



Telling your story through data visualisation

Direction Access to and Reuse of Public Information

Unit EU Open Data and CORDIS

Sector EU Open Data

ISA2 programme



What's ISA2?

ISA2 supports the development of **digital solutions** enabling public administrations, businesses and citizens in Europe to benefit from **interoperable cross-border and cross-sector public services**.

How OP is involved in ISA2?

OP is aiming at improving open services in the areas of:

- Data visualisation
- Linked open data
- Persistent identification



Upcoming training & workshop sessions

Topic	Type of session	Lux.	Bxl.
Making great online data visualisations	workshop	26/06	-
Going beyond bars and lines	Training	24/09	Oct
Making data viz like a pro - D3.js	Workshop	25/09	-
Applying data visualisation in use cases	workshop	24/10	-

and also [webinars](#)... stay tuned!



Data visualization events in 2019



EU DataViz 2019 - Data Visualisation for the Public Sector

- Date: 12 November 2019
- Venue: European Convention Center - Luxembourg
- Website: <https://publications.europa.eu/eudataviz>
- e-mail: op-eu-dataviz@publications.europa.eu



Agenda

- 09:00 Introduction
 - Introduction to storytelling
- 10:30 Coffee break
 - Journalistic techniques for data storytelling
- 12:00 - 13:00 Lunch
 - Data story patterns, genres and structures
- 14:30 Coffeebreak
 - Storytelling with chart design
 - Exercise: sketching a data story
- 16:30 Q&A



1. INTRODUCTION





Participants

Institution/DG and role?

What data do you work with?

Experience in data visualisation?

Expectations for today?



2.

INTRODUCTION TO STORYTELLING




Storytelling Once upon a time...



Vlaamse Volksvertegenwoordig

https://www.vlaamsparlement.be/vlaamse-volksvertegenwoordigers

 Vlaams Parlement

zoeken

Plenaire vergadering | Commissies | **Volksvertegenwoordigers** | Parlementaire documenten | Over het Vlaams Parlement


Home > Vlaamse Volksvertegenwoordigers


Vlaamse Volksvertegenwoordigers

Alfabetisch | [Deelstaatsenatoren](#) | [Per fractie](#) | [Per kieskring](#) | [\(Uitgebreid\) Bureau](#) | [Alle contactgegevens downloaden](#)


A B C D E F G H I J K L M N O P Q R S T U V W X Y Z


A


 [Imade Annouri](#)
Groen

 [Björn Anseeuw](#)
N-VA

B

 [Lionel Bajart](#)
Open Vld

 [Rob Beenders](#)
SP.a

 [Jan Bertels](#)
SP.a



Aantal vragen en initiatieven

600

400

200

0

0

Aantal tussenkomsten

200

J. De Meyer

R. Bothuyne

K. Schryvers

C. Janssens

J. Vandenbroucke

L. Peeters

P. Van Rompuy

M. Taelman

T. Soens

V. Taelman

F. Vanderjeugd

E. Robeys

B. Maertens

M. Hendrickx

K. Van Overmeire

M. Van Volcem

G. De Vroe

M. Keulen

R. Beenders

A. Christiaens

M. Fournier

S. Vandenberghe

Jans

M. Doomst

C. Franssen

K. Vanlouwey

Y. Kherbache

T. Van Grieken

I. De Meulemeester

L. Bajart

G. Dhaeseleer

S. de Bethune

C. Clercq

A. Van dermeersch

O. Depoortere

M. De Loo

D. Godderis

R. Landuyt

G. Ramon

K. Parys

N. Smits

B. Somers

J. De Ruyt

C. Campenhout

B. Tobback

B. Moyers

J. Durnez

H. Wynants

A. Soete

G. Rutten

J. Van Esbroeck

P. Coray

K. Van Dijk

J. Bertels

B. Van Malderen

A. Brusseel

F. Saeys

W. Vandaele

A. Gryffroy

B. Rzozka

W. Schiltz

E. Van den Brandt

K. Segers

H. Sandru

R. Rombo

Vandevoorde

K. Helsen

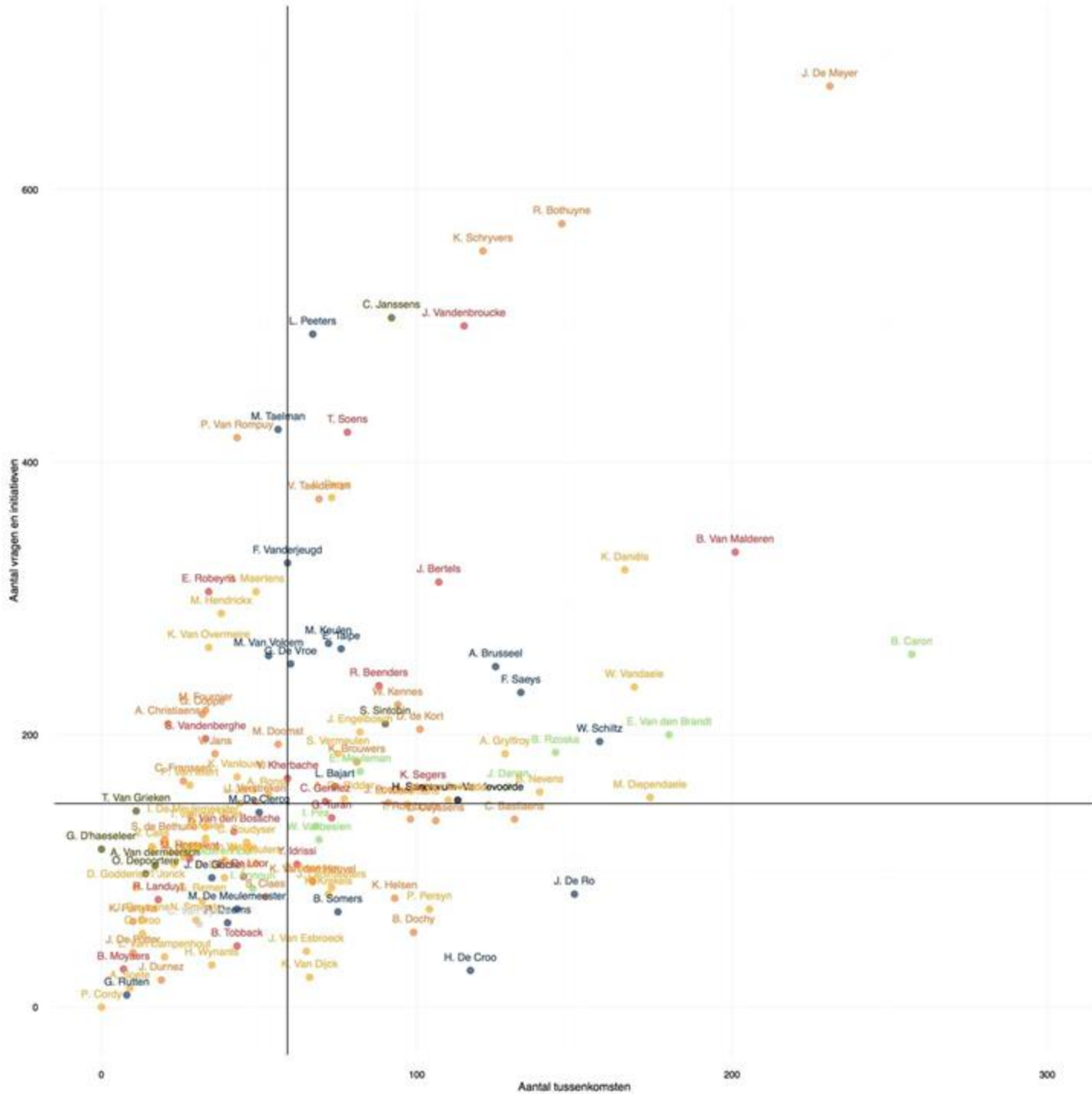
P. Persyn

B. Dochy

H. De Croo

B. Caron

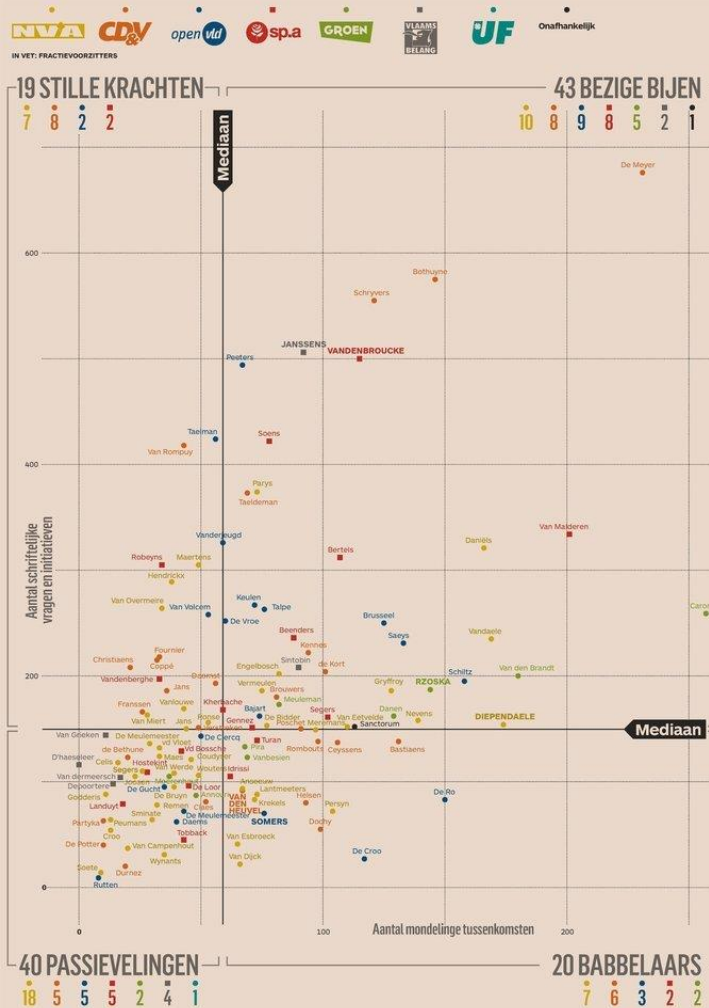




Storytelling Once upon a time...

N-VA minst actief in Vlaams Parlement

'In het Vlaams Parlement heb je mensen die hard werken en mensen die niets doen', zei voorzitter Jan Peumans (N-VA) aan het begin van het parlementaire jaar. De Tijd nam de proef op de som en ging na wie de ijverigste parlementsleden zijn. **MAARTEN LAMBRECHTS, PIETER GORDTS EN BARBARA MOENS**



De Tijd analyseerde een waaiertje aan parlementair werk: zowel mondelinge als schriftelijke initiatieven. Een van de opvallendste conclusies is dat uitgerekend de N-VA, de fractie van Peumans, niet goed uit de veer komt. De partij heeft het grootste aandeel passieve parlementsleden (43 %). Een verklaring kan zijn dat de N-VA mede door haar snelle groei veel mensen met weinig politieke ervaring in haar fractie heeft. Sommigen van hen vinden moeilijk de weg in het politieke labirynth van de Vlaamse politiek.

De NVA vindt dat niet zo erg. Als ze allemaal zo actief waren als Annick De Ridder of Lorin Parys, hadden we een probleem, klinkt het. Bovendien wil de partij het federale scenario van een overactieve fractie, met alle gevolgen van dien, absoluut vermijden. Daar slaagt fractieleider Matthias Diependaele tot nu toe goed in.

Diependaele vindt het logisch dat de N-VA-fractie het moeilijker heeft. 'We zijn met 43; dat is een derde van het Parlement. We hebben zes leden per commissie. Het is voor de N-VA moeilijker om het aantal onderwerpen en bevoegdheden over haar leden te verdelen.'

Oppositie
Uit onze oefening blijkt voorts dat de parlementsleden met een sterke reputatie zoals Robrecht Bothyone (CD&V), Joris Vandembroucke (sp.a), Annelies Gyffroy (N-VA), Jan Bertels (sp.a), Björn Roska (Groen) maar voren komen als ijverige parlementsleden. Het locht niet te verbazen dat daar twee fractievoorzitters van de oppositie tussen zitten: Vandembroucke en Roska. De rol van de oppositie blijft uit het hogere aantal initiatieven en tussenkomsten. Dat is ook logisch gezien hun functie als luis in de pelz van de regering.

