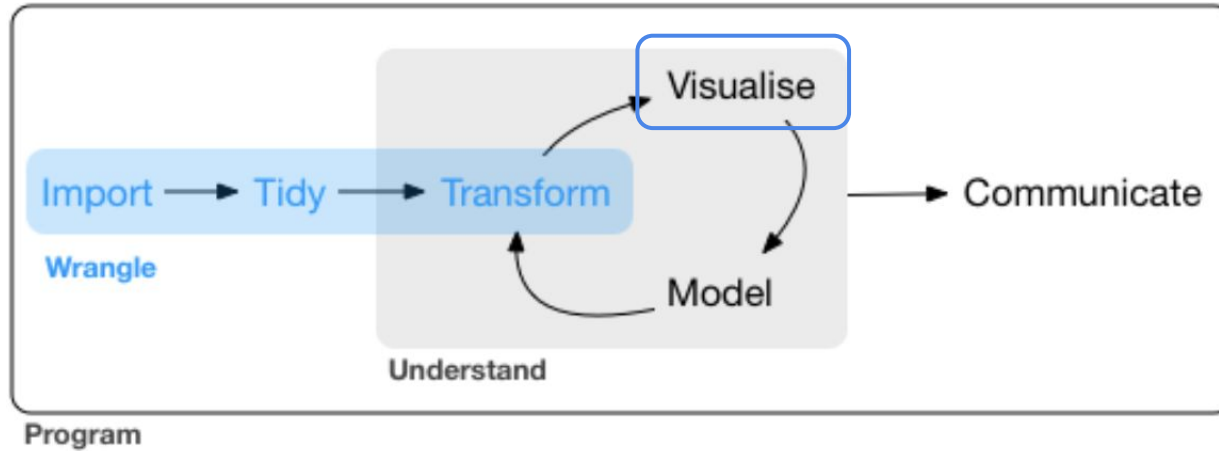


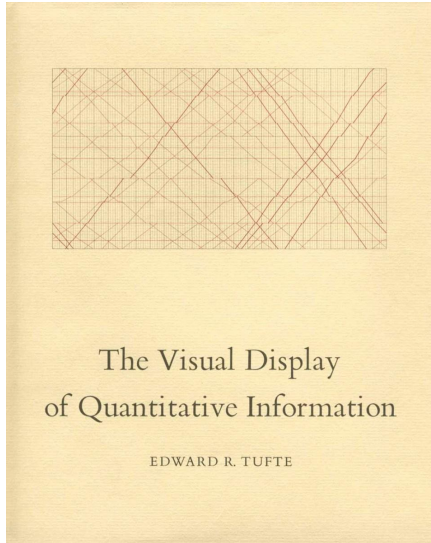
4.2 Visualization

Applied Data Analysis (ADA)

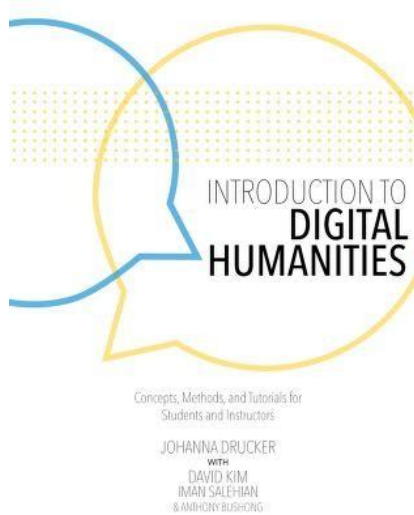
Oxford DH Summer School - 2019



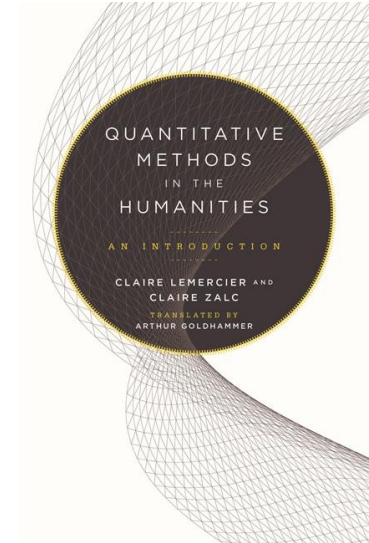
References



Tufte 1983. *The visual display of quantitative information.*



Drucker et al. 2014
Introduction to Digital Humanities
[Online \(PDF\)](#)



Lemerrier & Zalc 2019
[chapt. 6 *Visualizing History*]

Purpose(s)

The purpose of data visualization is to make **quantitative** data **legible**:

- for oneself → data exploration (know your data!)
- for others → communication of results

Data visualizations tell (fake) stories

Implications

All parts of the process (from creation of quantified information to producing visualizations) are acts of interpretation — ***data vs capta***.

Basic principles

The graphic qualities of visualizations have a strong rhetorical force (different types of viz, different rhetoric).

Some visualizations are more suitable to a given dataset than others. In some cases a table works better than a diagram.

Keep it simple. Small multiples are useful when comparison matters. Complexity is broken down into small multiples.

