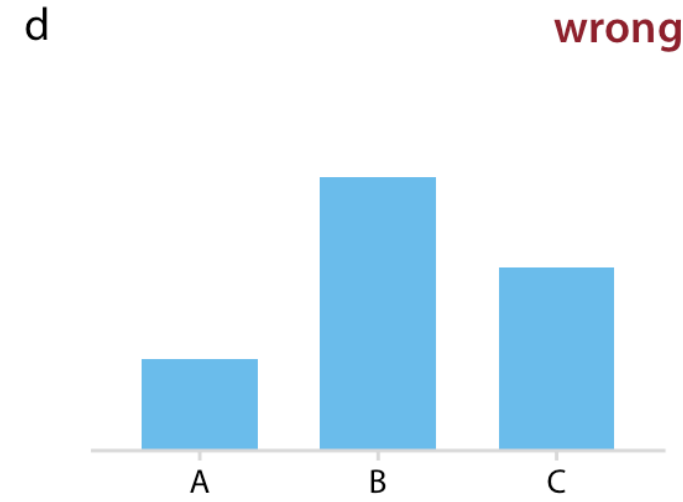
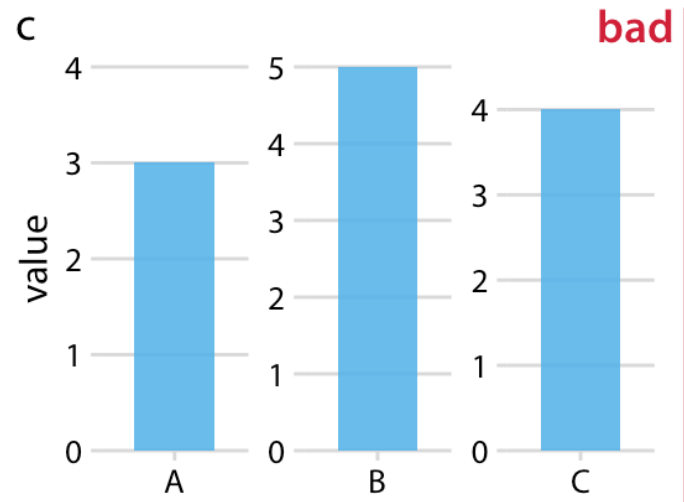
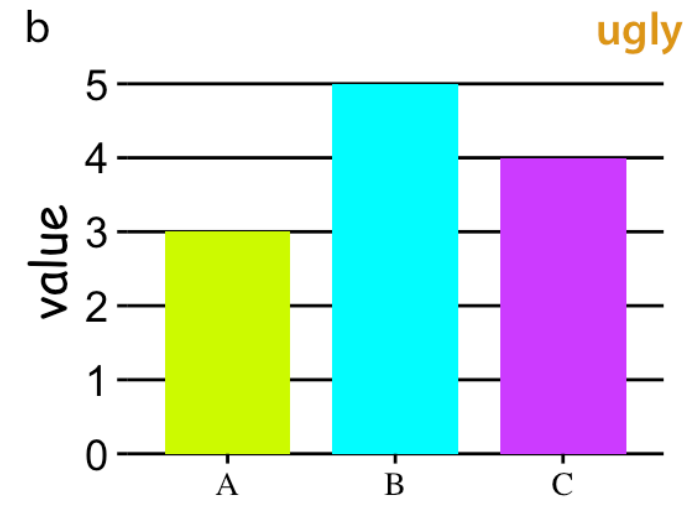
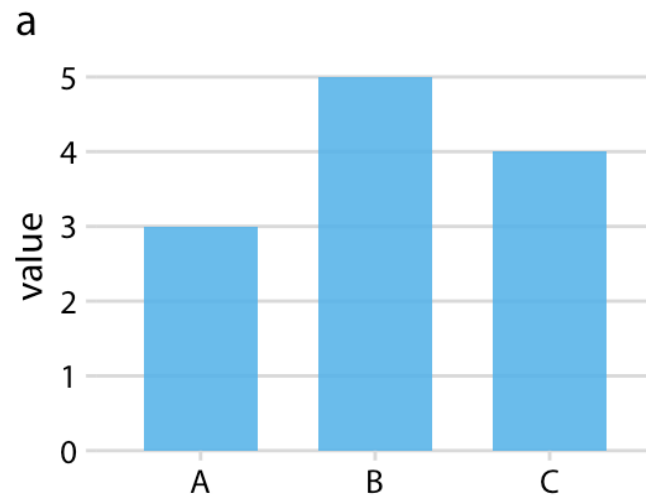


# Exploratory Data Analysis

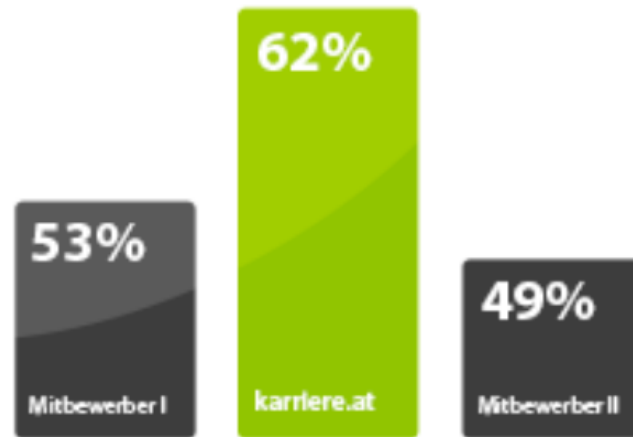
## Graphical Tools

Prof. Dr. Gero Szepannek  
Statistics, Business Mathematics & Machine Learning  
Stralsund University of Applied Sciences



## Höchste Bekanntheit

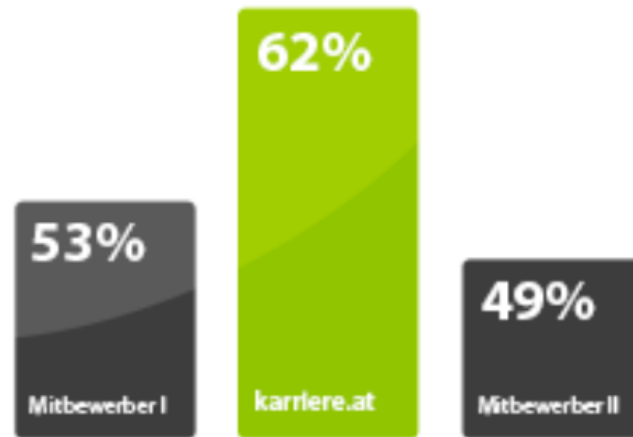
Fast 2/3 der Arbeitnehmer kennen **karriere.at**.  
Im Mitbewerbsvergleich ist das spitze.