Ten slotte komen parlementsleden die hun job met andere mandaten combineren sneller in de categorie 'passieve' terecht. De groep telt twee partijvoorzitters, acht burgemeesters en zes schepenen.

De grafiek vertelt maar een deel van het verhaal. Deze kwantitatieve oefening zegt niets over de inhoud of de impact van de vragen en de initiatieven of over het werk dat erin loept. Sommige parlementsleden nemen enkel het woord om zich voor de camera te profileren. Ook weten we verdomd goed dat schriftelijke vragen een graadmeter zijn in rapporten van parlementsleden.

Overschis is het niet om dat je veel vragen moet stellen om impact te hebben. Een parlementslid kan dankzij goede contacten met de regering of de kabinetten wegen op het gevorderde gebied, of dankzij goede relaties met de pers het publieke debat sturen. Die zaken vertellen zich niet in cijfers.

En Peumans? Als we dezelfde spegels hanteren als voor de andere parlementsleden, belandt hij bij de 'passieve' lingen, maar dat doet hem onrecht aan, gezien zijn specifieke opdracht als parlementsvoorzitter.

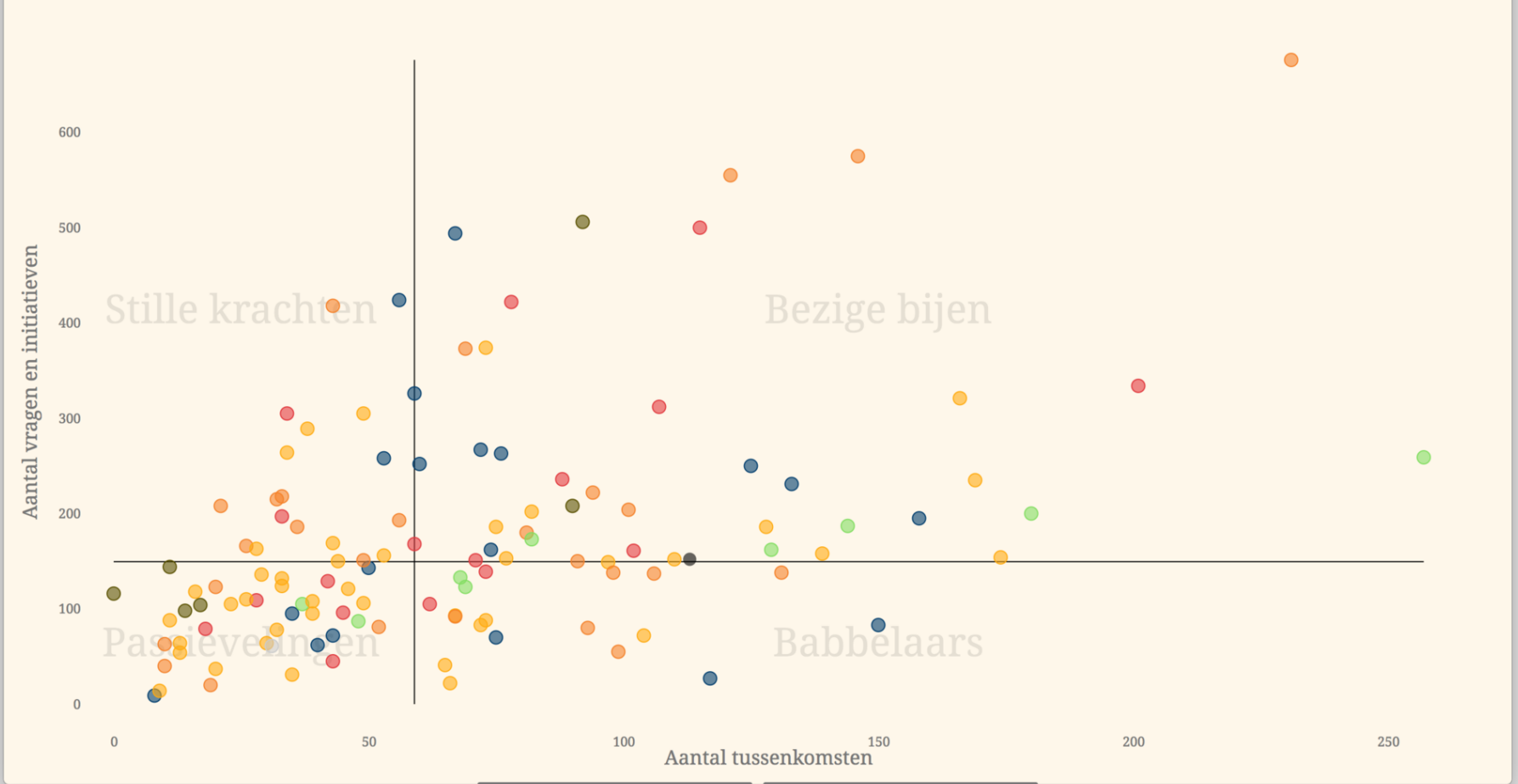
WERKWIJZE

Voor alle Vlaamse parlementsleden keken we hoe vaak ze amendementen, schriftelijke vragen en moties indienden, en hoe vaak ze het woord namen in de plenaire vergadering en de vakcommissies (tussenkomsten). De oefening werd enkel voor de huidige legislatuur (sinds 2014) gemaakt. Paul Cordy (N-VA) en Bert Moyaers (sp.a) zitten niet in de oefening aangezien ze nog maar sinds dit jaar in het Parlement zitten.

U vindt een interactieve versie van de grafiek op onze site: www.tijd.be



- CD&V
- N-VA
- Open VLD
- Groen
- s.pa
- VB
- Alle



Storytelling

Elements of a story

Once upon a time,
somewhere

Context

there was someone or
something

Character

who did something or
something happened
to him/her/it

Cause

which resulted in
him/her/it/someone
doing or being
something else

Effect





Storytelling Goal

Connect to your
audience

Engage with people, by means
of emotions + curiosity

Let people learn, understand,
remember



Storytelling

Examples of stories

Stories are everywhere

Literary stories, movies

Sports games

Religion

Politics

Brands

...

News stories

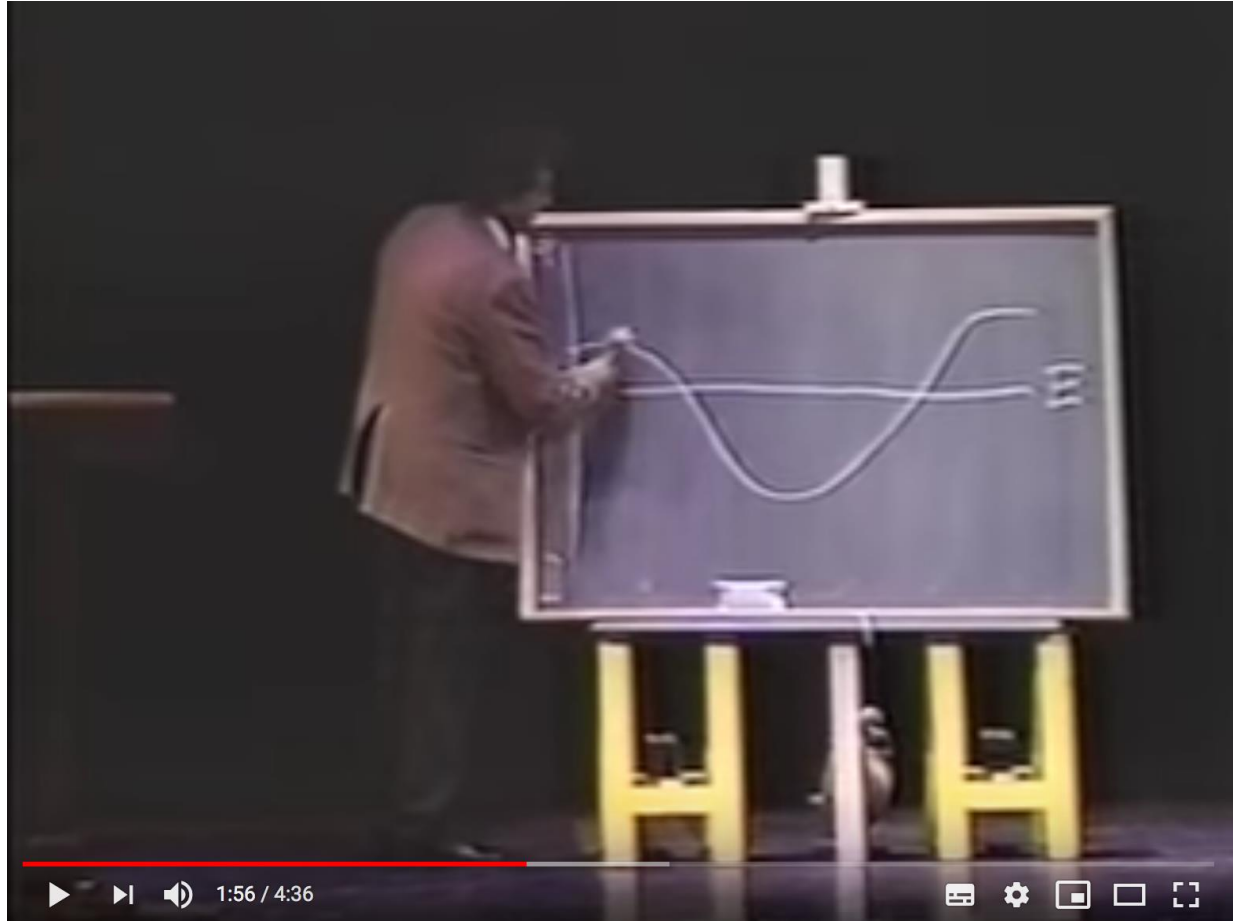


Storytelling

Why stories work

Kurt Vonnegut

The Shape of Stories



Storytelling

Literary stories

Narrative techniques

Story arc

Narrator

Cause and effect

Sensory language

Crosslinking

Appeal





3.

JOURNALISTIC TECHNIQUES FOR DATA STORYTELLING



Journalistic
techniques
News stories

Differences with
literary stories

Inform rather than entertain

Curiosity driven rather than
emotion driven



Journalistic techniques

5W

(+ 1H)

Where

When

Who

What

Why

(How)

