

COS30045

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# DATA VISUALISATION

TOPIC 01.3: INTRODUCTION TO DATA VISUALISATION WHY STUDY DATA VISUALISATION

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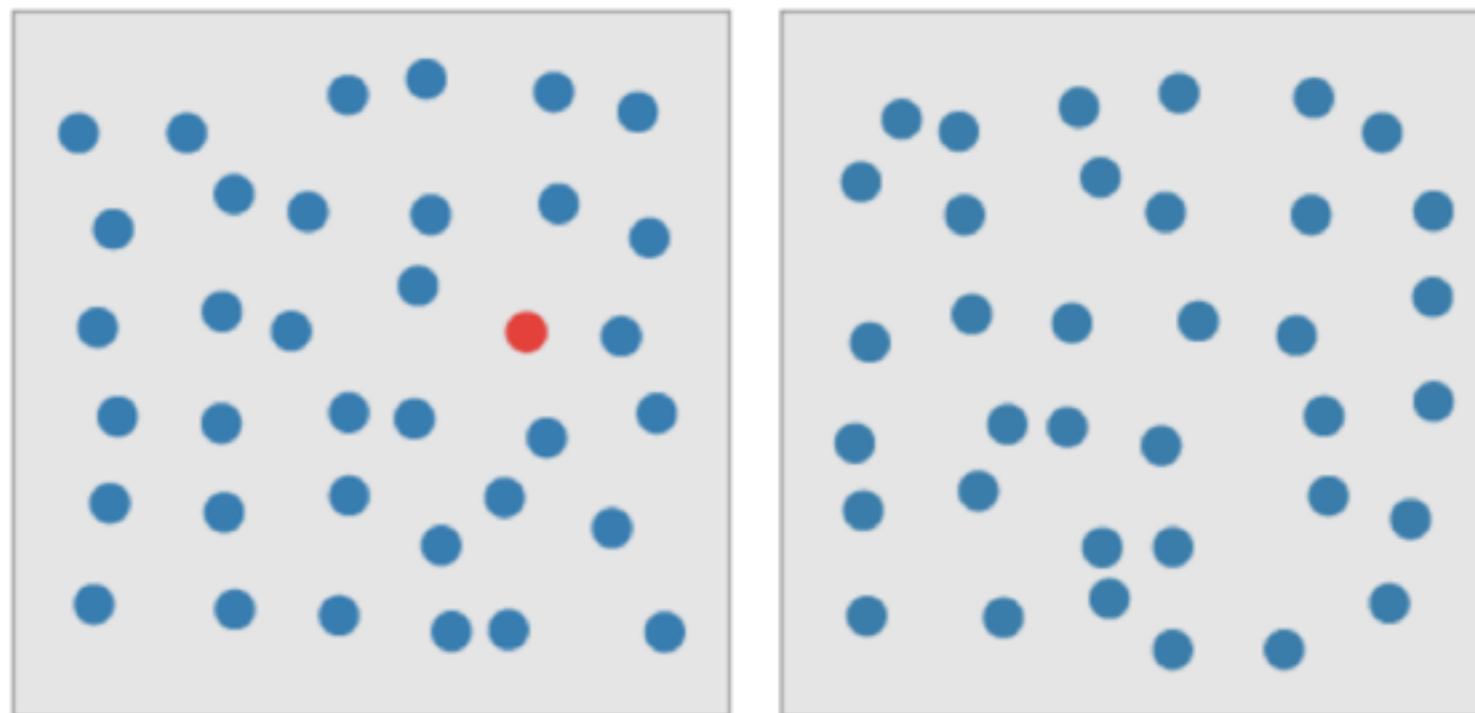
Acknowledgment: This unit is partially based on the Visualisation unit developed by Alex Lex and Hanspeter Hfister (with permission).

