

# Visual Storytelling

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*Carte Figurative des pertes successives en hommes de l'Armée Française dans la campagne de Russie 1812-1813.*

Dessiné par N. Minard, Inspecteur Général des Ponts et Chaussées en retraite.

Paris, le 20 Novembre 1869

Les nombres d'hommes perdus sont exprimés par les larges des zones colorées à raison d'un millimètre pour dix mille hommes; ils sont de plus écrits en trèfle des zones. Le rouge distingue les hommes qui ont péri en Russie, le noir ceux qui en sont sortis. — Les renseignements qui ont servi à dessiner la carte ont été pris dans les ouvrages de M. A. Chiers, de Ligny, de Feronac, de Chambray et le journal intime de Jacob, planificateur de l'Armée depuis le 28 Octobre.

Pour mieux faire juger à l'œil la similitude de l'armée; j'ai supposé que les corps du Prince Napoléon et du Maréchal Davout qui avaient été détachés sur Minsk et Malibor et qui étaient vers Orel et Malibor, avaient toujours marché avec l'armée.

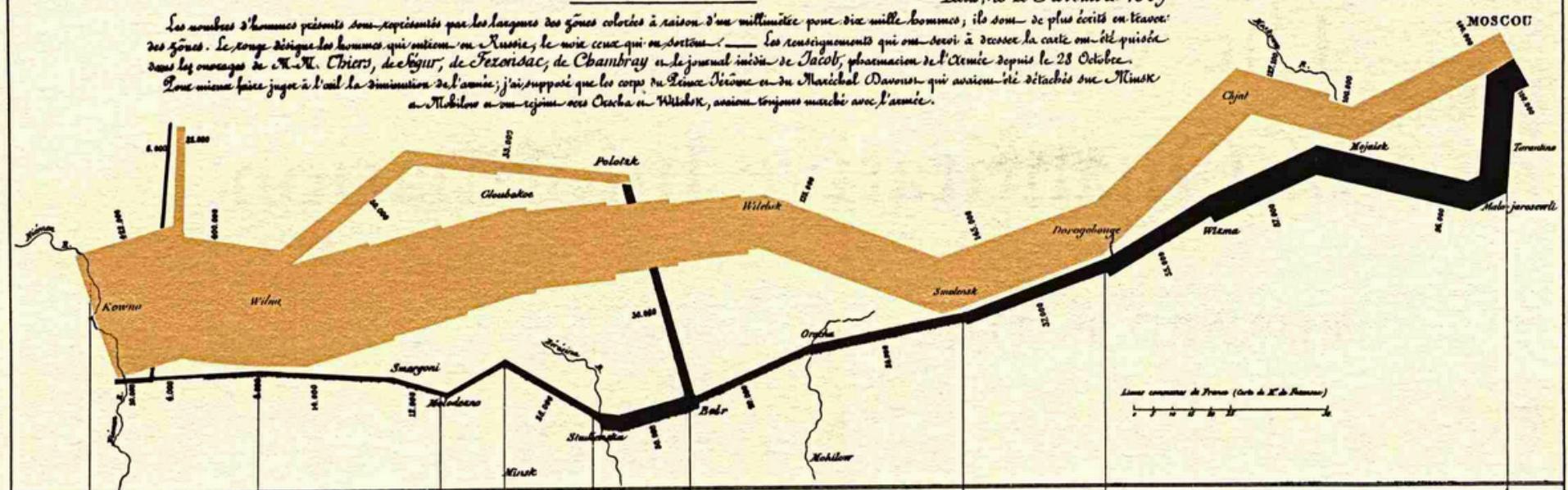
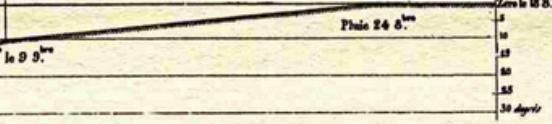


