

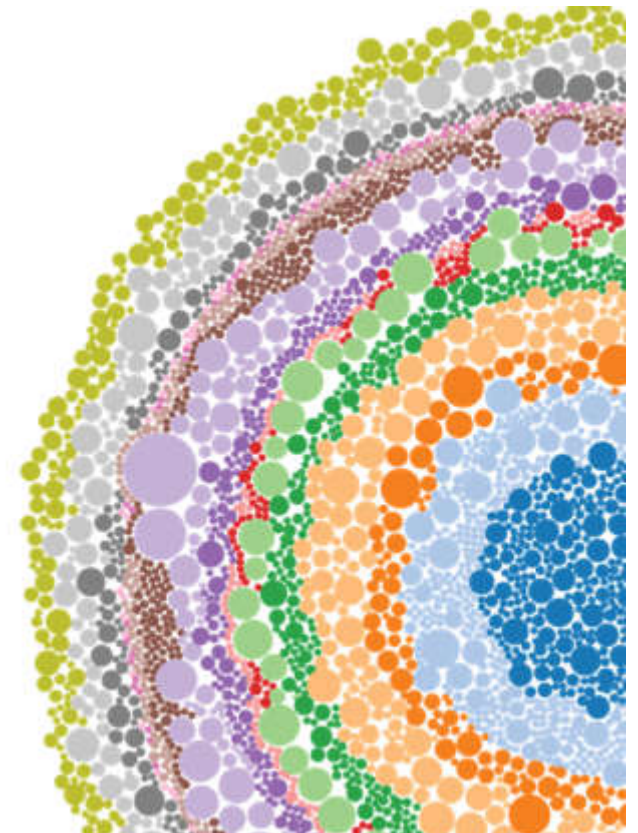
# Ontdek het verhaal in je data



Koen Verhagen – [koen.verhagen@infotopics.nl](mailto:koen.verhagen@infotopics.nl)

## INHOUDSOPGAVE

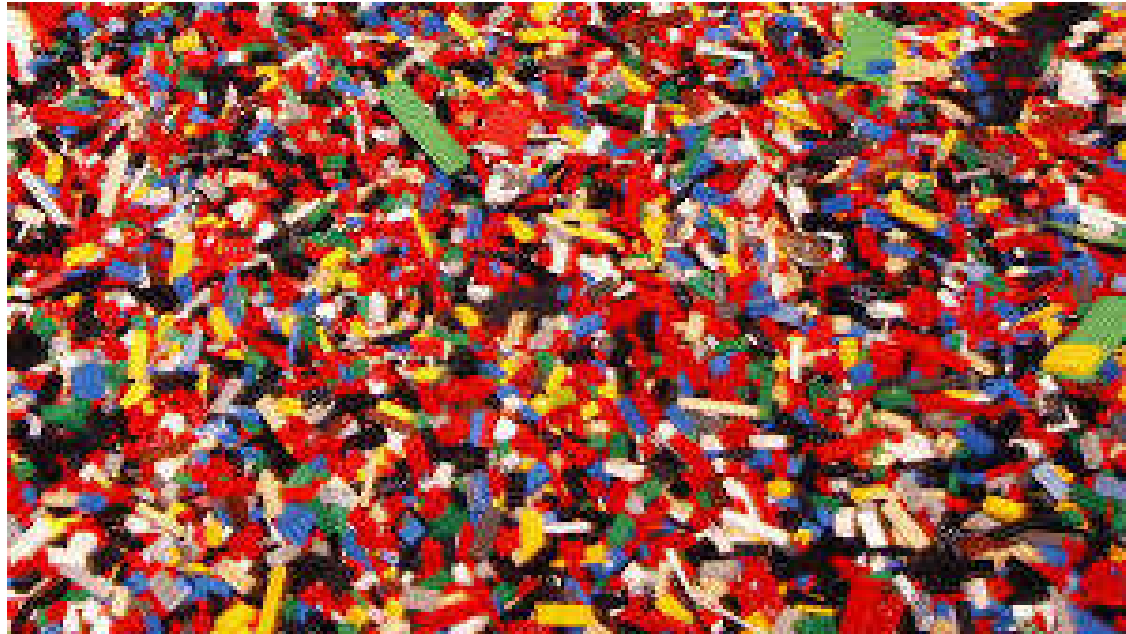
- Wat doe ik?
- Visual design principles
- Voorbeelden



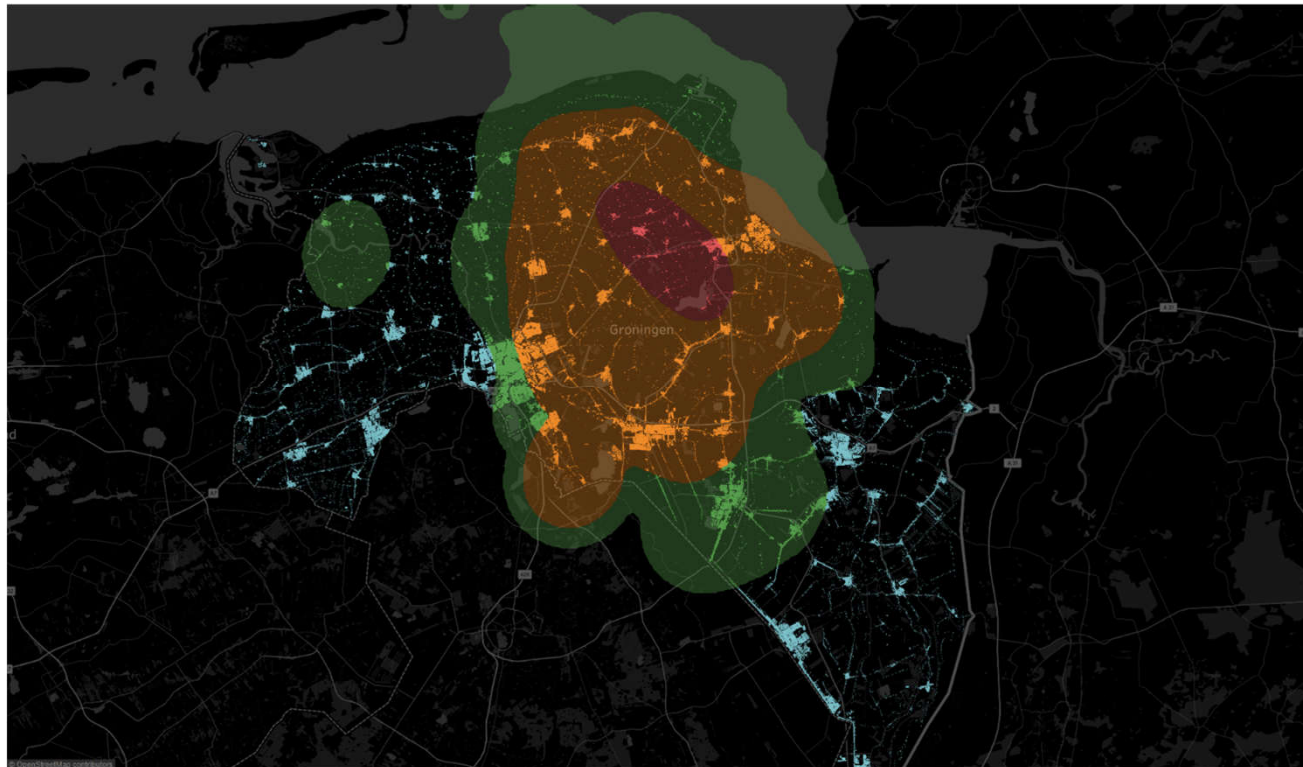
*Wat doe ik?*



*Wat doe ik?*



*Wat doe ik?*



# FACTS & FIGURES

#1

NUMBER OF  
EMPLOYEES

44



#2

TECHNOLOGY PARTNERS  
OF INFOTOPICS



#3



INFOTOPICS  
HEAD OFFICE

Gerard Hollinkstraat 1  
7575 BB Oldenzaal  
info@infotopics.nl  
+31(0)541 532010



INFOTOPICS  
Houten

Meidoornkade 22  
3992 AE Houten



INFOTOPICS  
GRONINGEN

Herestraat 106  
9711 LM Groningen



INFOTOPICS  
GERMANY

Essen /  
Frankfurt

#4

NUMBER OF  
YEARS IN  
BUSINESS

15

#5

NUMBER OF  
CUSTOMERS

info}topics



# Organiseren van “analytical excellence”

Wij helpen organisaties, afdelingen en, in de eerste plaats, mensen om waarde te halen uit data zodat ze kunnen sturen met inzicht.



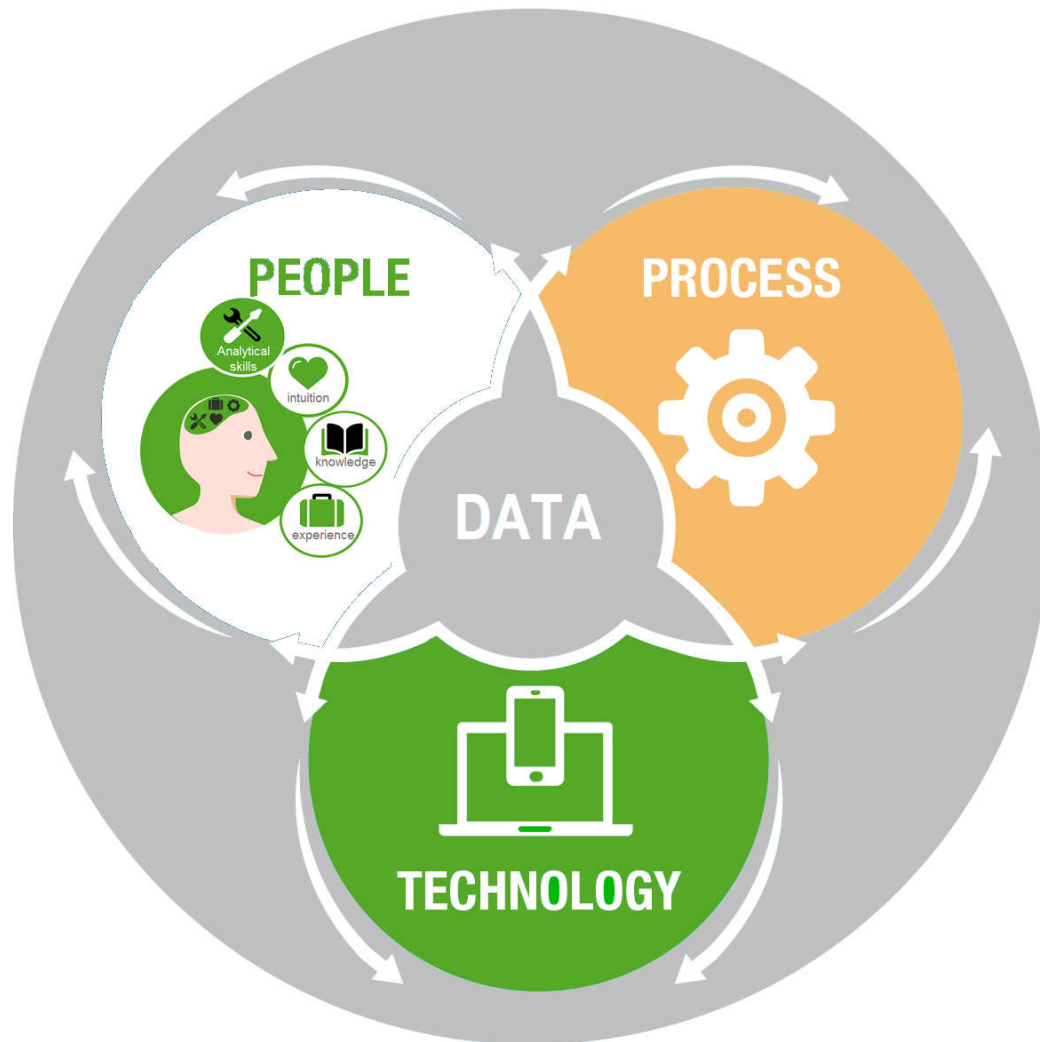
# THE 4 LEVELS OF LEARNING ANALYTICS



- 1 Descriptive**  
What has happened? Look at facts, figures, and other data that give you a detailed picture.
- 2 Diagnostic**  
Why did it happen? Examining the descriptive elements (above) allows you to critically assess why an outcome happened.
- 3 Predictive**  
What will happen? Given the same or different elements, what would the outcome be?
- 4 Prescriptive**  
What should I do? How can a specific outcome be achieved through use of specific elements?