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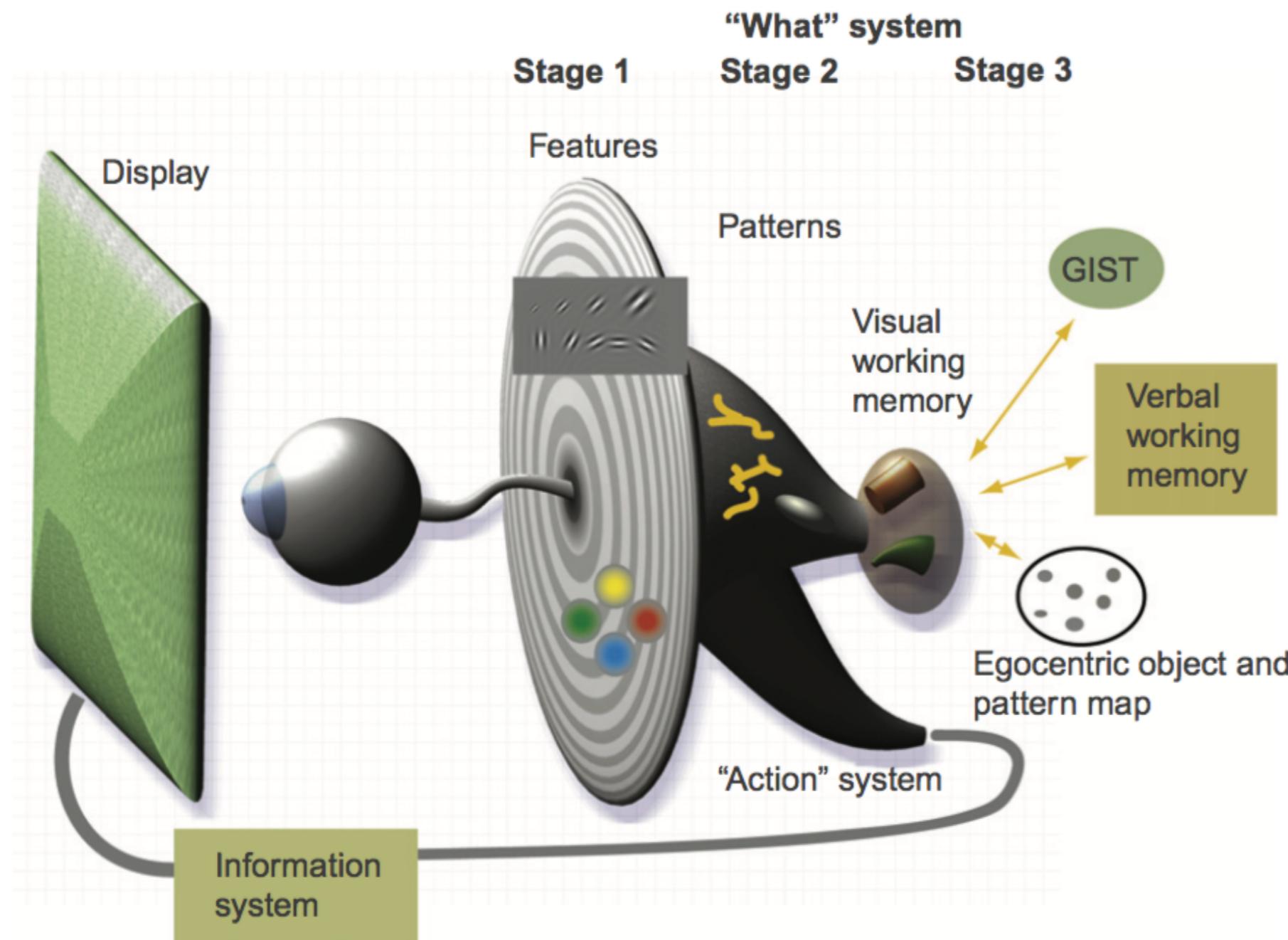
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# WHY STUDY DATA VISUALISATION?

- ▶ The human visual information processing system processes certain visual features automatically
- ▶ Understanding how visual information processing works will help us build better visualisations



# WHY STUDY DATA VISUALISATION?



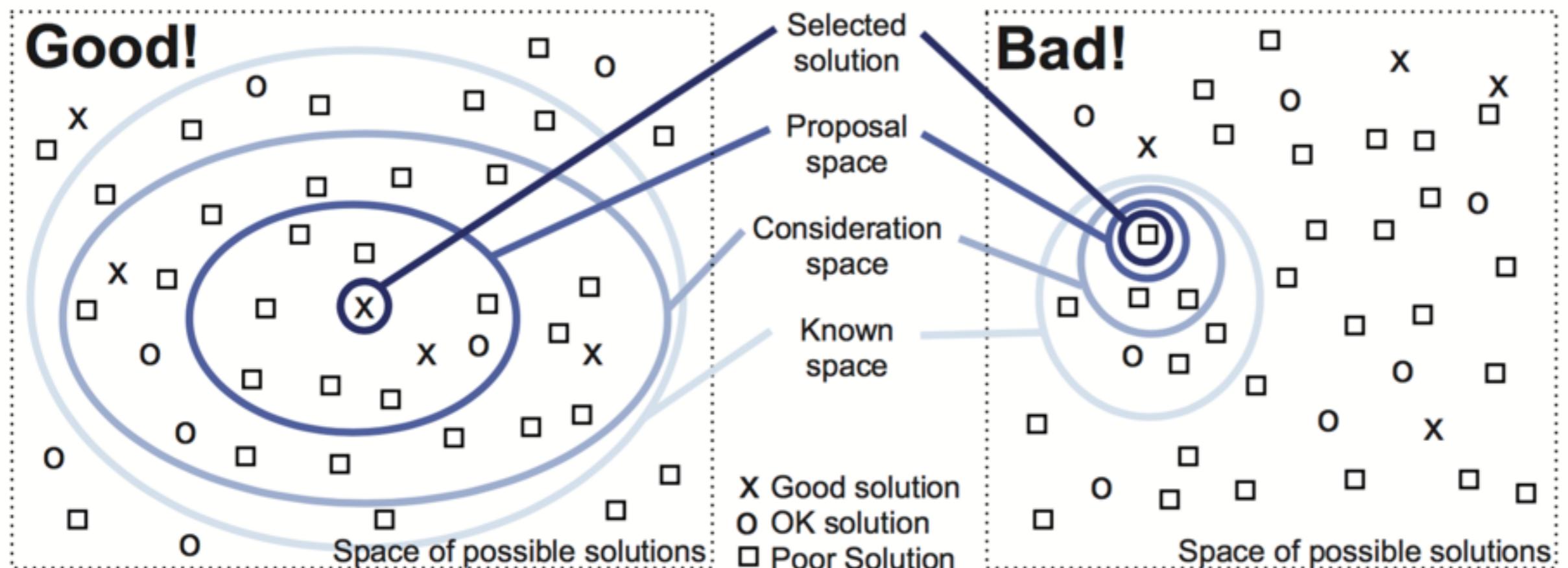
The principles of information design  
‘are universal - like mathematics - and  
are not tied to unique features of a  
particular language or culture.’