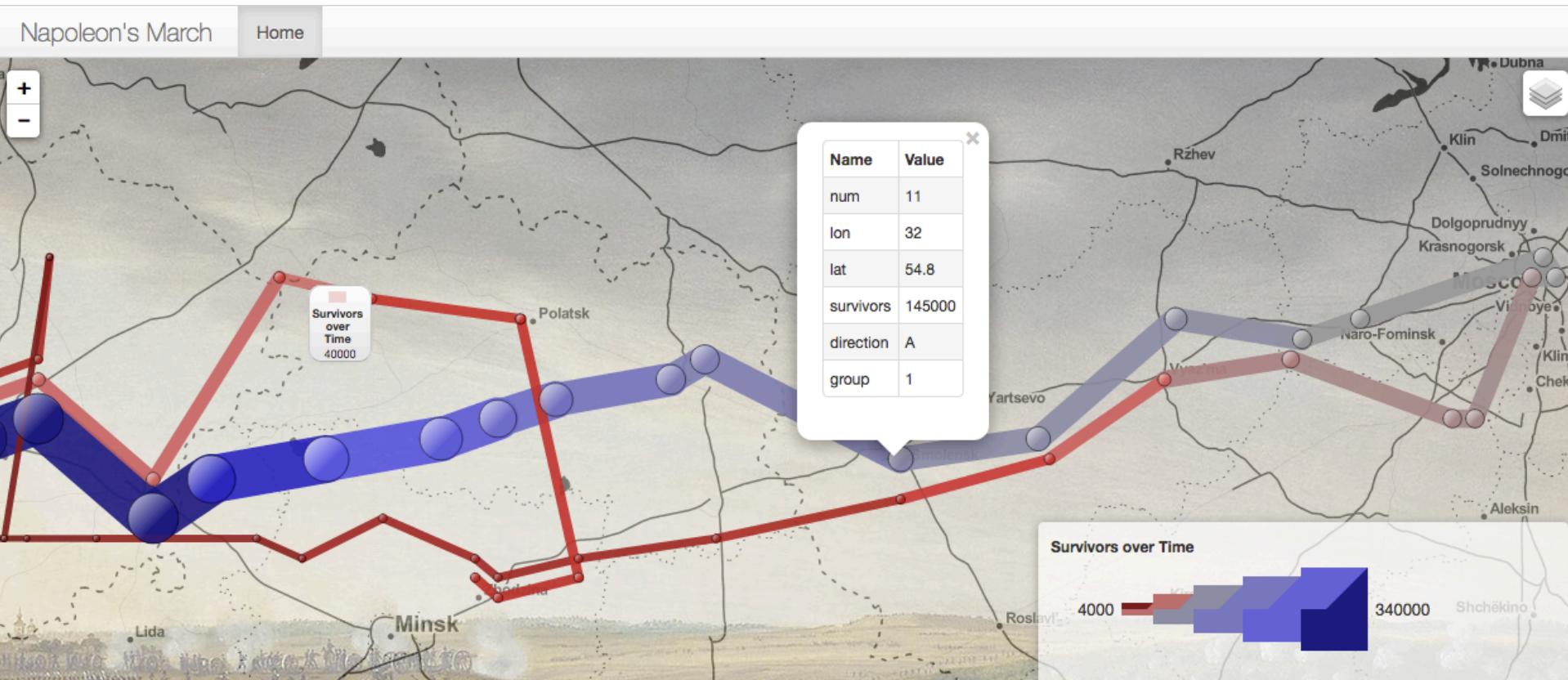
TABLEAU GRAPHIQUE de la température en degrés du thermomètre de Réaumur au dessous de zéro.

Les Corseaux passent au galop le Nilmer gelé.

- 16° le 7 X.  
- 24° le 1<sup>er</sup> X.  
- 30° le 6 X.  
—



Imp. Lib. Roquain et Bourdeau.



<http://humangeo.github.io/leaflet-dvf/examples/html/minard.html#>

# Why have driving fatalities decreased in the United States?

The fatality rate has declined over the last 35 years.

In 1974 - Speed Limits were introduced.

A late 70's gas shortage signaled a dip.

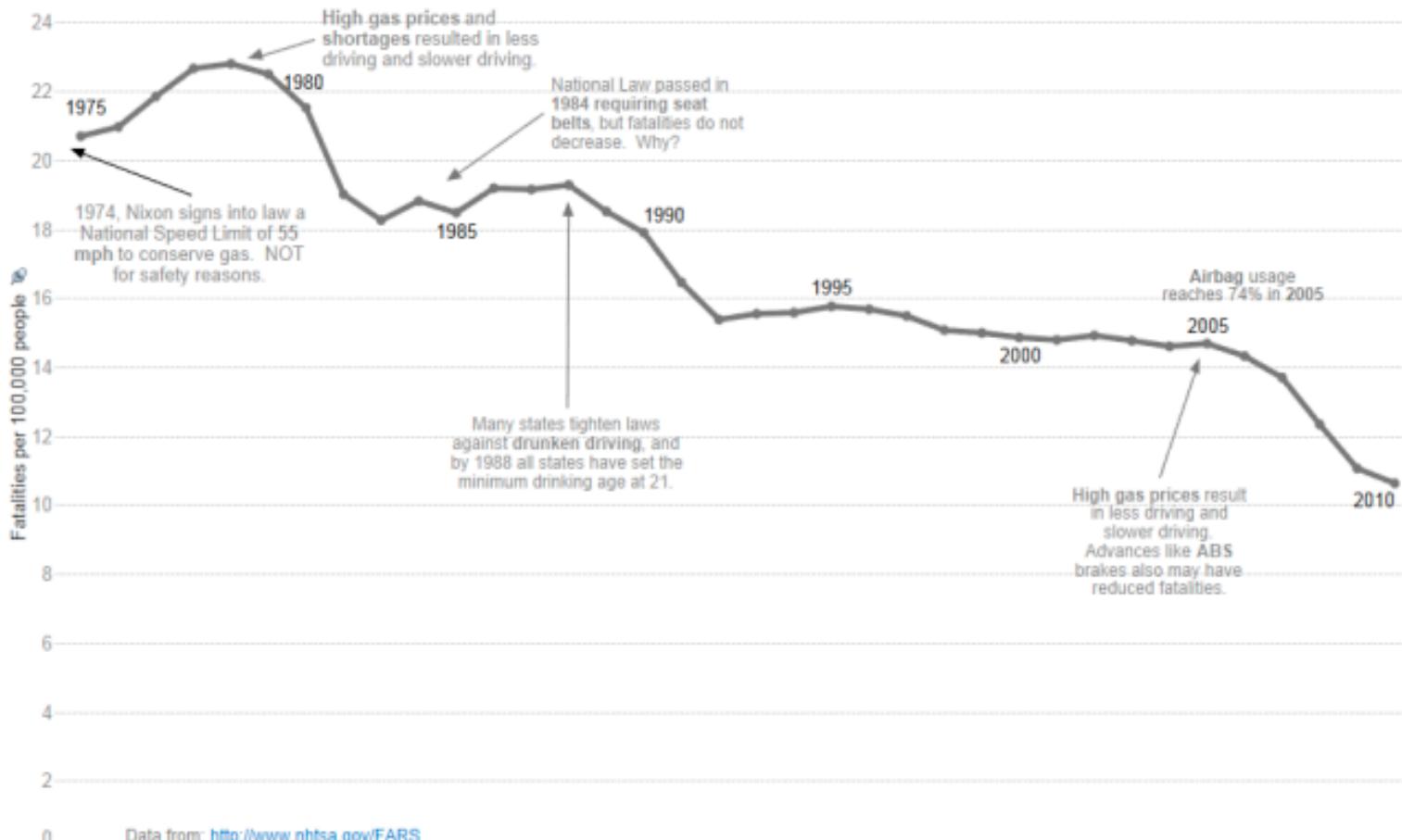
Seatbelt laws had minimal impact.