Keep it true. Surfaces and lengths should be proportional to the quantity represented.

Breadth of text visualization types

Text Visualization Browser

A Visual Survey of Text Visualization Techniques ([IEEE PacificVis 2015 short paper](#))

Provided by ISOVIS group

[About](#) [Summary](#) [Add entry](#) [Other surveys](#) ▾

Techniques displayed:

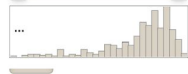
439

Search:

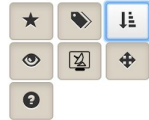
Time filter:

1976

2019



Visualization Tasks ☐



Data

Source



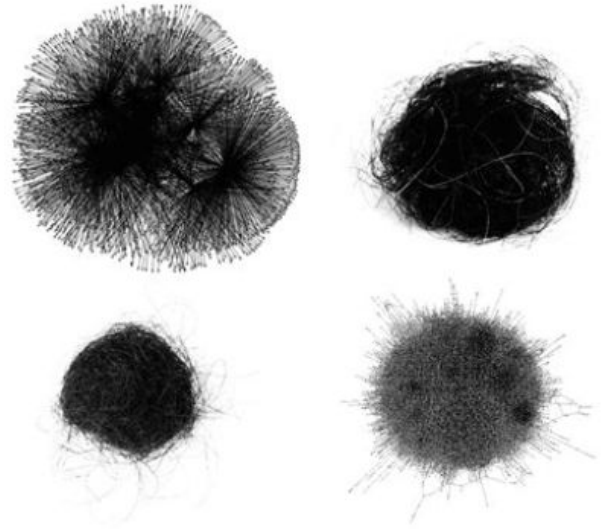
<http://textvis.lnu.se/>

Network data and hairballs

Graph visualization as an example of unlegible data representation/visualization

To overcome this:

- use alternative representations (adjacency matrix)
- remove data to show meaningful patterns