Maar hoe dan?



## Welke technologie?



## Public sector



# Customers

## Services



## Public sector



Dienst Uitvoering Onderwijs  
Ministerie van Onderwijs, Cultuur en  
Wetenschap



Ministerie van Buitenlandse Zaken



Rijkswaterstaat



Gemeente Amsterdam



Gemeentelijk  
Belastingkantoor  
Twente



provincie HOLLAND  
ZUID



PROVINCIE FLEVOLAND



Gemeente  
Enschede



Gemeente Utrecht

kadaster



info}topics

# Customers

## Healthcare & Life Sciences



## Financial services



# Customers

Customer Products Retail & Distribution

Manufacturing



wehkamp.nl



hunkemöller





Zien is begrijpen



## Visual design: voorbeeld

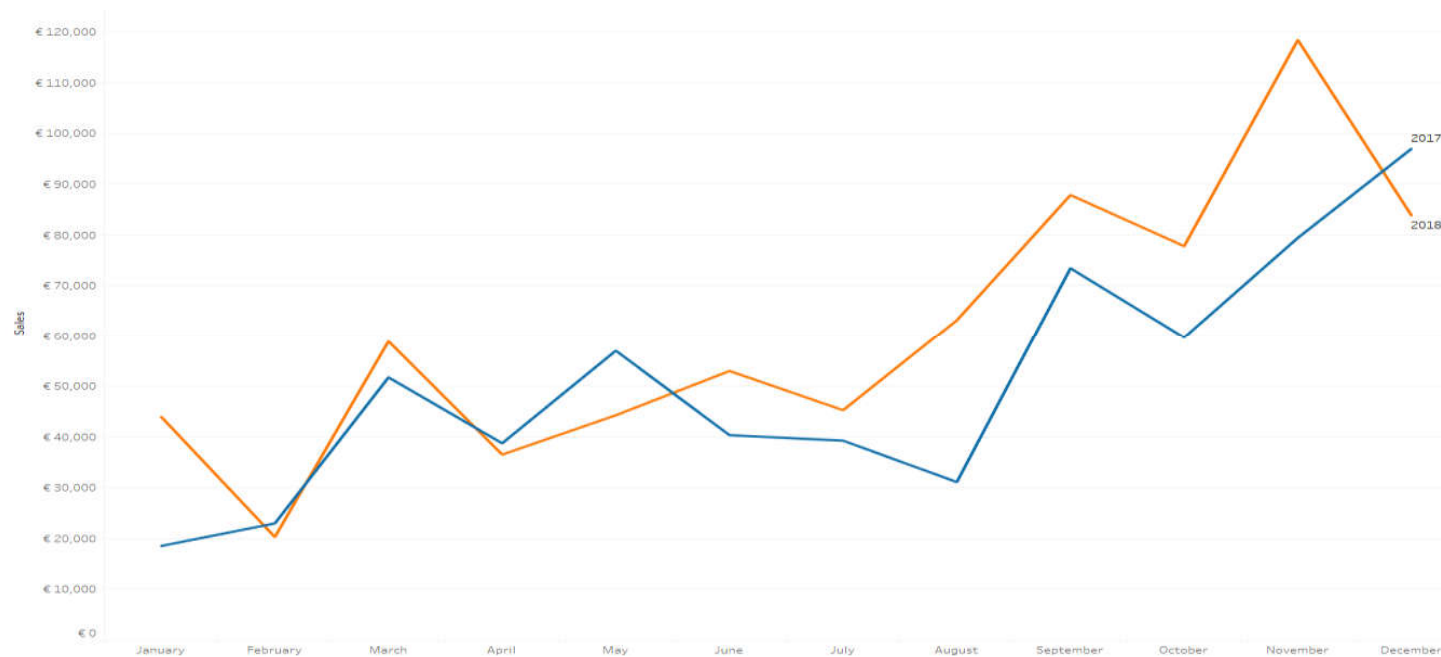
|   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 3 | 3 | 0 | 3 | 0 | 1 | 8 | 7 | 6 | 8 | 2 | 1 | 4 | 0 | 3 | 8 | 3 | 7 | 7 | 2 | 0 | 5 | 2 | 3 | 2 | 7 | 0 | 2 | 0 |
| 7 | 1 | 4 | 6 | 0 | 2 | 1 | 3 | 2 | 7 | 6 | 0 | 2 | 5 | 6 | 3 | 2 | 5 | 7 | 6 | 3 | 3 | 0 | 2 | 0 | 3 | 0 | 7 | 2 |
| 8 | 7 | 5 | 7 | 2 | 8 | 3 | 8 | 7 | 7 | 8 | 2 | 0 | 7 | 7 | 5 | 2 | 3 | 1 | 1 | 5 | 6 | 3 | 8 | 4 | 7 | 8 | 2 | 0 |
| 0 | 5 | 0 | 5 | 1 | 6 | 1 | 7 | 5 | 6 | 8 | 0 | 4 | 4 | 6 | 7 | 4 | 7 | 1 | 4 | 0 | 0 | 8 | 4 | 4 | 3 | 0 | 3 | 2 |
| 2 | 4 | 3 | 1 | 3 | 5 | 4 | 9 | 5 | 0 | 7 | 6 | 0 | 7 | 4 | 3 | 1 | 8 | 2 | 7 | 3 | 4 | 6 | 0 | 2 | 4 | 8 | 2 | 3 |
| 8 | 6 | 2 | 2 | 6 | 5 | 4 | 6 | 7 | 0 | 7 | 6 | 0 | 0 | 3 | 9 | 0 | 2 | 4 | 7 | 1 | 7 | 2 | 3 | 3 | 5 | 8 | 7 | 0 |
| 0 | 8 | 4 | 5 | 1 | 3 | 1 | 7 | 6 | 4 | 5 | 4 | 1 | 2 | 4 | 5 | 3 | 3 | 5 | 4 | 9 | 6 | 7 | 7 | 6 | 3 | 4 | 2 | 5 |
| 4 | 7 | 7 | 0 | 2 | 2 | 0 | 1 | 1 | 7 | 7 | 7 | 0 | 2 | 6 | 6 | 4 | 7 | 5 | 8 | 6 | 1 | 4 | 3 | 7 | 8 | 5 | 4 | 6 |
| 4 | 3 | 6 | 6 | 4 | 6 | 6 | 2 | 8 | 4 | 8 | 5 | 3 | 7 | 8 | 8 | 1 | 3 | 8 | 5 | 4 | 5 | 7 | 4 | 0 | 3 | 2 | 8 | 4 |
| 5 | 5 | 0 | 3 | 5 | 3 | 5 | 3 | 8 | 3 | 2 | 3 | 8 | 2 | 3 | 1 | 6 | 2 | 7 | 2 | 4 | 6 | 3 | 6 | 4 | 4 | 3 | 2 | 5 |
| 4 | 4 | 0 | 2 | 1 | 7 | 2 | 4 | 4 | 7 | 4 | 1 | 9 | 2 | 4 | 5 | 2 | 5 | 0 | 4 | 0 | 0 | 5 | 3 | 6 | 3 | 3 | 6 | 7 |
| 7 | 4 | 6 | 6 | 8 | 7 | 5 | 7 | 9 | 2 | 0 | 2 | 8 | 8 | 8 | 8 | 3 | 2 | 4 | 2 | 6 | 4 | 0 | 4 | 6 | 3 | 7 | 2 | 1 |
| 0 | 1 | 7 | 1 | 5 | 9 | 1 | 4 | 2 | 8 | 7 | 3 | 7 | 1 | 4 | 5 | 1 | 8 | 7 | 8 | 0 | 5 | 1 | 7 | 0 | 5 | 8 | 8 | 1 |
| 2 | 8 | 5 | 2 | 1 | 2 | 8 | 7 | 7 | 6 | 2 | 5 | 6 | 2 | 6 | 4 | 1 | 5 | 1 | 6 | 1 | 2 | 1 | 1 | 0 | 5 | 6 | 4 | 0 |
| 2 | 1 | 1 | 7 | 7 | 2 | 0 | 0 | 1 | 8 | 7 | 0 | 2 | 9 | 0 | 2 | 8 | 5 | 7 | 8 | 4 | 6 | 0 | 6 | 5 | 0 | 7 | 1 | 2 |
| 0 | 5 | 2 | 4 | 1 | 5 | 3 | 3 | 1 | 5 | 5 | 1 | 4 | 0 | 1 | 6 | 4 | 3 | 3 | 9 | 8 | 8 | 3 | 4 | 6 | 8 | 4 | 8 | 6 |
| 7 | 3 | 7 | 5 | 2 | 4 | 0 | 2 | 7 | 6 | 3 | 8 | 5 | 5 | 4 | 5 | 8 | 8 | 7 | 5 | 5 | 6 | 5 | 6 | 7 | 9 | 7 | 7 | 4 |
| 0 | 3 | 2 | 8 | 1 | 4 | 4 | 6 | 0 | 8 | 2 | 3 | 0 | 1 | 3 | 4 | 6 | 2 | 0 | 5 | 7 | 7 | 3 | 6 | 1 | 8 | 7 | 3 | 5 |
| 4 | 4 | 8 | 3 | 3 | 3 | 5 | 0 | 1 | 0 | 3 | 8 | 6 | 3 | 2 | 0 | 5 | 0 | 6 | 1 | 3 | 3 | 4 | 3 | 6 | 1 | 5 | 8 | 6 |
| 1 | 0 | 2 | 2 | 7 | 6 | 3 | 3 | 0 | 8 | 8 | 0 | 3 | 1 | 8 | 8 | 1 | 2 | 1 | 7 | 5 | 2 | 9 | 3 | 5 | 8 | 3 | 2 | 5 |