But in 1988 something changed...

And by the 2000's safety equipment came standard.

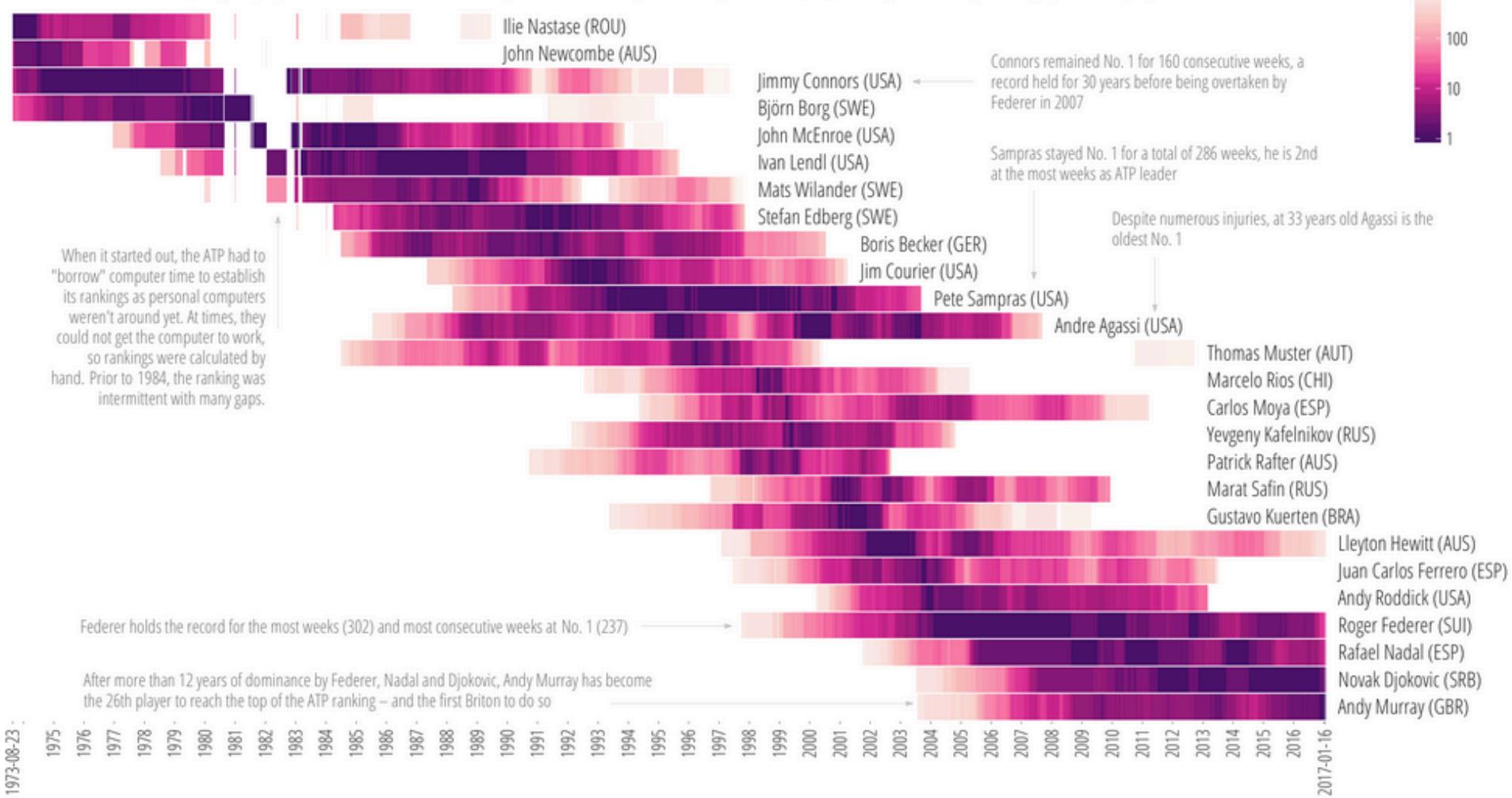
New Blank Point

Duplicate



## Fifty shades of play - the complete history of every No. 1 tennis player in the ATP ranking

Since its creation in 1973, only 26 players have reached the summit of the Association of Tennis Professionals (ATP) ranking. The weekly ranking of these 26 players is shown below.



Source: ATP World Tour | swissinfo.ch | Duc-Quang Nguyen

Source: [http://www.swissinfo.ch/eng/who-is-the-best\\_the-complete-history-of-every-no--1-tennis-player/42274984](http://www.swissinfo.ch/eng/who-is-the-best_the-complete-history-of-every-no--1-tennis-player/42274984)

“It’s more common NOT to publish than to publish.”