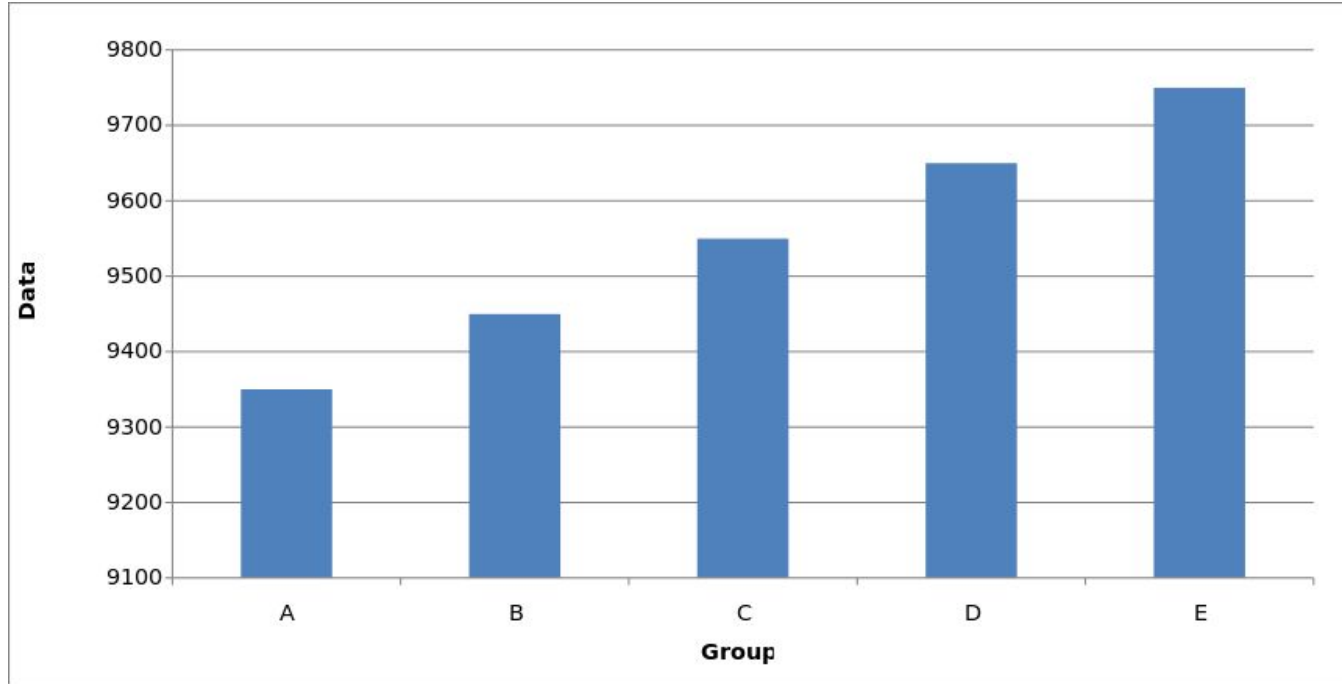


<https://dh2017.adho.org/abstracts/428/428.pdf>

Data visualization done wrong

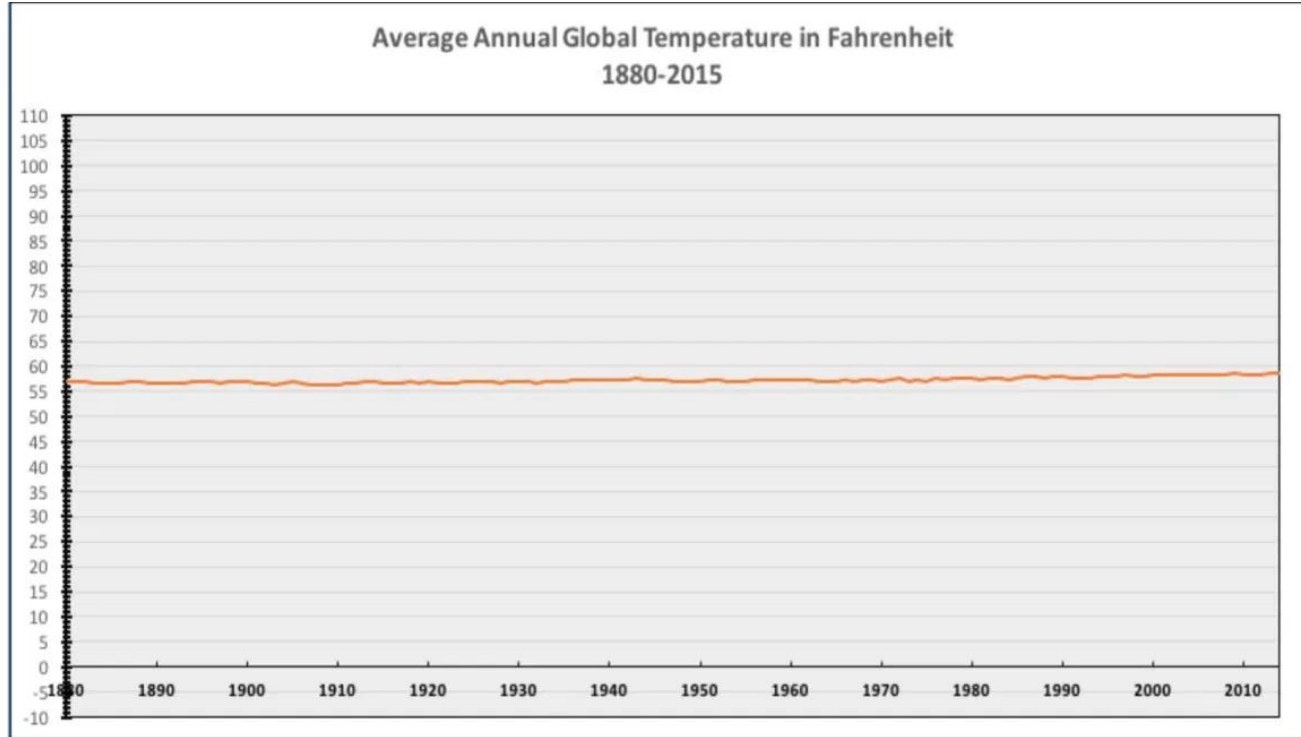
1. The y-axis
2. Binning
3. Unreadability
4. Missing proportionality
5. Improper scaling
6. Aberrations

Also cf. <http://callingbullshit.org/tools.html>



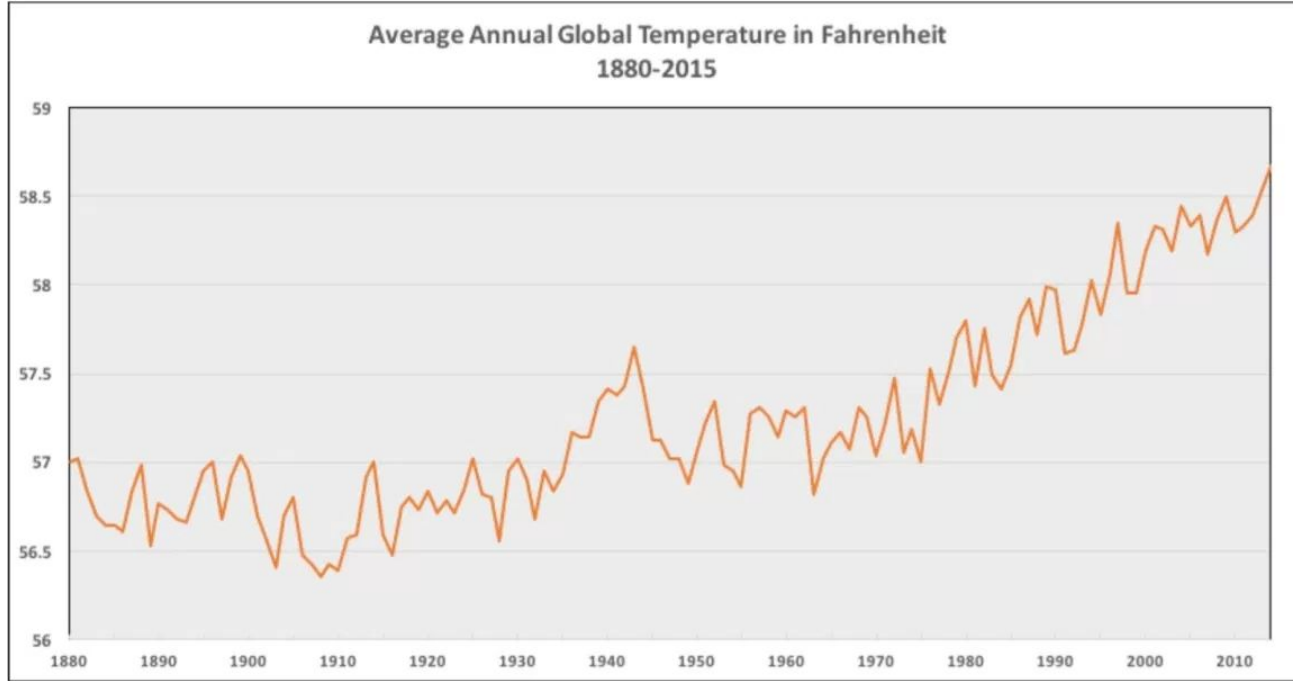
Wiki: Misleading
chart
https://en.wikipedia.org/wiki/Misleading_graph

