



# EDWARD TUFTTE'S 'THE VISUAL DISPLAY OF QUANTITATIVE INFORMATION' – GRAPHICAL EXCELLENCE

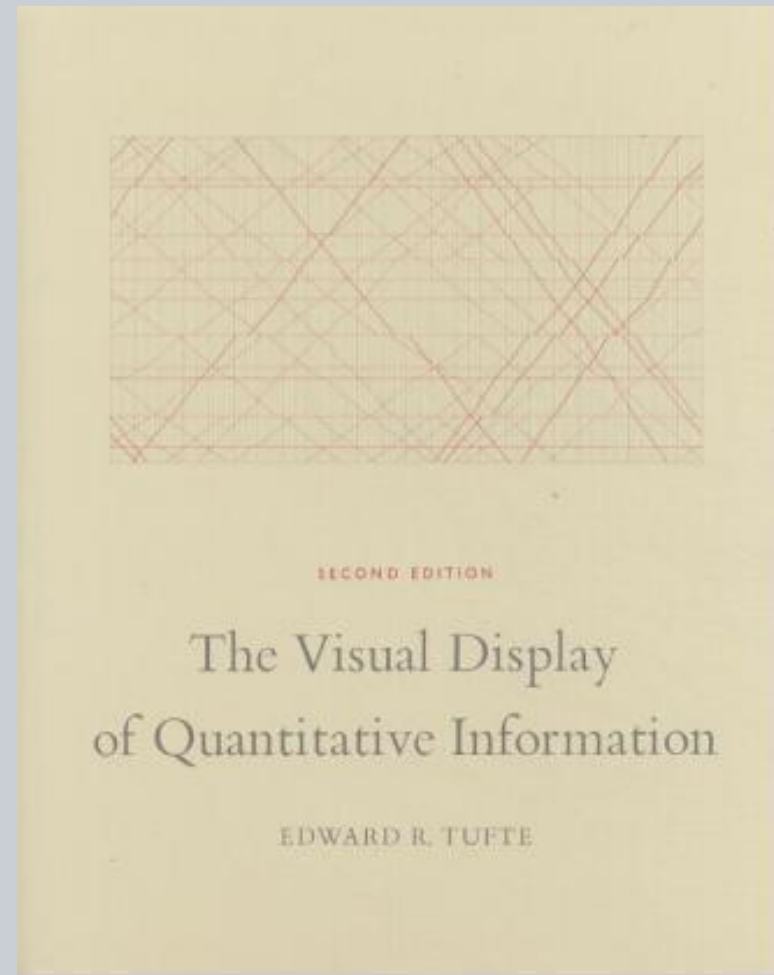
Dr Alexandra Anderson



A step-change in  
quantitative social  
science skills  
Funded by the  
Nuffield Foundation,  
ESRC and HEFCE



# WHAT ARE WE EXPLORING THIS WEEK?



## **TUFTE'S PRINCIPLES OF DATA VISUALISATION**

The Visual Display of Quantitative Information  
(which you'll read this week)