Context

Context

Character

Cause + effect



Journalistic
techniques
Inverse pyramid

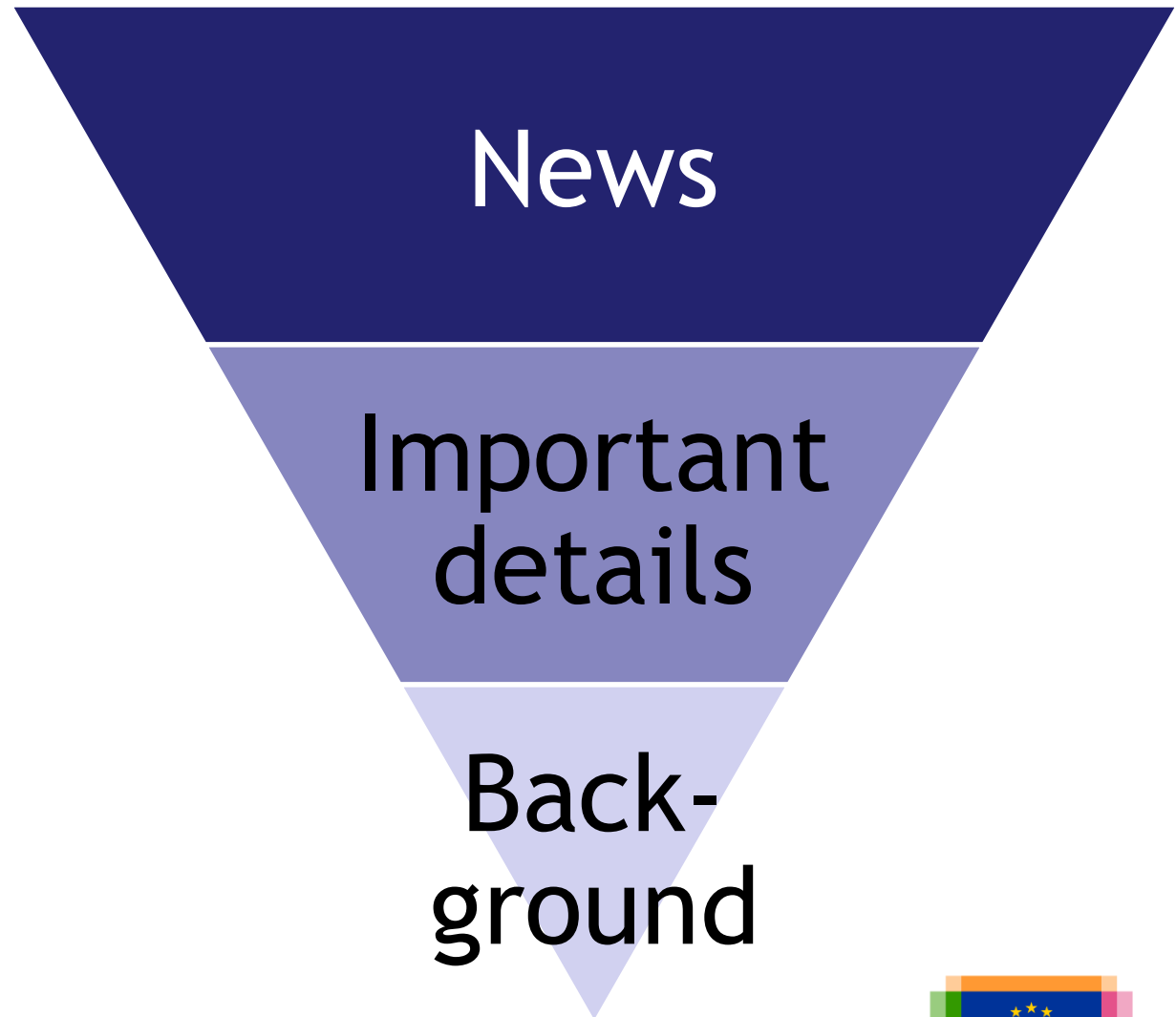
Journalistic reality:

Fixed length

Breaking news

"When in doubt, leave
things out"

"Cut from the bottom"





Journalistic
techniques
Inverse pyramid

Examples

Boris Johnson under fire over row with partner as top Tories raise fears

Scamp the Tramp is champ at World's Ugliest Dog Contest





Journalistic
techniques
Make it personal

"What's in it for me?"

Put the "you" in the
headline

[See How Your Salary Compares](#)

[The best and worst places to grow up: how your area compares](#)

[How Much Hotter Is Your Hometown Than When You Were Born?](#)

[Wann war zuletzt weiße Weihnacht in...](#)



Journalistic techniques **Put in people**

We are empathic
beings

It is much easier to
relate to a person than
to a number, a dot or
an average

What the Tax Bill Would Look Like for
25,000 Middle-Class Families

Homan Square





4.

DATA STORY PATTERNS





Data story patterns

Evolution over time

Line charts
(Vonnegut's Shape of
Stories)

Usually line charts,
but other forms are
possible

[The Greenland ice sheet is melting unusually fast](#)

[Battling Infectious Diseases in the 20th Century: The Impact of Vaccines](#)

[The chart that defines our warming world](#)



Data story patterns

Zoom in

Start with the overview, than zoom to interesting details

[Cancer prevalence and survival rates](#)

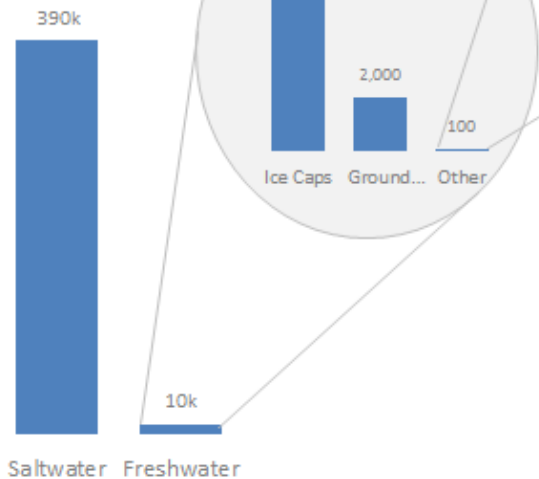
[Lazy Members of Parliament](#)



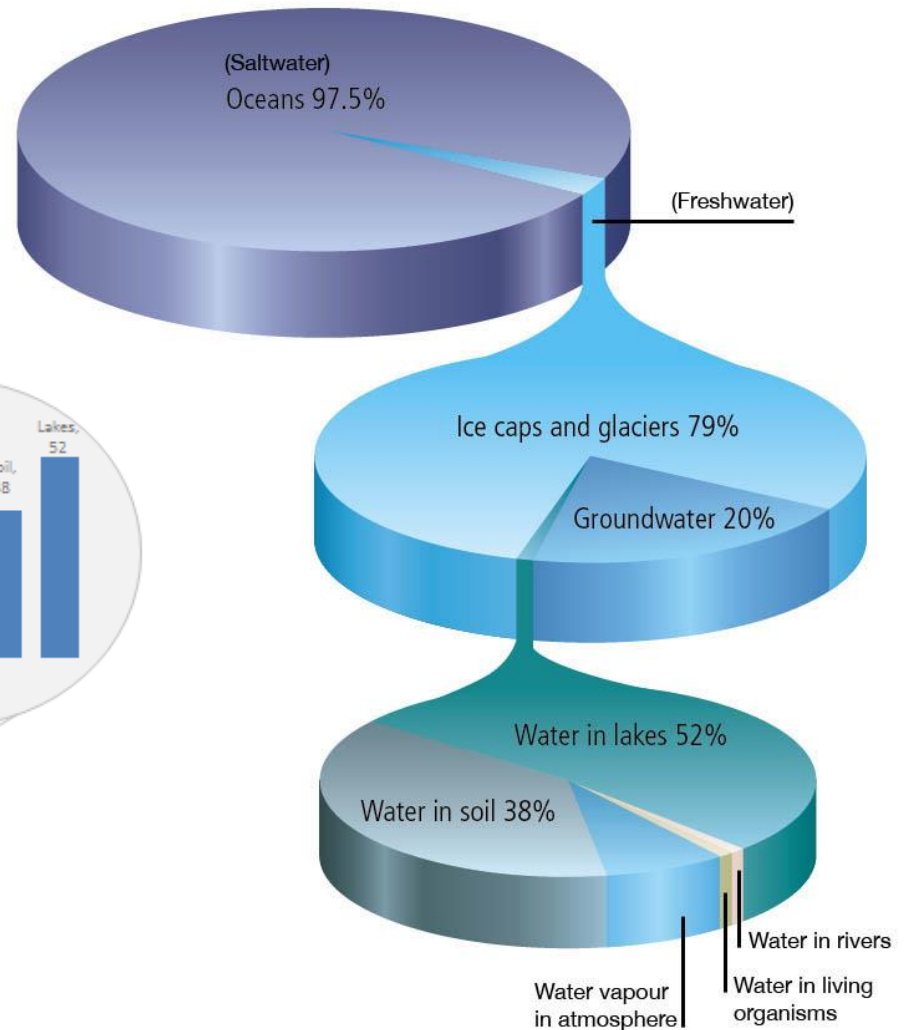
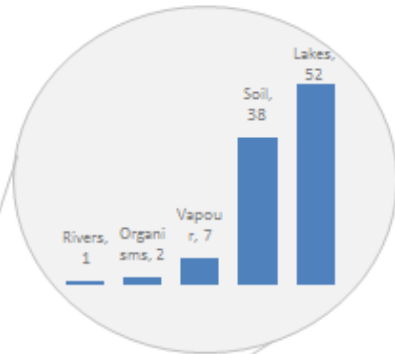
Data story patterns

Zoom in

Start with the overview, than zoom to interesting details



Sources of Water
Bar of a bar of a bar chart



Data story patterns

Zoom out

Start with a single data point, then zoom out to general overview

[Living in China's Expanding Deserts](#)

[The story of a house: how private equity swooped in after the subprime crisis](#)

[Guns](#)



Data story patterns

Contrast

Juxtapose 2 (or more) things against each other

[The Myth of the Criminal Immigrant](#)

[The Gender Pay Gap](#)

[How terrorism in the West compares to terrorism everywhere else](#)

[Population pyramid Qatar](#)



Data story patterns

Intersections

Something overtakes
something else

[Chance of Winning Presidency](#)

[How to make a bump chart](#)

[Bar chart race](#)



Data story patterns

Components

A whole composed of components

[Drugs, gold, cash and alcohol](#)

[All 5.5 million Belgian cars in one graphic](#)

[A world of languages - and how many speak them](#)

[Four Ways to Slice Obama's 2013 Budget Proposal](#)