The y-axis



The only global warming chart you need from now on:
<http://www.powerlineblog.com/archives/2015/10/the-only-global-warming-chart-you-need-from-now-on.php>

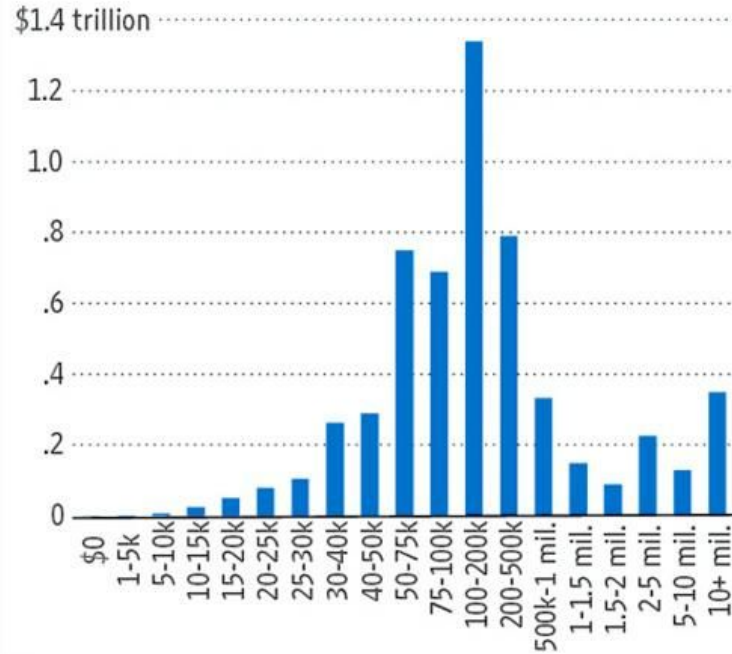
The y-axis



The only global warming chart you need from now on:
<http://www.powerlineblog.com/archives/2015/10/the-only-global-warming-chart-you-need-from-now-on.php>