Sarah Cohen, *editor of New York Times computer-assisted reporting team*

Tools for analysis

=

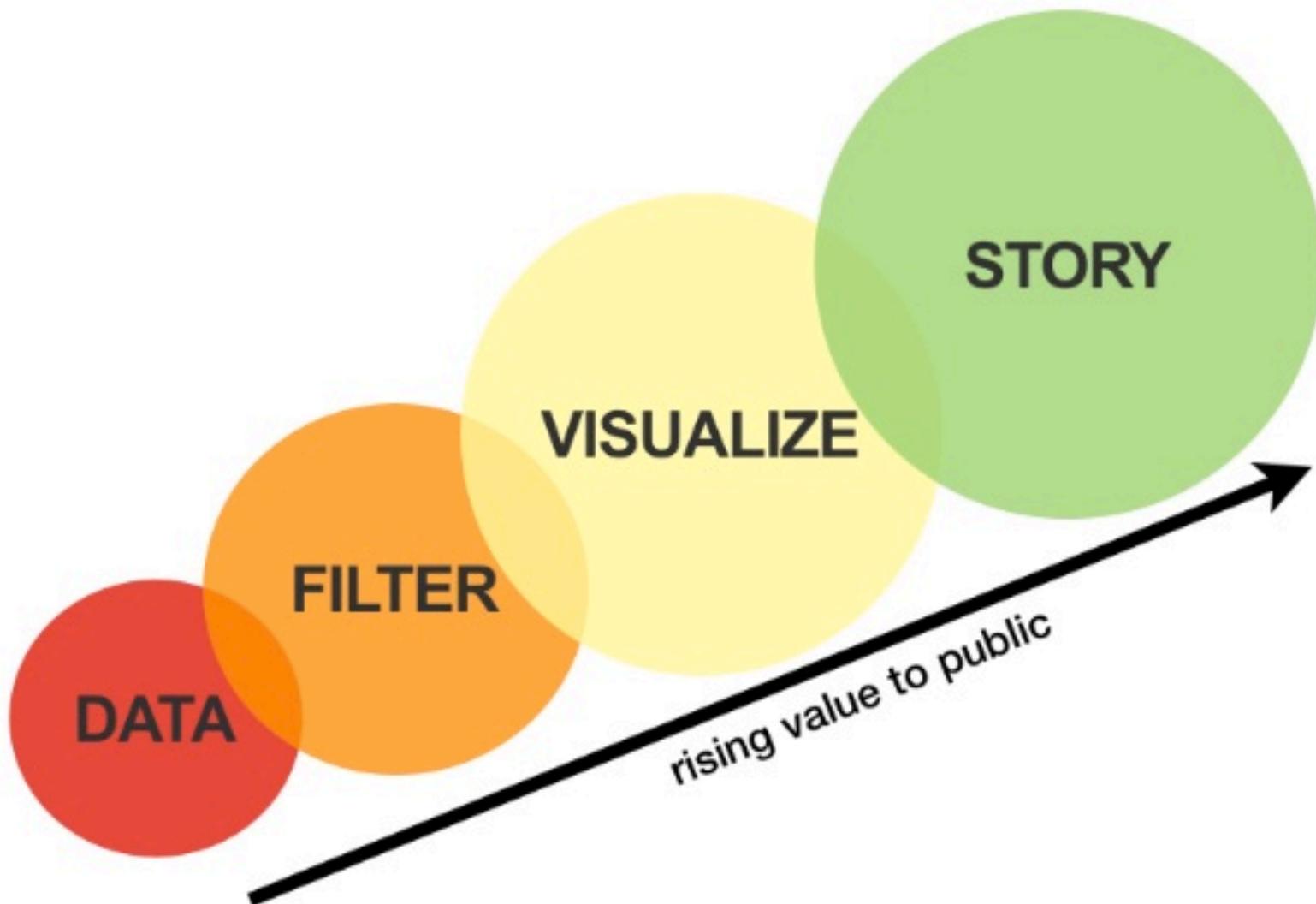
Tools for presentation

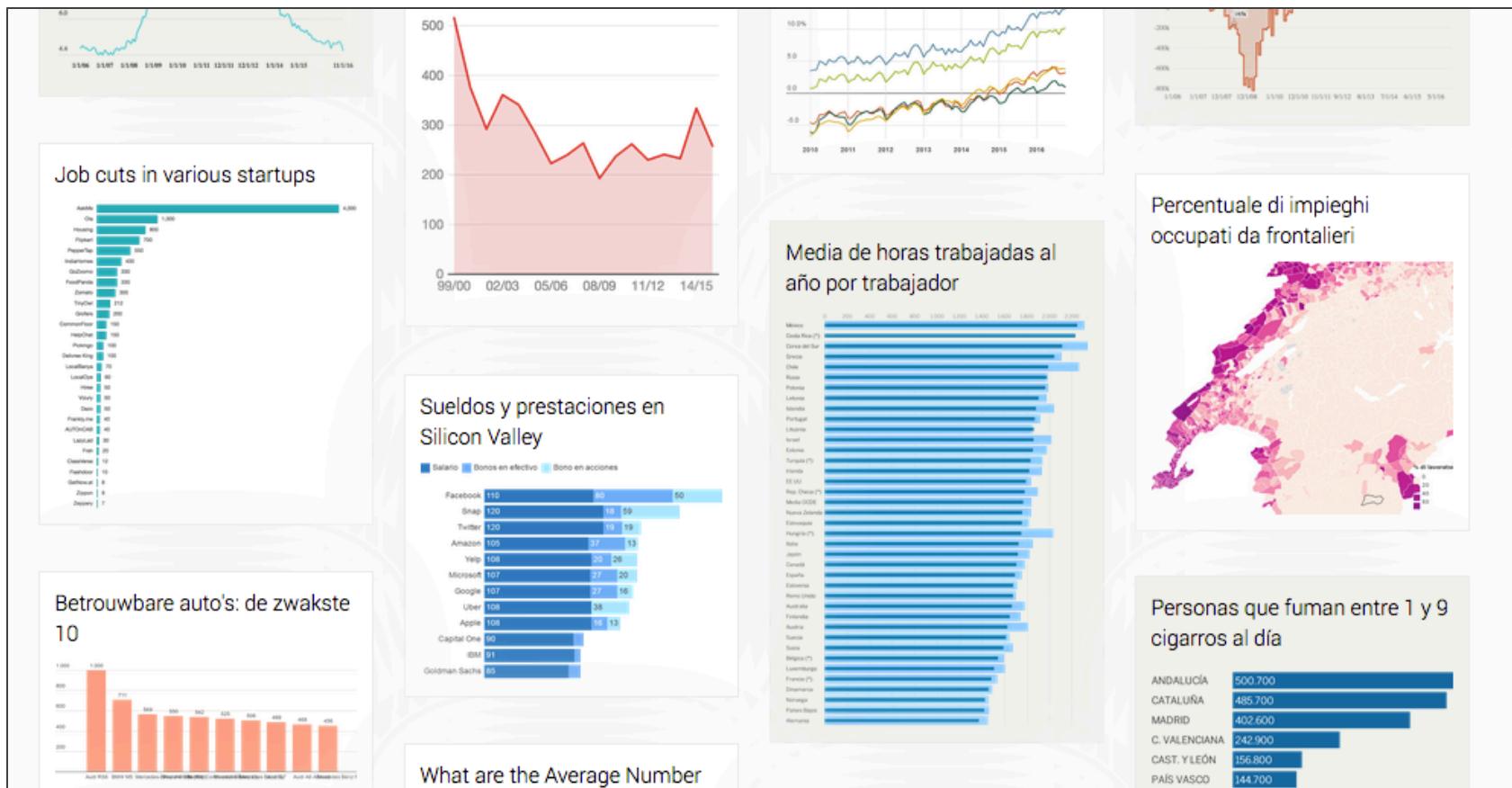