## Visual design: voorbeeld

|   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 3 | 3 | 0 | 3 | 0 | 1 | 8 | 7 | 6 | 8 | 2 | 1 | 4 | 0 | 3 | 8 | 3 | 7 | 7 | 2 | 0 | 5 | 2 | 3 | 2 | 7 | 0 | 2 | 0 |
| 7 | 1 | 4 | 6 | 0 | 2 | 1 | 3 | 2 | 7 | 6 | 0 | 2 | 5 | 6 | 3 | 2 | 5 | 7 | 6 | 3 | 3 | 0 | 2 | 0 | 3 | 0 | 7 | 2 |
| 8 | 7 | 5 | 7 | 2 | 8 | 3 | 8 | 7 | 7 | 8 | 2 | 0 | 7 | 7 | 5 | 2 | 3 | 1 | 1 | 5 | 6 | 3 | 8 | 4 | 7 | 8 | 2 | 0 |
| 0 | 5 | 0 | 5 | 1 | 6 | 1 | 7 | 5 | 6 | 8 | 0 | 4 | 4 | 6 | 7 | 4 | 7 | 1 | 4 | 0 | 0 | 8 | 4 | 4 | 3 | 0 | 3 | 2 |
| 2 | 4 | 3 | 1 | 3 | 5 | 4 | 9 | 5 | 0 | 7 | 6 | 0 | 7 | 4 | 3 | 1 | 8 | 2 | 7 | 3 | 4 | 6 | 0 | 2 | 4 | 8 | 2 | 3 |
| 8 | 6 | 2 | 2 | 6 | 5 | 4 | 6 | 7 | 0 | 7 | 6 | 0 | 0 | 3 | 9 | 0 | 2 | 4 | 7 | 1 | 7 | 2 | 3 | 3 | 5 | 8 | 7 | 0 |
| 0 | 8 | 4 | 5 | 1 | 3 | 1 | 7 | 6 | 4 | 5 | 4 | 1 | 2 | 4 | 5 | 3 | 3 | 5 | 4 | 9 | 6 | 7 | 7 | 6 | 3 | 4 | 2 | 5 |
| 4 | 7 | 7 | 0 | 2 | 2 | 0 | 1 | 1 | 7 | 7 | 7 | 0 | 2 | 6 | 6 | 4 | 7 | 5 | 8 | 6 | 1 | 4 | 3 | 7 | 8 | 5 | 4 | 6 |
| 4 | 3 | 6 | 6 | 4 | 6 | 6 | 2 | 8 | 4 | 8 | 5 | 3 | 7 | 8 | 8 | 1 | 3 | 8 | 5 | 4 | 5 | 7 | 4 | 0 | 3 | 2 | 8 | 4 |
| 5 | 5 | 0 | 3 | 5 | 3 | 5 | 3 | 8 | 3 | 2 | 3 | 8 | 2 | 3 | 1 | 6 | 2 | 7 | 2 | 4 | 6 | 3 | 6 | 4 | 4 | 3 | 2 | 5 |
| 4 | 4 | 0 | 2 | 1 | 7 | 2 | 4 | 4 | 7 | 4 | 1 | 9 | 2 | 4 | 5 | 2 | 5 | 0 | 4 | 0 | 0 | 5 | 3 | 6 | 3 | 3 | 6 | 7 |
| 7 | 4 | 6 | 6 | 8 | 7 | 5 | 7 | 9 | 2 | 0 | 2 | 8 | 8 | 8 | 8 | 3 | 2 | 4 | 2 | 6 | 4 | 0 | 4 | 6 | 3 | 7 | 2 | 1 |
| 0 | 1 | 7 | 1 | 5 | 9 | 1 | 4 | 2 | 8 | 7 | 3 | 7 | 1 | 4 | 5 | 1 | 8 | 7 | 8 | 0 | 5 | 1 | 7 | 0 | 5 | 8 | 8 | 1 |
| 2 | 8 | 5 | 2 | 1 | 2 | 8 | 7 | 7 | 6 | 2 | 5 | 6 | 2 | 6 | 4 | 1 | 5 | 1 | 6 | 1 | 2 | 1 | 1 | 0 | 5 | 6 | 4 | 0 |
| 2 | 1 | 1 | 7 | 7 | 2 | 0 | 0 | 1 | 8 | 7 | 0 | 2 | 9 | 0 | 2 | 8 | 5 | 7 | 8 | 4 | 6 | 0 | 6 | 5 | 0 | 7 | 1 | 2 |
| 0 | 5 | 2 | 4 | 1 | 5 | 3 | 3 | 1 | 5 | 5 | 1 | 4 | 0 | 1 | 6 | 4 | 3 | 3 | 9 | 8 | 8 | 3 | 4 | 6 | 8 | 4 | 8 | 6 |
| 7 | 3 | 7 | 5 | 2 | 4 | 0 | 2 | 7 | 6 | 3 | 8 | 5 | 5 | 4 | 5 | 8 | 8 | 7 | 5 | 5 | 6 | 5 | 6 | 7 | 9 | 7 | 7 | 4 |
| 0 | 3 | 2 | 8 | 1 | 4 | 4 | 6 | 0 | 8 | 2 | 3 | 0 | 1 | 3 | 4 | 6 | 2 | 0 | 5 | 7 | 7 | 3 | 6 | 1 | 8 | 7 | 3 | 5 |
| 4 | 4 | 8 | 3 | 3 | 3 | 5 | 0 | 1 | 0 | 3 | 8 | 6 | 3 | 2 | 0 | 5 | 0 | 6 | 1 | 3 | 3 | 4 | 3 | 6 | 1 | 5 | 8 | 6 |
| 1 | 0 | 2 | 2 | 7 | 6 | 3 | 3 | 0 | 8 | 8 | 0 | 3 | 1 | 8 | 8 | 1 | 2 | 1 | 7 | 5 | 2 | 9 | 3 | 5 | 8 | 3 | 2 | 5 |

# Een plaatje zegt meer dan 1000.....getallen?

|      | January  | February | March    | April    | May      | June     | July     | August   | September | October  | November  | December |
|------|----------|----------|----------|----------|----------|----------|----------|----------|-----------|----------|-----------|----------|
| 2015 | € 14,237 | € 4,520  | € 55,691 | € 28,295 | € 23,648 | € 34,595 | € 33,946 | € 27,909 | € 81,777  | € 31,453 | € 78,629  | € 69,546 |
| 2016 | € 18,174 | € 11,951 | € 38,726 | € 34,195 | € 30,132 | € 24,797 | € 28,765 | € 36,898 | € 64,596  | € 31,405 | € 75,973  | € 74,920 |
| 2017 | € 18,542 | € 22,979 | € 51,716 | € 38,750 | € 56,988 | € 40,345 | € 39,262 | € 31,115 | € 73,410  | € 59,688 | € 79,412  | € 96,999 |
| 2018 | € 43,971 | € 20,301 | € 58,872 | € 36,522 | € 44,261 | € 52,982 | € 45,264 | € 63,121 | € 87,867  | € 77,777 | € 118,448 | € 83,829 |



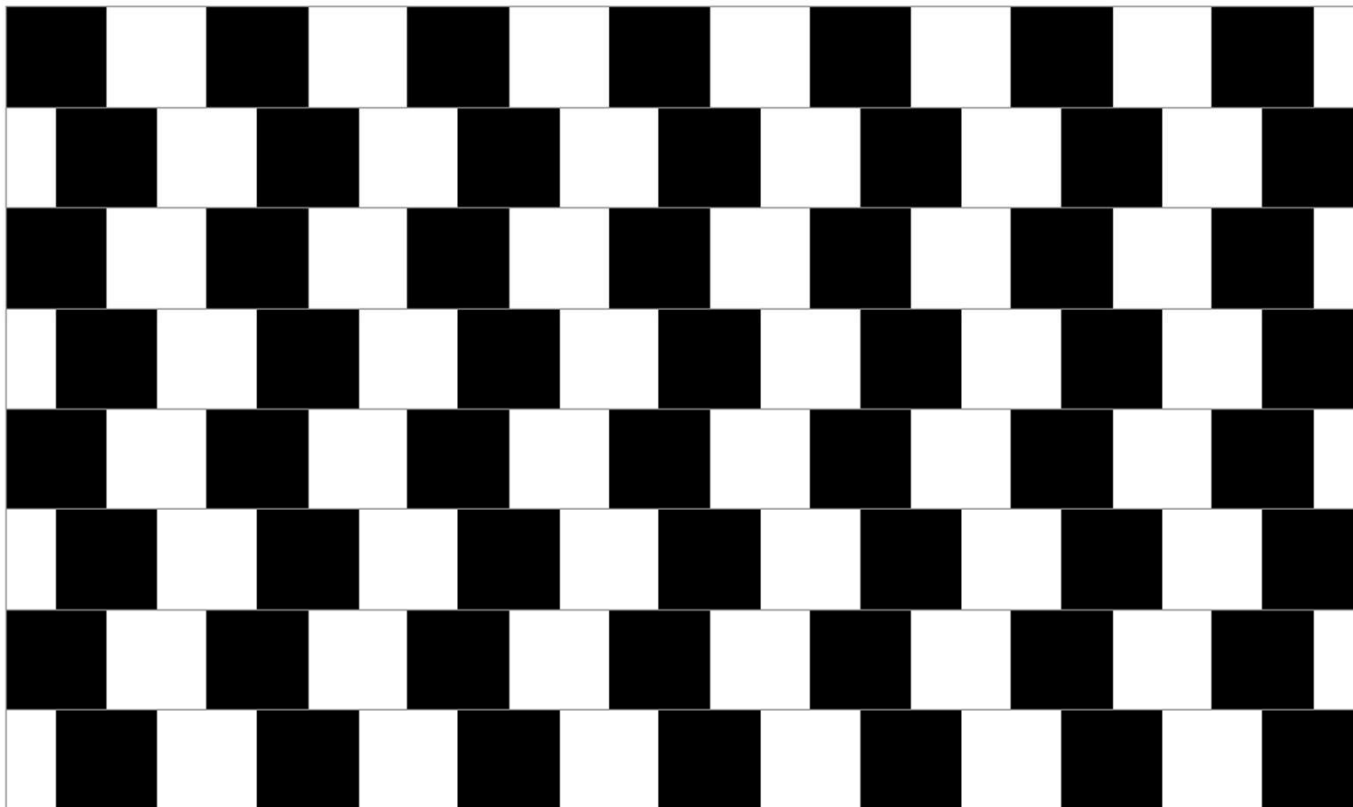


Zien is begrijpen.....of niet?



Zien is begrijpen.....of niet?

