

Timelines and  
Narratives

S. Santoni

The Nuts and  
Bolts of  
Temporal  
Data Viz

Exemplars of  
Temporal  
Data Viz

Handling  
Time-Related  
Data with  
Pandas

# Timelines and Narratives

S. Santoni<sup>1,2</sup>

<sup>1</sup>Bayes Business School

<sup>2</sup>Soundcloud

MSc in Business Analytics, 2022/23

# Outline

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## 1 The Nuts and Bolts of Temporal Data Viz

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# Ice-Breaker Question

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How does 'time' matter for data visualization?

# How Does 'Time' Matter for Data Visualization?

## Example 1: Napoleon's Russian Campaign

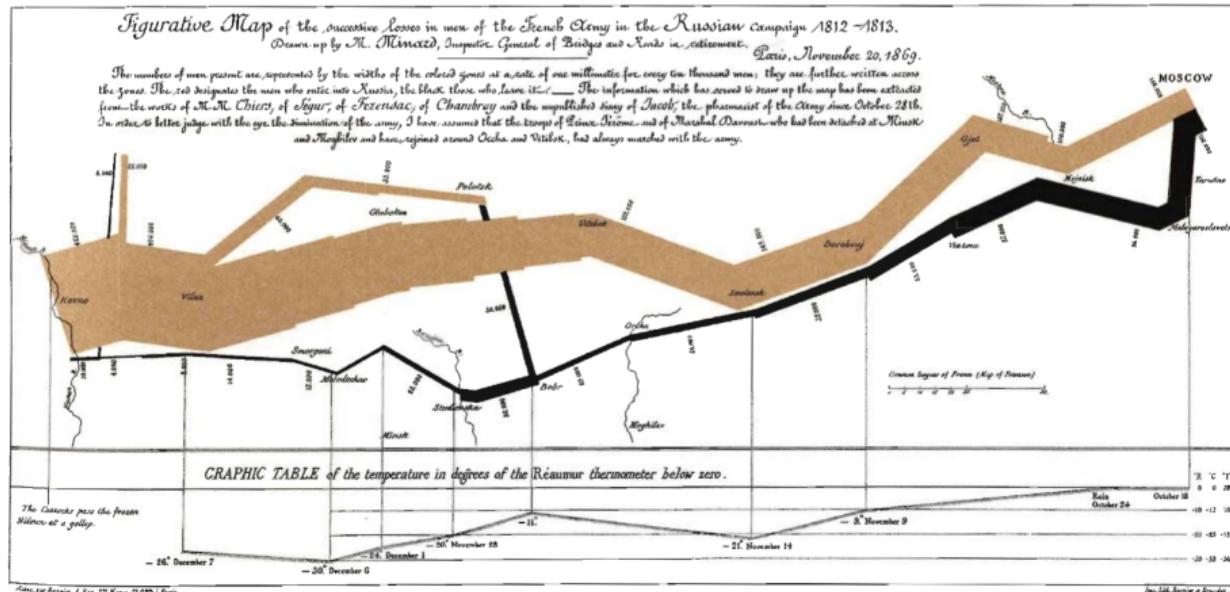
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# How Does 'Time' Matter for Data Visualization?

## Example 1: Napoleon's Russian Campaign

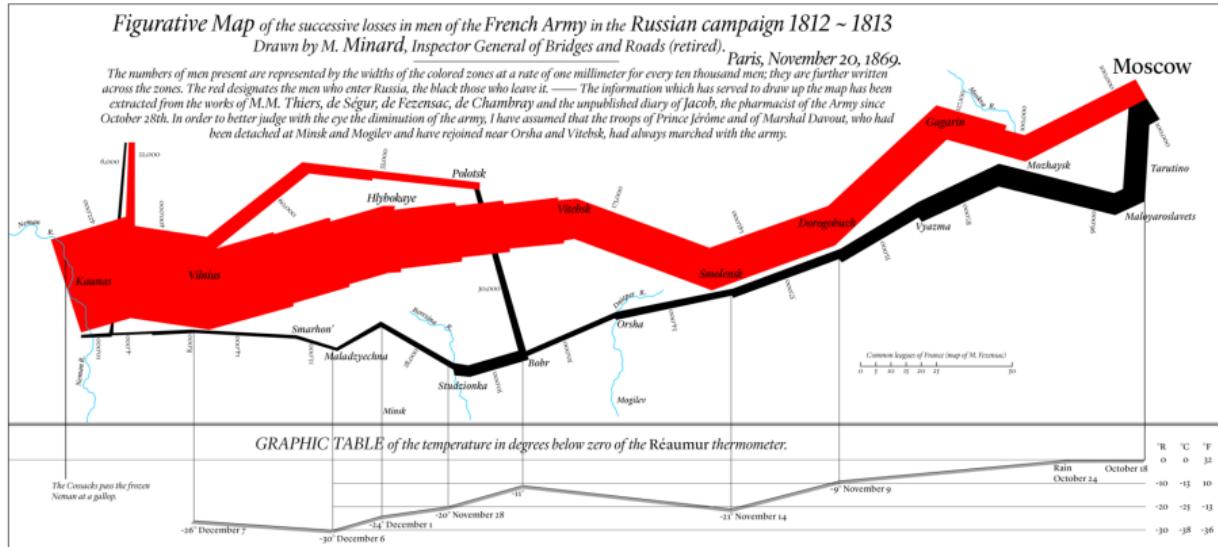
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# How Does 'Time' Matter for Data Visualization?

