CSE 5520

Data Visualization and Communication

Fall 2021

Welcome Everyone

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What Makes a Great Data Visualization?

Comprehensibility, applicability, and appropriate use of charts and graphs. But that answer falls short. Those factors make for decent visuals that fall under the category of average or functional visual data.

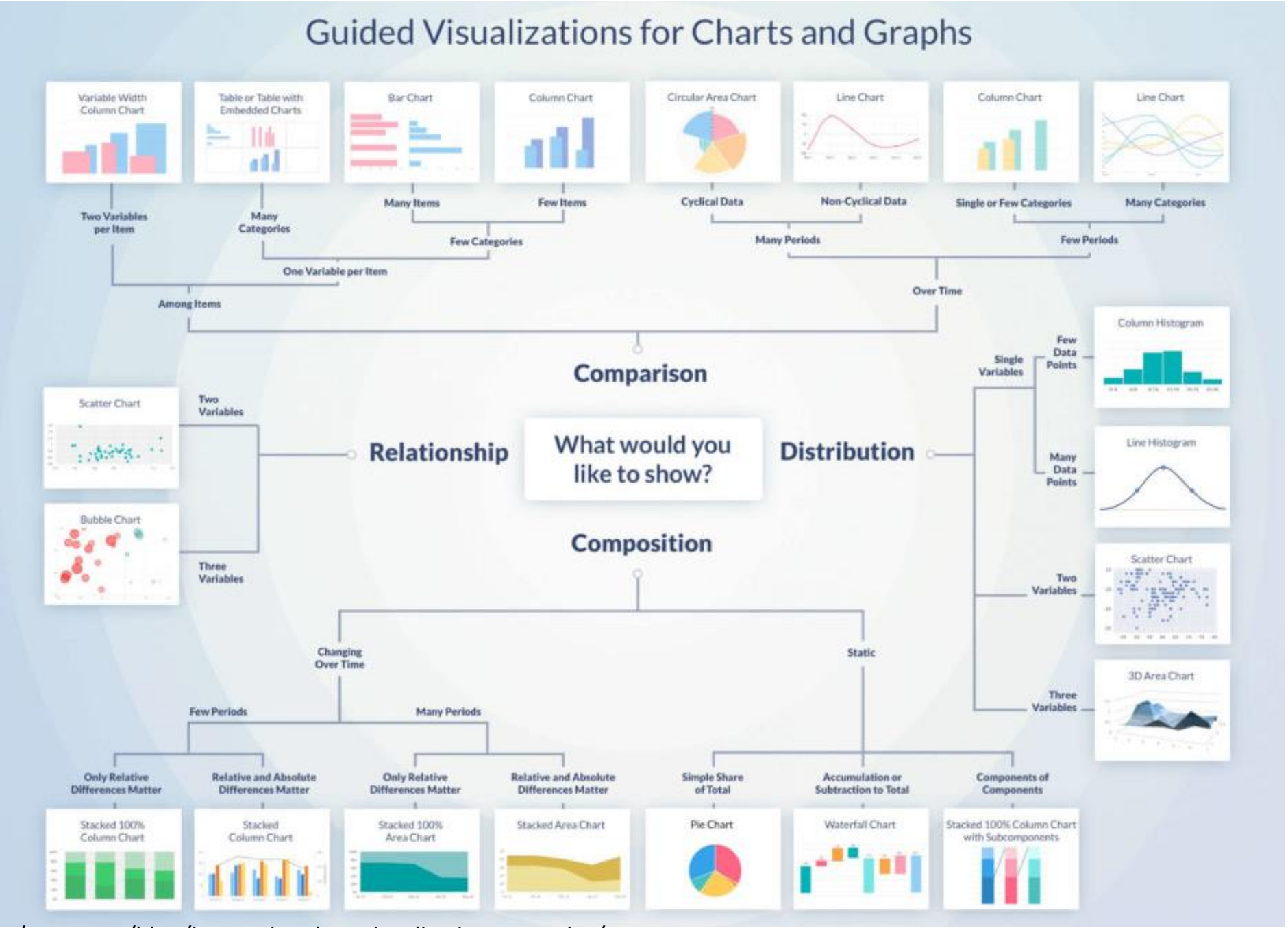
To get great visualizations, you need to go beyond that. Great data visualizations are **quick to decipher and easy to be remembered as well as being appropriate** to the data they represent.

"Data visualization is a comprehensive, integrative science!"

Are there concrete rules for what you should visualize and how you should visualize?

https://www.tapclicks.com/resources/blog/innovative-data-visualization-examples/

Where would be “trend”?