**Edward Tufte**

Statistician and data  
visualisation guru



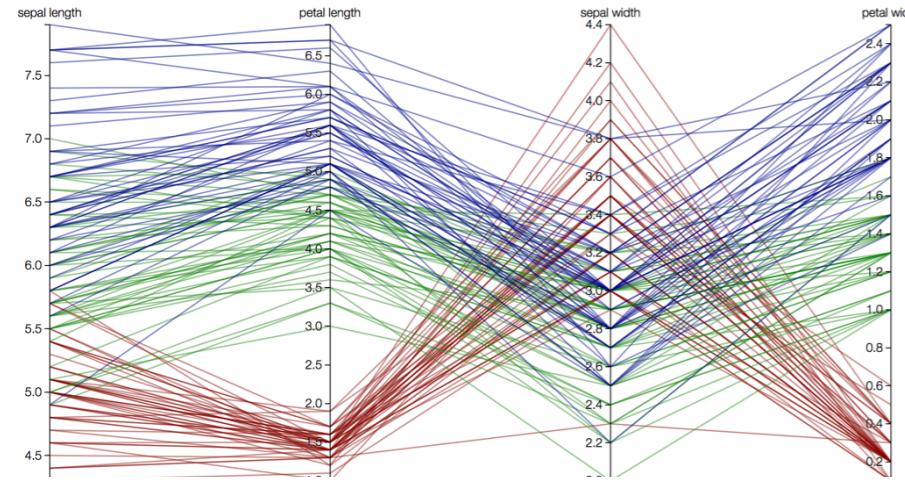
# WHY STUDY DATA VISUALISATION?



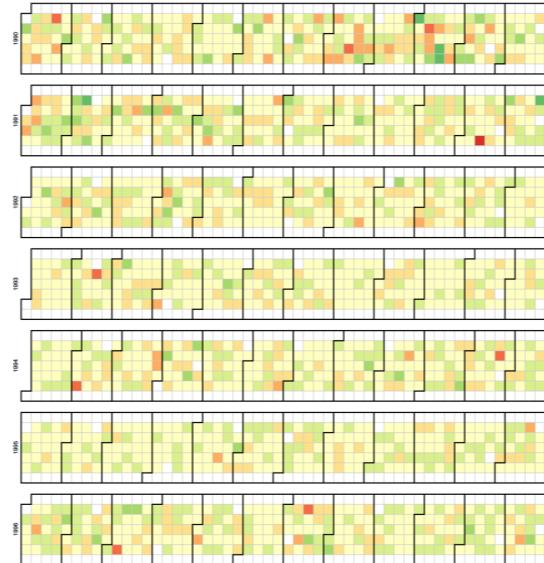
**Figure 1.5.** A search space metaphor for vis design.