The Middle Class Tax Target

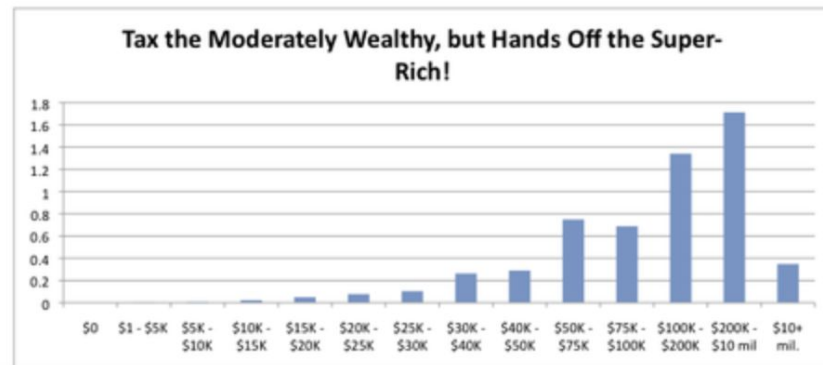
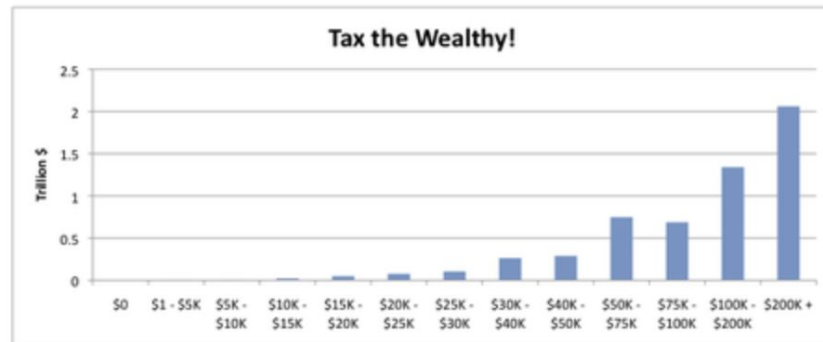
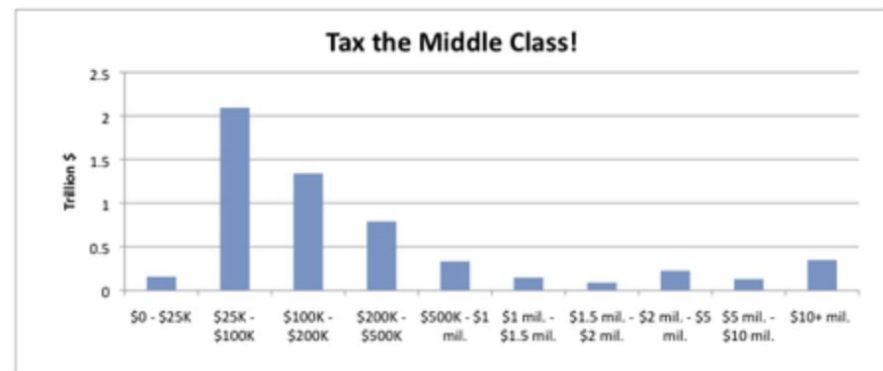
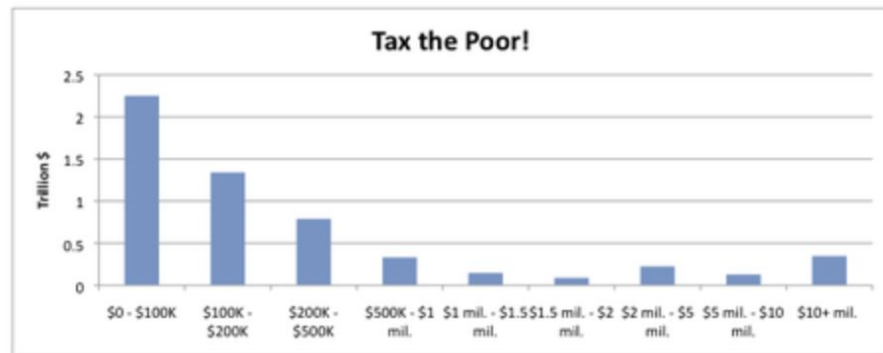
The amount of total taxable income (left scale) for all filers by adjusted gross income level for 2008



Source: IRS

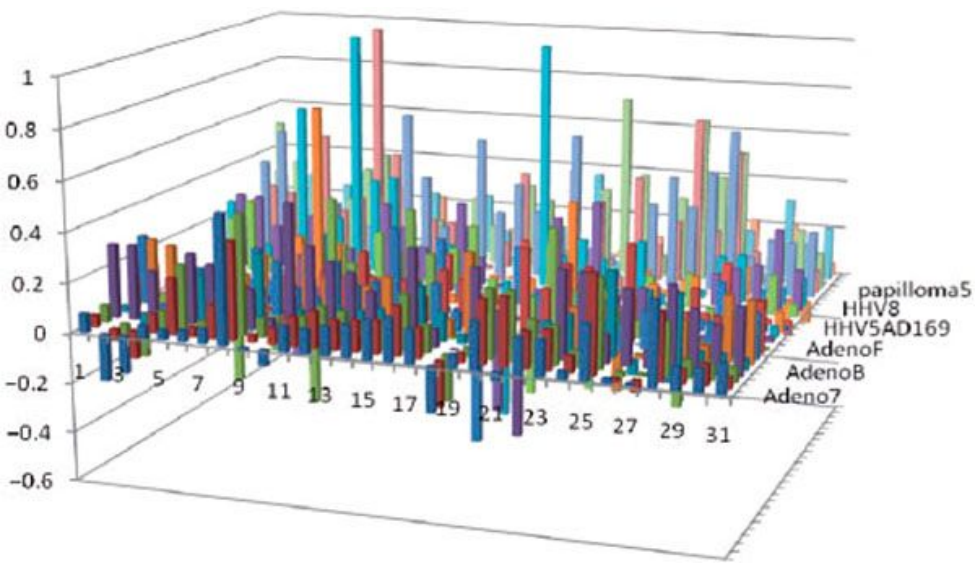
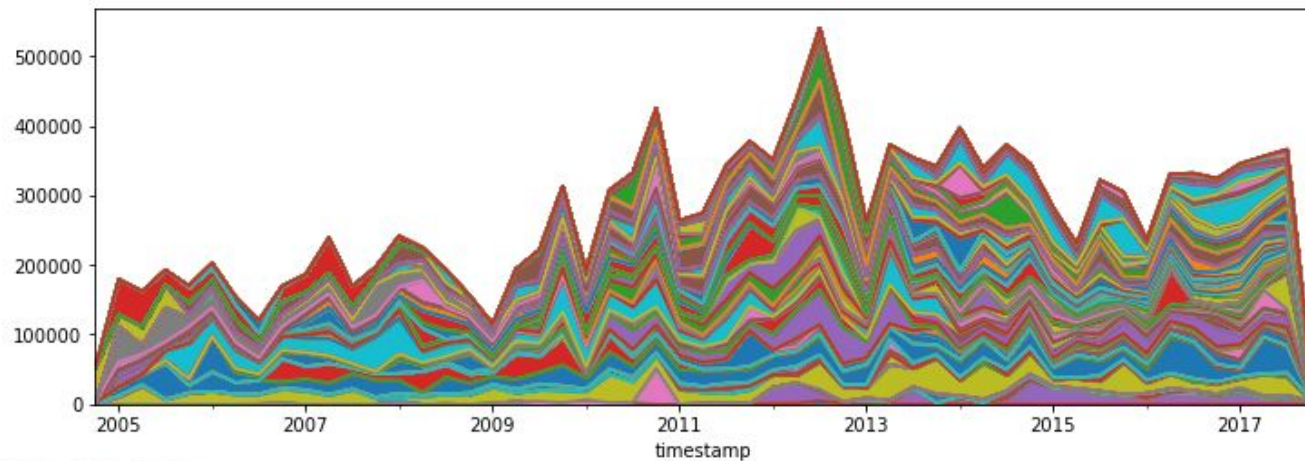
Wall Street Journal,
April 17th 2011.