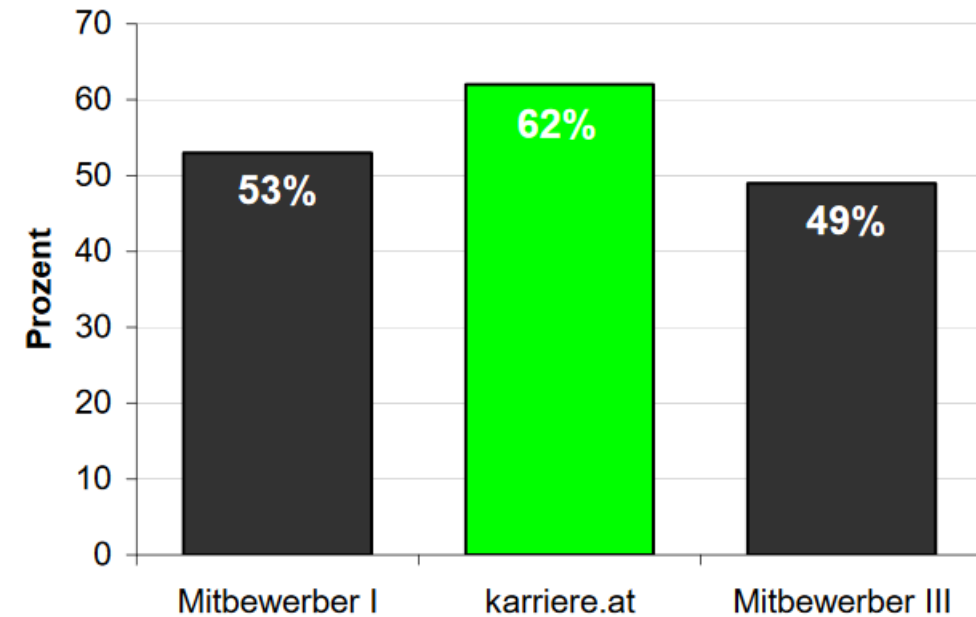
(gefunden am 12. November 2014 auf <http://www.karriere.at/hr>)