Data story patterns

Outliers

Very high or very low values

What Lies in Irma's Path

The Greenland ice sheet is melting unusually fast

Where the Labour Market is Tightening

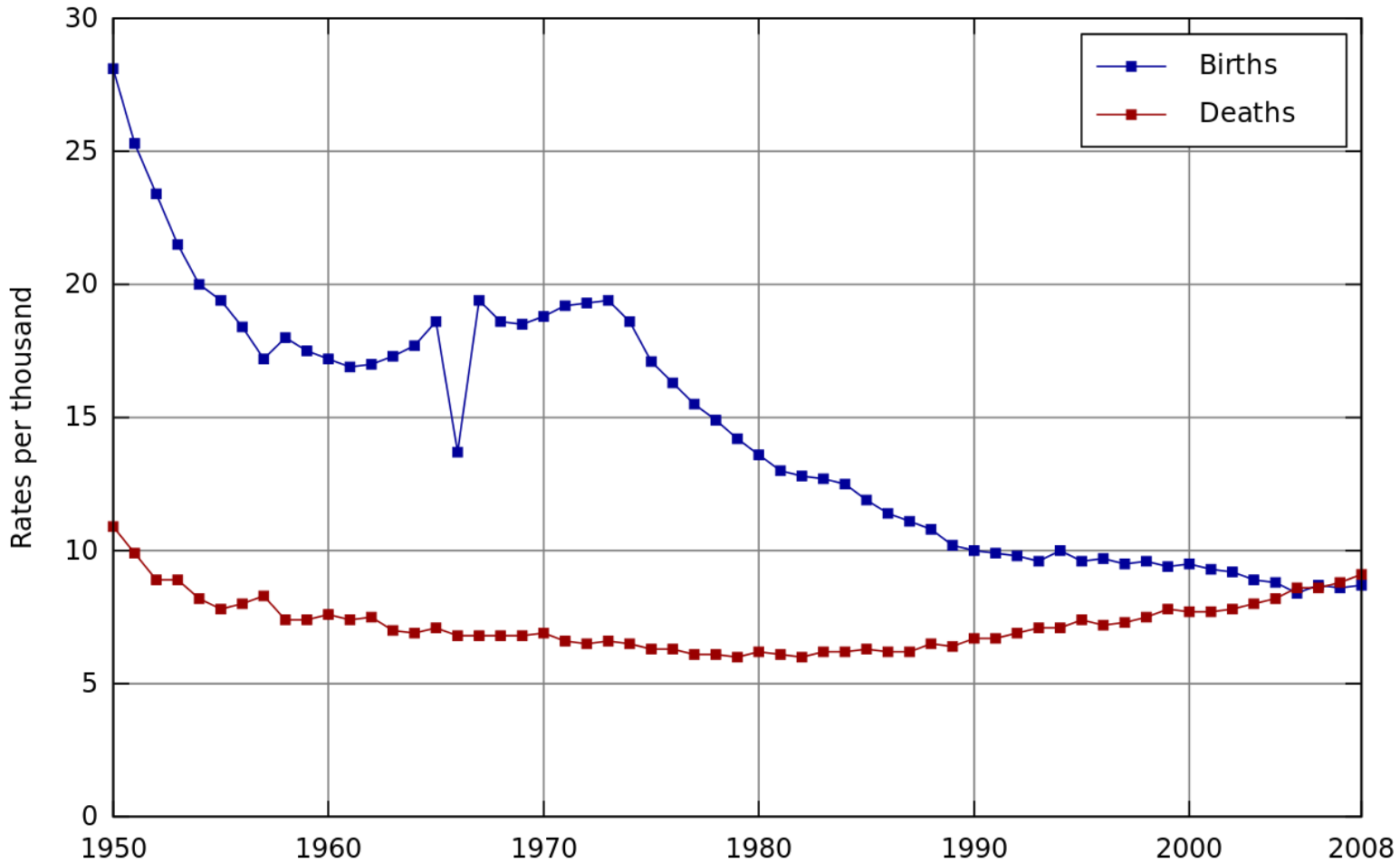
Ergebnisse der Grünen bei Europa



Data story patterns

Outliers

Birth and death rates in Japan



Data story patterns

Repetition

Fairy tales (Red Riding Hood, 3 little pigs, ...) also use this technique

What's really warming the world

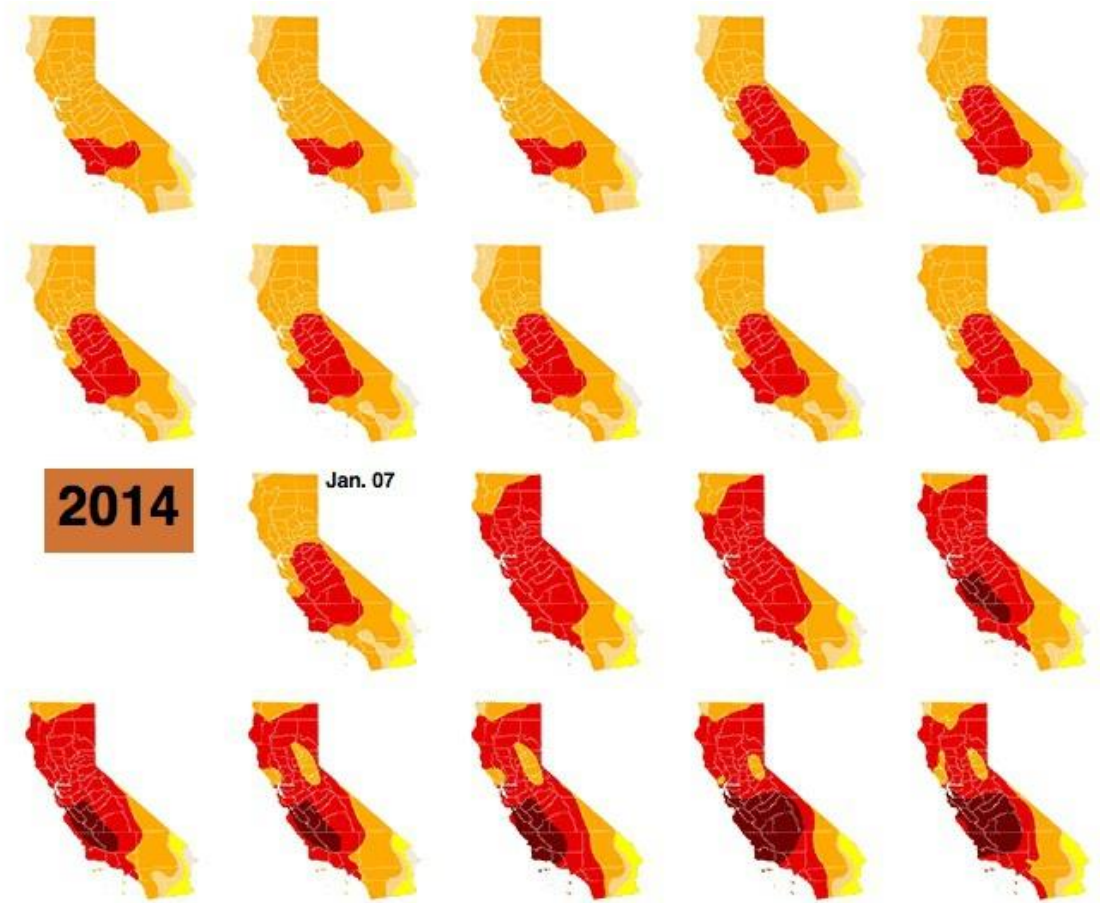
How work has evolved for Switzerland's women and men



Data story patterns

Repetition

Small multiples are a visualisation technique that uses repetition



Data story patterns

Gradual visual reveal

Start simple, add complexity and data step by step

[How Trump's Trade War Went From 18 Products to 10,000](#)

[Reading the Brexit tea leaves](#)

[Rock 'n poll](#)



Data story patterns

Humans behind the dots

Make abstract data
more relatable,
connect emotionally

Homan Square

The terrible numbers that grow with each
mass shooting

The figures behind the faces



Data story patterns

Make a guess

Test own assumptions,
curiosity

Gamification

You draw it

You draw the charts: 60 years of change

Wissen Sie noch, wo Deutschland geteilt war?

How well can you identify news trends?



Data story patterns

Surprising, unusual

Breaking conventions
attracts attention

[Data and Politics World Map](#)

[The glass ceiling persists](#)



Data story patterns

Concretise

Make numbers less abstract

Household Income Distribution in the U.S.
Visualized as 100 Homes

Isotype

Wee people



5.

DATA STORY GENRES



Data story genres

Magazine style



[Migration since the Brexit vote: what's changed in six charts](#)

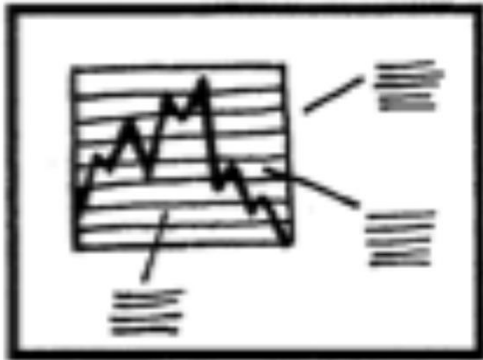
[The UK contribution to the EU budget](#)

[6 Reasons That Pay Has Lagged Behind U.S. Job Growth](#)



Data story genres

Annotated chart



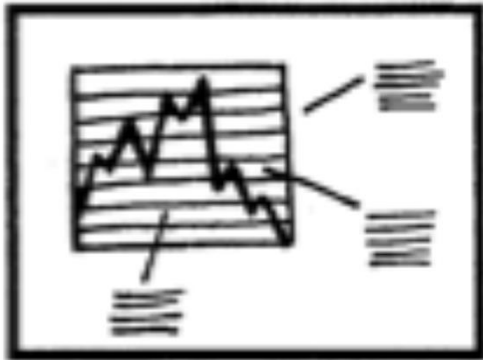
“The annotation layer is the most important thing we do. Otherwise it's a case of here it is, you go figure it out.”

- Amanda Cox, New York Times



Data story genres

Annotated chart



Clearing the air

Arctic Ice Reaches a Low Winter Maximum

Is now the right time to buy property in London?

Bailout cost will be a burden for years



Data story genres

Partitioned poster



Mostly for print

Also known as infographic

[La Catedral, al detalle](#)

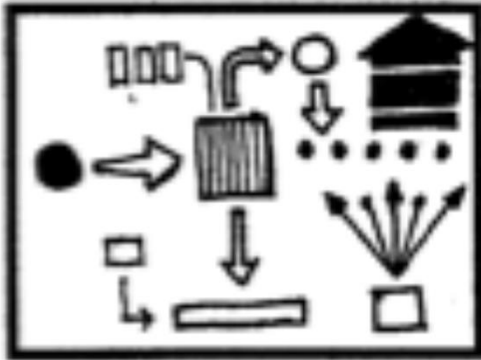
[EU Youth Report Infographics](#)

[En Europe, le grand écart des populations](#)



Data story genres

Flow chart



[How Google dominates virtually every step of buying and selling ads online](#)

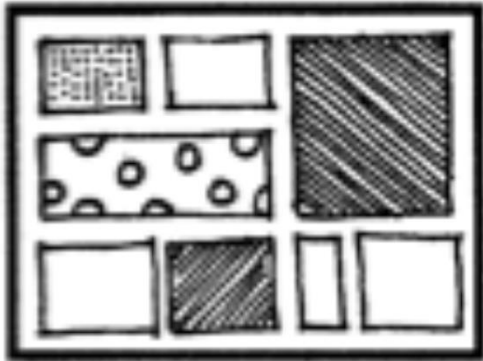
[The Man Trying to Make Sense of Brexit Is Tired and Would Like to Stop Now](#)

[512 Paths to the White House](#)



Data story genres

Comic strip



[Datacomics](#)

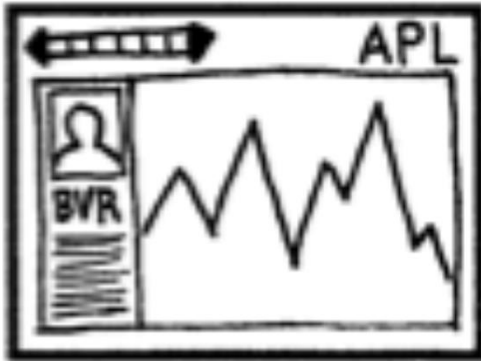
[A day in the life of Americans](#)

[Historia de Zainab](#)



Data story genres

Slide show



[A 3-D View of a Chart That Predicts The Economic Future: The Yield Curve](#)

[How Belgium is heating up](#)

[Flourish stories](#)

[Going Grey](#)



Data story genres

Video/animation



Datagifs



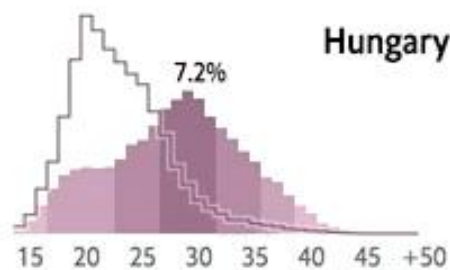
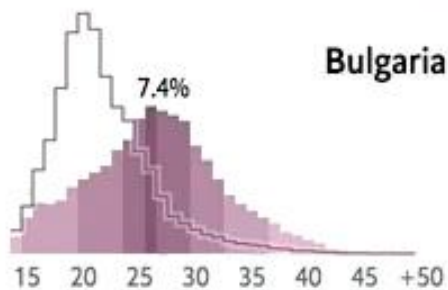
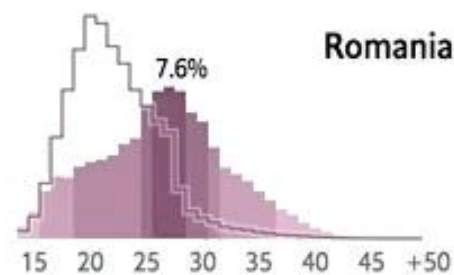
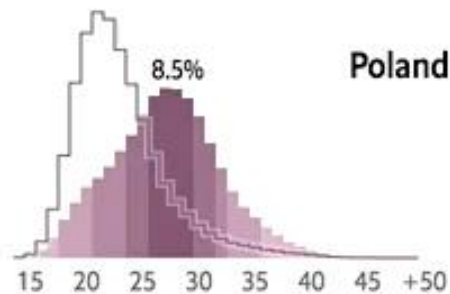
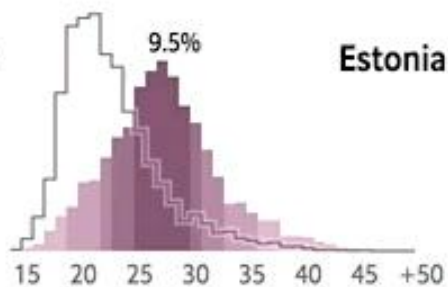
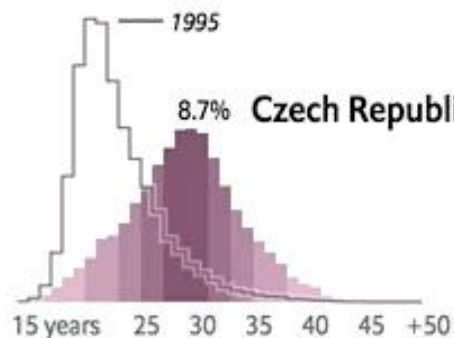
Thirty is the new twenty