Tools for analysis

=>

Tools for presentation

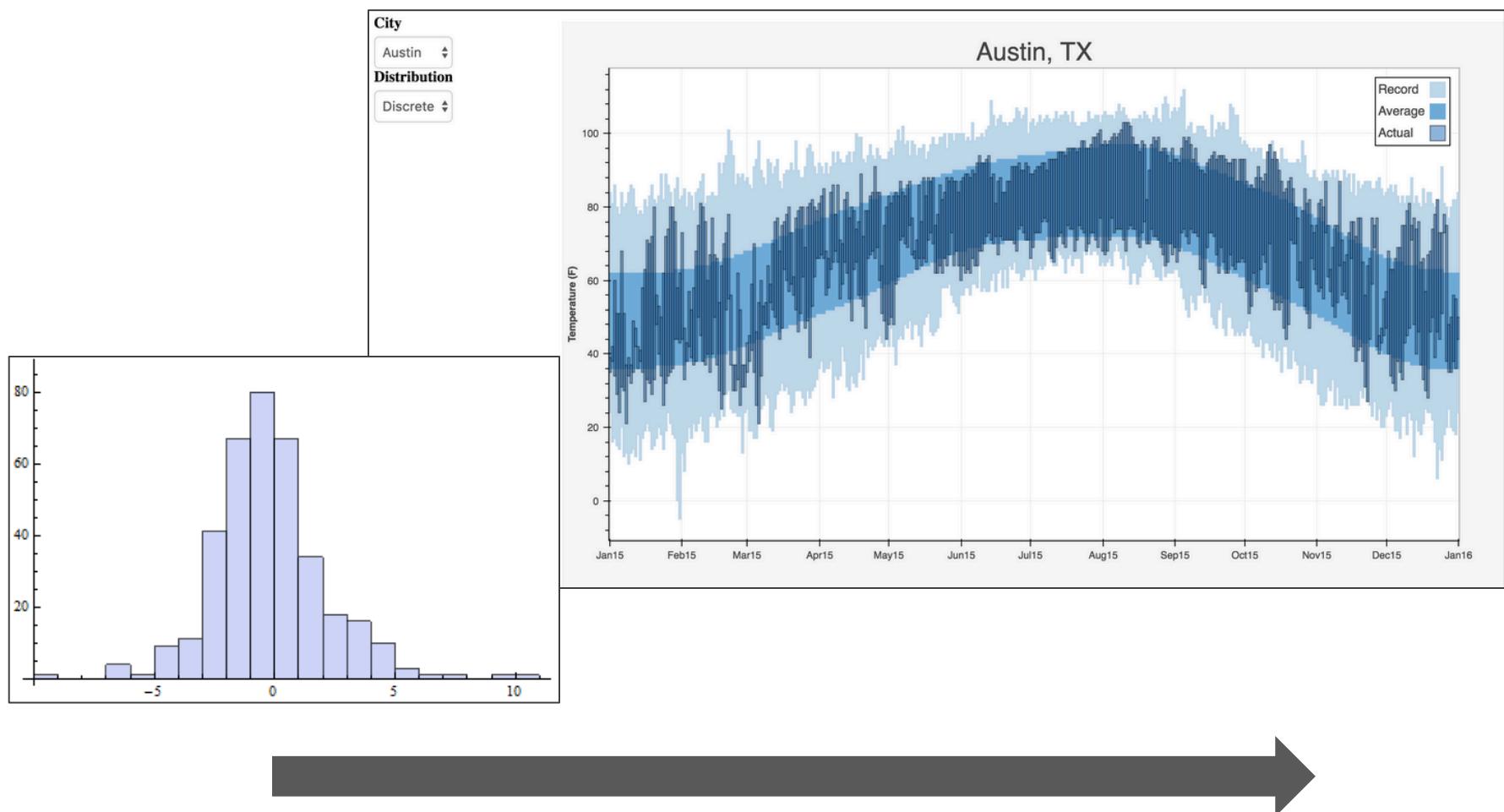
# DATA-DRIVEN JOURNALISM = PROCESS





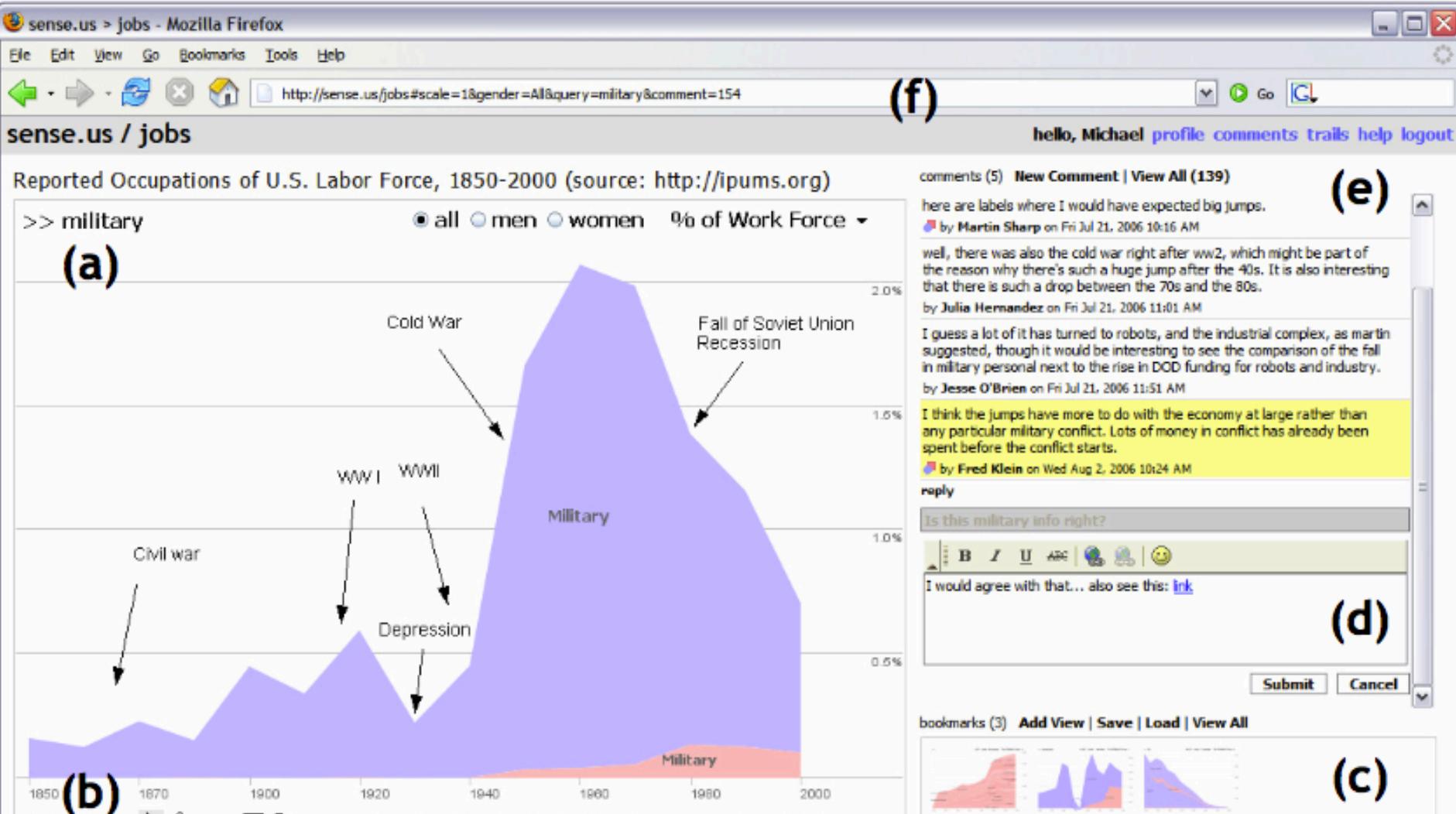
<https://github.com/datawrapper>

<https://www.datawrapper.de>



Histogram: <http://motls.blogspot.com/2011/09/austin-texas-all-daily-trends-since.html>  
Austin Temp. Chart: <https://blog.modeanalytics.com/images/post-images/viz-libraries-04.png>