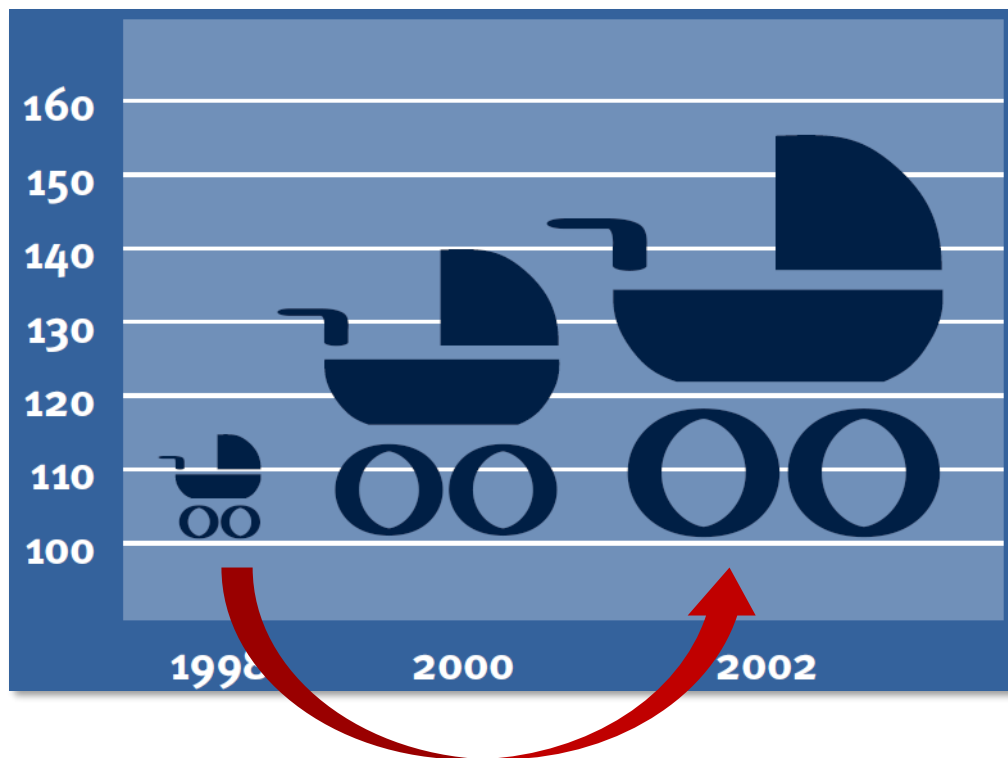
## Höchste Bekanntheit

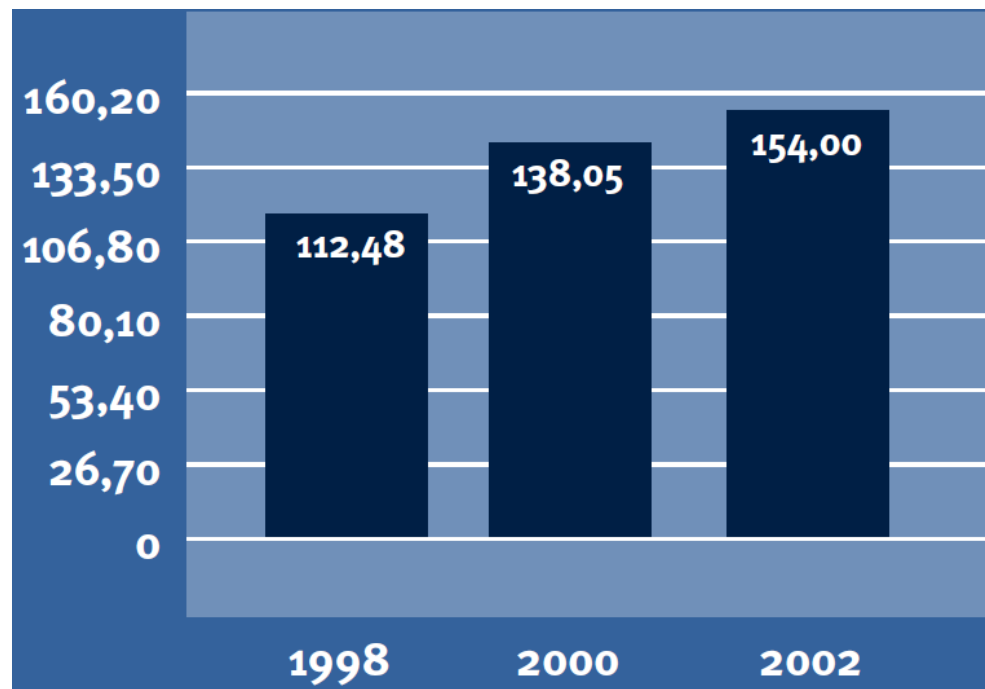
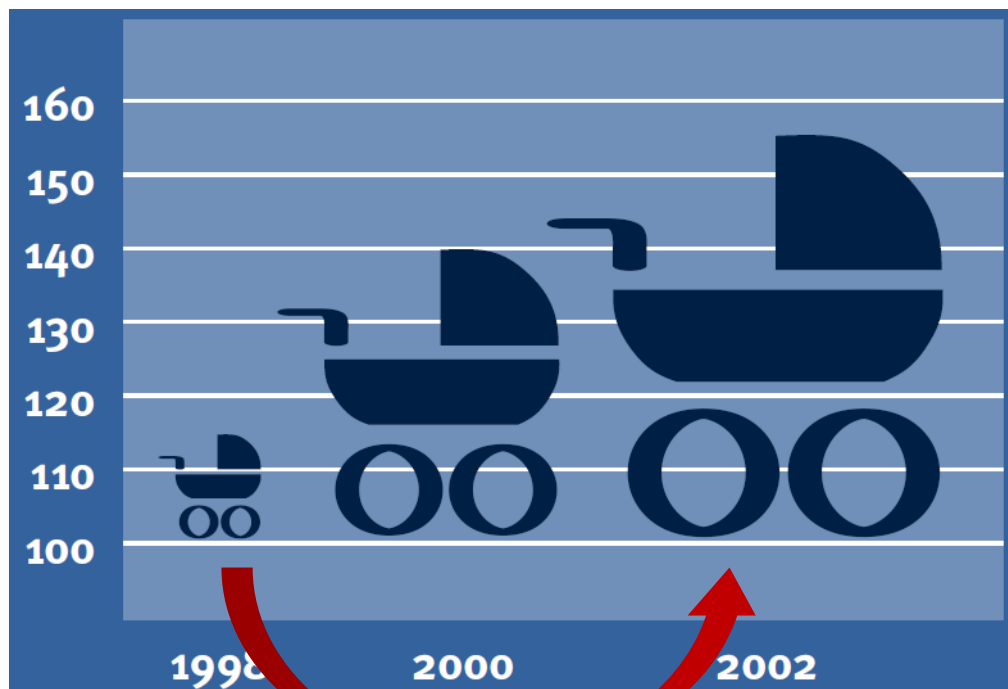
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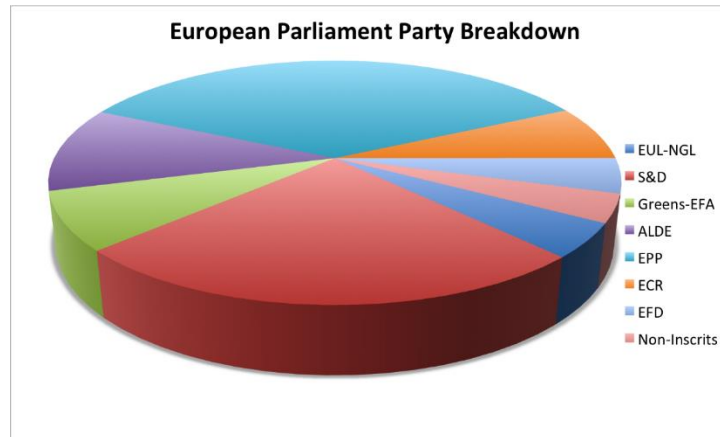
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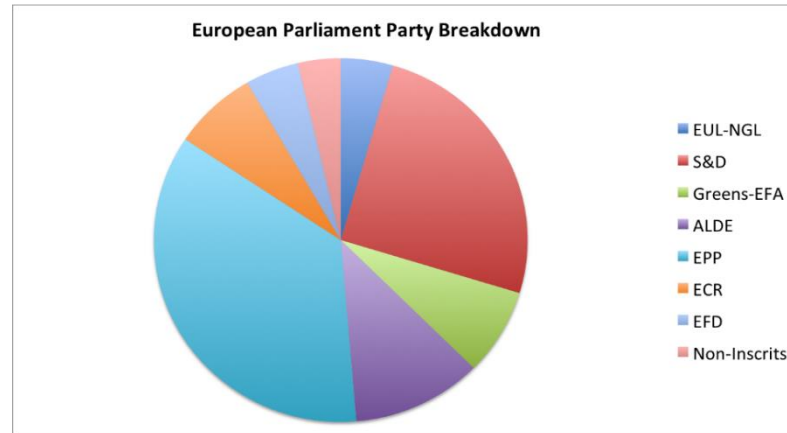
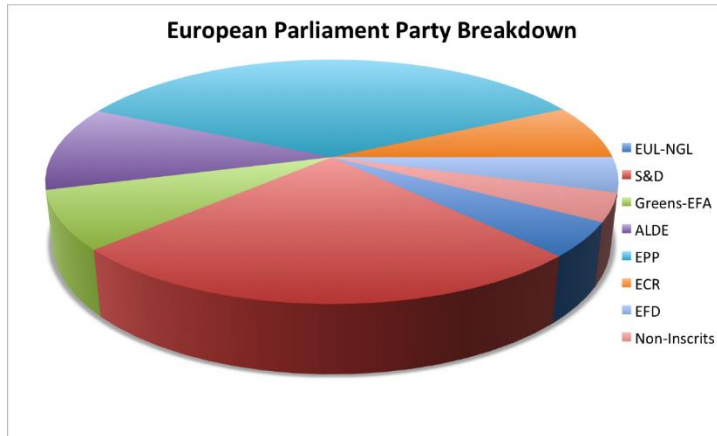




Source: [http://www.wdr.de/tv/applications/fernsehen/wissen/quarks/pdf/Q\\_Zahlen.pdf](http://www.wdr.de/tv/applications/fernsehen/wissen/quarks/pdf/Q_Zahlen.pdf)

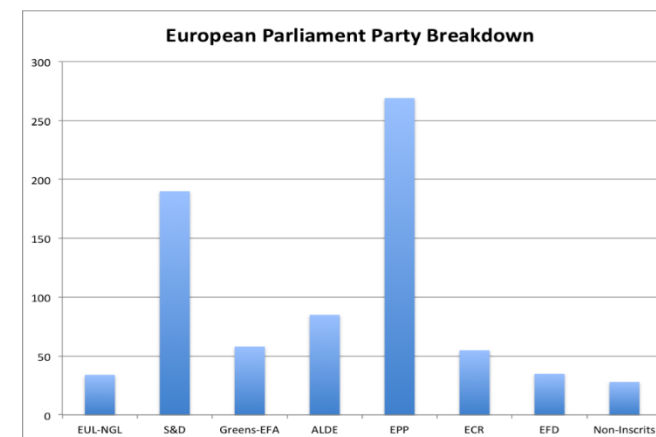
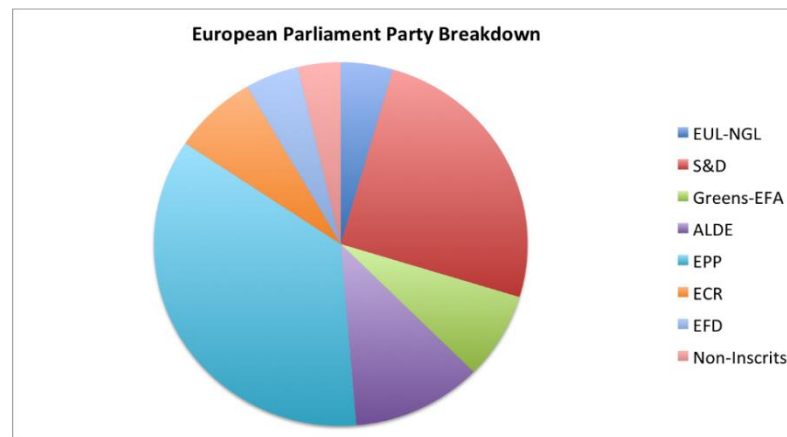
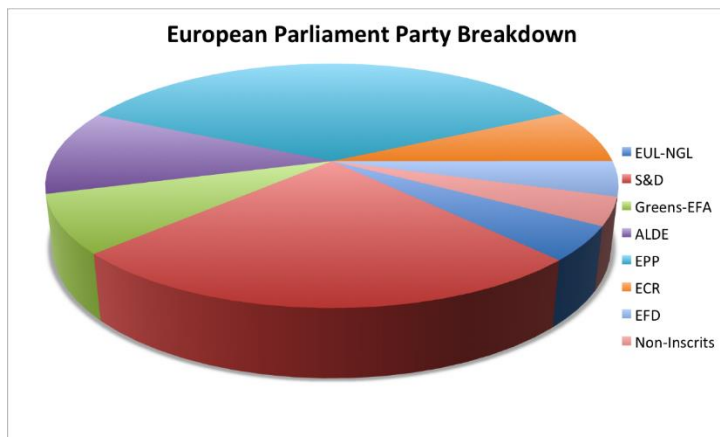