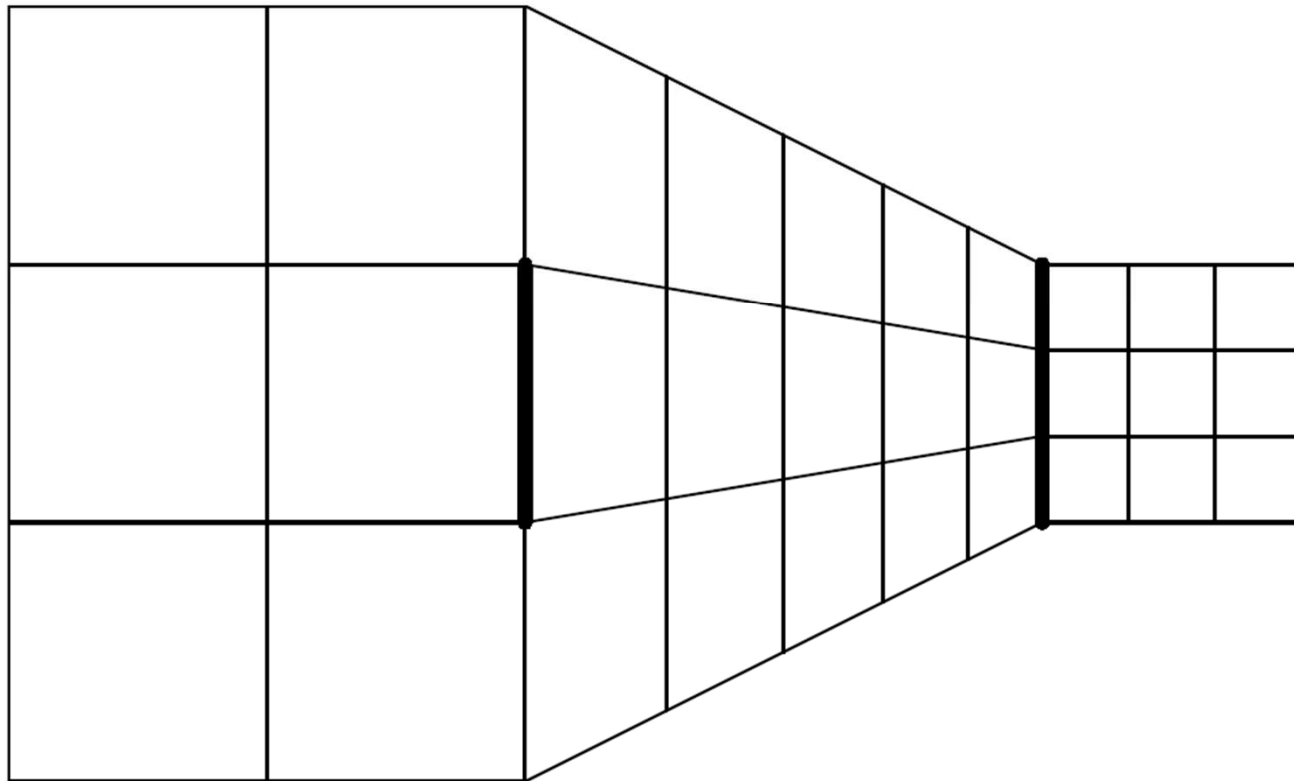
## The Cafe Wall Illusion





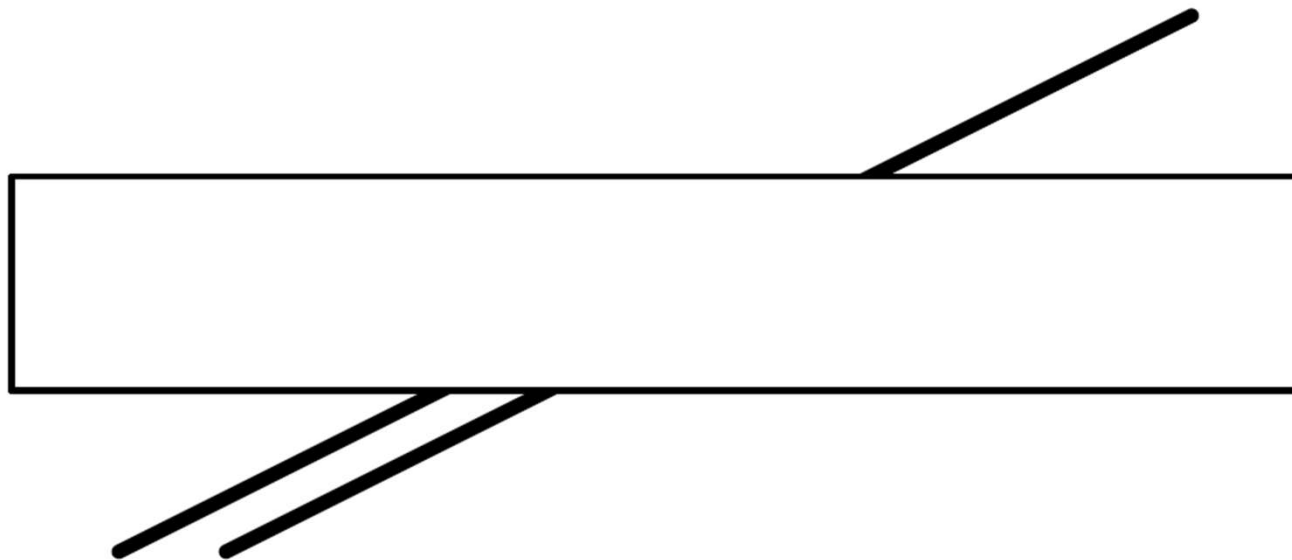
Zien is begrijpen.....of niet?

## A Perspective Illusion



Zien is begrijpen.....of niet?

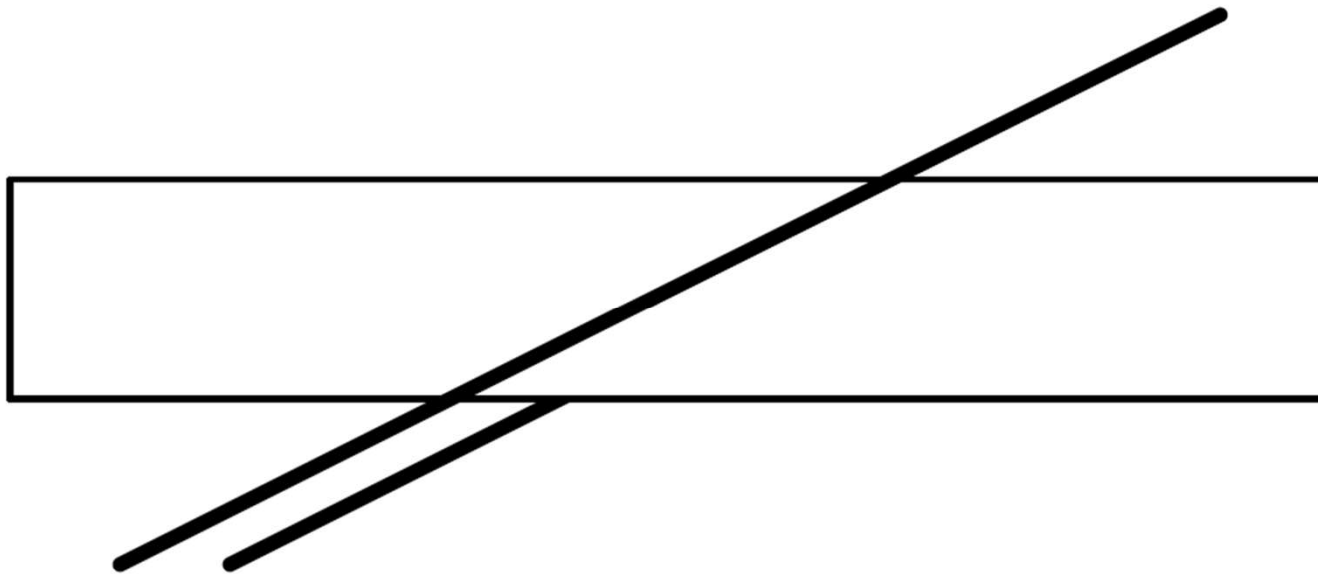
## The Poggendorf Illusion



Which of the two lower lines  
is the extension of the upper line?

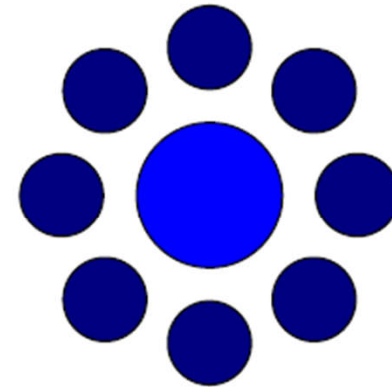
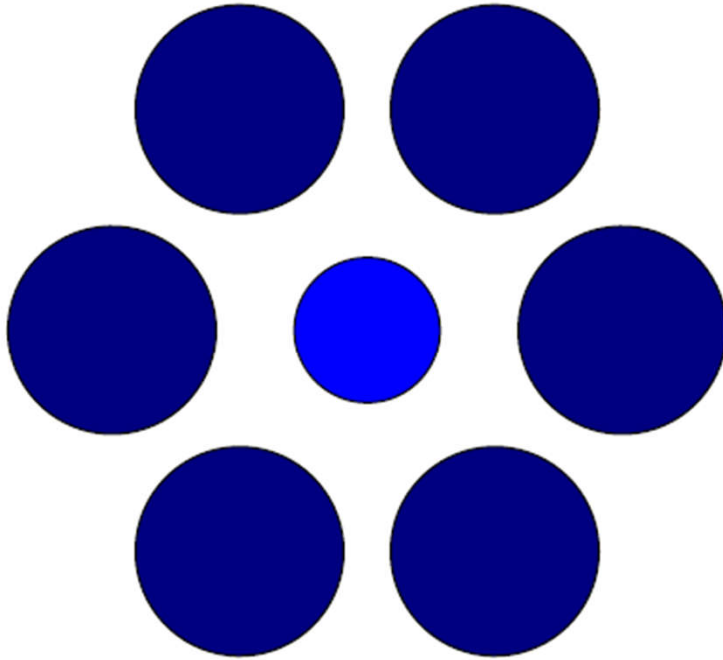
Zien is begrijpen.....of niet?

## The Poggendorf Illusion

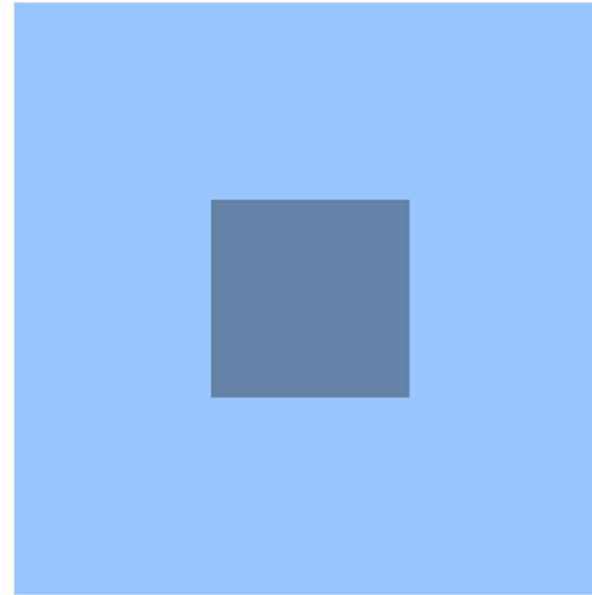
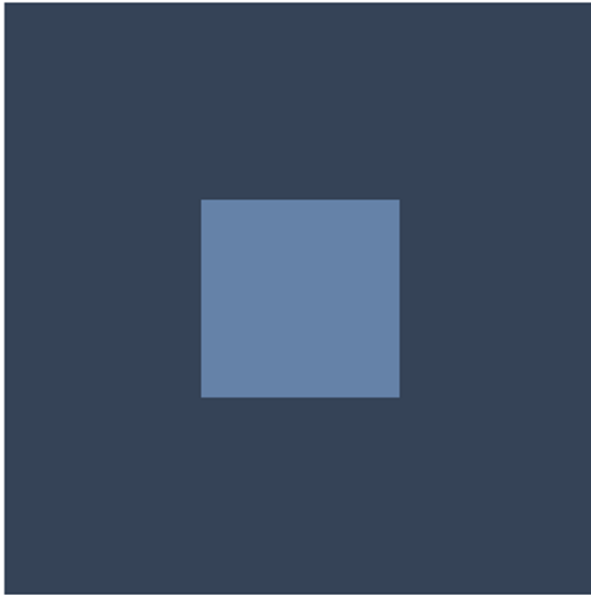


Which of the two lower lines  
is the extension of the upper line?

Zien is begrijpen.....of niet?



Zien is begrijpen.....of niet?





Allows more  
accurate comparisons



2D position along common, aligned scale



2D position along common, but unaligned scales



Length



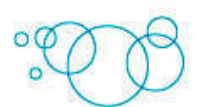
Slope



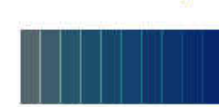
Angle



Area



Colour intensity



Allows more  
generic comparisons

Volume

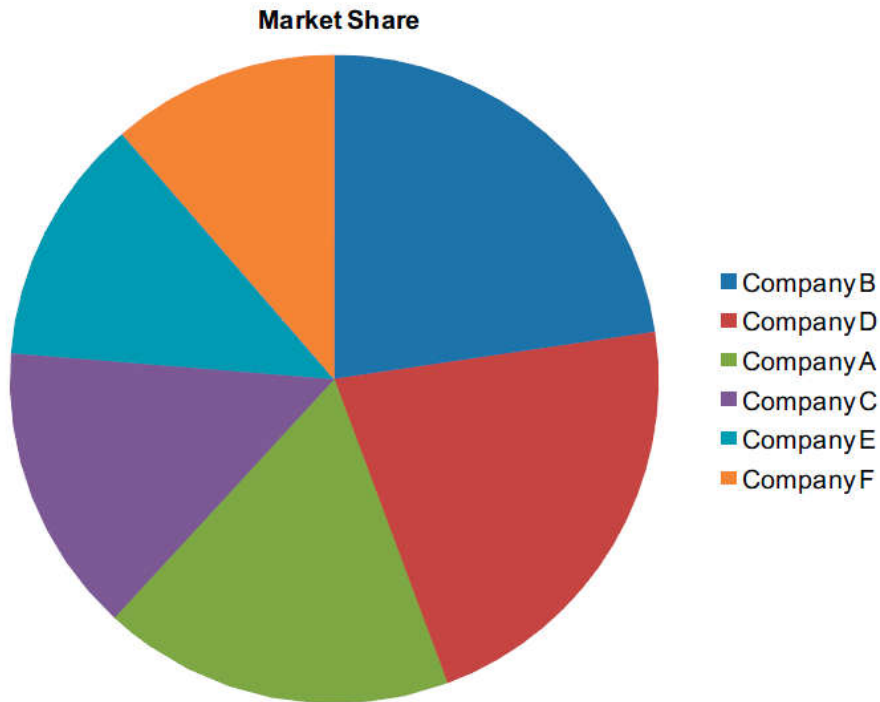


Colour hue

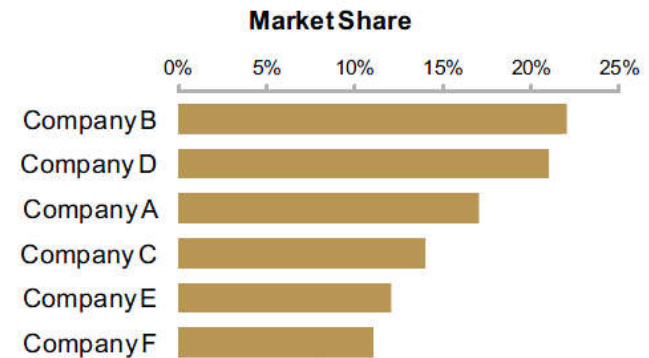




## Voorbeelden



versus



Menselijk visueel systeem heeft moeite met oppervlaktes  
- **Vermijdt taartgrafieken**