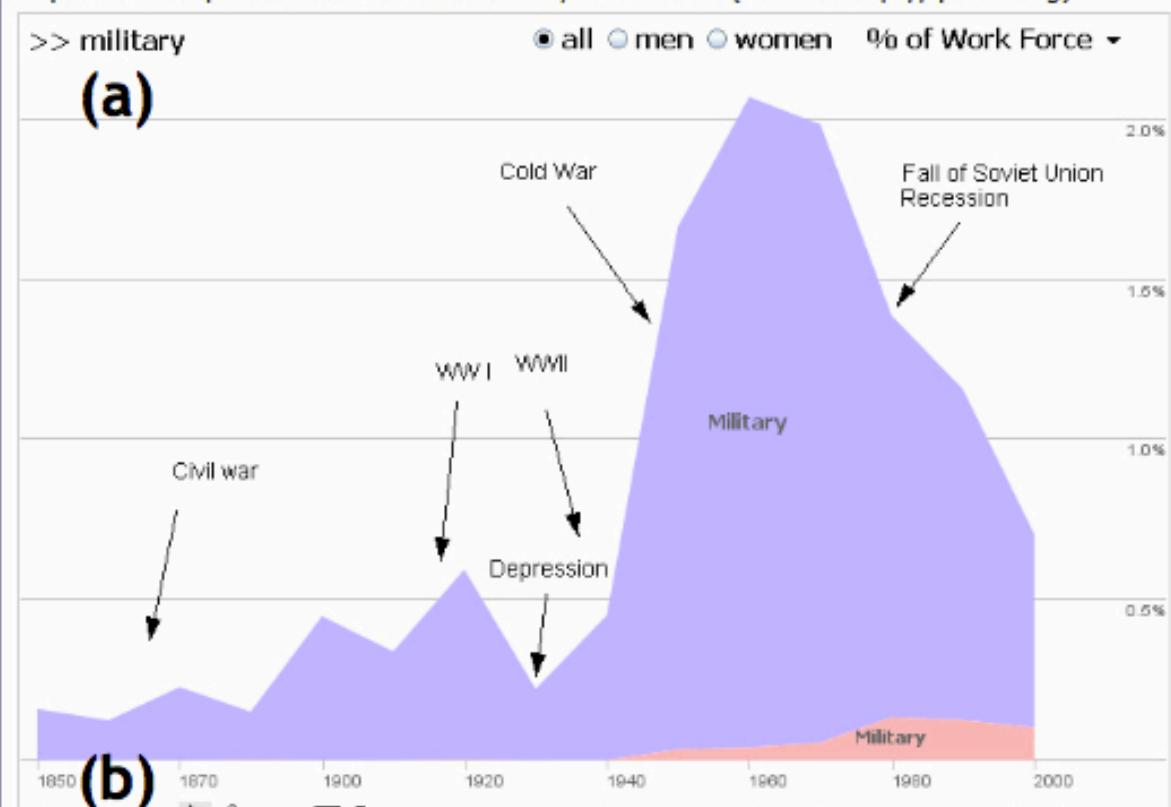
# Collaborative Analysis/Stories

(f) 

sense.us / jobs

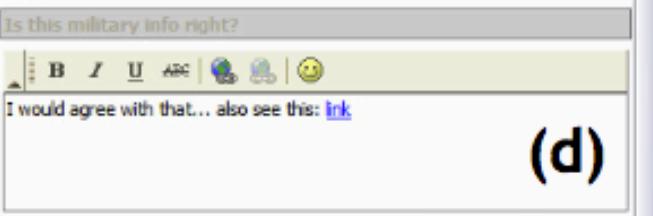
Reported Occupations of U.S. Labor Force, 1850-2000 (source: <http://ipums.org>)

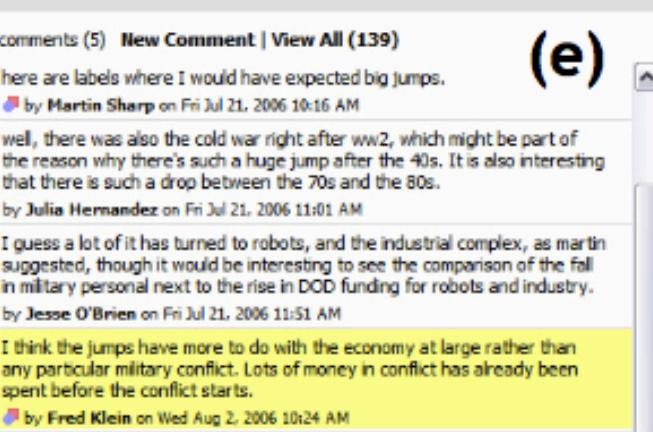
>> military       all  men  women      % of Work Force

(a) 

(b) 

(c) 

(d) 

(e) 

comments (5) [New Comment](#) | [View All \(139\)](#)

here are labels where I would have expected big jumps.  
by Martin Sharp on Fri Jul 21, 2006 10:16 AM

well, there was also the cold war right after ww2, which might be part of the reason why there's such a huge jump after the 40s. It is also interesting that there is such a drop between the 70s and the 80s.  
by Julia Hernandez on Fri Jul 21, 2006 11:01 AM

I guess a lot of it has turned to robots, and the industrial complex, as martin suggested, though it would be interesting to see the comparison of the fall in military personal next to the rise in DOD funding for robots and industry.  
by Jesse O'Brien on Fri Jul 21, 2006 11:51 AM

I think the jumps have more to do with the economy at large rather than any particular military conflict. Lots of money in conflict has already been spent before the conflict starts.  
by Fred Klein on Wed Aug 2, 2006 10:24 AM

reply

Is this military info right?