# DESIGN SPACE....

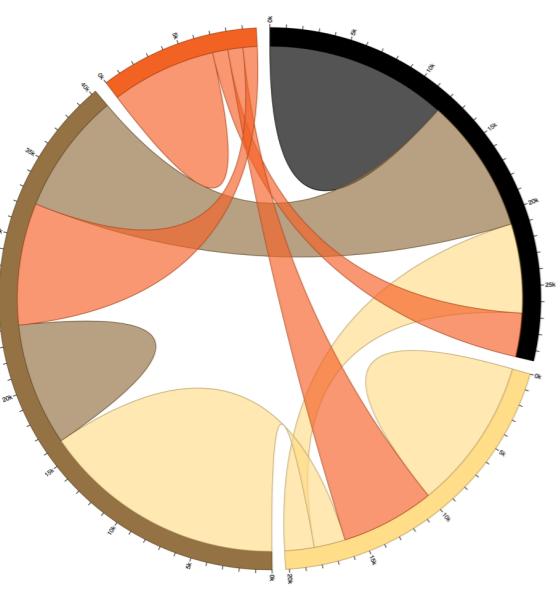
Parallel coordinates



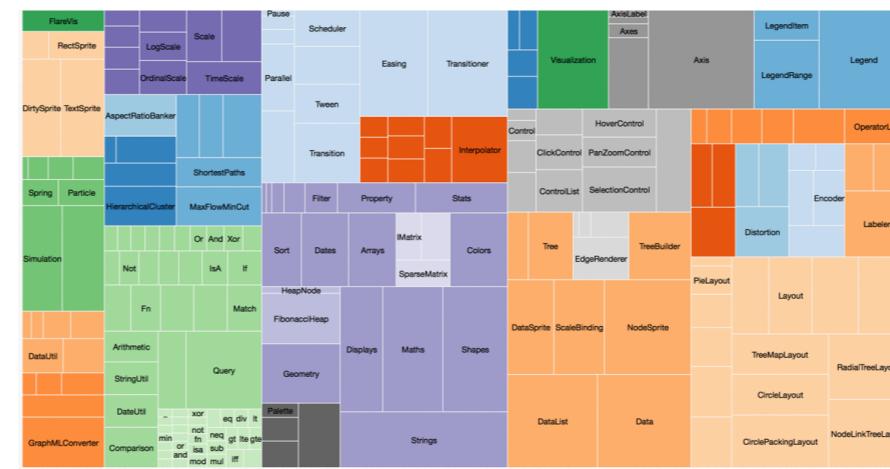
Calendar view



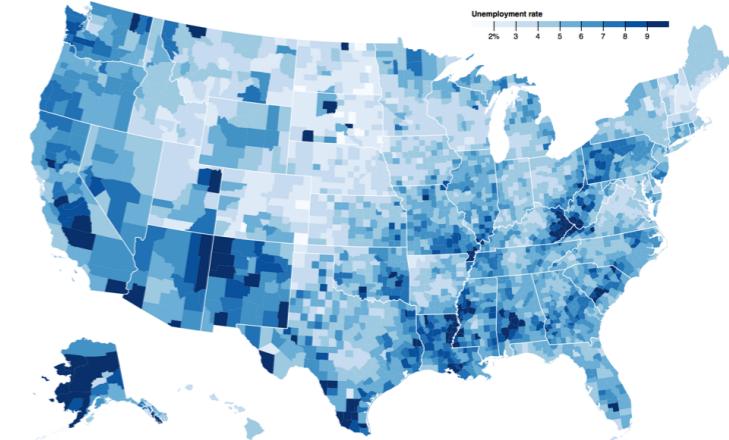
Chord Diagram



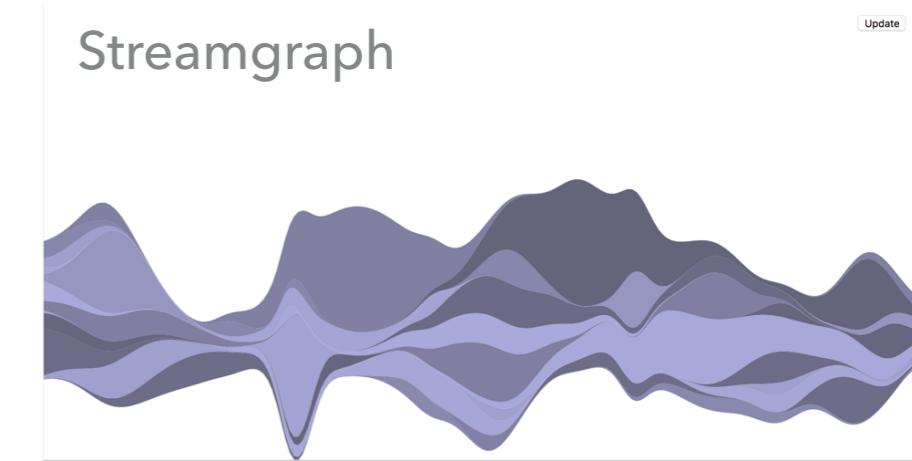
Tree map



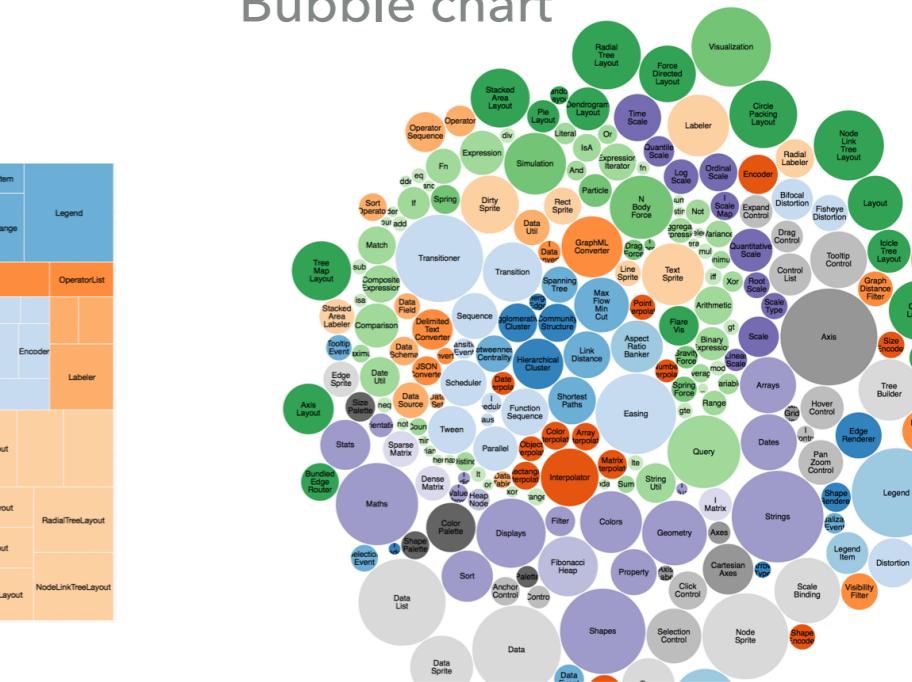
Choropleth



Streamgraph