# 2012 PRESIDENTIAL RUN

GOP CANDIDATES



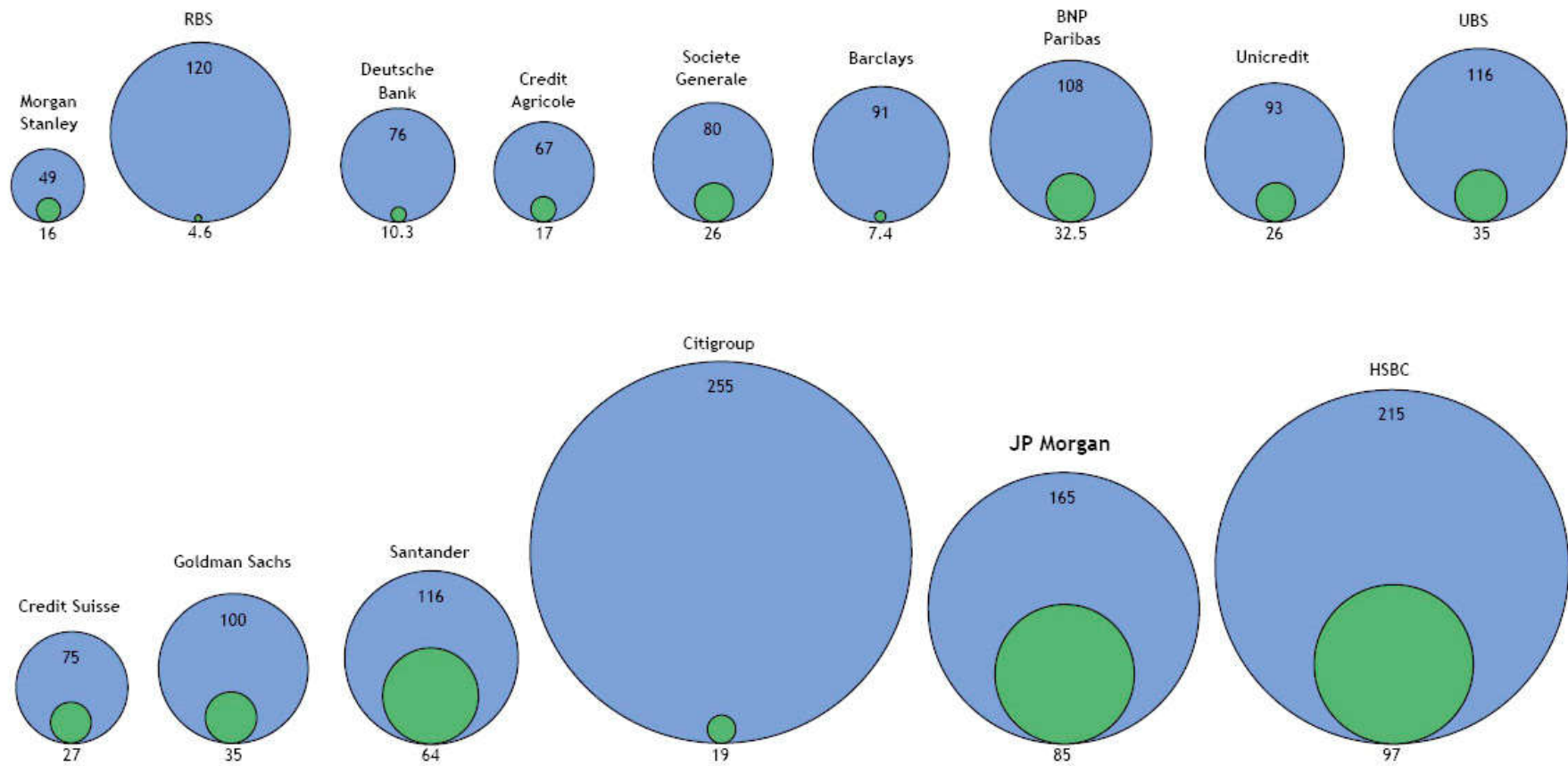
**FOX**

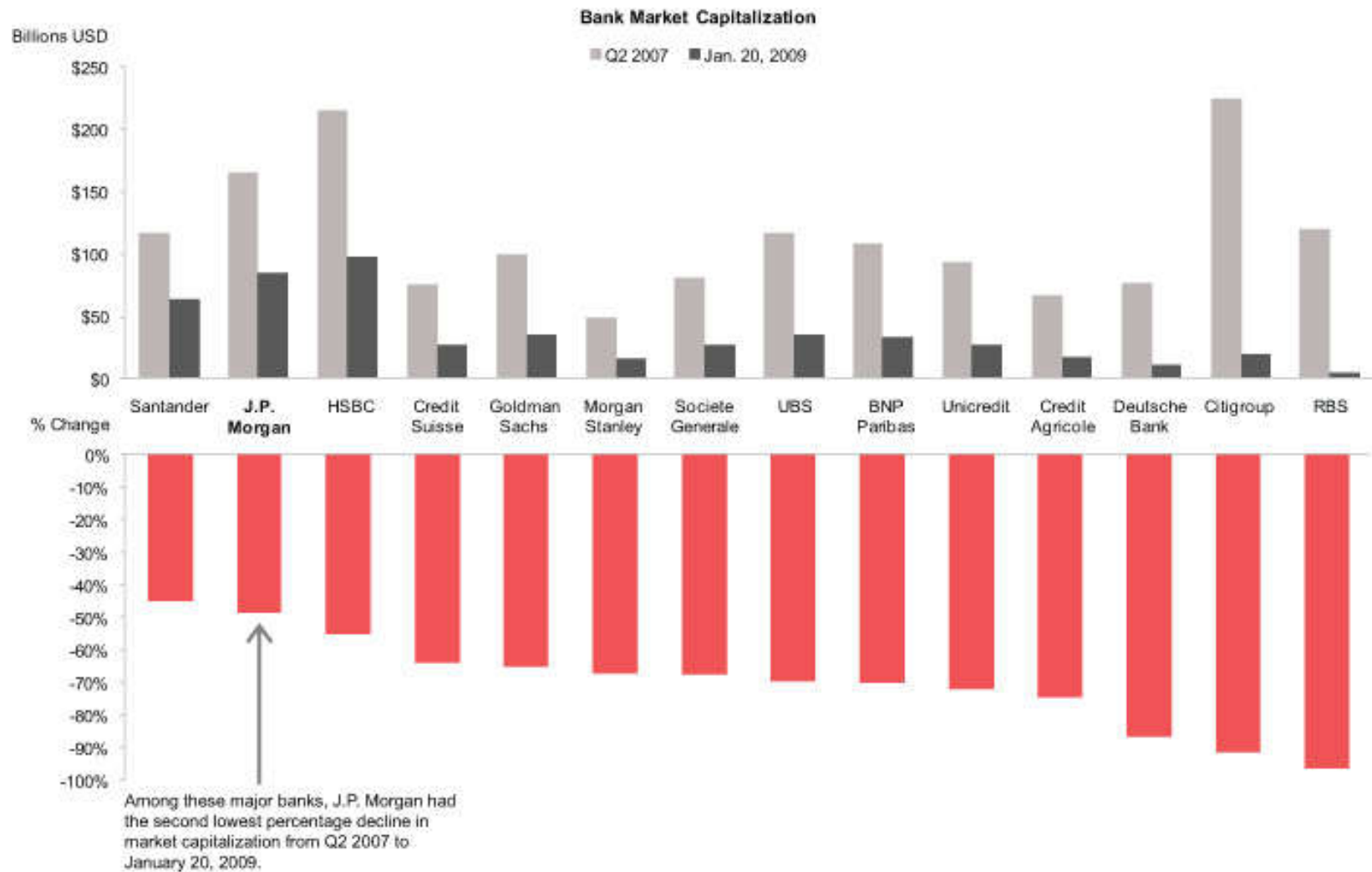
47°

**SOURCE: OPINIONS**

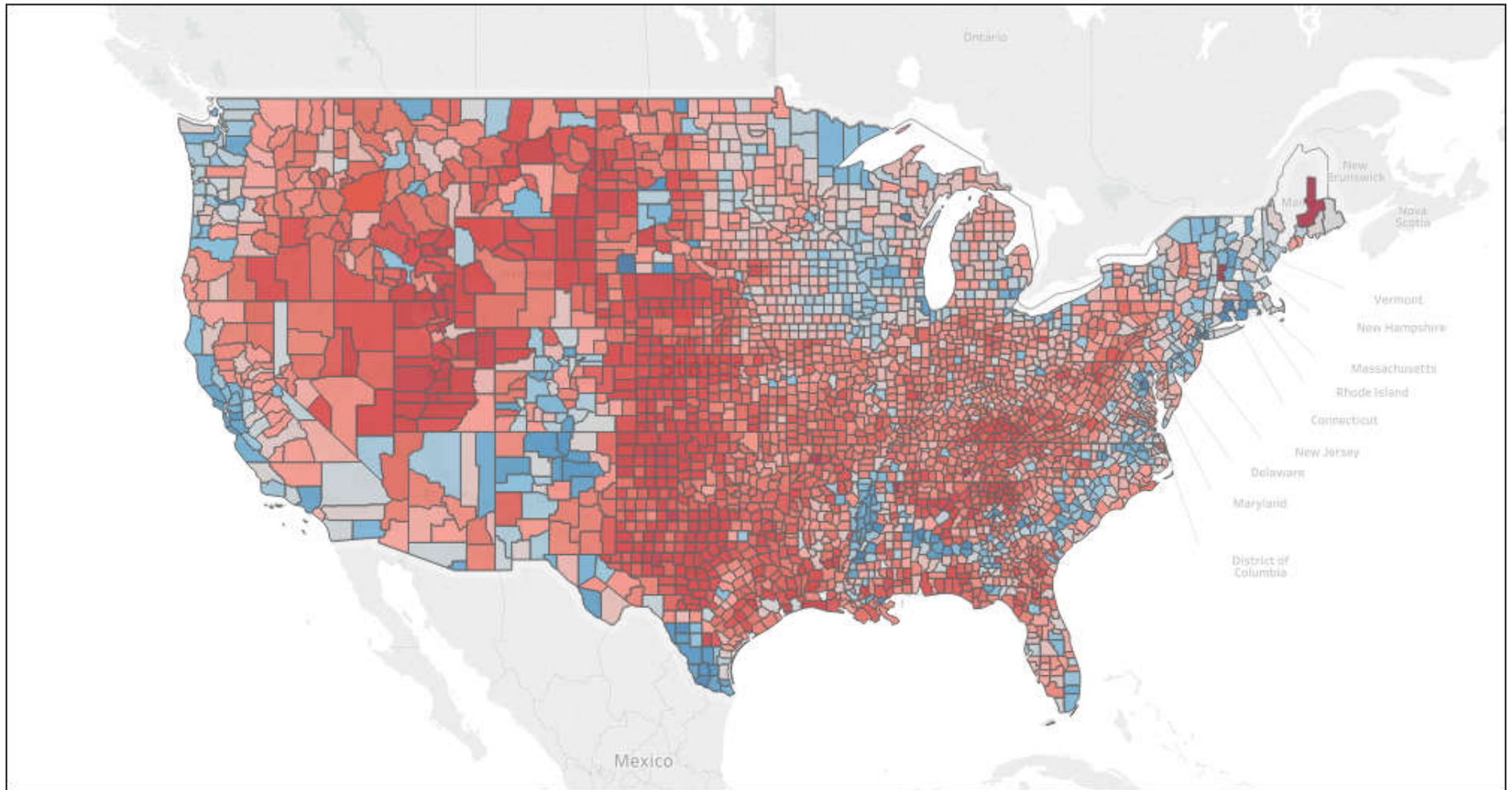
**DYNAMIC**

- Market Value as of January 20<sup>th</sup> 2009, \$Bn
- Market Value as of Q2 2007, \$Bn