## **BEGINNING TO THINK ABOUT WHAT MAKES DATA VISUALISATION GOOD AND EFFECTIVE**

rather than simply *grammatically* correct

# TUFTE'S 'VISUAL DISPLAY OF QUANTITATIVE INFORMATION'

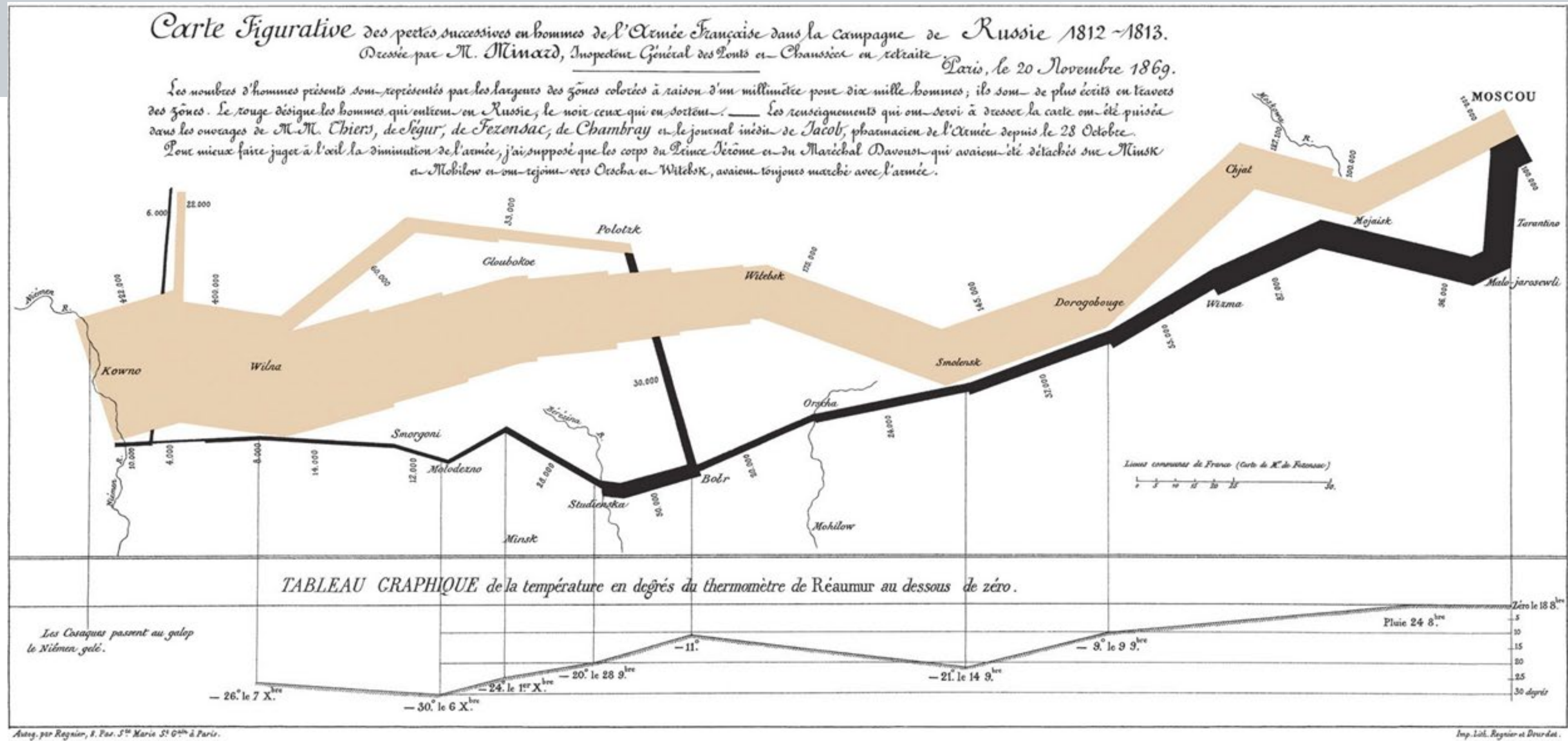
Tufte provides something closer to a book full of photos of food rather than a recipe book:

- It's not always possible to follow his instructions precisely
- and I'd avoid treating him as a *sole* guru
- but it gives you something to aim towards

# FOR GRAPHICAL EXCELLENCE, GRAPHICS SHOULD... (TUFTTE, 2004)

- Show the data
- Induce the viewer to think about the substance
- Avoid distorting
- Present many numbers in a small space
- Make large datasets coherent
- Encourage comparison
- Reveal data at several levels of detail
- Serve a clear purpose
- Be closely integrated with statistical / verbal descriptions