Source: <http://www.businessinsider.com/pie-charts-are-the-worst-2013-6?IR=T>

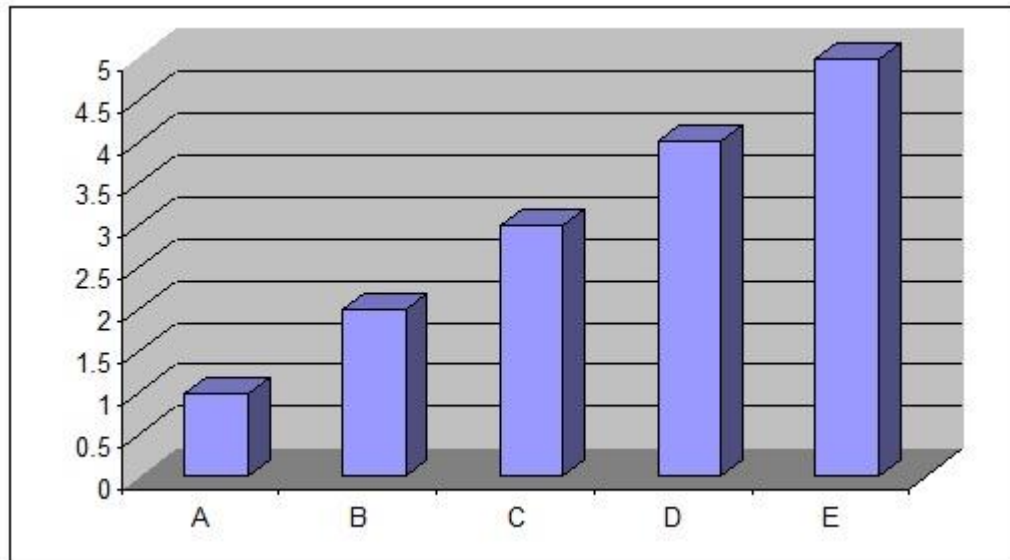


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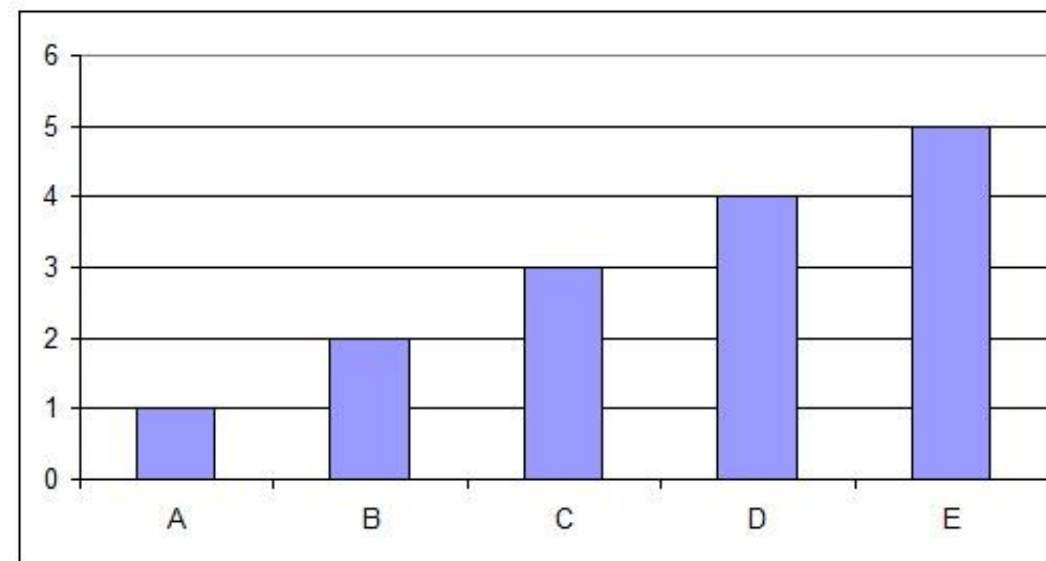
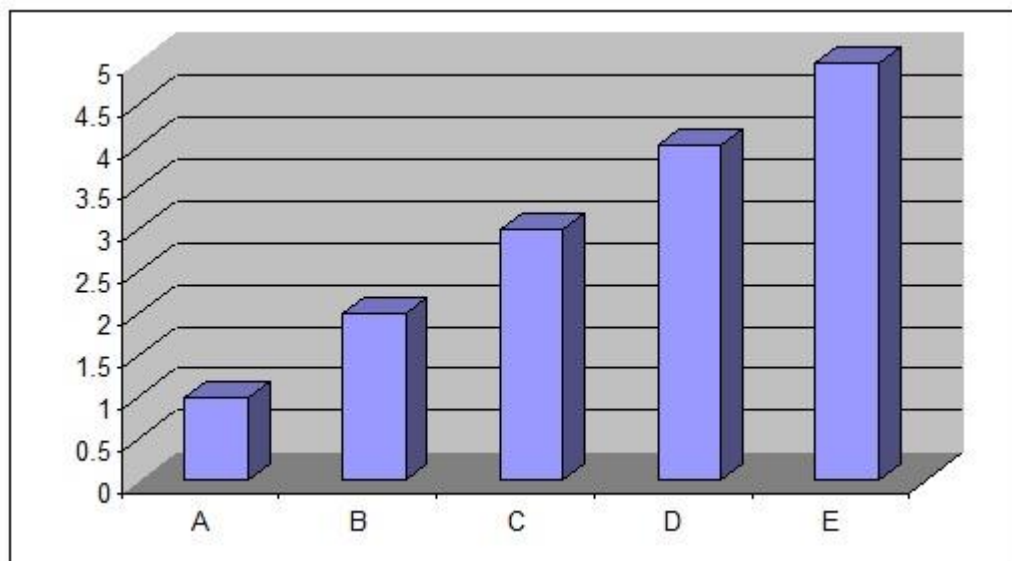