## Example 2: strong openers and late bloomers

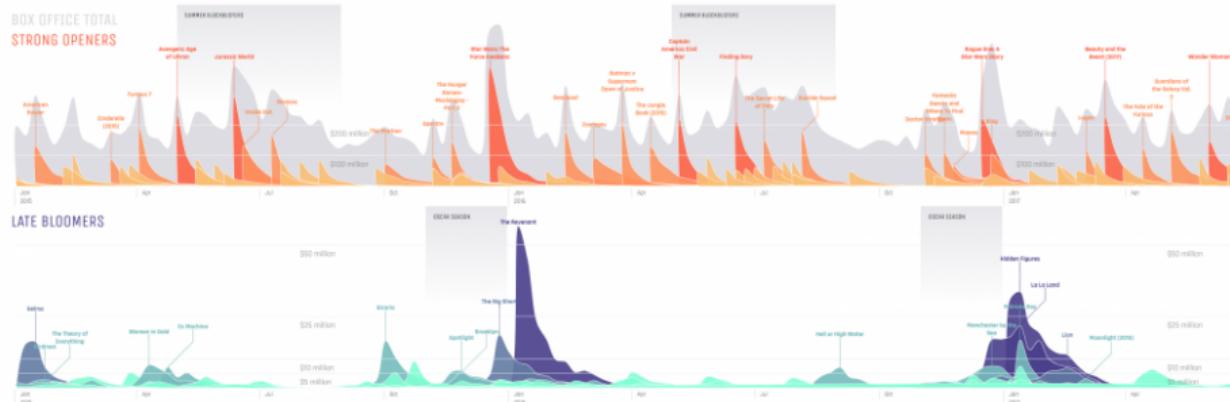
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# Time-Related Viz: Goals

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Provided our data include a temporal dimension, we may want to show one of the following

- Change in a continuous variable
- Change in a qualitative (i.e., categorical) variable
- Sequences of change — i.e., patterns of change in a continuous or qualitative variable
- Connections among events

# Time-Related Viz: Analytical Approaches

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There are two possible analytical approaches to investigating/visualize data with a temporal dimension:

- Within-case approach
- Comparative, within- & between-case approach

# Time-Related Viz: Analytical Approaches

A single time series is suited to the within-case approach

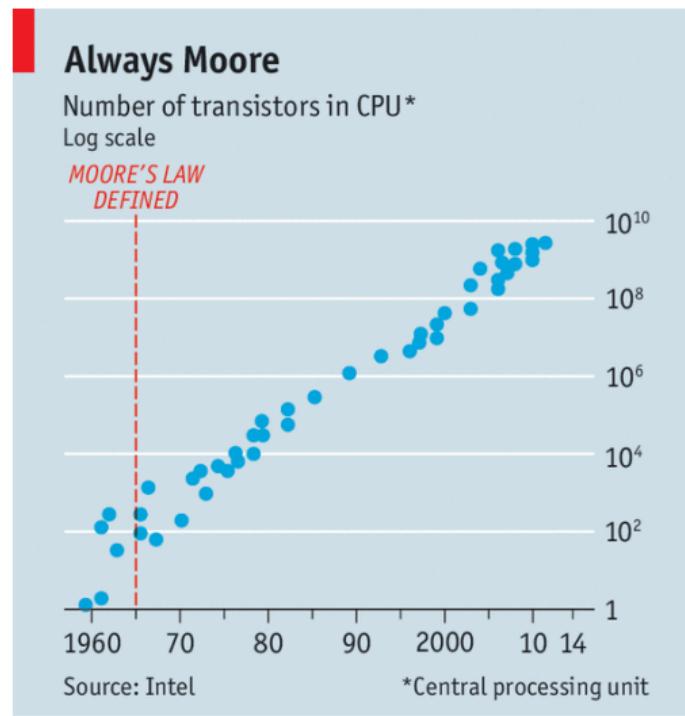
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Economist.com