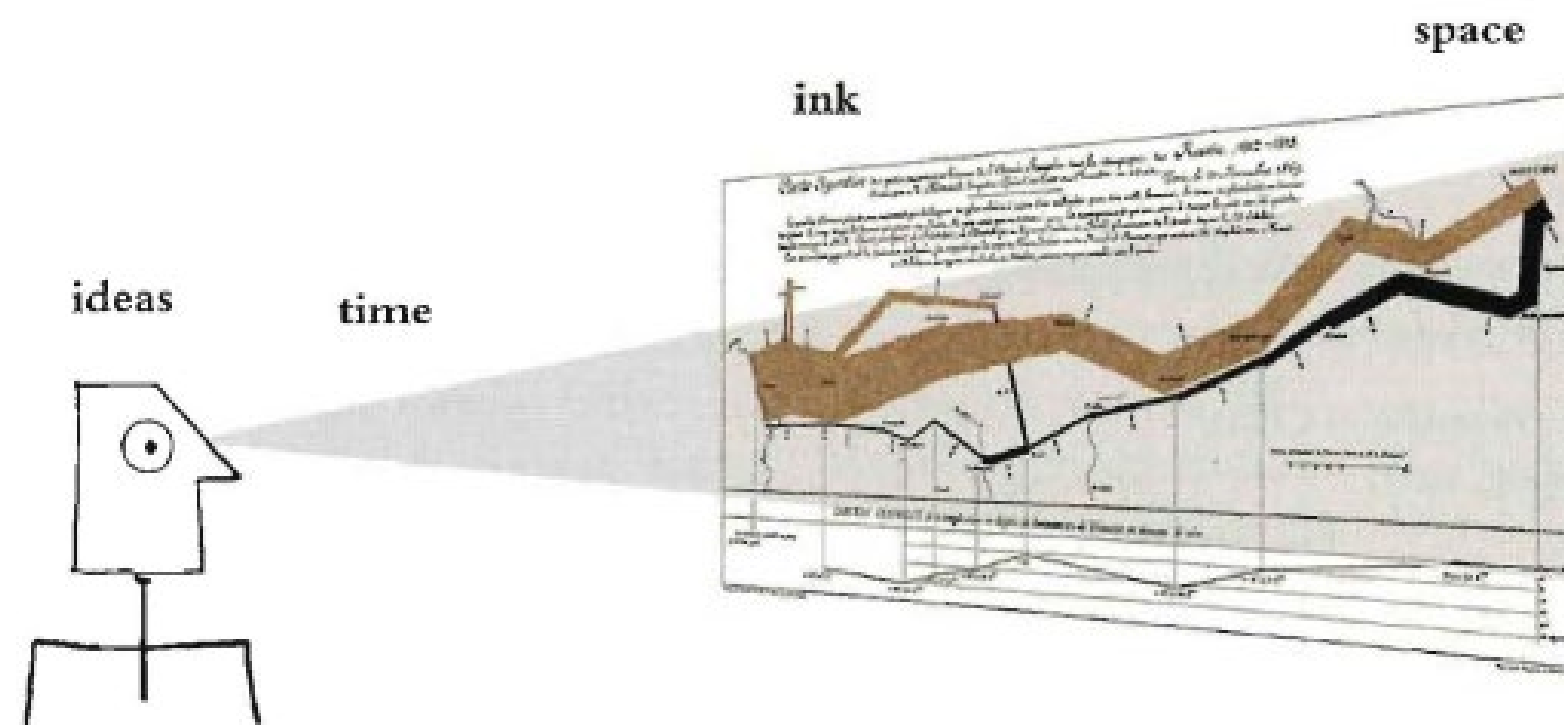
# AN EXAMPLE OF GRAPHICAL EXCELLENCE



Charles Minard's Figurative Map of the successive losses in men of the French Army in the Russian campaign 1812-1813.

# TUFTE'S PRINCIPLES OF GRAPHICAL EXCELLENCE

- Graphical excellence is the well-designed presentation of interesting data - a matter of *substance, of statistics, and of design*.
- Graphical excellence consists of complex ideas communicated with clarity, precision, and efficiency.
- Graphical excellence is that which gives to the viewer the greatest number of ideas in the shortest time with the least ink in the smallest space.