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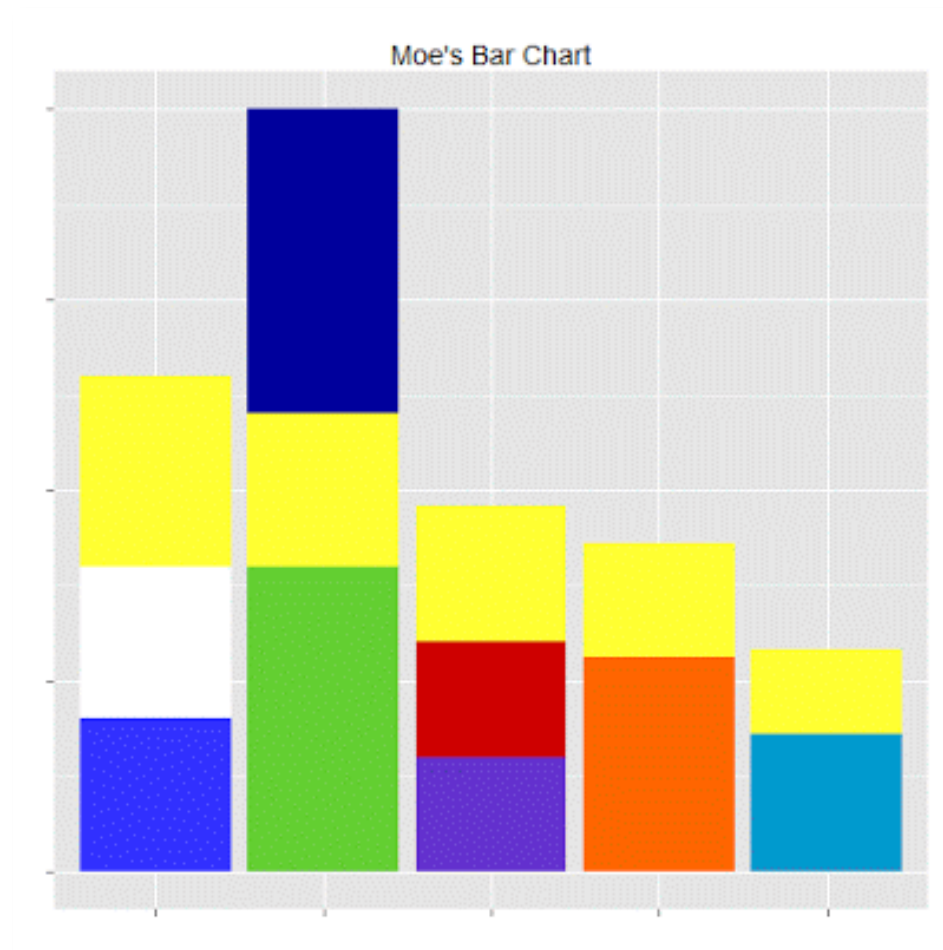
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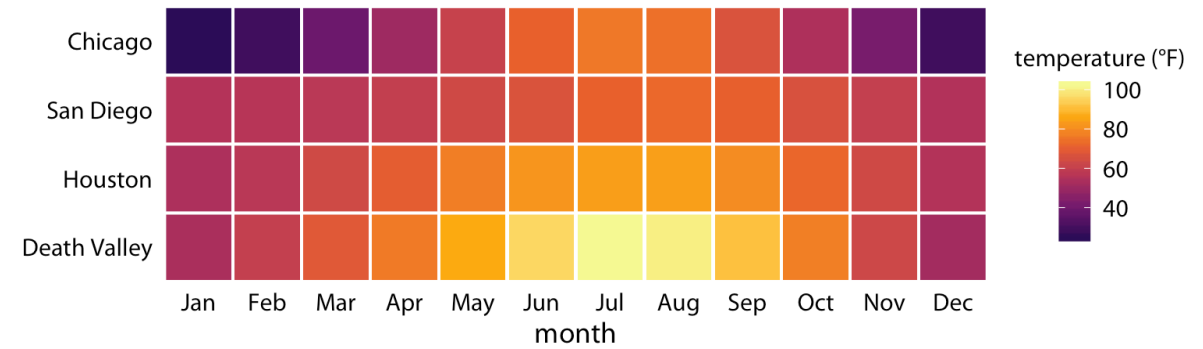
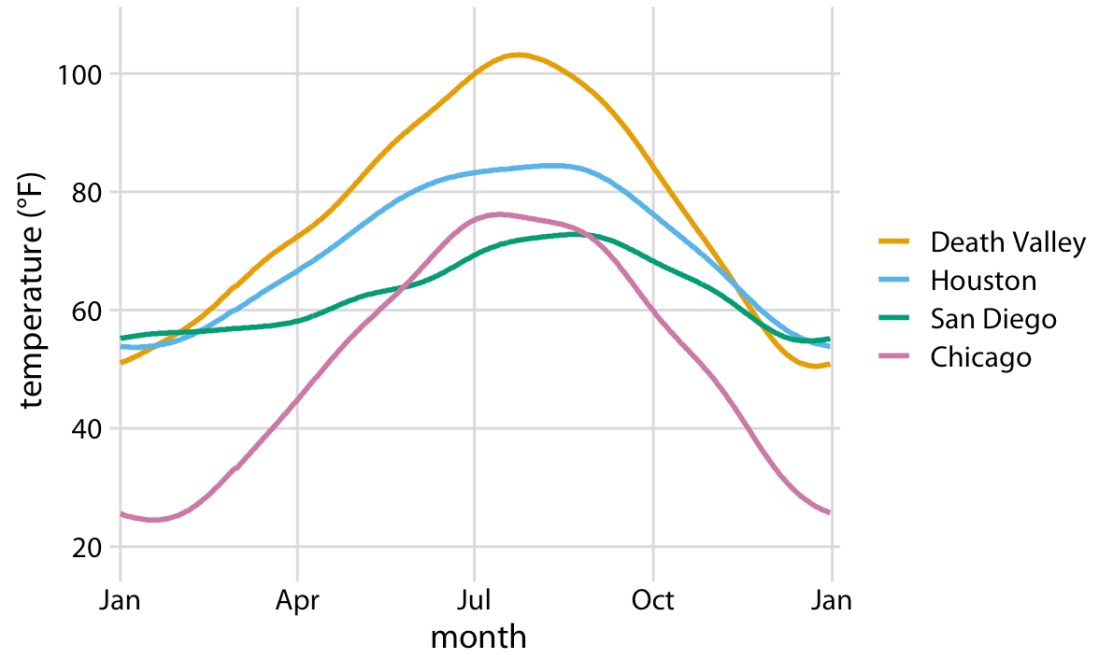


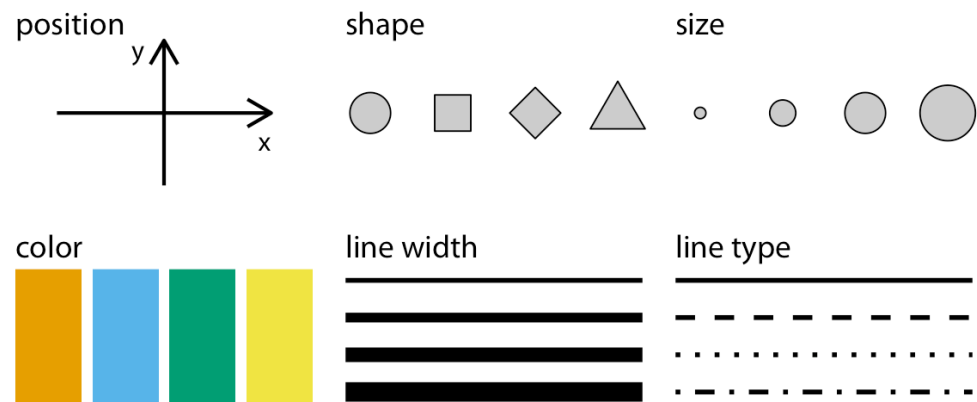
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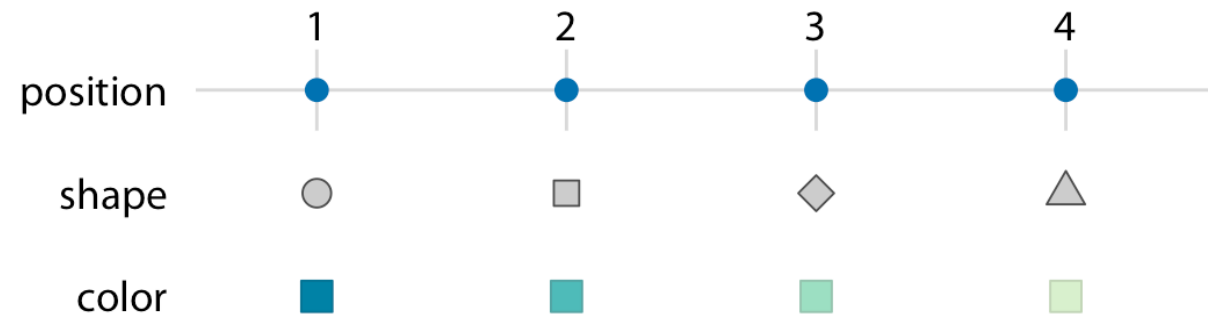
Source: A. Quatember: *Statistischer Unsinn – Wenn Medien an der Prozenzhürde scheitern*, Springer Spektrum.