Binning

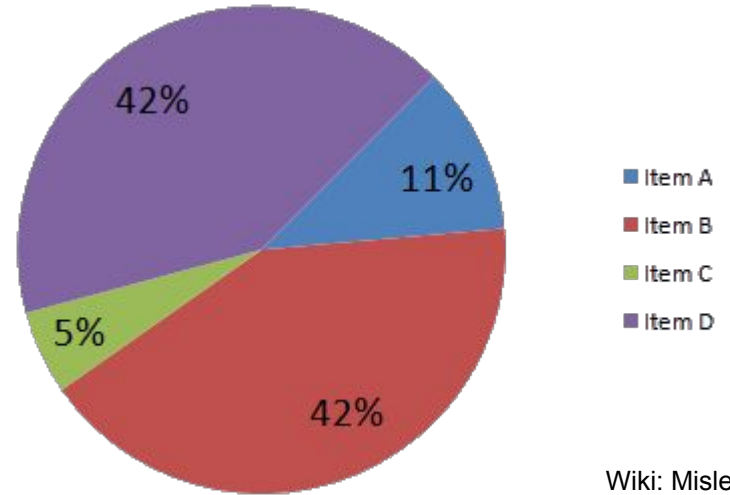
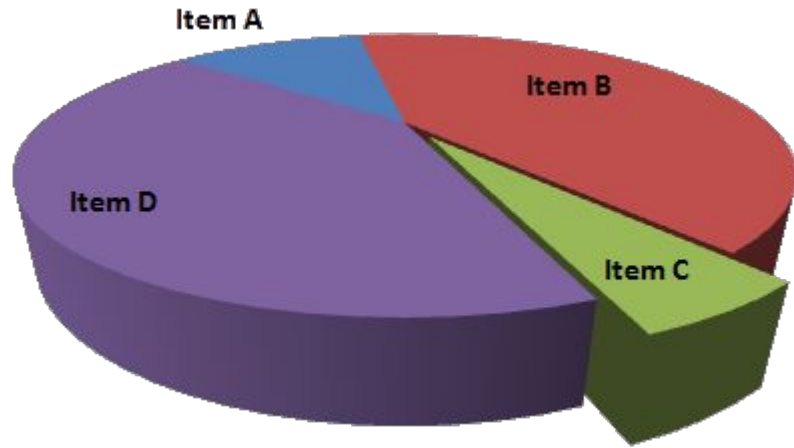