Ages of women at first birth, selected countries

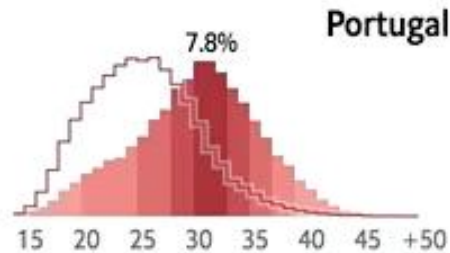
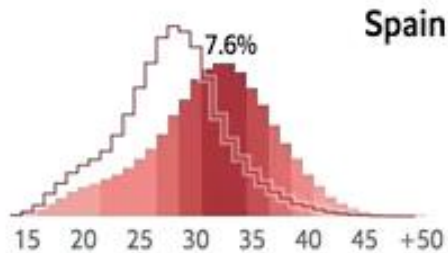
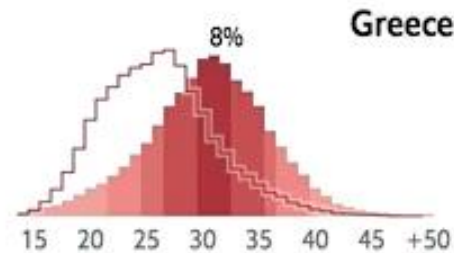
1995*

2015 ↻

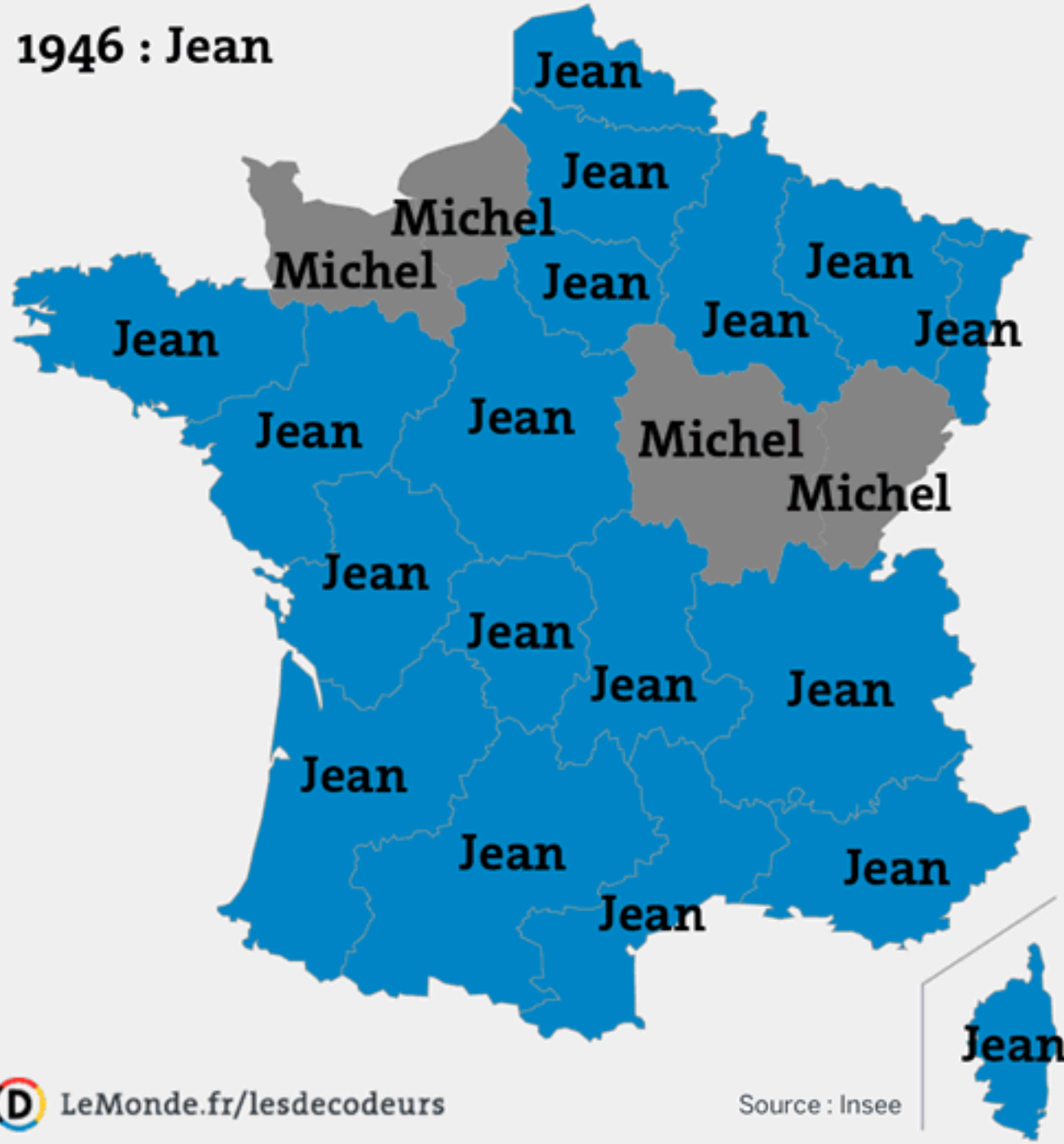
Eastern Europe



Southern Europe



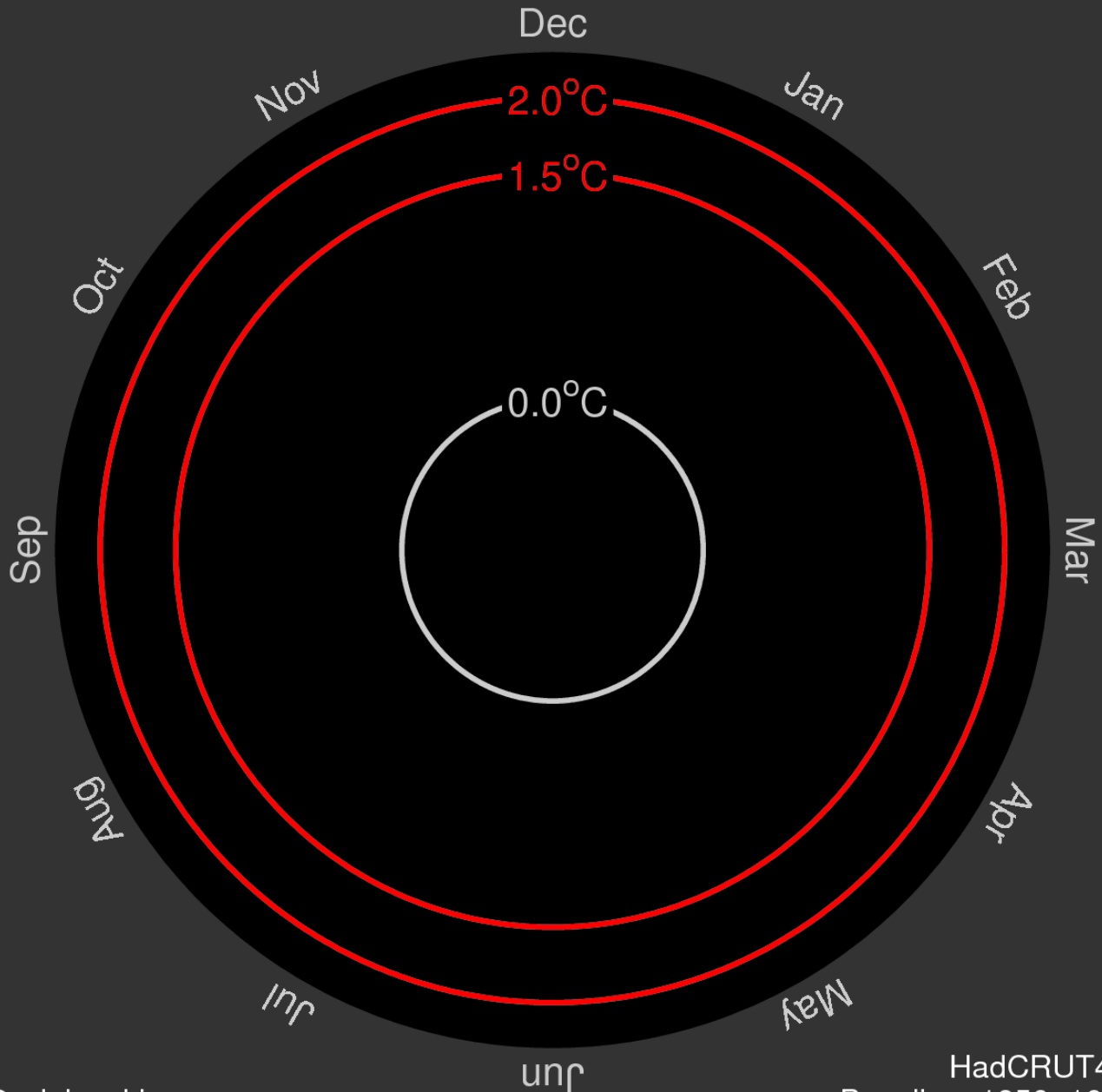
1946 : Jean



Global temperature change (1850–2017)