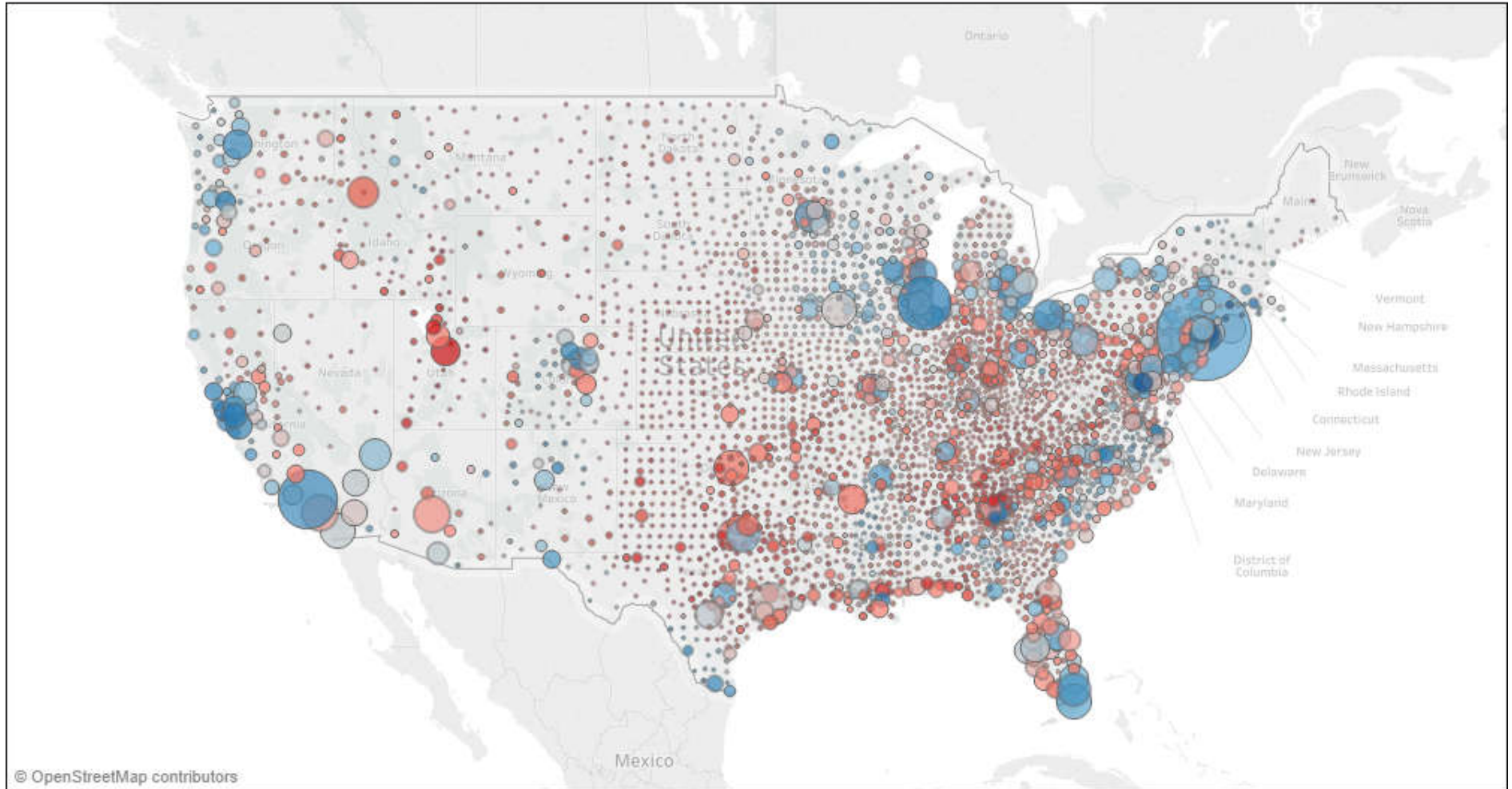


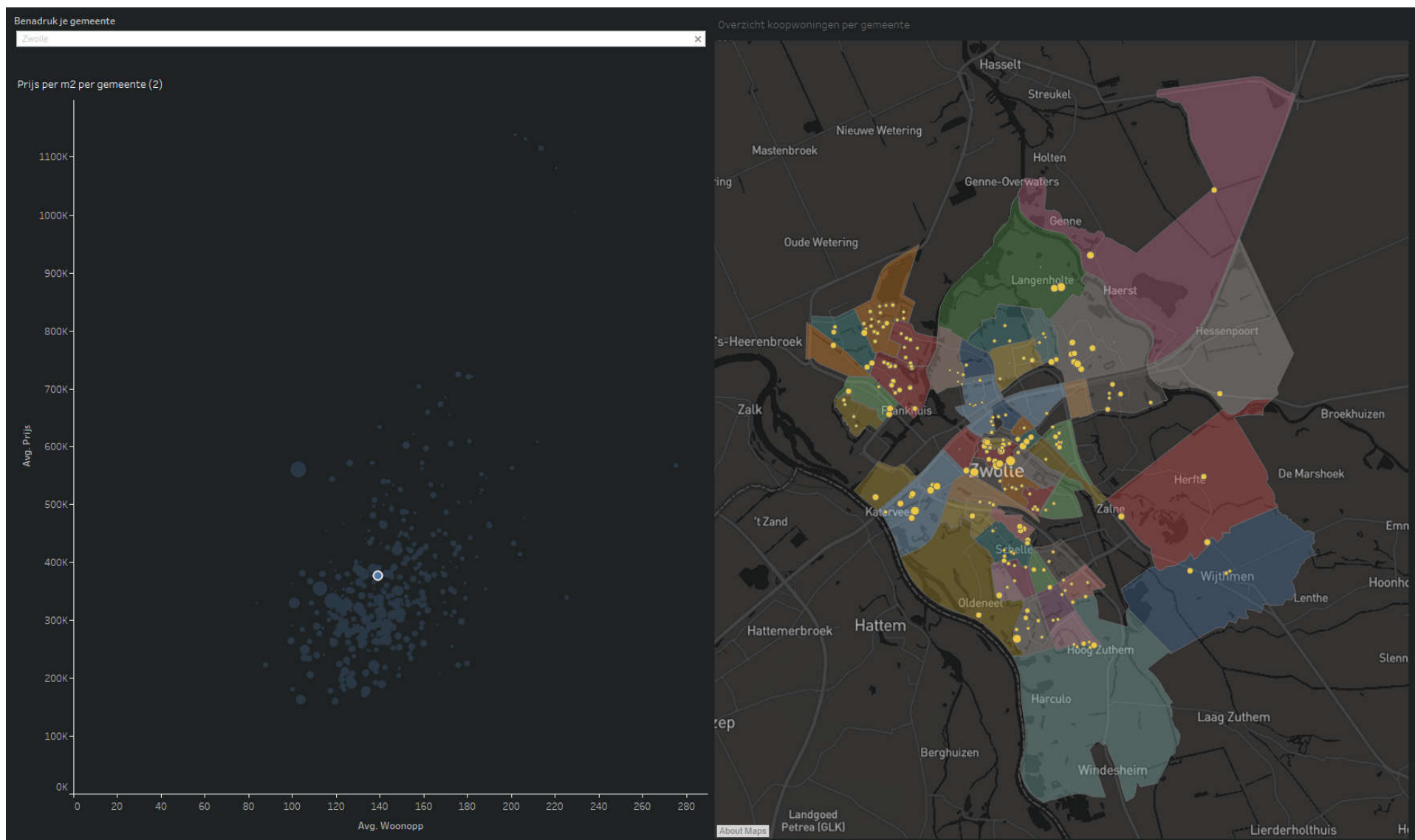
## 2012 Presidential Election Results





## 2012 Presidential Election Results







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

Dressée par M. Minaud, Inspecteur Général des Ponts et Chaussées en retraite Paris, le 20 Novembre 1869.

Les nombres d'hommes présents sont représentés par les largeurs des zones colorées à raison d'un millimètre pour dix mille hommes; ils sont de plus écrits en travers des zones. Le rouge désigne les hommes qui ont été en Russie, le noir ceux qui en sont sortis. Les renseignements qui ont servi à dresser la carte ont été puisés dans les ouvrages de M. M. Thiers, de Ségur, de Fezensac, de Chambray et le journal inédit de Jacob, pharmacien de l'Armée depuis le 28 Octobre. Pour mieux faire juger à l'œil la diminution de l'armée, j'ai supposé que les corps du Prince Jérôme et du Maréchal Davout, qui avaient été détachés sur Minsk et Mohilow et ont rejoint vers Orscha et Witebsk, avaient toujours marché avec l'armée.

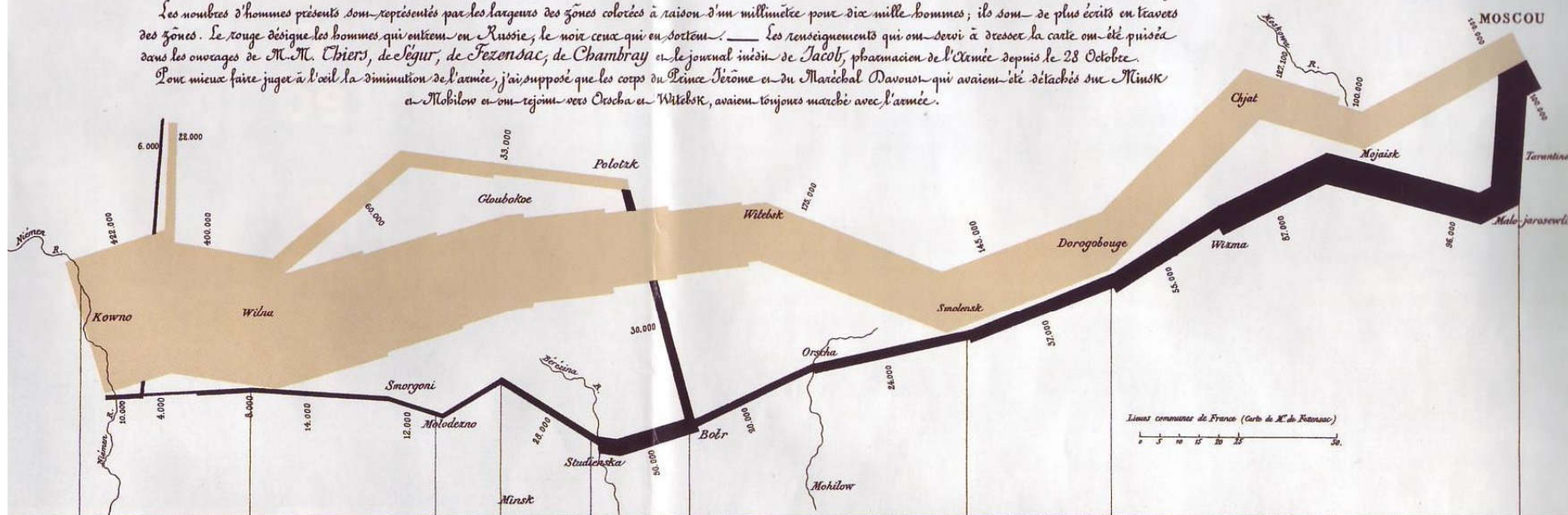
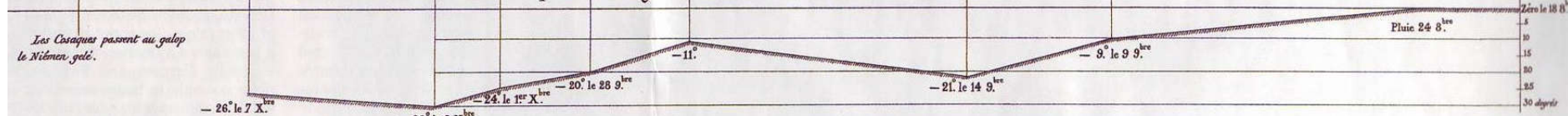


TABLEAU GRAPHIQUE de la température en degrés du thermomètre de Réaumur au dessous de zéro.