# Time-Related Viz: Analytical Approaches

A multiple time-series/panel is suited to the within- & between-case approach

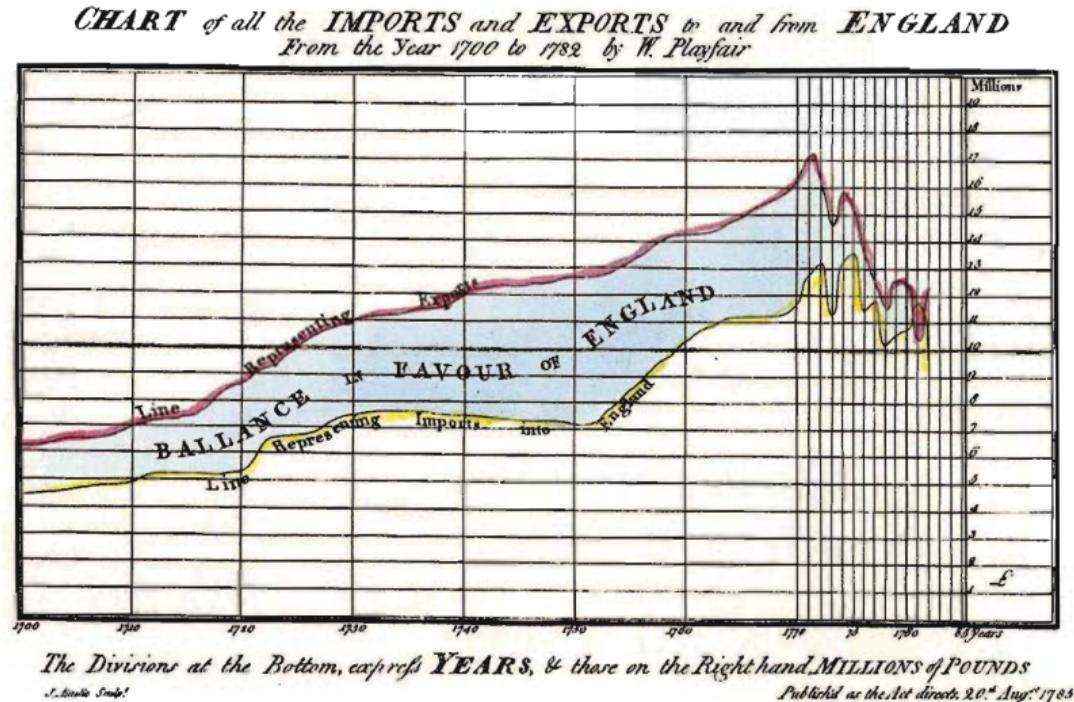
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# Popularity of YouTube Videos

Miotto, José M., and Eduardo G. Altmann. "Predictability of extreme events in social media." PloS one 9, no. 11 (2014): e111506.