<http://www.brendan-nyhan.com/blog/2011/05/the-use-and-abuse-of-bar-graphs.html>

Unreadability

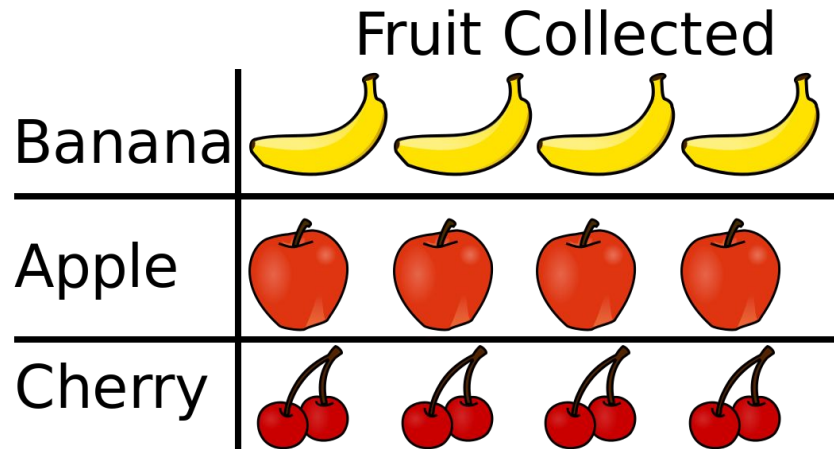
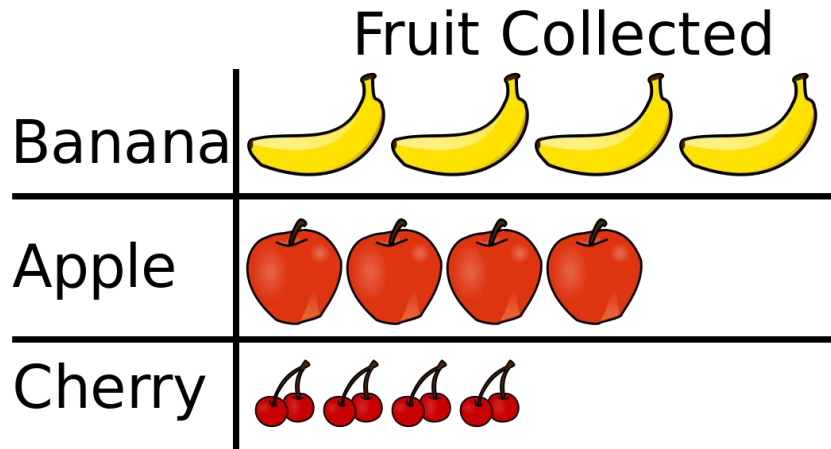