Anteq. par Regnier, à Par. 5<sup>me</sup> Maria 5<sup>me</sup> 6<sup>me</sup> à Paris.

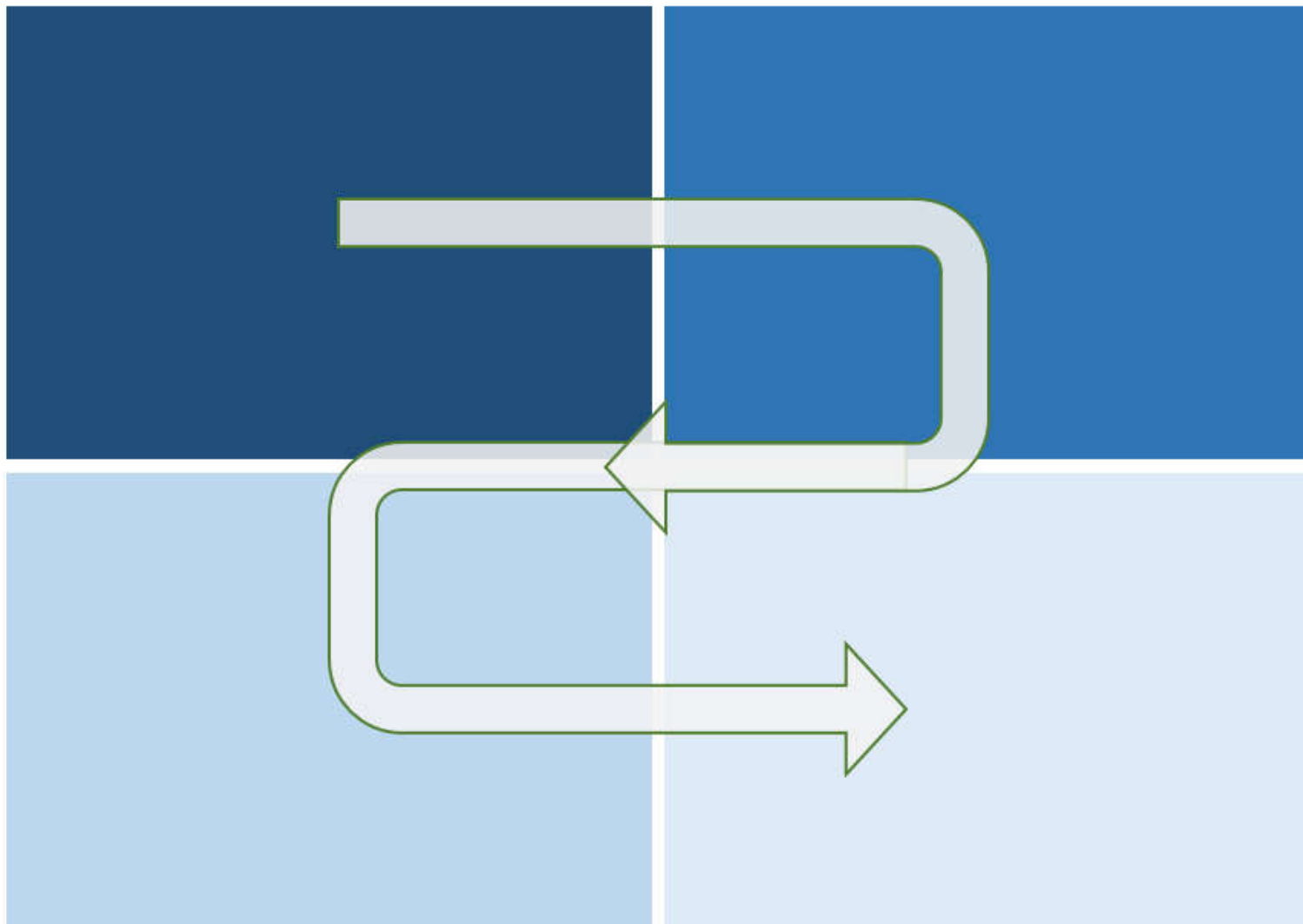
Imp. Lith. Regnier et Desvignes.



## DASHBOARD DESIGN

A dashboard is a visual display of the most important information needed to achieve one or more objectives; consolidated and arranged on a single screen so the information can be monitored at a glance.

*Stephen Few*





# THE ATTENTION TEST

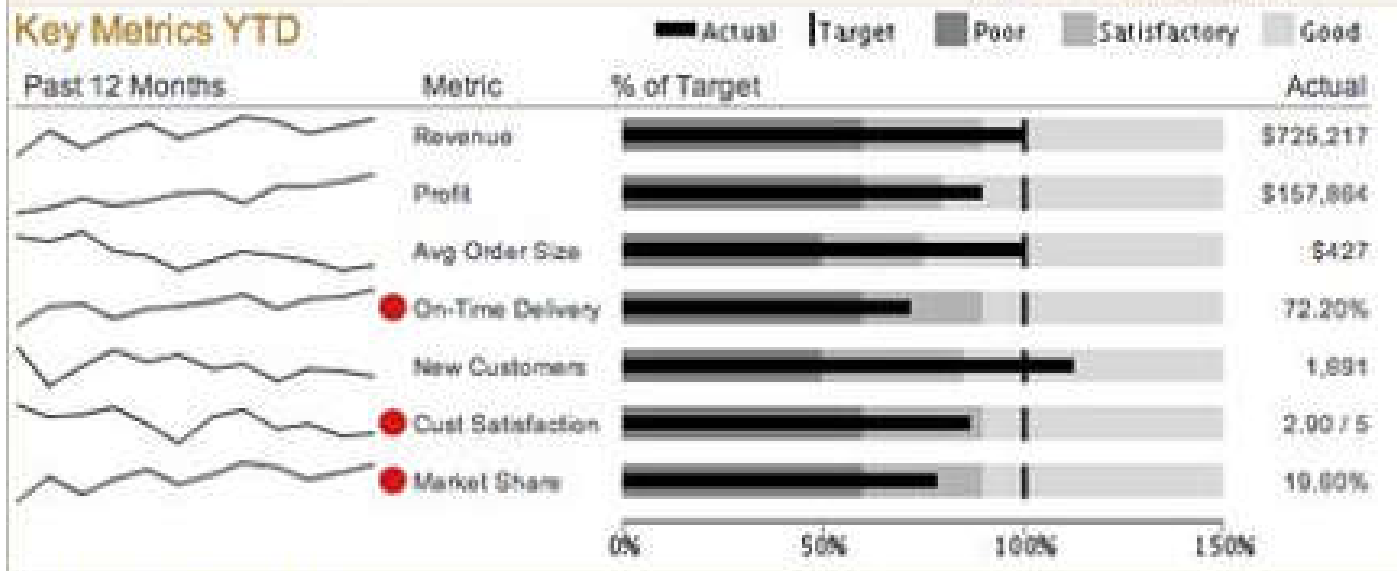
## KPI visualization



## Sales Dashboard

(Data as of January 30, 2008)

### Key Metrics YTD





## Hotel Executive Dashboard

Date Level

Month

Select a Metric

ADR

Year

(All)

Month

(All)