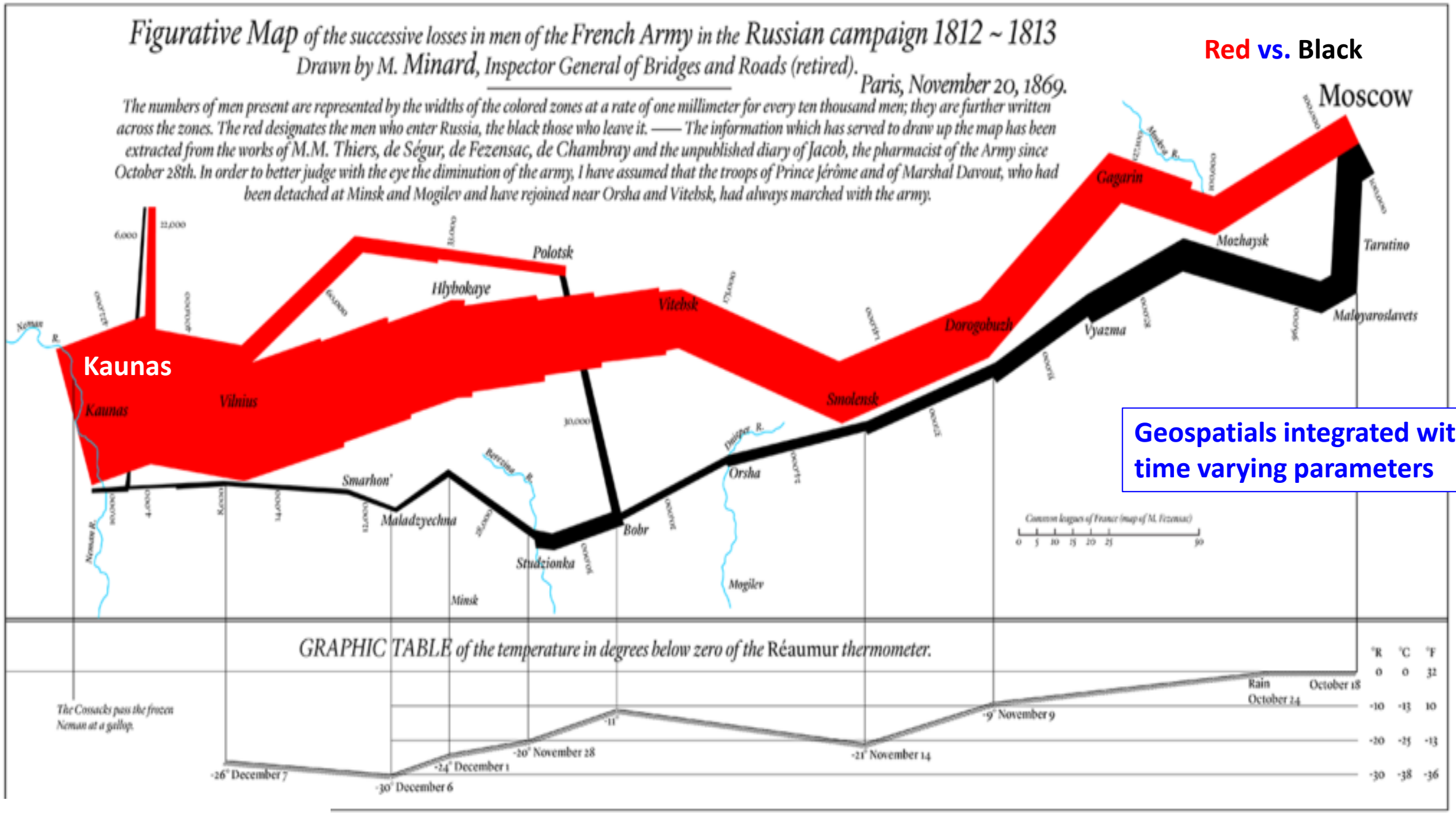
https://www.tapclicks.com/resources/blog/innovative-data-visualization-examples/

The Python Graph Gallery – Chart Types

https://www.python-graph-gallery.com/

Napoleon's hill
in Kaunas,
Lithuania

Grande Armée crossing Nemunas (June, 1812)



June 24, 1812 – Dec 19, 1812

Blogs to Read

PYTHON SCIENCE PLOTTING

Intro to Dynamic Visualization with Python — Animations and Interactive Plots

Making basic animations and interactive plots with Python
Naveen Venkatesan Apr 26, 2020

Sometimes, you would like to **create a dynamic graphic that either changes with time like a video, or adapts based on an interactive user input**. These visualizations do a great of job of really showing **how an output can change with its inputs.**

Static Plot

Animated Plot

Interactive Plot

https://towardsdatascience.com/intro-to-dynamic-visualization-with-python-animations-and-interactive-plots-f72a7fb69245

5 Python Libraries for Creating Interactive Plots

October 12, 2016 • Melissa Bierly

According to data visualization expert Andy Kirk, there are two types of data visualizations: **exploratory** and **explanatory**. The aim of explanatory visualizations is to tell stories—they're carefully constructed to surface key findings.

Exploratory visualizations, on the other hand, “create an interface into a dataset or subject matter... they facilitate the user exploring the data, letting them unearth their own insights: findings they consider relevant or interesting.”

More often than not, **exploratory visualizations are interactive**. While there are many Python plotting libraries, only a handful can create interactive charts that **you can embed online and distribute**. Today we're sharing five of our favorites.

- **mpld3**
- **pygal**
- **Bokeh**
- **HoloViews**
- **Plotly**

https://mode.com/blog/python-interactive-plot-libraries/