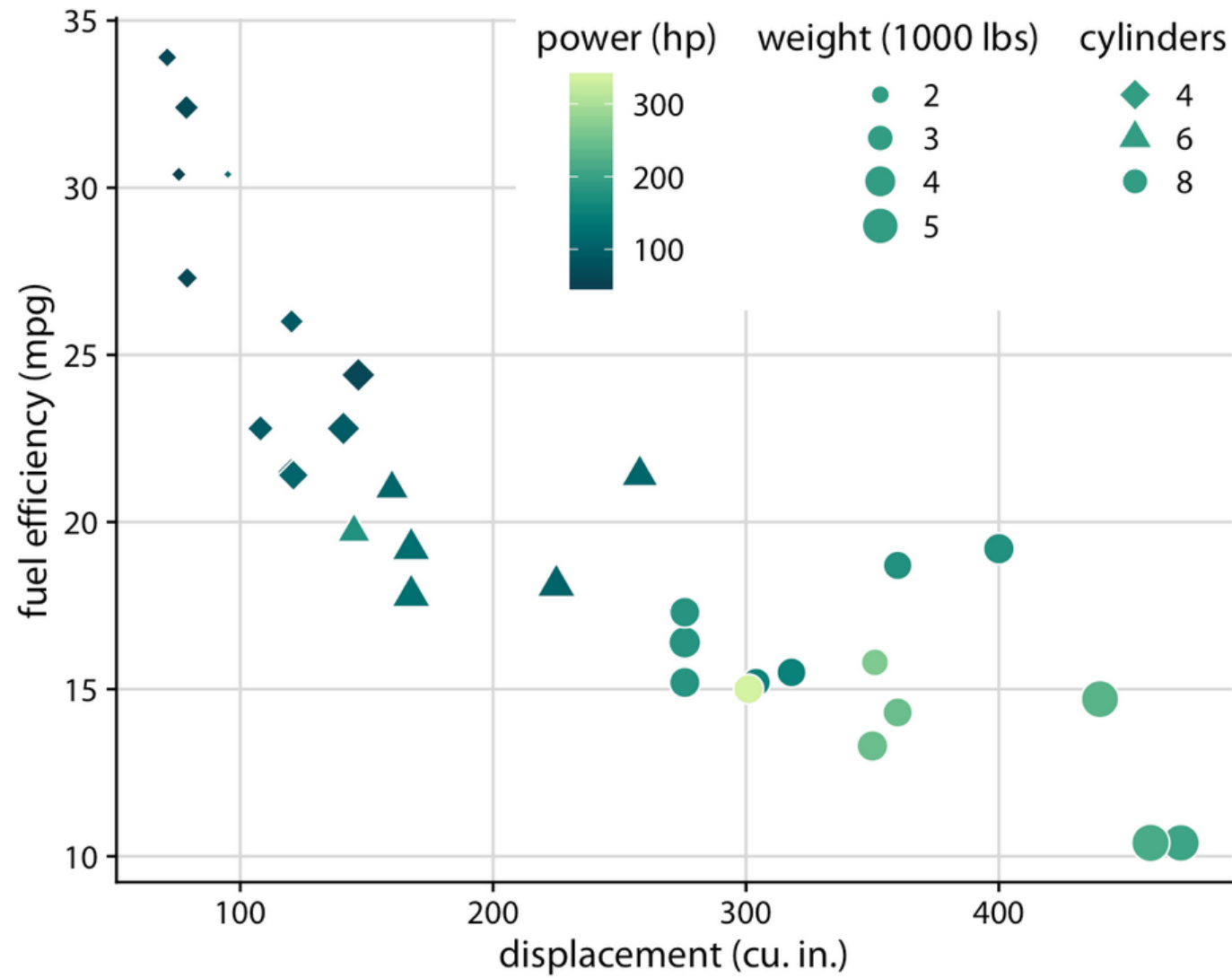




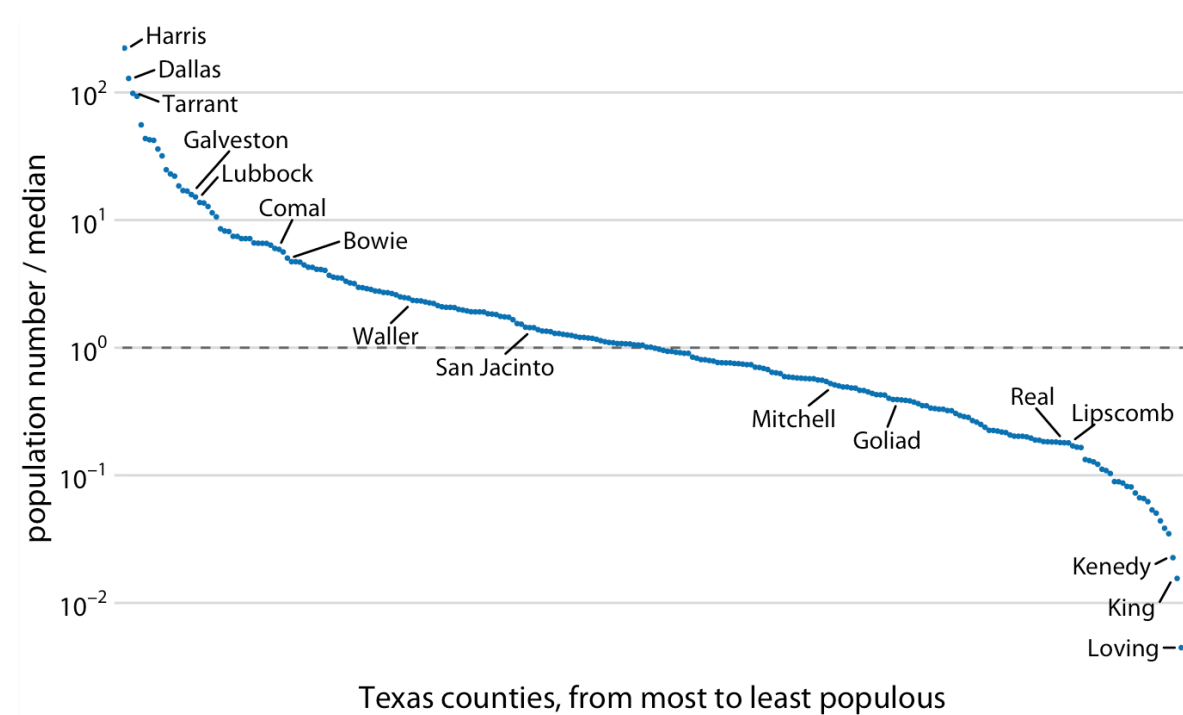
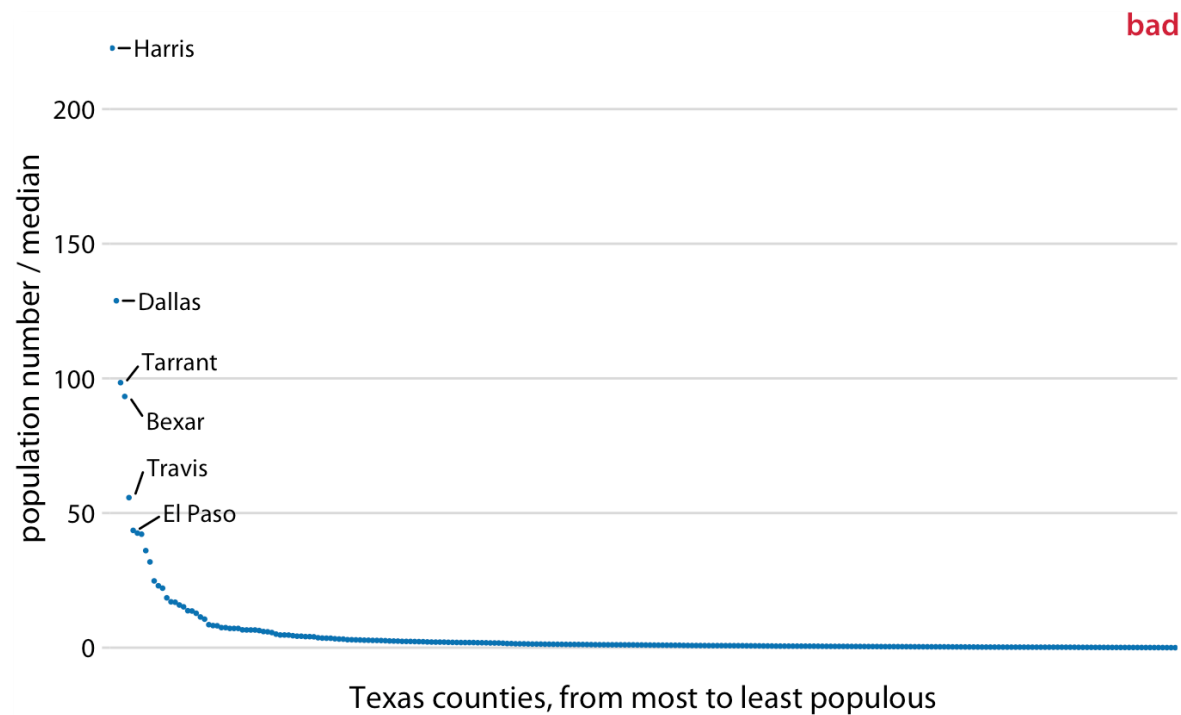
Common aesthetics



Mapping







## Qualitative (no order):

Okabe Ito



ColorBrewer Dark2



ggplot2 hue



## Quantitative

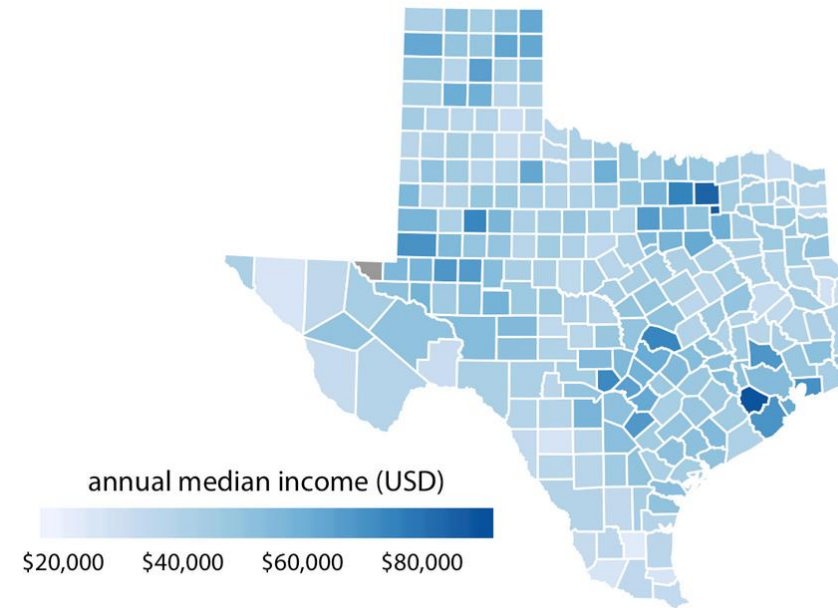
ColorBrewer Blues



Heat



Viridis



Brewer, Cynthia A. 2017. "ColorBrewer 2.0. Color Advice for Cartography." <http://www.ColorBrewer.org>.