55



@ed_hawkins

HadCRUT4.5
Baseline: 1850–1900



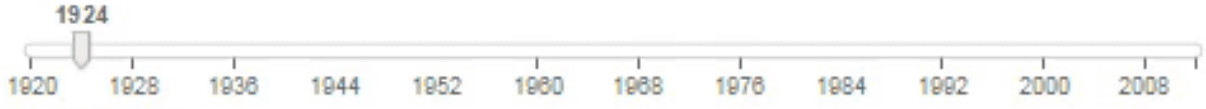
06:29



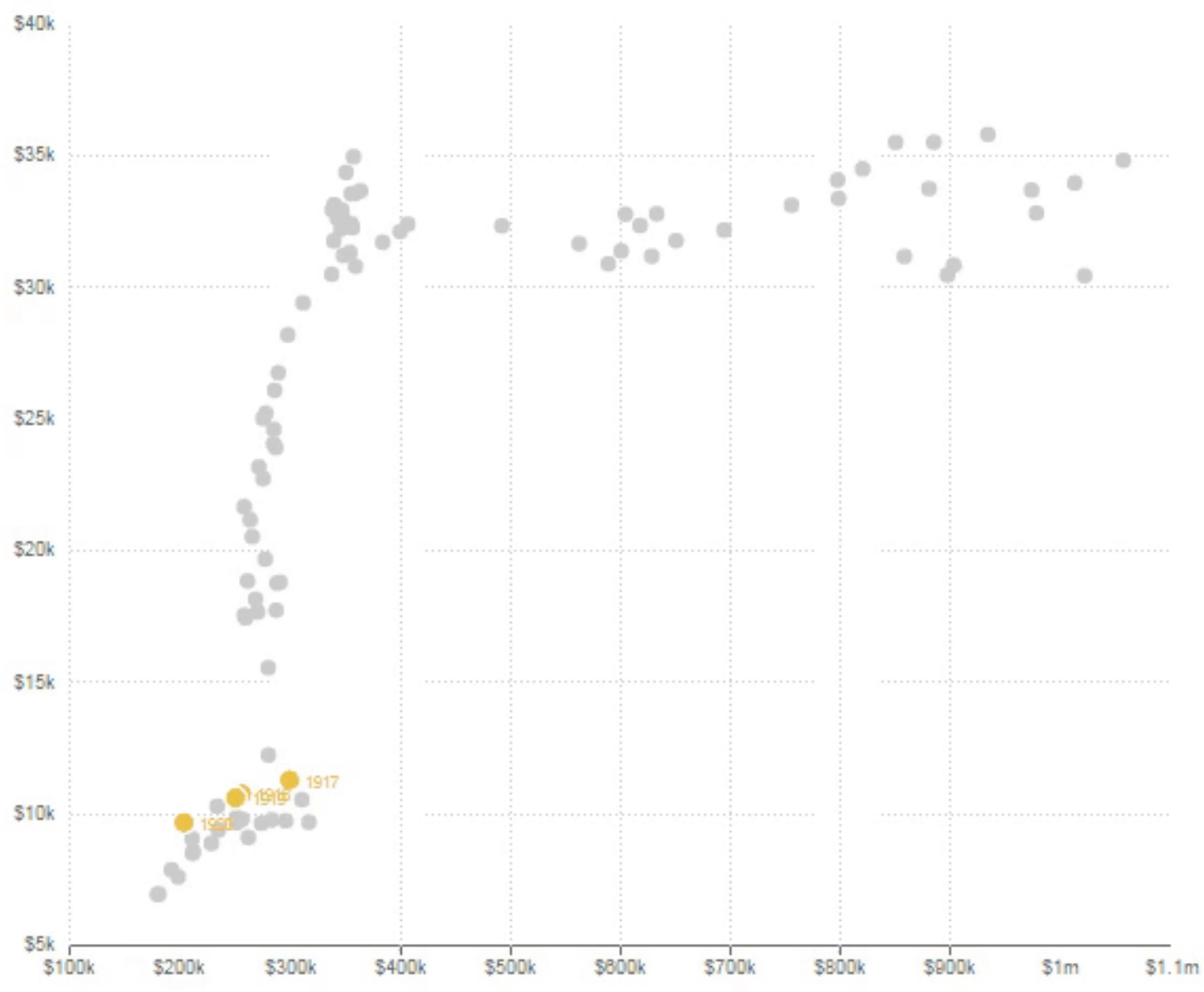
Source: Plane Finder

JOHN MUYSKENS/THE WASHINGTON POST

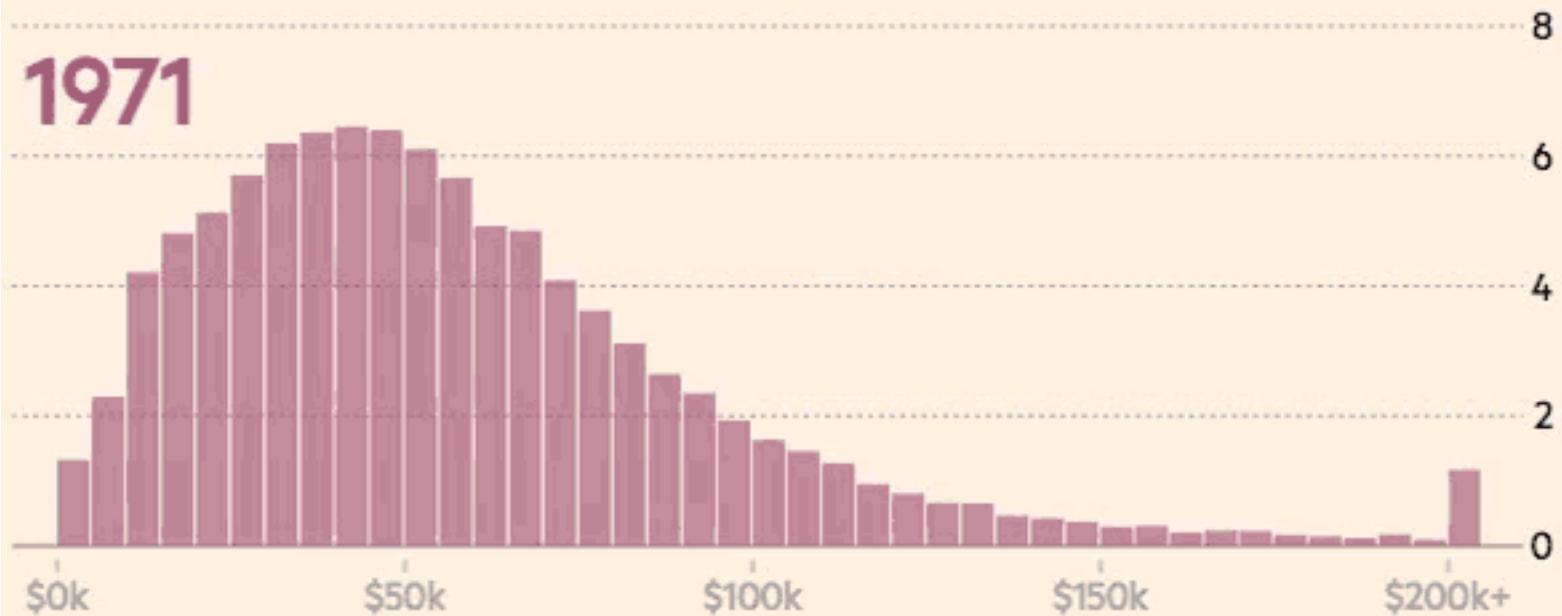
PAUSE



Average income for the bottom 90%



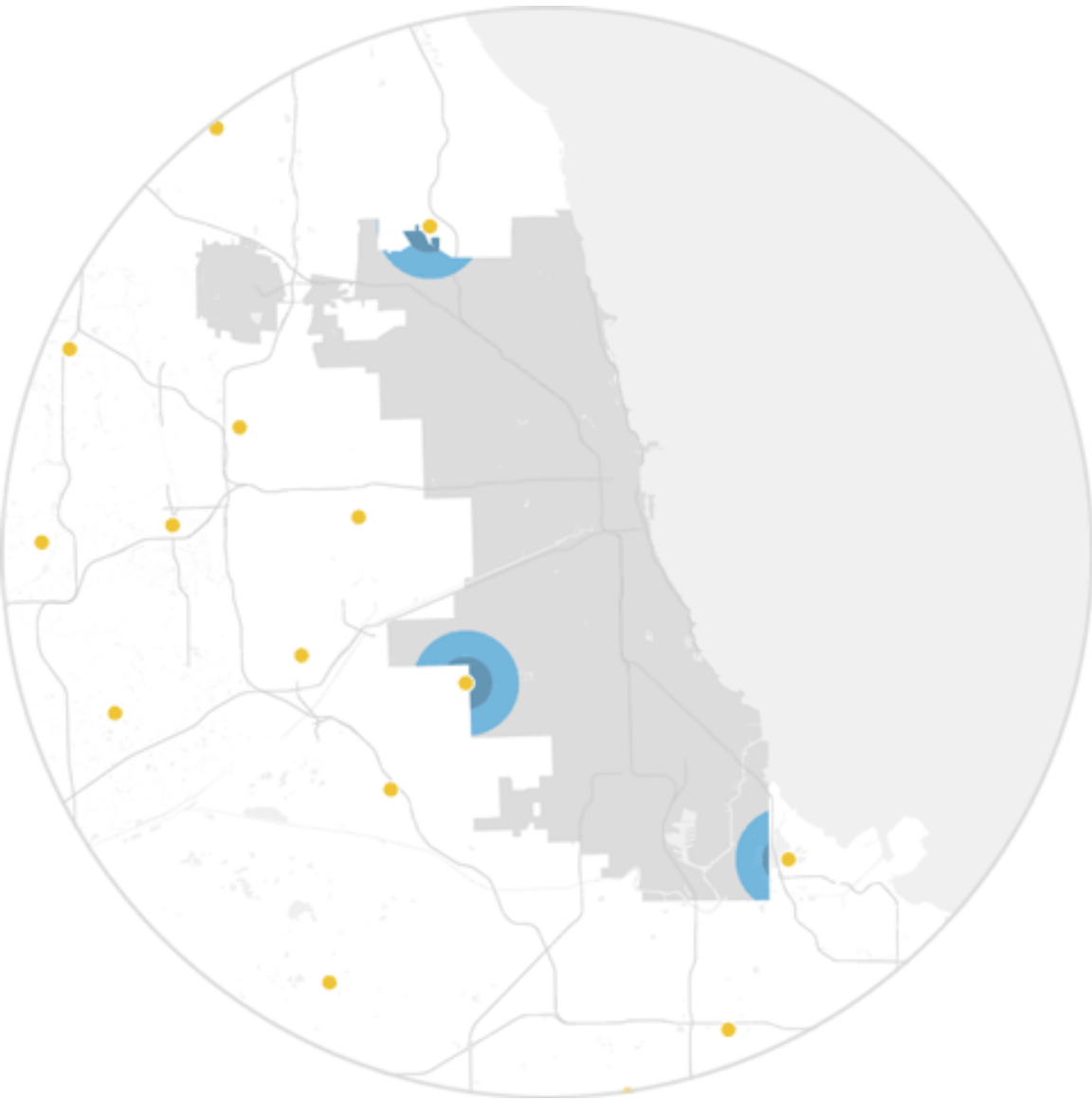
Household income in 2014 dollars (% of adults)



FT graphic Alan Smith, Source: Pew Research Center

FT





Share of
CHICAGO
residents within
1 or 2 miles
of a Wal-Mart

2005
>1% within 1 mile
4% within 2 miles



Women's 800-meter Freestyle

Belmonte 

Ashwood 

Smith 

Kapas 

Ledecky 

Carlin 

Friis 

Kohler 

Race shown at 12x speed.



Data story genres

Video/animation



[Why data visualisation needs a play button](#)

[Bar chart race](#)

[On an average day in the Netherlands](#)

[Wealth inequality in America](#)

[The Shadow Peace](#)





6.

DATA STORY STRUCTURES



Data story structure

Explanatory vs exploratory

Explanatory = Author-
driven

Linear path

No interactivity

Storytelling + efficient
communication



Data story structure

Explanatory vs exploratory

Exploratory = User-
driven

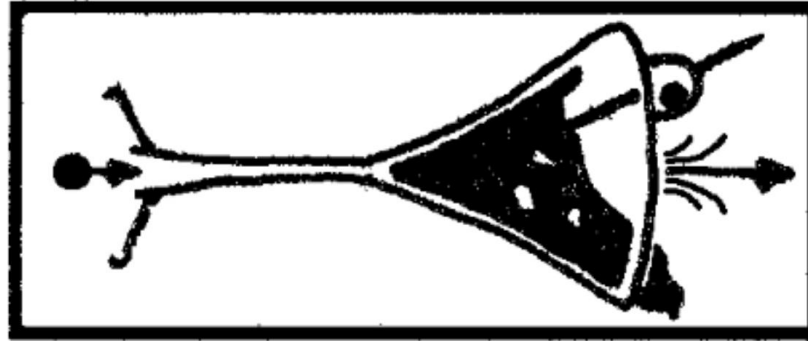
No clear path
Interactive
Storyforming



Data story structure

Author-driven vs reader-driven

Martini Glass structure



Author-driven first
Reader-driven in the end
(sandbox)

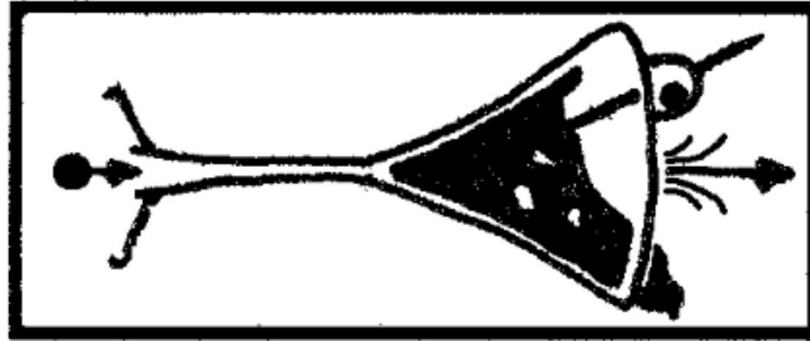
Extension of the inverted
pyramid



Data story structure

Author-driven vs reader-driven

Martini Glass structure



[Racing to parliament](#)

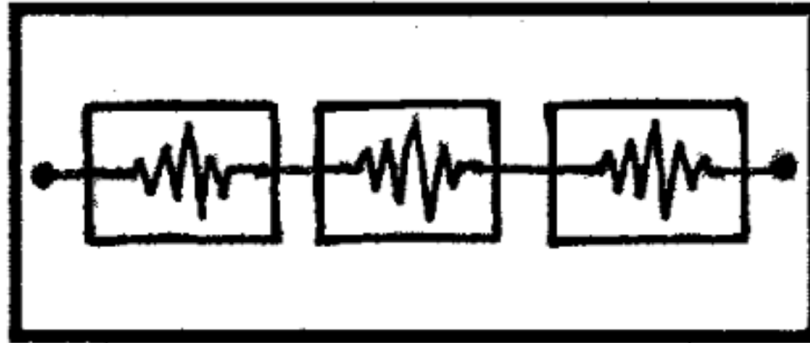
[The Complete History of the NBA](#)