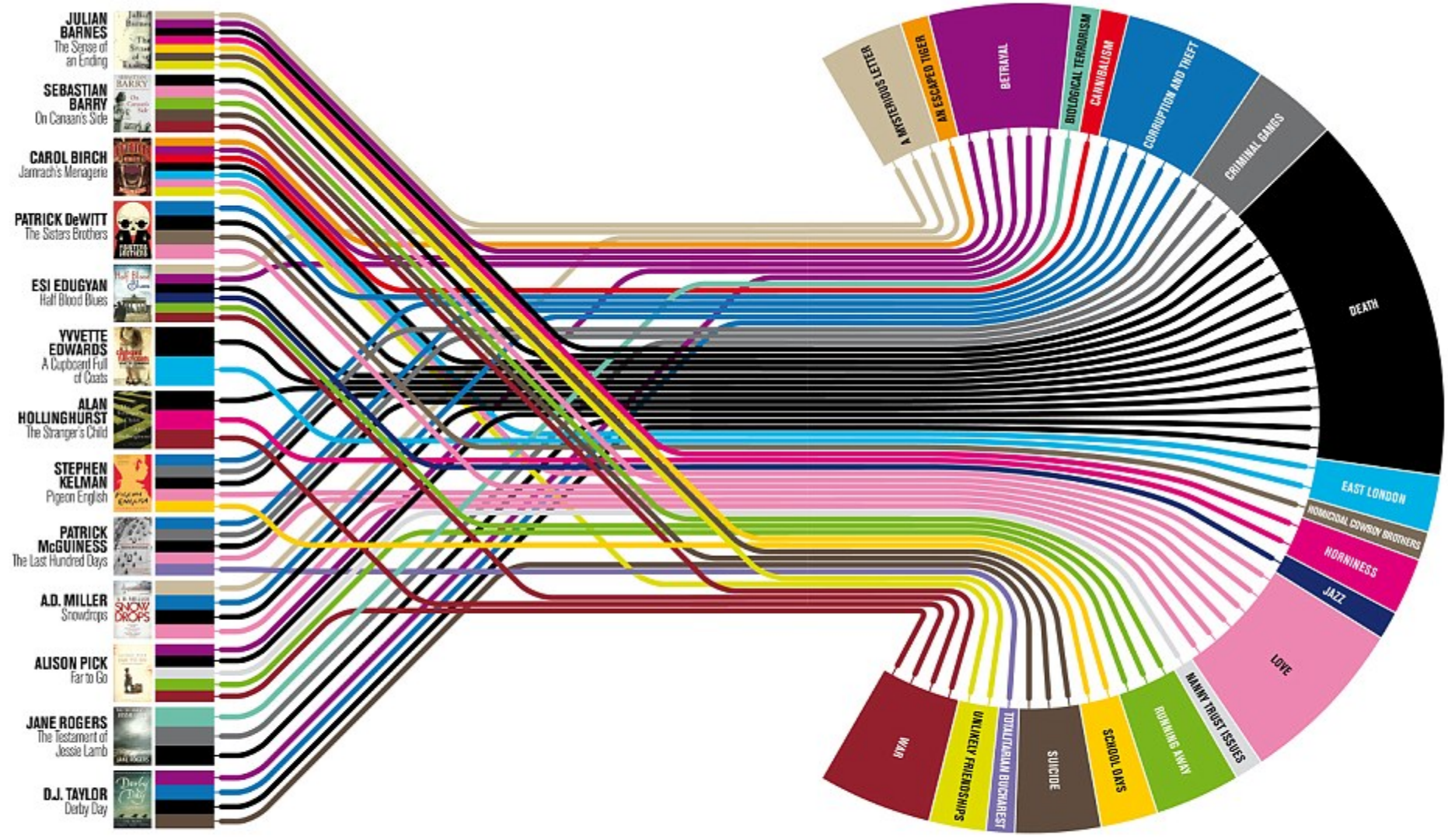
From Tufte (2007)



# TUFTE'S PRINCIPLES OF GRAPHICAL EXCELLENCE

- Graphical excellence is nearly always multivariate.
- And graphical excellence requires telling the truth about the data

# EXAMPLES OF NON-GRAPHICAL EXCELLENCE – FROM YOU!



## Plot lines

What makes a prize-winning novel? As Julian Barnes wins the Booker Prize, Delayed Gratification's Johanna Kamradt charts the themes of this year's longlisters.

[View the full article](#)



# EXAMPLES OF NON-GRAPHICAL EXCELLENCE – FROM YOU!

Segment A now accounts for nearly half of sales

*Proportion of sales by segment.*

*Inner circle 2014, Outer circle 2015*

■ Segment A ■ Segment B ■ Segment C ■ Segment D ■ Segment E