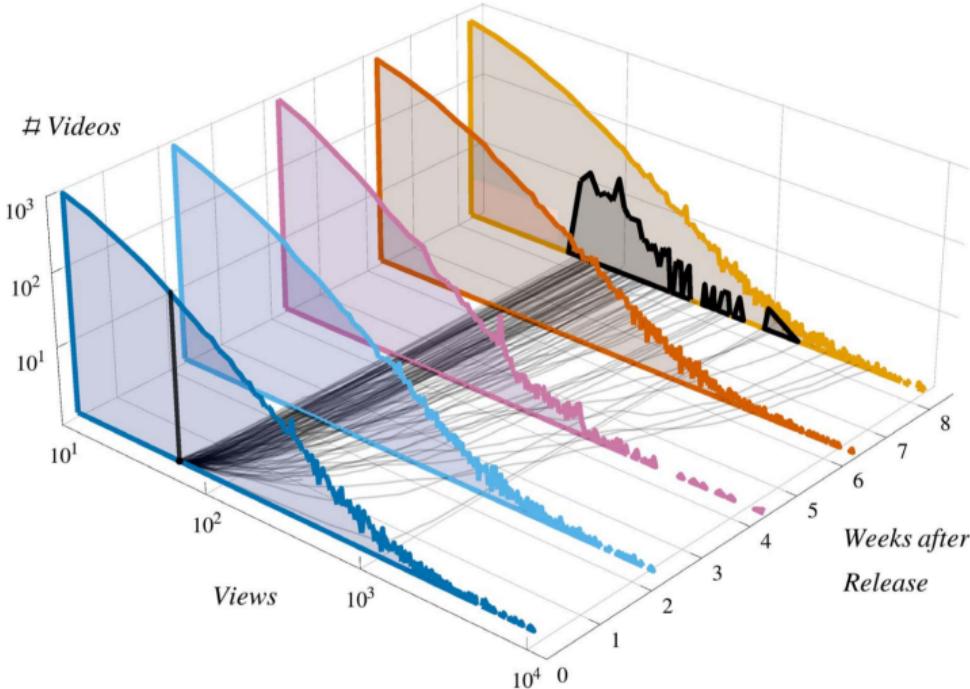
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# US Senate Voting Similarity Over Time

Source: Moody, James, and Peter J. Mucha. "Portrait of political party polarization1." Network Science 1, no. 1 (2013): 119-121.

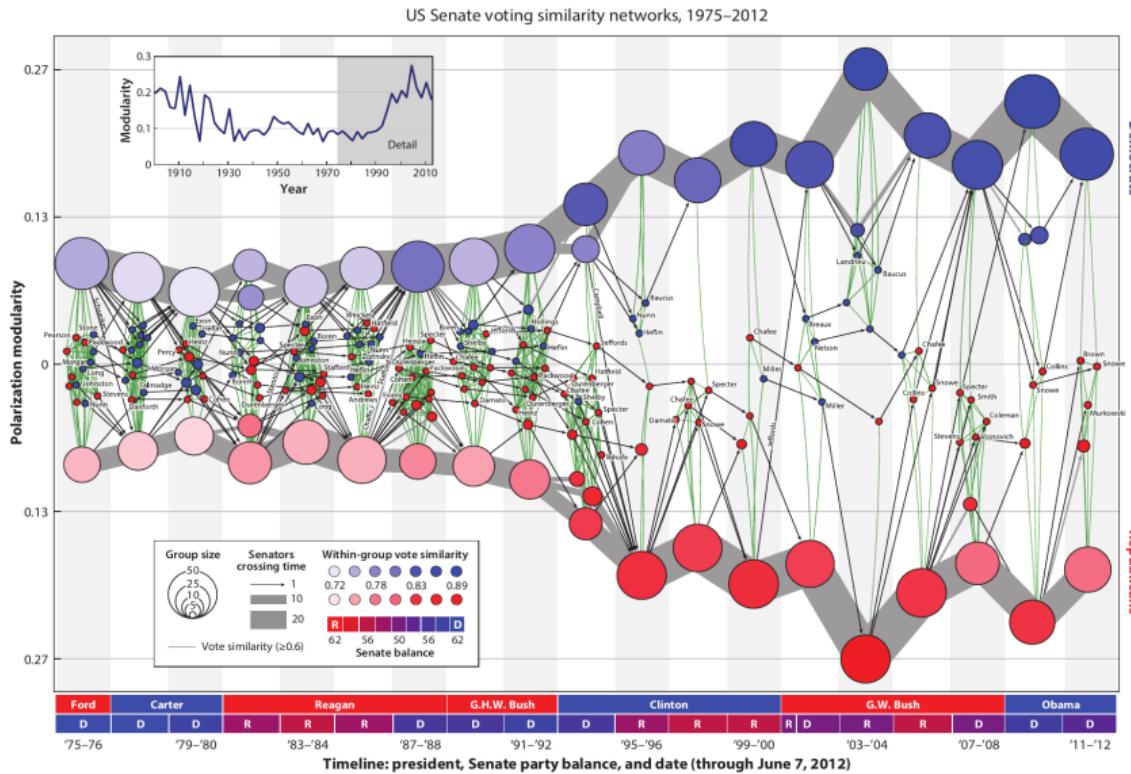
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# Let Us Go Back to the SMM692 Notes



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NOTES | 2022

## Introduction to Programming in Python

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