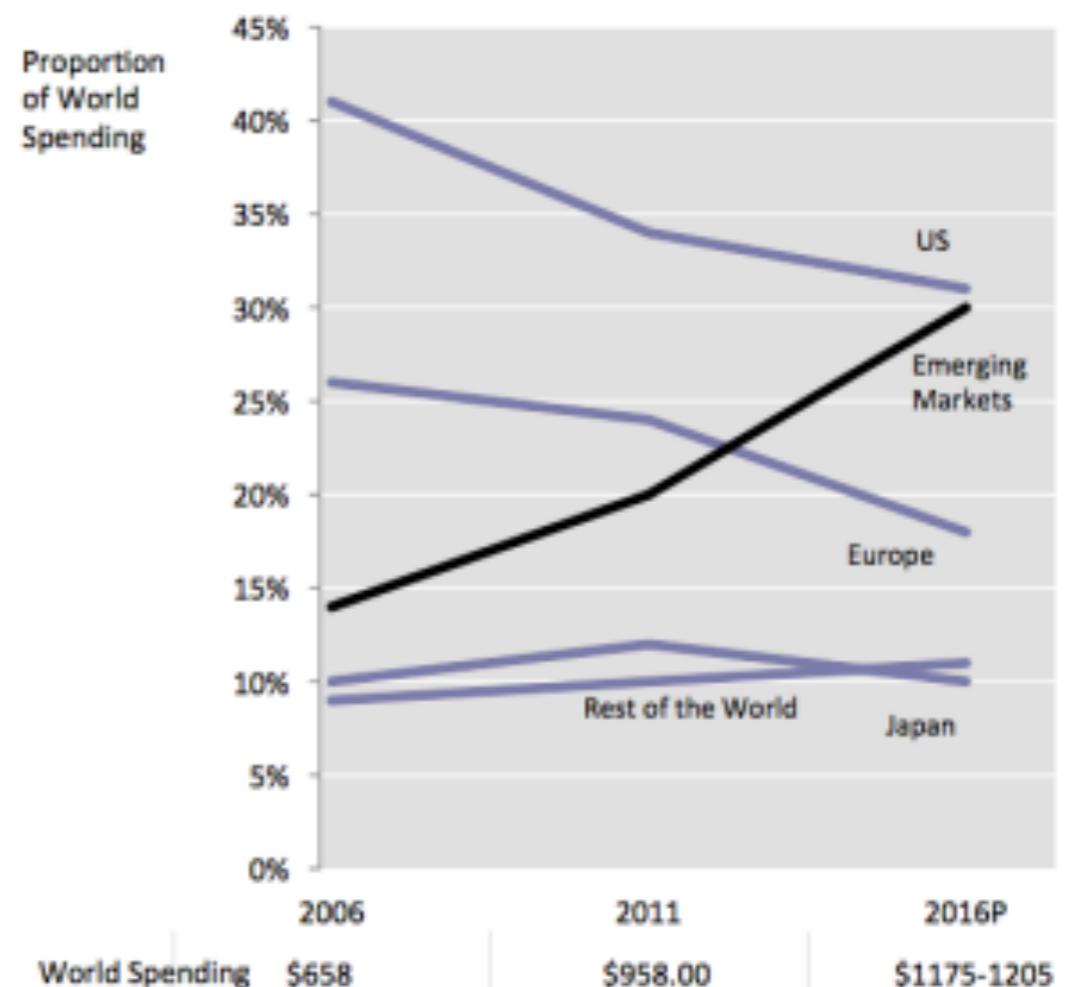
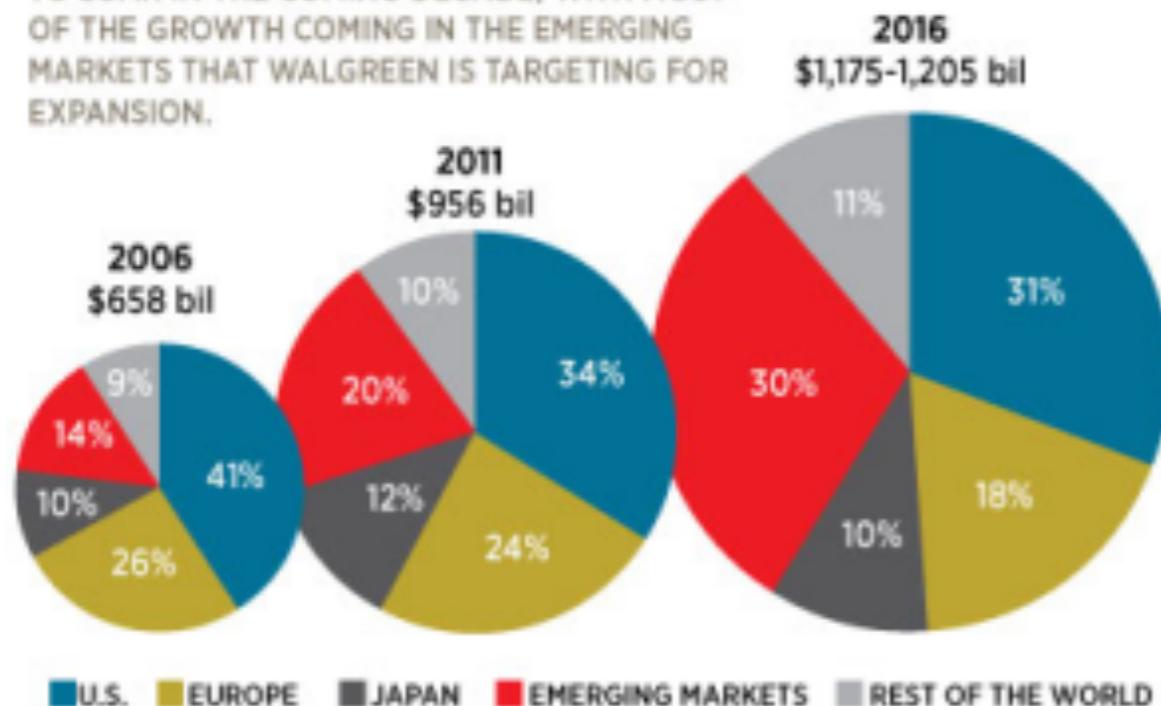
Bubble chart



# WHY STUDY DATA VISUALISATION?

## A WORLD OF DRUGS

GLOBAL SPENDING ON MEDICINE IS EXPECTED TO SOAR IN THE COMING DECADE, WITH MOST OF THE GROWTH COMING IN THE EMERGING MARKETS THAT WALGREEN IS TARGETING FOR EXPANSION.