Data story structure

Author-driven vs reader-driven

Interactive slideshow



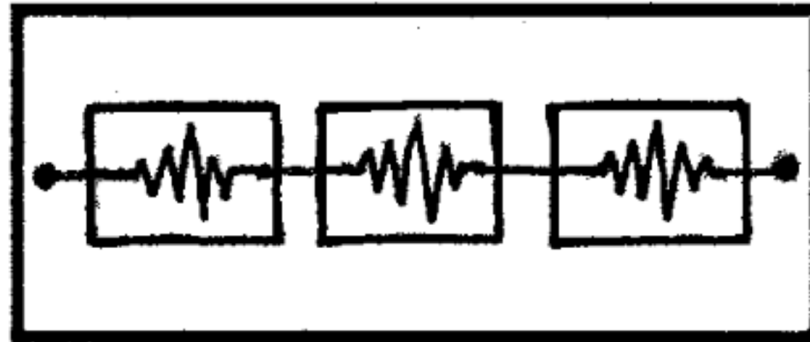
Author-driven sequence of slides

Reader-driven interaction within each slide



Data story structure Author-driven vs reader-driven

Interactive slideshow



[A 3-D View of a Chart That Predicts The Economic Future](#)

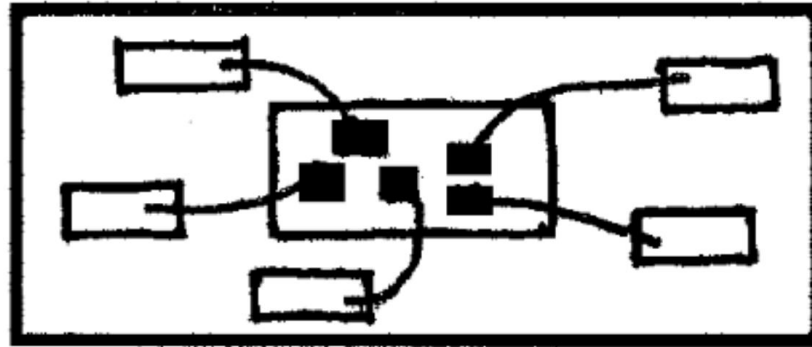
[Hot Dogs: America's Most Popular Breeds](#)



Data story structure

Author-driven vs reader-driven

Drill-down story



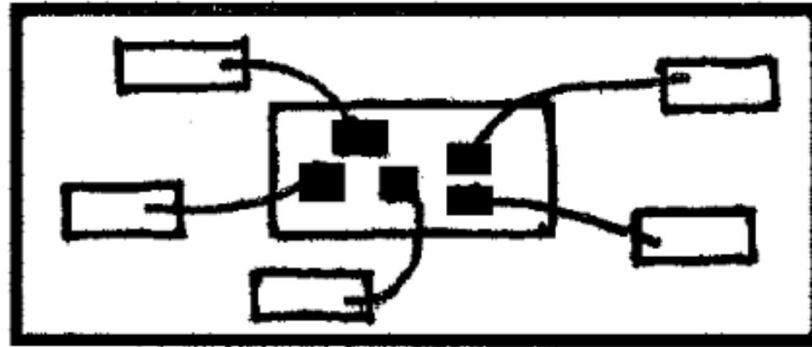
Reader-driven sequence



Data story structure

Author-driven vs reader-driven

Drill-down story



Example?



7. STORYTELLING WITH CHART DESIGN



Chart design

Chart type

Visual Vocabulary

Deviation	Correlation	Ranking	Distribution	Change over Time	Magnitude	Part-to-whole	Spatial	Flow
<p>Deviation</p> <p>Explains how values of 1 item differ from the rest. Typically, the reference point is the mean but it can also be a target or a single data average. Can also be used to show variance (standard deviation).</p> <p>Example FT uses</p> <p>Traffic in London's climate change</p>	<p>Correlation</p> <p>Show the relationship between two or more variables. An indicator of how one variable affects another. Can be used to predict the likelihood of one variable occurring based on the value of another.</p> <p>Example FT uses</p> <p>Effect of unemployment insurance on wages</p>	<p>Ranking</p> <p>Use when an item's position is ordered or its performance can be ranked or relative value. Best to avoid to highlight the values of interest.</p> <p>Example FT uses</p> <p>Results of the 2016 election</p>	<p>Distribution</p> <p>Show where a subset of items fits within the rest. The shape of the distribution reveals the probability of an item occurring. Can be used to highlight the values of interest.</p> <p>Example FT uses</p> <p>Income of the world's population</p>	<p>Change over Time</p> <p>Use to compare to things that change over time. Can be used to show the direction of change. Best to avoid to highlight the values of interest.</p> <p>Example FT uses</p> <p>Share of the world's population</p>	<p>Magnitude</p> <p>Show the comparison between two or more values. Can be used to highlight the values of interest. Best to avoid to highlight the values of interest.</p> <p>Example FT uses</p> <p>Share of the world's population</p>	<p>Part-to-whole</p> <p>Show how a part relates to the whole. Can be used to highlight the values of interest. Best to avoid to highlight the values of interest.</p> <p>Example FT uses</p> <p>Share of the world's population</p>	<p>Spatial</p> <p>Use to show the relationship between two or more variables. Can be used to highlight the values of interest. Best to avoid to highlight the values of interest.</p> <p>Example FT uses</p> <p>Share of the world's population</p>	<p>Flow</p> <p>Show the relationship between two or more variables. Can be used to highlight the values of interest. Best to avoid to highlight the values of interest.</p> <p>Example FT uses</p> <p>Share of the world's population</p>
<p>Emerging bar</p> <p>A simple bar chart that can be used to compare two or more categories.</p>	<p>Scatterplot</p> <p>The standard way to show the relationship between two or more variables. Can be used to highlight the values of interest.</p>	<p>Ordered bar</p> <p>Shows the relationship between two or more variables. Can be used to highlight the values of interest.</p>	<p>Histogram</p> <p>The standard way to show the relationship between two or more variables. Can be used to highlight the values of interest.</p>	<p>Line</p> <p>The standard way to show the relationship between two or more variables. Can be used to highlight the values of interest.</p>	<p>Column</p> <p>Countries work well for showing change over time. Can be used to highlight the values of interest.</p>	<p>Stacked column/bar</p> <p>A simple way of showing the relationship between two or more variables. Can be used to highlight the values of interest.</p>	<p>Basic choropleth (contour)</p> <p>Use to show the relationship between two or more variables. Can be used to highlight the values of interest.</p>	<p>Sankey</p> <p>Shows the relationship between two or more variables. Can be used to highlight the values of interest.</p>
<p>Emerging stacked bar</p> <p>The best way to present the relationship between two or more variables. Can be used to highlight the values of interest.</p>	<p>Column line timeline</p> <p>A good way of showing the relationship between two or more variables. Can be used to highlight the values of interest.</p>	<p>Ordered column</p> <p>Shows the relationship between two or more variables. Can be used to highlight the values of interest.</p>	<p>Dot plot</p> <p>A simple way of showing the relationship between two or more variables. Can be used to highlight the values of interest.</p>	<p>Column + line timeline</p> <p>A good way of showing the relationship between two or more variables. Can be used to highlight the values of interest.</p>	<p>Bar</p> <p>See above. Good when the relationship between two or more variables is complex. Can be used to highlight the values of interest.</p>	<p>Horizontal stacked bar</p> <p>Use for data where the relationship between two or more variables is complex. Can be used to highlight the values of interest.</p>	<p>Proportional symbol (area/length)</p> <p>Use for data where the relationship between two or more variables is complex. Can be used to highlight the values of interest.</p>	<p>Waterfall</p> <p>Designed to show the relationship between two or more variables. Can be used to highlight the values of interest.</p>
<p>Spike</p> <p>Use to show the relationship between two or more variables. Can be used to highlight the values of interest.</p>	<p>Correlated scatterplot</p> <p>Use to show the relationship between two or more variables. Can be used to highlight the values of interest.</p>	<p>Dot strip plot</p> <p>A simple way of showing the relationship between two or more variables. Can be used to highlight the values of interest.</p>	<p>Dot strip plot</p> <p>A simple way of showing the relationship between two or more variables. Can be used to highlight the values of interest.</p>	<p>Signs</p> <p>Good for showing the relationship between two or more variables. Can be used to highlight the values of interest.</p>	<p>Point column</p> <p>Use when the relationship between two or more variables is complex. Can be used to highlight the values of interest.</p>	<p>Pie</p> <p>A common way of showing the relationship between two or more variables. Can be used to highlight the values of interest.</p>	<p>Flow map</p> <p>Use to show the relationship between two or more variables. Can be used to highlight the values of interest.</p>	<p>Chart</p> <p>A simple way of showing the relationship between two or more variables. Can be used to highlight the values of interest.</p>
<p>Barstacked/Bar line</p> <p>The standard way to show the relationship between two or more variables. Can be used to highlight the values of interest.</p>	<p>Bubble</p> <p>Use to show the relationship between two or more variables. Can be used to highlight the values of interest.</p>	<p>Dot strip plot</p> <p>A simple way of showing the relationship between two or more variables. Can be used to highlight the values of interest.</p>	<p>Dot strip plot</p> <p>A simple way of showing the relationship between two or more variables. Can be used to highlight the values of interest.</p>	<p>Area chart</p> <p>Use when the relationship between two or more variables is complex. Can be used to highlight the values of interest.</p>	<p>Horizontal bar</p> <p>Use when the relationship between two or more variables is complex. Can be used to highlight the values of interest.</p>	<p>Donut</p> <p>A common way of showing the relationship between two or more variables. Can be used to highlight the values of interest.</p>	<p>Contour map</p> <p>Use to show the relationship between two or more variables. Can be used to highlight the values of interest.</p>	<p>Network</p> <p>Use to show the relationship between two or more variables. Can be used to highlight the values of interest.</p>
<p>Line</p> <p>The standard way to show the relationship between two or more variables. Can be used to highlight the values of interest.</p>	<p>Area chart</p> <p>Use when the relationship between two or more variables is complex. Can be used to highlight the values of interest.</p>	<p>Line</p> <p>The standard way to show the relationship between two or more variables. Can be used to highlight the values of interest.</p>	<p>Line</p> <p>The standard way to show the relationship between two or more variables. Can be used to highlight the values of interest.</p>	<p>Area chart</p> <p>Use when the relationship between two or more variables is complex. Can be used to highlight the values of interest.</p>	<p>Horizontal bar</p> <p>Use when the relationship between two or more variables is complex. Can be used to highlight the values of interest.</p>	<p>Donut</p> <p>A common way of showing the relationship between two or more variables. Can be used to highlight the values of interest.</p>	<p>Contour map</p> <p>Use to show the relationship between two or more variables. Can be used to highlight the values of interest.</p>	<p>Network</p> <p>Use to show the relationship between two or more variables. Can be used to highlight the values of interest.</p>
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Visual vocabulary

Designing with data

There are so many ways to visualise data - how do you know which one to pick? Use the categories across the top to decide which data relationship is most important in your story, then look at the different types of chart within the category to form some initial ideas about what might work best. This list is not meant to be exhaustive, nor a wizard, but is a useful starting point for making informative and meaningful data visualisations.

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Chart design

Highlighting

Labels and annotations

[Arctic Ice Reaches a Low Winter Maximum](#)

Color

[Purchasing power in Belgium](#)

Size and bolding

[The Departed: Britain's Government Is Breaking Records for Upheaval](#)

Enclosing (box, region)

Pointers

[You draw the charts: 60 years of change](#)

Motion



Chart design

Annotating

Average mark

Lowest/highest values

Target

Data labels

Explanations

Visual annotations

Once upon a time, this was a Very Important Thing

Across the globe, personality is rated as more important than looks

Economically and Physically, Blackpool is Unwell

LeBron James Scores 5,995th Playoff Point, Taking the Record From Michael Jordan



Chart design Fonts

Hierarchy

Top-left to bottom-
right

And you will read this last

You will read this first

And then you will read this

Then this one





8.