B I U ABC | 

I would agree with that... also see this: [link](#)

Submit Cancel

Done

<http://hint.fm/papers/2007-sense.us-CHI.pdf>

# Communicate a Process

# Processes are messy!

```
# Visualize the reconciled tree
t, ts = get_example_tree()
t.render("%inline", tree_style=ts)
```

```
Duplicated entry [Mmu_001] was renamed to [1_Mmu_001]
Warning: [5] terminal nodes could not be found in the alignment.
```

# Reproducibility

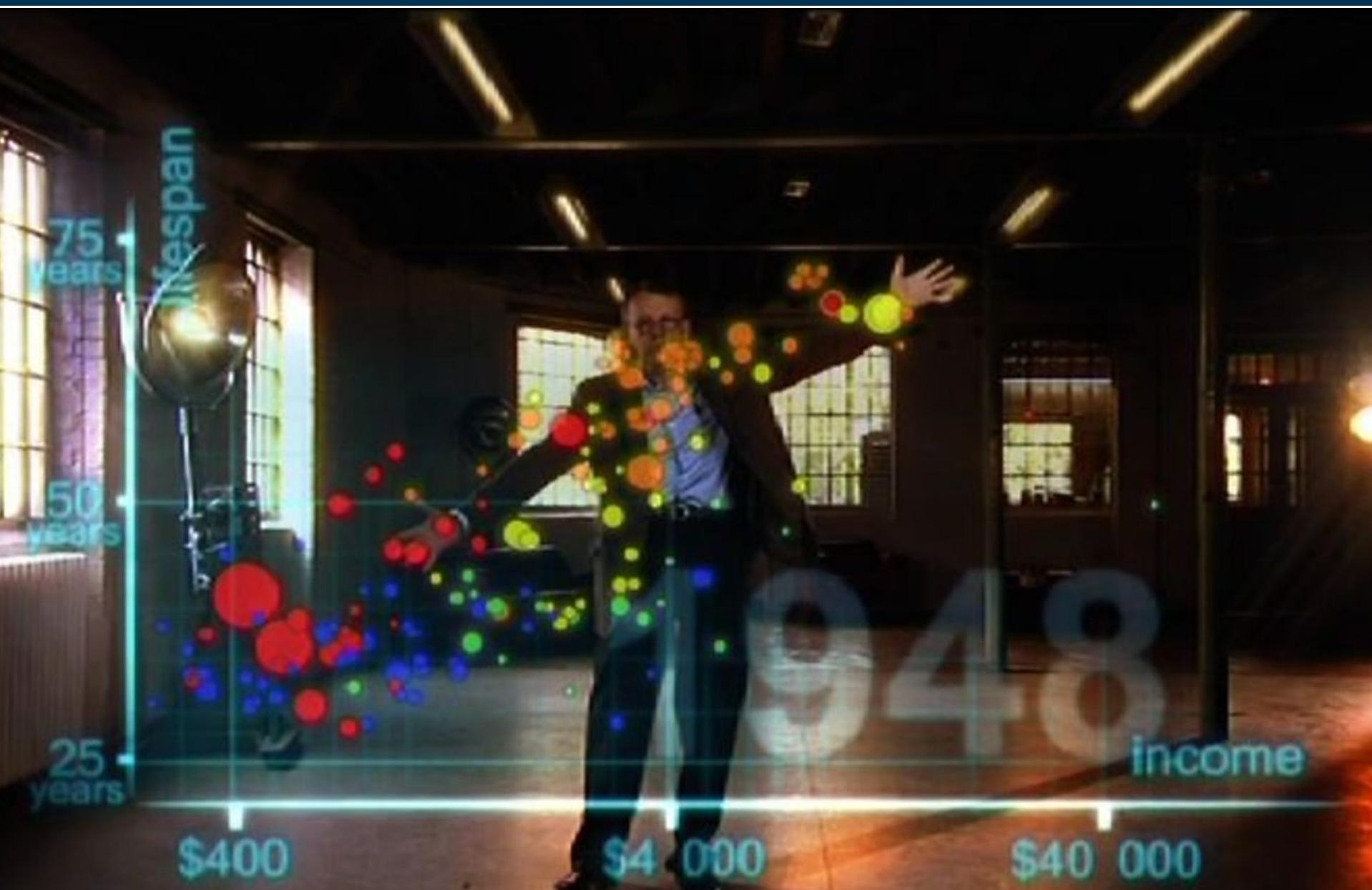
```
class      : RasterLayer
dimensions : 16785, 24047, 403628895 (nrow, ncol, ncell)
resolution : 0.0002694946, 0.0002694946 (x, y)
extent     : -73.89029, -67.40976, 2.58095, 7.104416 (xmin, xmax, ymin, ymax)
coord. ref. : +proj=longlat +datum=WGS84 +no_defs +ellps=WGS84 +towgs84=0,0,0
data source: C:\Users\Public\Documents\amsantac\data\c_2004-2005_30_classif_03_v3.tif
names      : c_2004.2005_30_classif_03_v3
values     : -2147483648, 2147483647 (min, max)
```

```
In [3]: plot(crop.img) # if needed, install the package called 'Cairo'
```



Image Source: <http://amsantac.co/images/2016-06-29-reproducibility-arcpy-jupyter-notebook-r-fig-8.jpg>

Communicate  
the Findings



<https://ichef.bbci.co.uk/images/ic/1920x1080/p02c35nh.jpg>

- Who/what is presenting?
- Who is the audience?
- What are the affordances for the presentation?
- How might the story get passed along?



# Changing Stories

# Data Provenance

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Citing and/or linking:

- Data sources
- Methodological choices and relevant facts

Annotating exceptions and corrections

(Hullman & Diakopoulos, 2011)

# Representing Uncertainty

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Visually (e.g., error bars),

OR textually by describing:

- Inferential limits
- Forecast annotations
- Extrapolated data points (labels)
- Doubt regarding possible conclusions

(Hullman & Diakopoulos, 2011)

# The Storyteller

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**FLORENCE  
NIGHTINGALE:**  
NURSE AND  
BUILDING ENGINEER



Image Source <http://portfolio.cpl.co.uk/CIBSE/201505/profile-florence-nightingale/>

# Berkeley

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INFORMATION