Which market is growing fastest?

Which market/s are declining?

Valid?

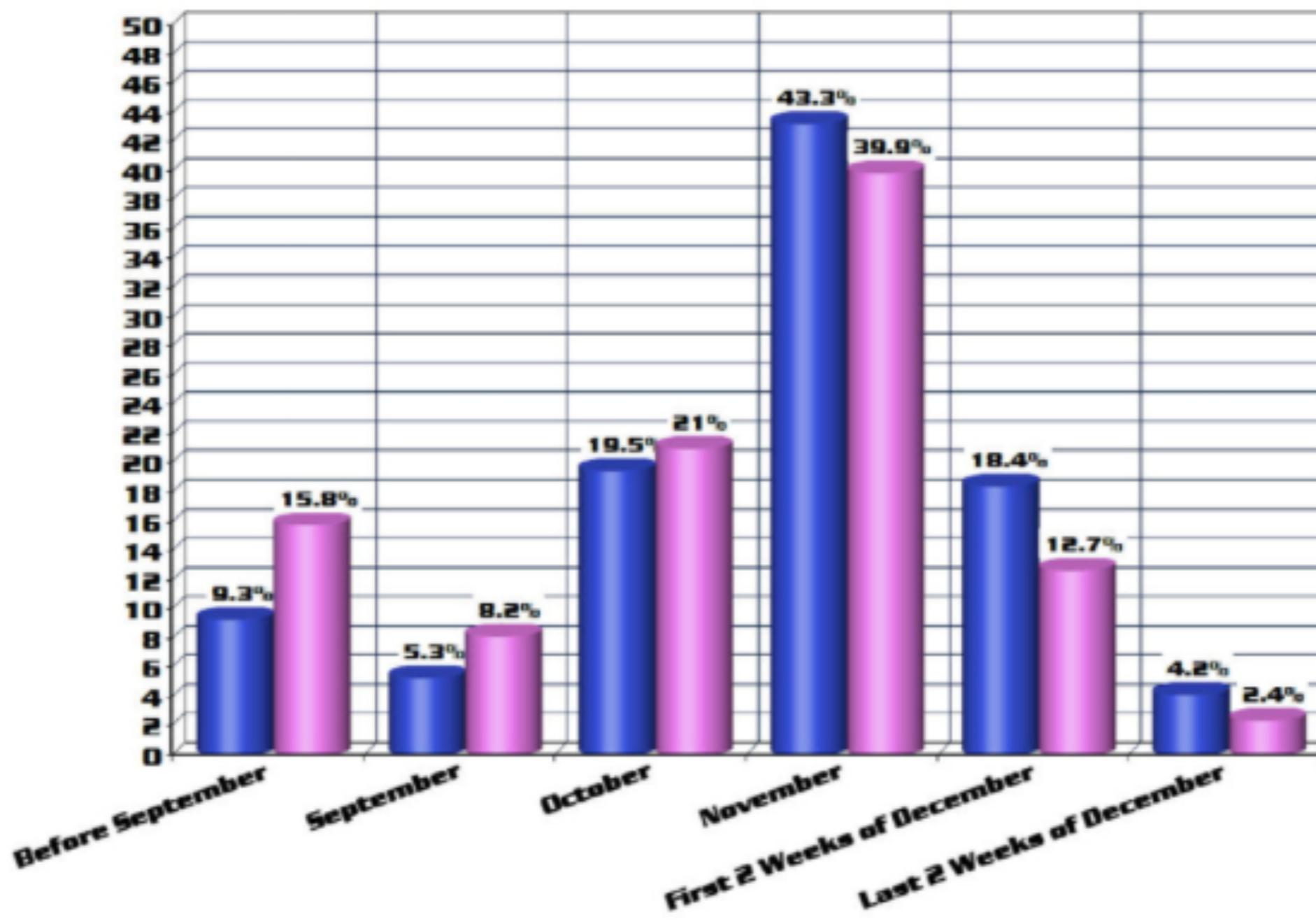
Many more people in emerging markets and rest of world than in US and Japan...