Okabe, M., and K. Ito. 2008. "Color Universal Design (CUD): How to Make Figures and Presentations That Are Friendly to Colorblind People." <http://ifly.iam.u-tokyo.ac.jp/color/>.

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ColorBrewer Dark2



ggplot2 hue



## Quantitative

ColorBrewer Blues



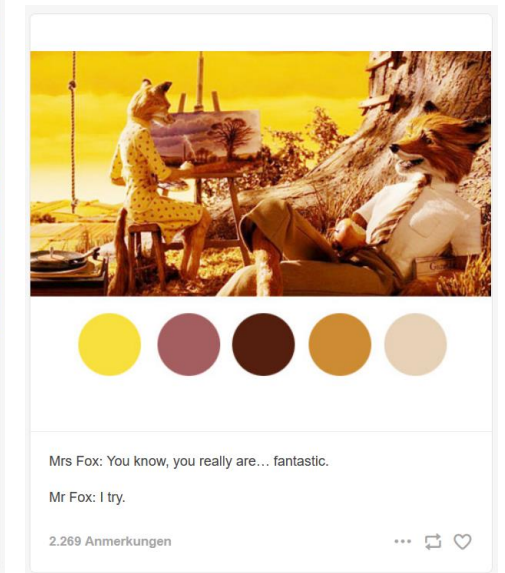
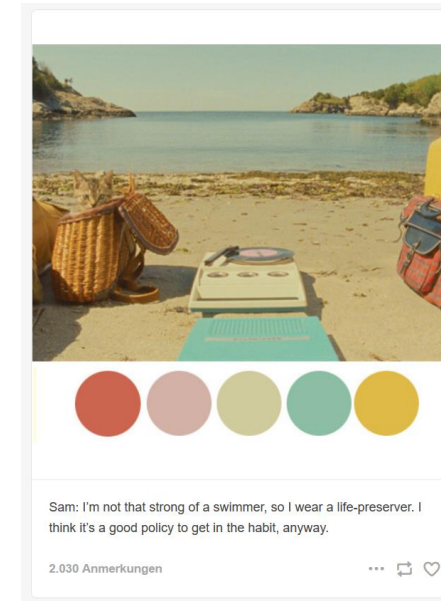
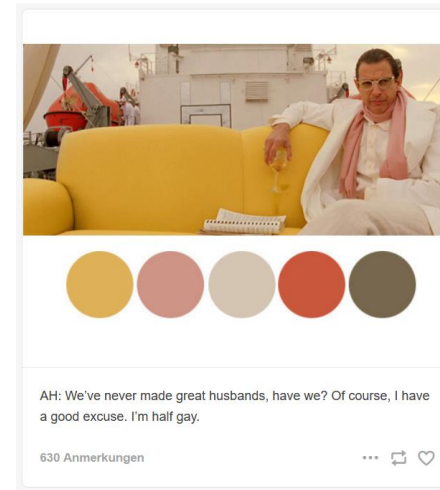
Heat