COMBINING VISUALISATIONS AND TEXT



Combining with text

Titles

Usually first thing
people look at first

Let the title tell the story

Same message as chart



Combining with text

Data labels

Put the key numbers (most recent value, ...) on the chart

Don't label every data point

Stress with a data mark

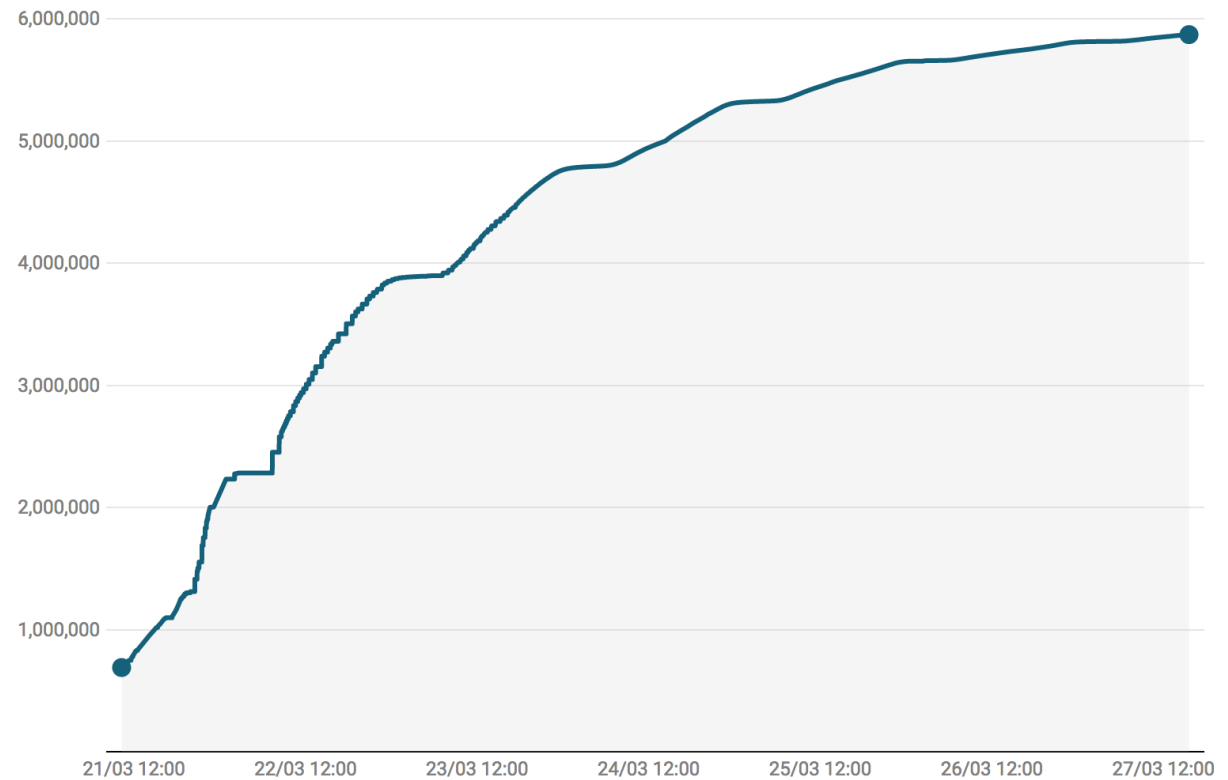


Text - visualisation integration

Text on charts

Titles (or at least units) are needed to interpret a visualisation

Datalabels provide hierarchy: not all data points are equally important



Text - visualisation integration

Text on charts

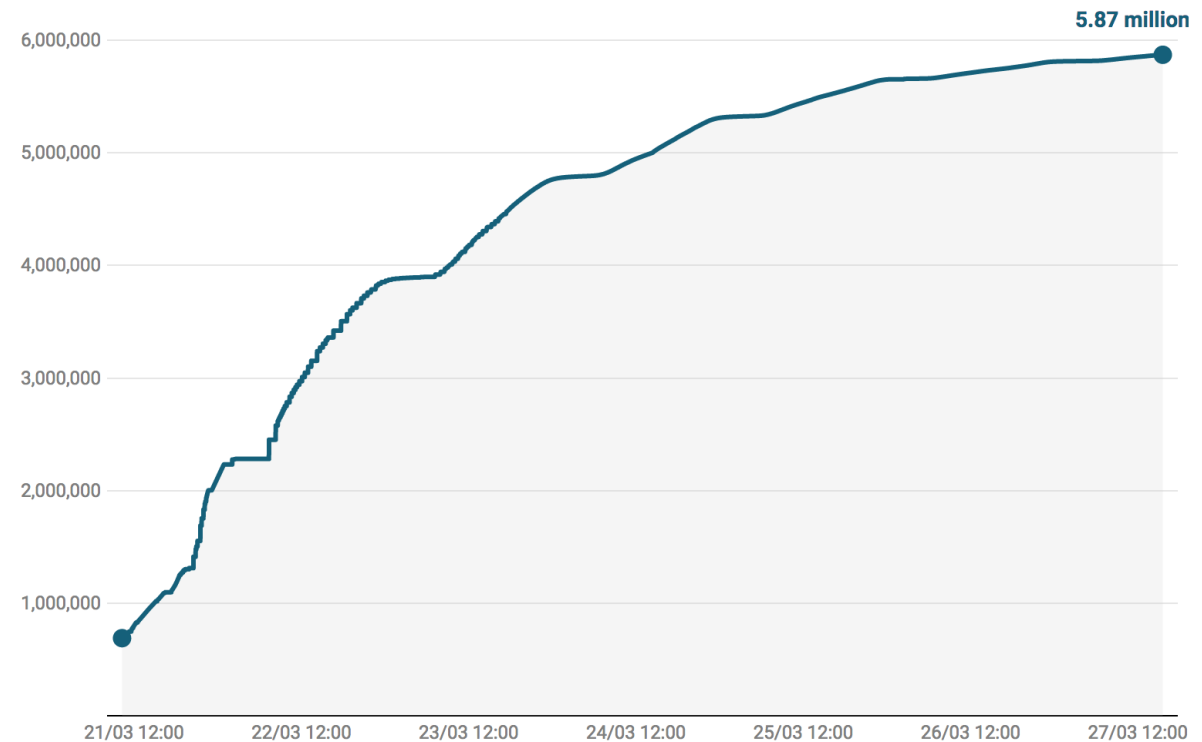
A descriptive title tells the story

Optional subtitle can give details and metadata

Source and credits make the chart self-contained

Almost 6 million Brits signed up to stop Brexit

Petition to Revoke Article 50 and remain in the EU - Sign Up Count



Based on Ben Howard • Source: petition.parliament.uk • Get the data • Created with Datawrapper



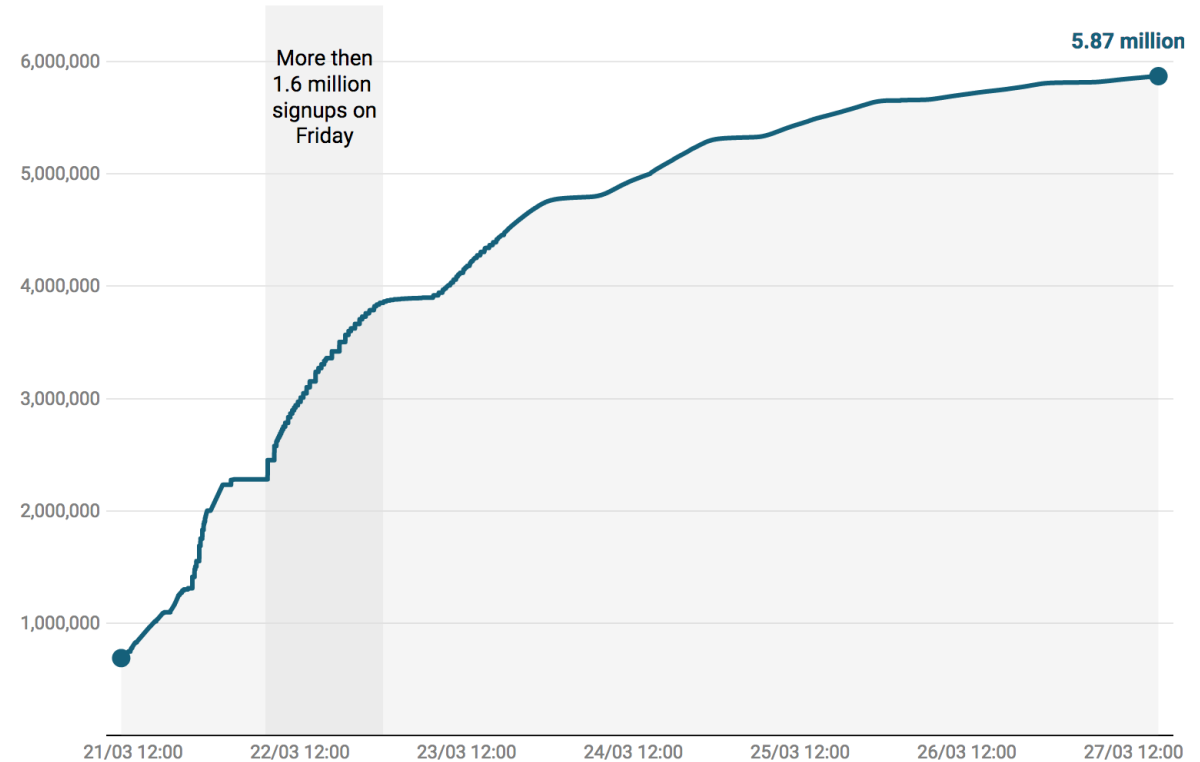
Text - visualisation integration

Text on charts

Annotations make the
reader focus and tell the
story even more

Almost 6 million Brits signed up to stop Brexit

Petition to Revoke Article 50 and remain in the EU - Sign Up Count



Based on [Ben Howard](#) • Source: [petition.parliament.uk](#) • [Get the data](#) • Created with [Datawrapper](#)



Combining with text

Axis text

Axis title

Should support reading and interpreting the data

Axis labels

Leave out axis

Should not compete for attention



Combining with text Legends

Try direct labelling if you can
[Economically and Physically, Blackpool is Unwell](#)

Link text and chart with color
[LeBron James Scores 5,995th Playoff Point, Taking the Record From Michael Jordan](#)



SUMMARY



Summary

Narrative techniques

- Story arc
- Narrator
- Cause and effect
- Sensory language
- Crosslinking
- Appeal

Journalism

- 5W
- Inverted pyramid
- Make it personal
- Put in real people

Data story patterns

- Evolution over time
- Zoom in
- Zoom out
- Contrast
- Intersections
- Components
- Outliers
- Repetition
- Gradual visual reveal
- Humans behind the dots
- Make a guess
- Surprising, unusual
- Concretise

Data story genres

- Magazine style
- Annotated chart
- Partitioned poster
- Flow chart
- Data comic
- Slide show
- Video/animation

Data story structure

- Martini glass
- Interactive slideshow
- Drill down story

Visualisation

- Visual Vocabulary
- Integrating text & viz



Exercise

Sketching a data story

Data

- Yearly gdp/capita
- By EU country

Sketch out a data story, thinking about

- storytelling techniques
- chart types
- chart design
- data storytelling patterns
- data storytelling genres

Country	Year	GDP/capita
Belgium	2008	30100
Bulgaria	2008	11100
...
Sweden	2017	36300
UK	2017	31600

Q&A



Resources

Data story patterns

[Narrative patterns for data-driven storytelling](#)

[7 Data Story Types](#)

Data story genres and structures

[Narrative Visualization: Telling Stories with Data](#)

Choosing a chart type

[Visual Vocabulary](#)

Data visualisation tools

[Chartmaker directory](#)

Books

[Storytelling with data](#)

[Data-driven storytelling](#)



Upcoming training & workshop sessions

Topic	Type of session	Lux.	Bxl.
Making great online data visualisations	workshop	26/06	-
Going beyond bars and lines	Training	24/09	Oct
Making data viz like a pro - D3.js	Workshop	25/09	-
Applying data visualisation in use cases	workshop	24/10	-

and also [webinars](#)... stay tuned!