# WHY STUDY DATA VISUALISATION?

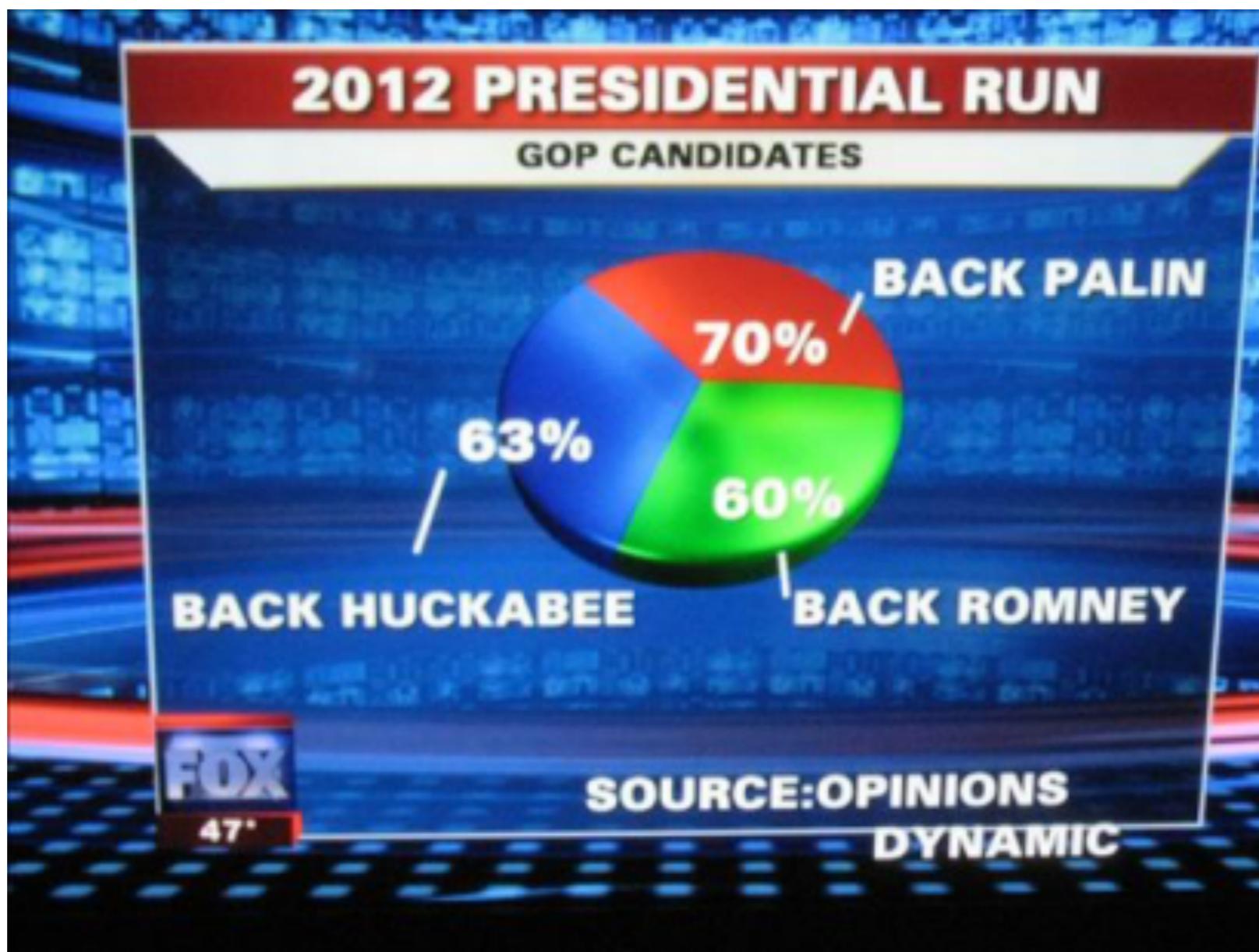
## Shoppers Begins Shopping for Holidays