Help

2.0B

total revenue

16.0M

total guests

62K

total occupancy

\$107

RevPAR

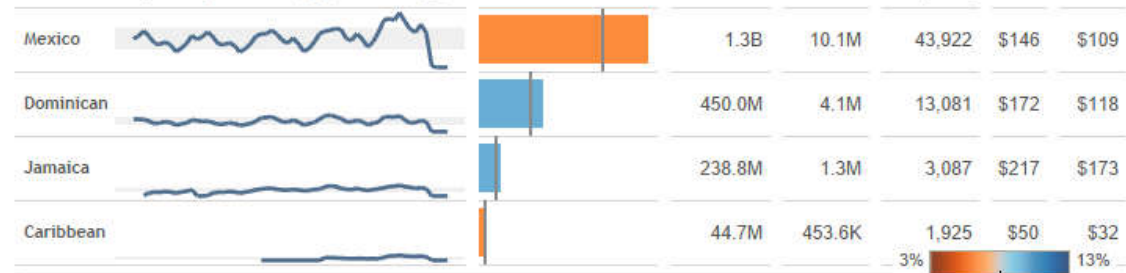
10.5M

rooms avail

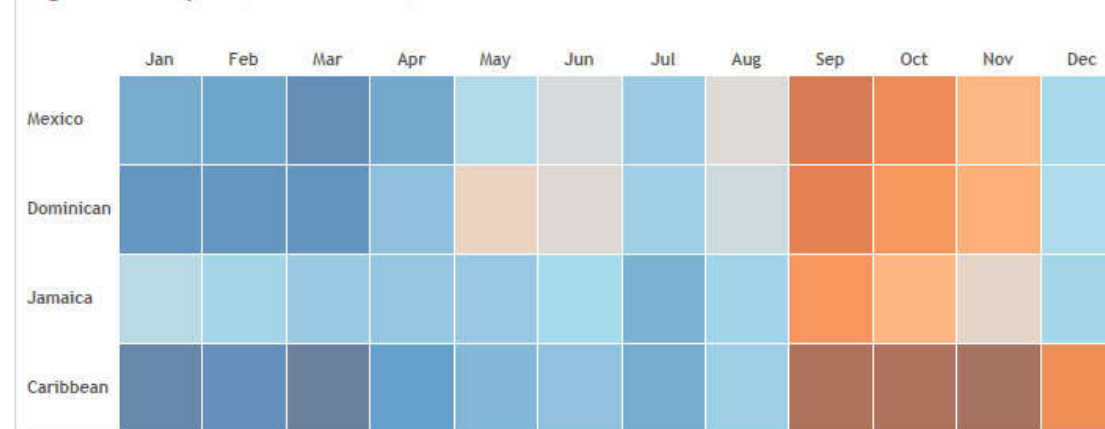
7.9M

total sold

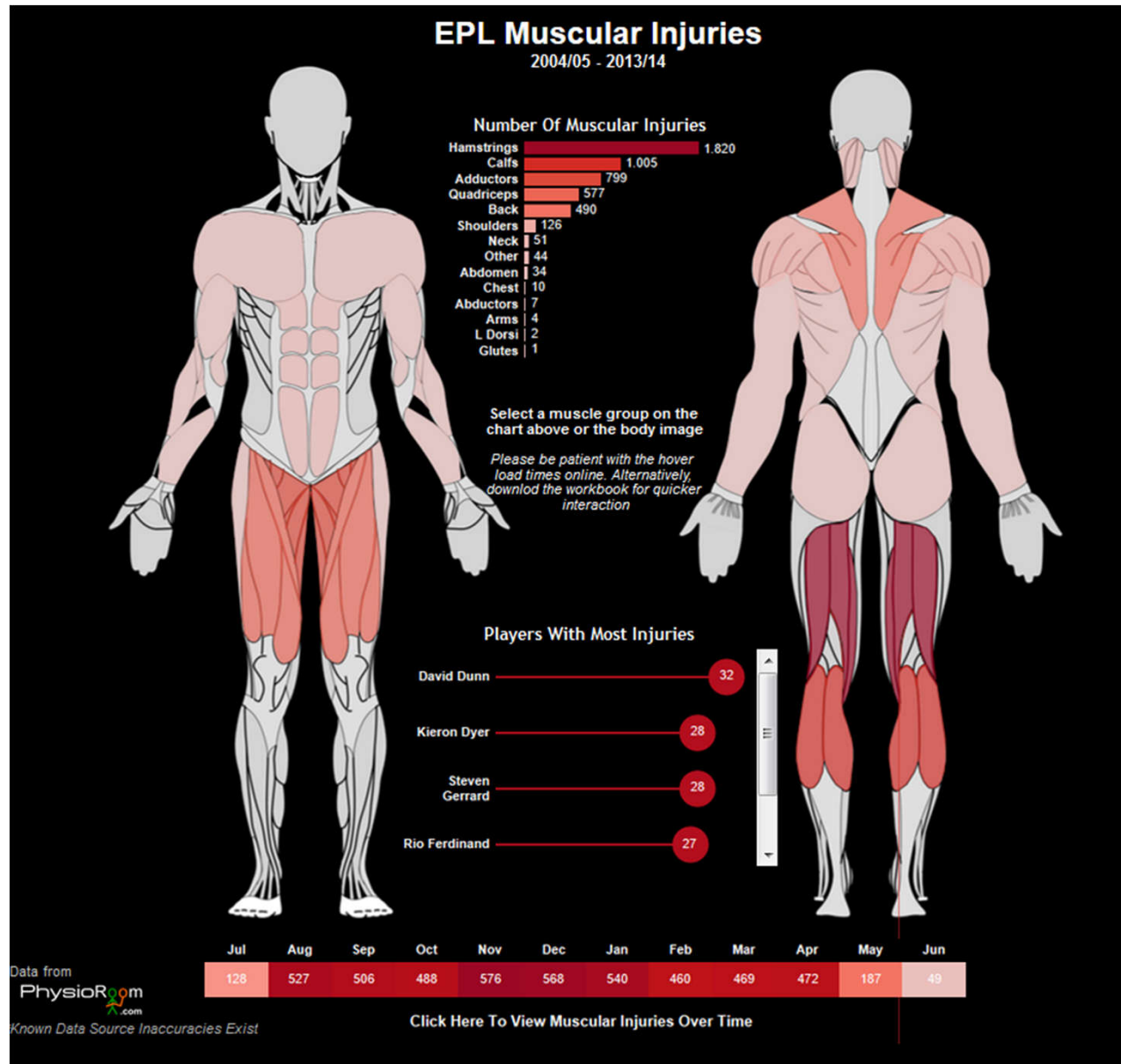
Total Revenue per Region - 1/09 (Q1) to 12/13 (Q4)



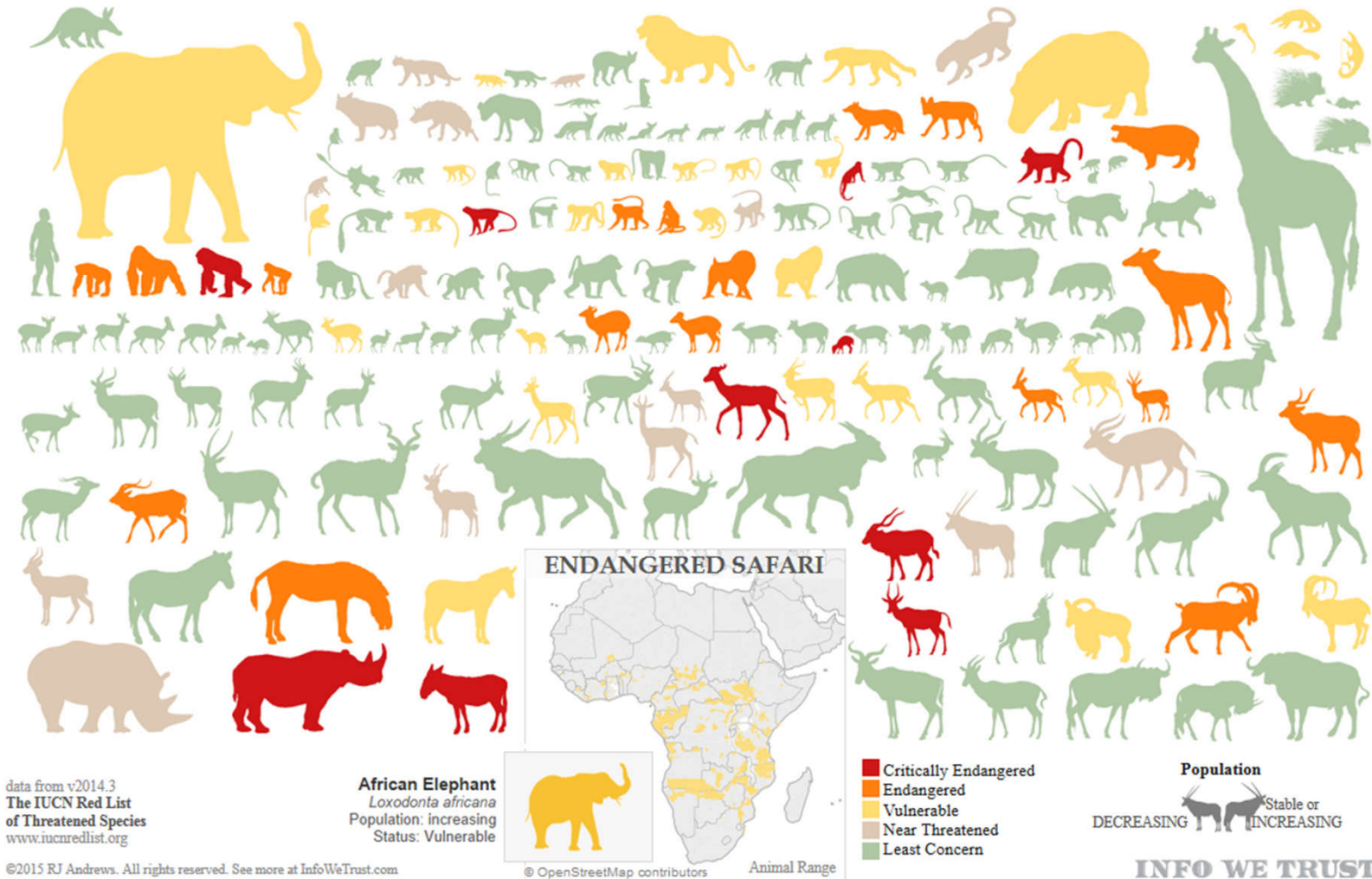
Regional Hot Spots (% of Total Revenue)



# Voorbeelden

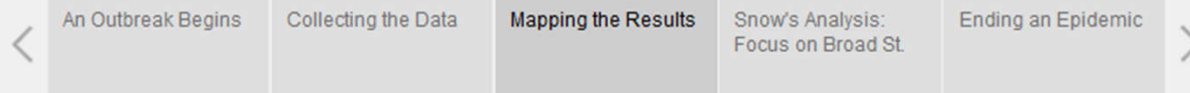


# Infographic



# Storytelling

## London's 1854 Cholera Outbreak: Data Mapping Halts an Epidemic



Then, Snow mapped these data points onto a map of the Soho neighborhood.

The results were startling.

NB: The map reprinted here is Snow's original. I geocoded the addresses, introduced the number of deaths as a dimension in the dataset, and uploaded the map as a background image. Then, I conformed the dimensions of the map to the appropriate lat/long. Thus, the locations appear as they would have on Snow's map.

### No. Deaths at Address

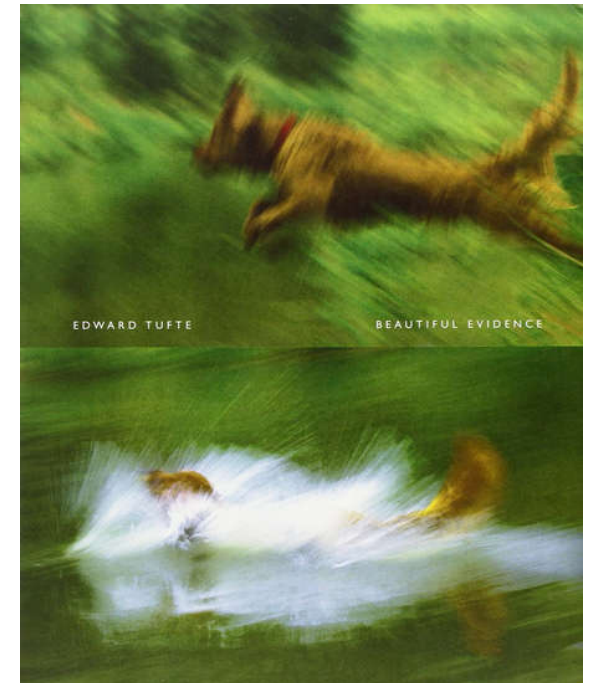
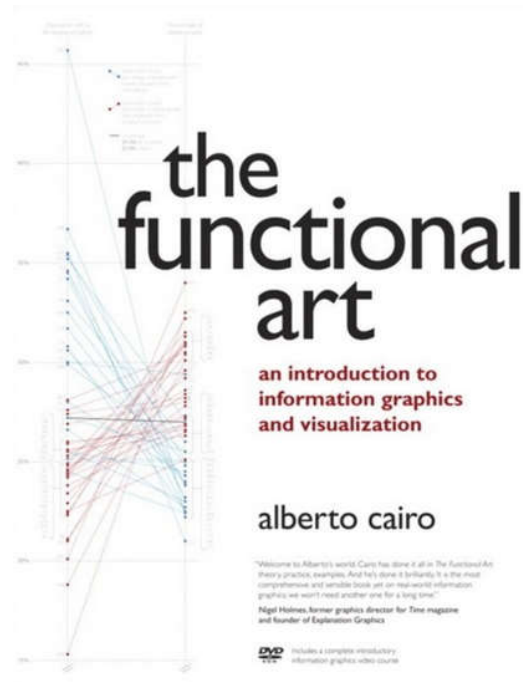


### Water Pumps





# Literatuur



The screenshot displays the Infotopics Academy website. The header features the Infotopics logo and a navigation menu with links for Consultancy, Software, Academy, Solutions, Klanten, Actueel, and Over ons, along with a TRIALS button and a search icon. Below the header is a large banner image showing a group of people in a classroom setting.

The main content area is divided into a sidebar on the left and a grid of course cards on the right.

**Search and Filter Section:**

- Zoeken...** (Search bar)
- Filter op tool**
  - > Alteryx
  - > Tableau Desktop
  - > Tableau Server
- Filter op niveau**
  - > Beginner
  - > Experienced
  - > Expert
  - > Maatwerk
- Filter op locatie**
  - > Inhouse
  - > Open inschrijving
- Filter op rol**
  - > Analist
  - > Architect
  - > Beheerder (Administrator)
  - > Business user

**Course Grid:**

| Course Title                    | Details Link |
|---------------------------------|--------------|
| Datavisualisatie & Storytelling | Details      |
| E-commerce Analytics            | Details      |
| Performance Improvement Tableau | Details      |
| Statistics for Business         | Details      |
| Tableau Beginner                | Details      |
| Tableau Business User           | Details      |
| Tableau Experienced             | Details      |
| Tableau Expert                  | Details      |
| Tableau Follow-up               | Details      |



# 50% KORTING

Ontvang 50% korting op onderstaande training bij aanschaf van een Tableau Creator\*\* licentie!

## TABLEAU BASIS

Dé Infotopics Tableau Basis training\*: In twee dagen de algehele basis van Tableau beheersen. Leerzaam en inspirerend!

- Twee dagen aan de slag met Tableau
- Deelnamecertificaat Tableau Basistraining
- Inclusief dashboard om mee te nemen
- Inclusief luxe lunch

[Ik wil meer weten!](#)

\* De aanmelding dient uiterlijk 5 werkdagen van te voren plaats te vinden

\*\* [Klik hier](#) voor meer informatie over een Tableau Creator licentie



DANK U!