Missing proportionality



Wiki: Misleading
chart
https://en.wikipedia.org/wiki/Misleading_graph

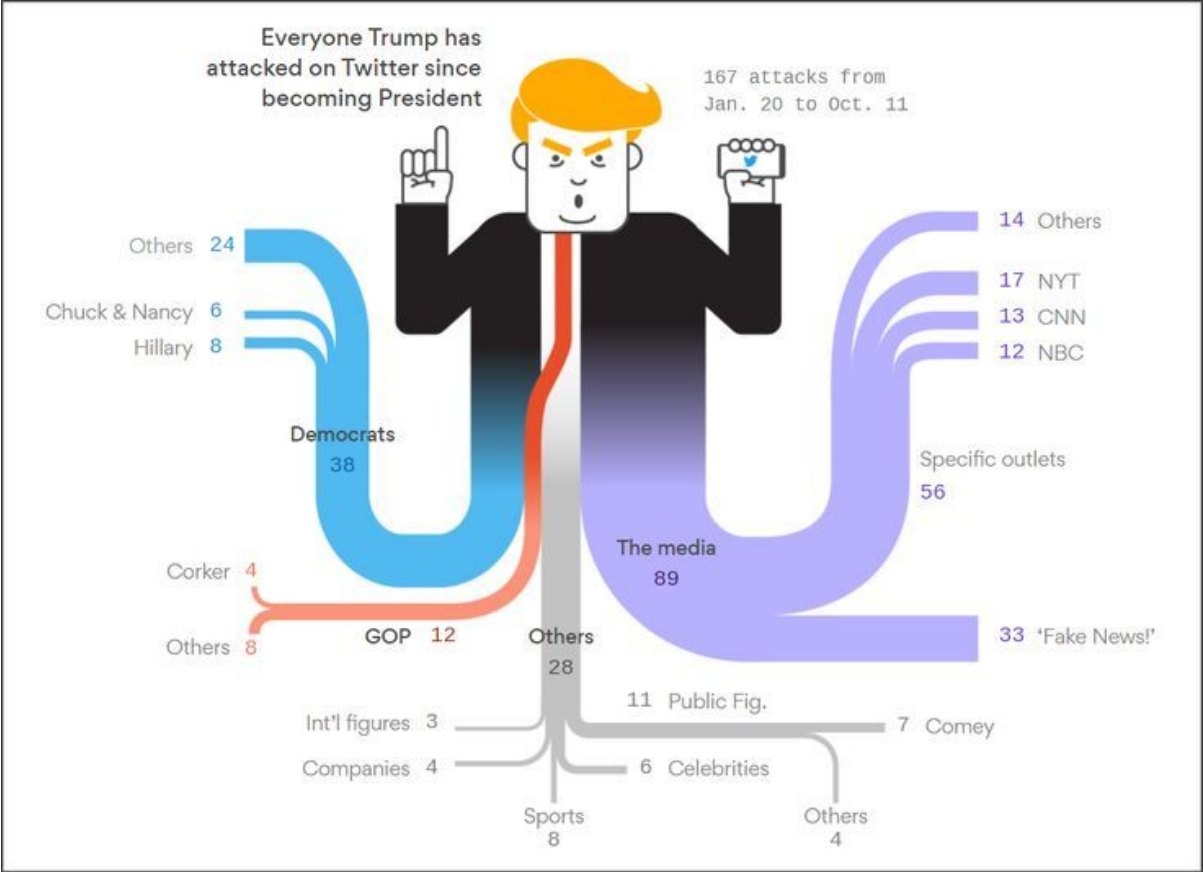
Improper scaling



Wiki: Misleading
chart

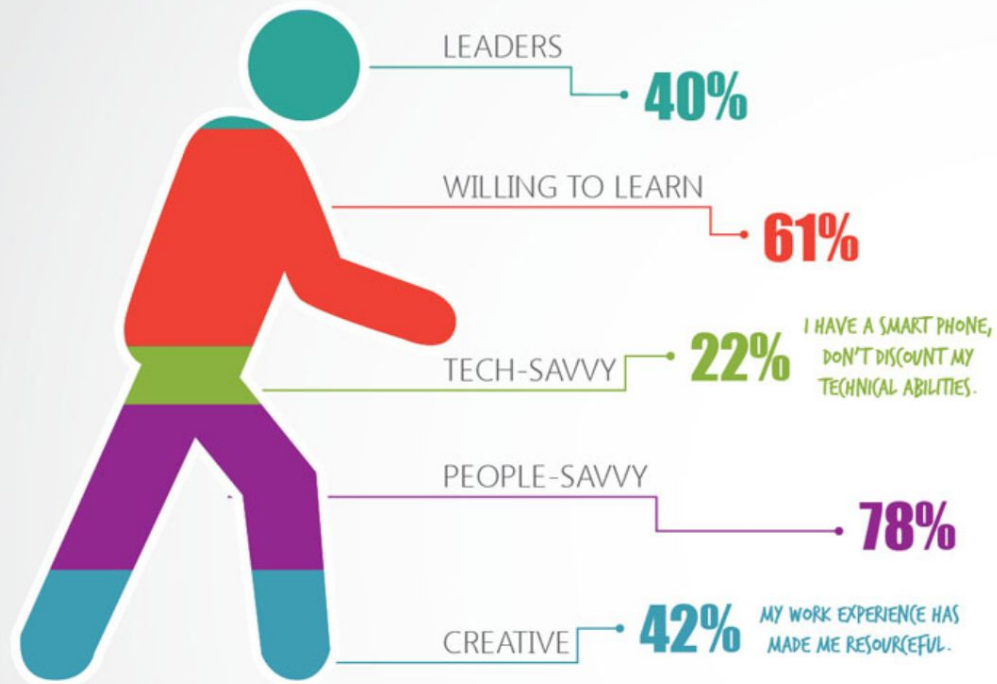
https://en.wikipedia.org/wiki/Misleading_graph

Aberrations



Aberrations

HOW **BABY BOOMERS** DESCRIBE THEMSELVES



Tools, libraries, frameworks

(GUI) Palladio ...

(Python, static) matplotlib, seaborn

(Python, interactive) bokeh, plotly, dash

(JS libraries) d3.js, [ecc.](#)

Exploration

Scientific communication

Interactive exploration

Viz embedded in web applications

From static to dynamic visualization

Cited Loci :: AeneidHomeExploreAbout

Display: all

References: 291

Quotations: 314

	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII
1-50												
51-100												
101-150												
151-200												
201-250												
251-300												
301-350												
351-400												
401-450												
451-500												
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601-650												
651-700												
701-750												
751-800												
801-850												
851-900												
901-950												
951-1000												

In Focus: Book 1, lines 1-50

Arma virumque cano, Troiae qui primus ab oris
Italiam, fato profugus, Laviniaque venit
litora, multum ille et terris iactatus et alto
vi superum saevae memorem Iunonis ob iram;
5 multa quoque et bello passus, dum conderet urbem,
inferretque deos Latio, genus unde Latinum,
Albanique patres, atque altae moenia Romae.
Musa, mihi causas memora, quo numine laeso,
quidve dolens, regina deum tot volvere casus
10 insignem pietate virum, tot adire labores
impulerit. Tantaene animis caelestibus irae?
Urbs antiqua fuit, Tyrii tenuere coloni,
Karthago, Italiam contra Tiberinaque longe
ostia, dives opum studiisque asperrima belli;
15 quam Iuno fertur terris magis omnibus unam
posthabita coluisse Samo; hic illius arma,
hic currus fuit; hoc regnum dea gentibus esse,
si qua fata sinant, iam tum tenditque fovetque.

Results: quotationsreferences

Aen. 1.111252

Menin Virumque: Translating Homer with Virgil in "Epigrammata Bobiensia" 46_ 47 and 64

SCOTT MCGILL
The Classical Journal 2006
DOI: 10.2307/30038019

By rendering Iliad 1.1 with Aeneid 1.1 rather than translating Homer with an eye to word-for-word correspondence, the EB poets offer a striking perspective on that aspect of ancient education.
— (reference: 571a5798b634c1c68fef6343)

Silius Punica 6. 1-53

EDWARD L. BASSETT
Classical Philology 1959
DOI: 10.2307/266203

(The Silian phrase will help to endorse foeda over

<http://aeneid.citedloci.org>

A final example