● Men

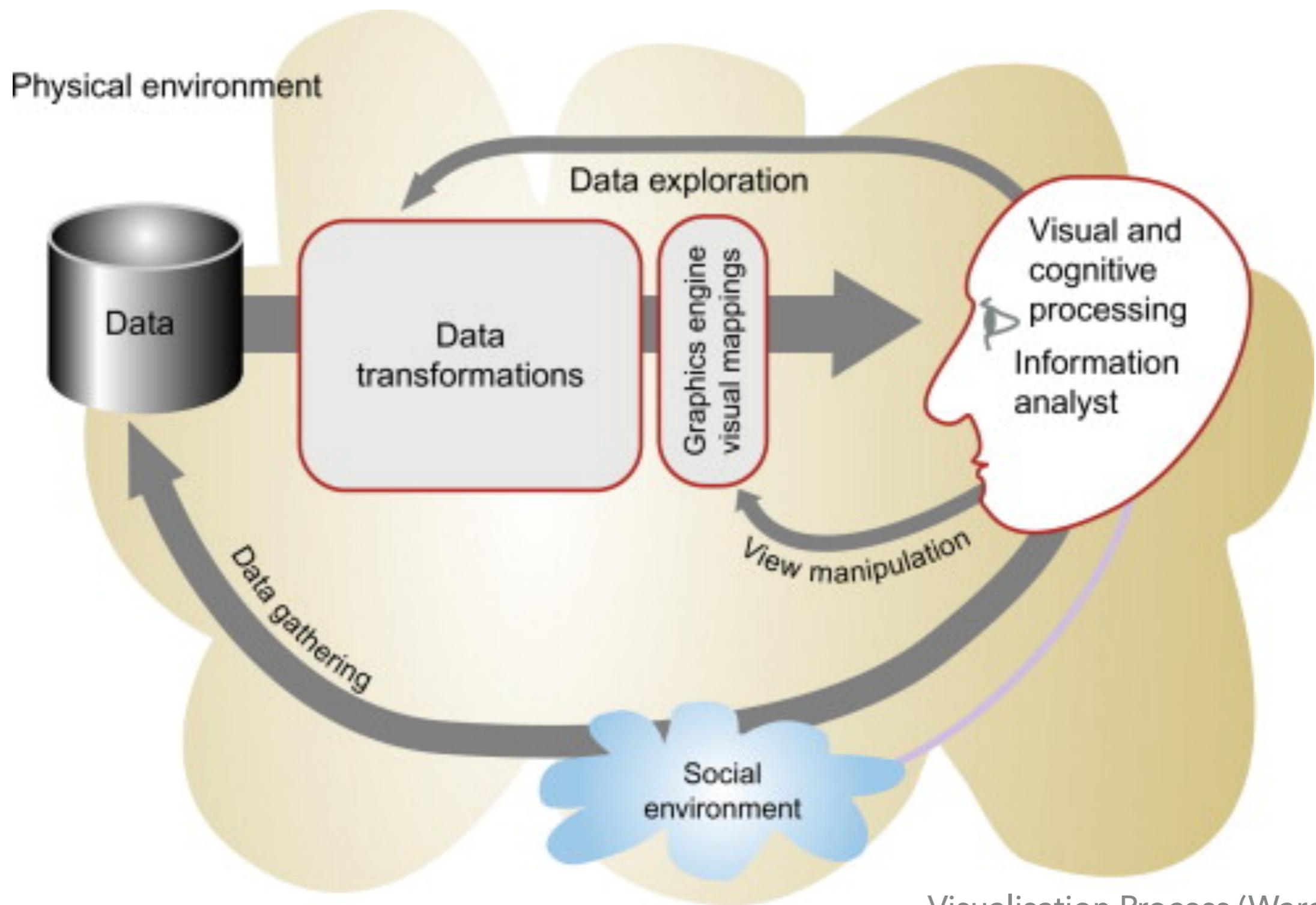
● Women



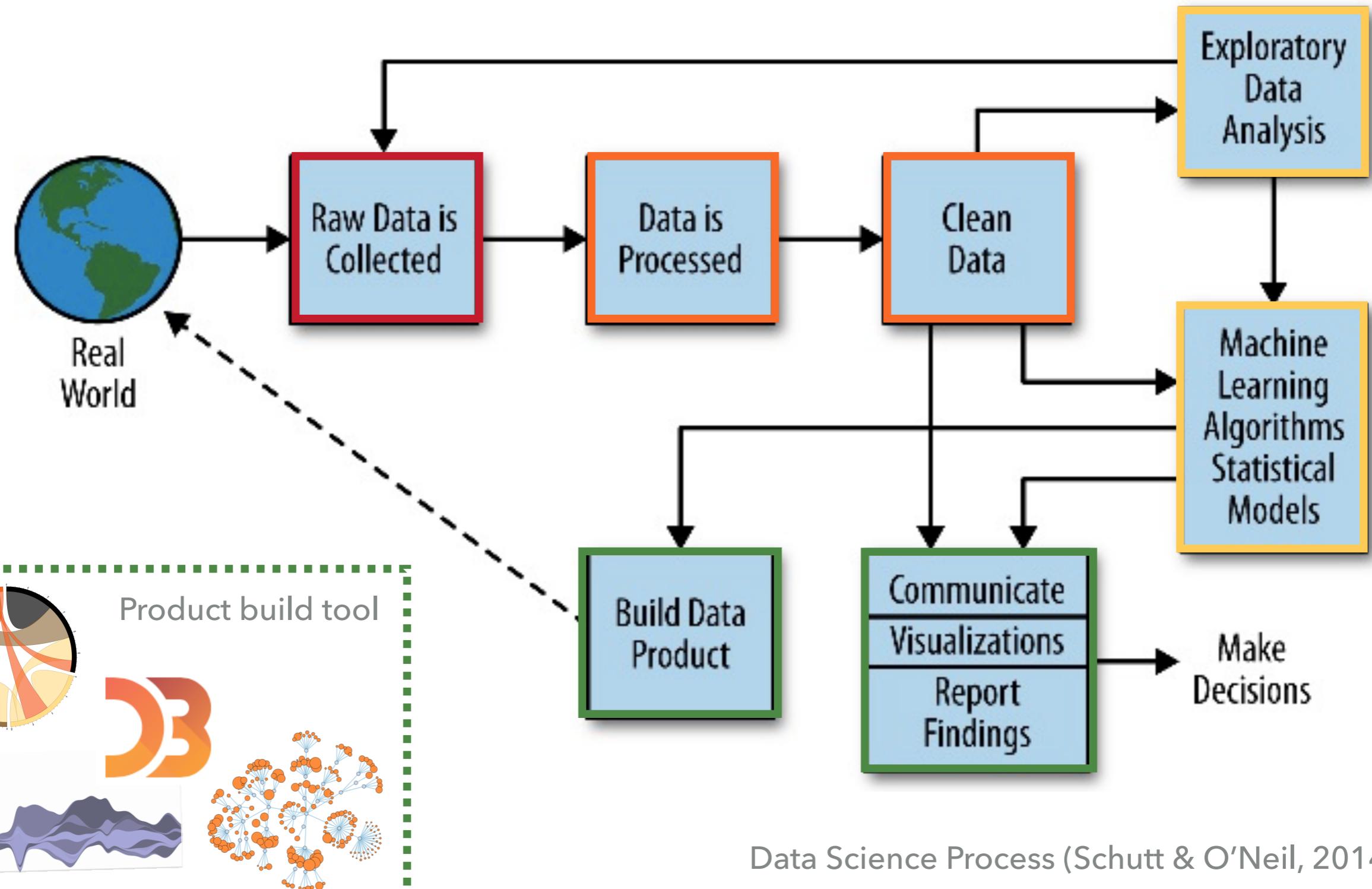
# WHY STUDY DATA VISUALISATION?



# WHAT IS THIS UNIT ABOUT?



# WHAT IS THIS UNIT ABOUT?



The ability to take data—to be able to understand it, to process it, to extract value from it, to visualize it, to communicate it— that's going to be a hugely important skill in the next decades, ... because now we really do have essentially free and ubiquitous data.



**Hal Varian**

Google's Chief  
Economist (2009)



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