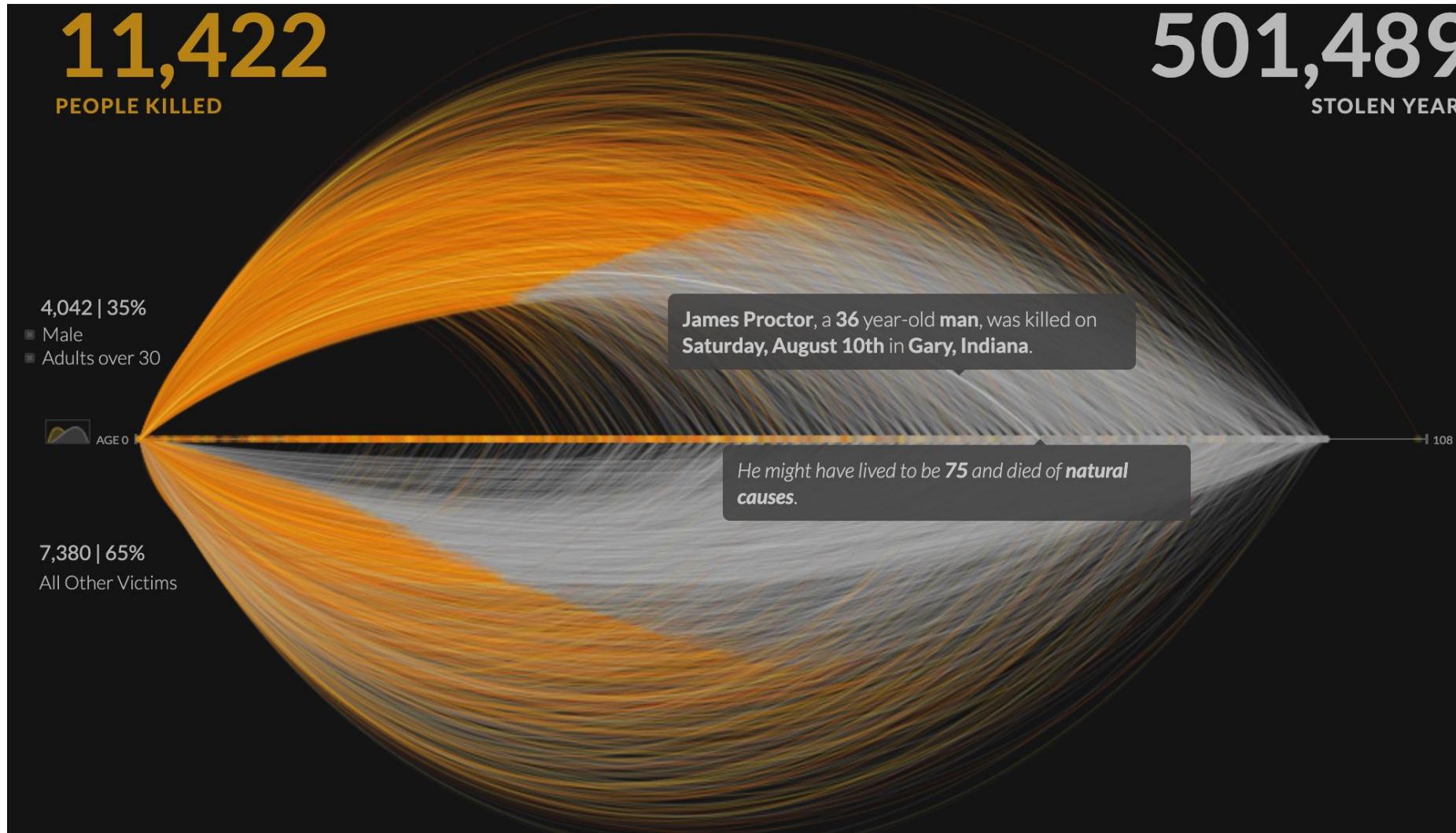
Filter

Context + focus



Also see 2018 data set: <https://guns.periscopic.com/>

Details on demand



Brushing

Type of chart?

What variables are encoded?

<https://nightingaledvs.com/interactives-taylor-swift-data-visualization/>