Viridis



## ...Wes Anderson Palettes:

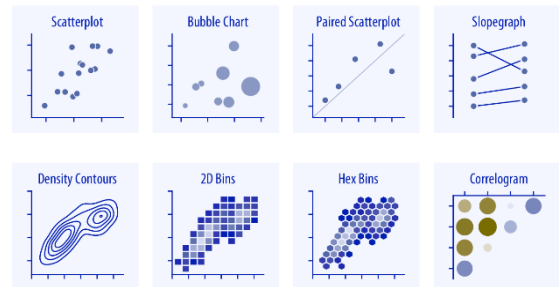


K. Ram and H. Wickham. wesanderson: A Wes Anderson Palette Generator, 2018. URL <https://CRAN.R-project.org/package=wesanderson>. R package version 0.3.6.

## Amounts



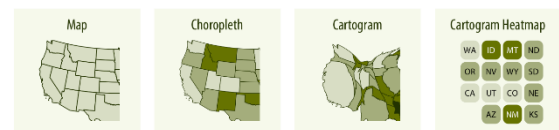
## Dependency



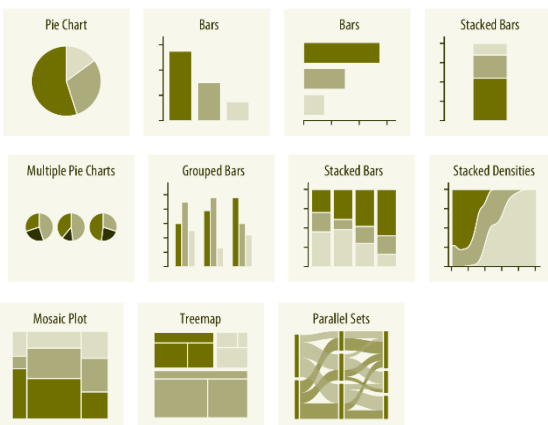
## Distributions



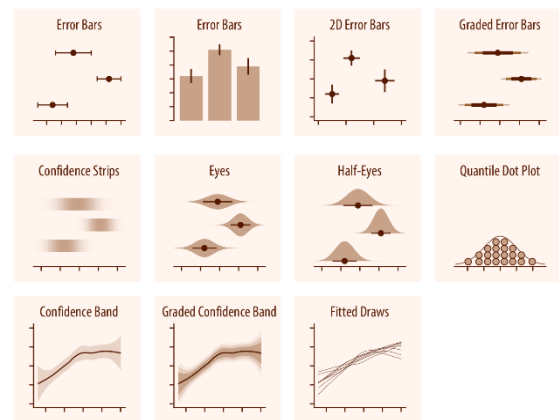
## Geodata



## Proportions



## Uncertainty



## How to create BBC style graphics

- Make a line chart
- Make a multiple line chart
- Make a bar chart
- Make a stacked bar chart
- Make a grouped bar chart
- Make a dumbbell chart
- Make a histogram
- Make changes to the legend
- Make changes to the axes
- Add annotations
- Work with small multiples
- Do something else entirely

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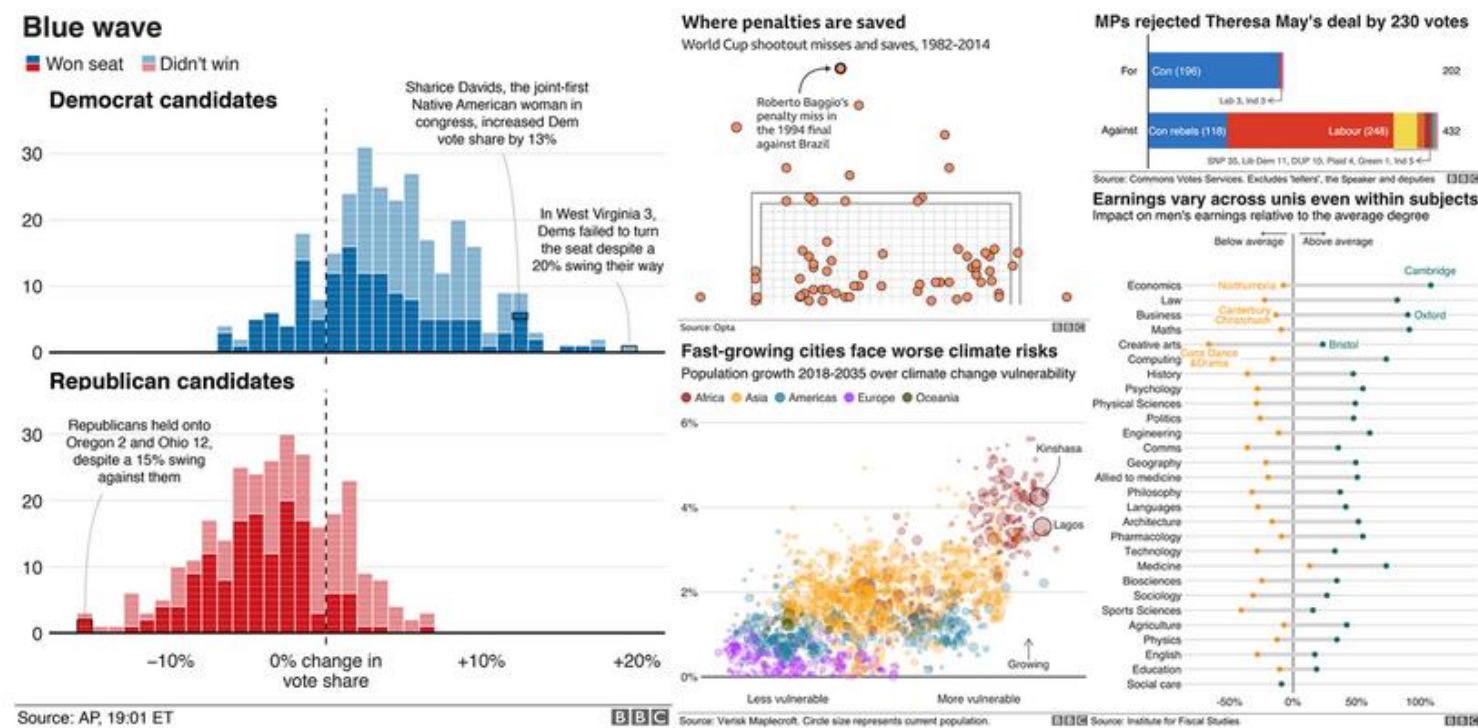
# BBC Visual and Data Journalism cookbook for R graphics

*Last updated: 2019-01-24*

## How to create BBC style graphics

At the BBC data team, we have developed an R package and an R cookbook to make the process of creating publication-ready graphics in our in-house style using R's ggplot2 library a more reproducible process, as well as making it easier for people new to R to create graphics.

The cookbook below should hopefully help anyone who wants to make graphics like these:



We'll get to how you can put together the various elements of these graphics, but **let's get the admin out of the way first...**

