What is Vis

Tangled Knot

- Why do it? (why does it/doesn't it work)
- How?
- When is it good?

This will come back

- Challenger / London Cholera
- Principles Perception
- Visual encodings + perceptual maps
- Evaluation

Card: psychology \(\rightarrow\) motivations \(\rightarrow\) specific designs
Tuttle: history \(\rightarrow\) specific designs
Munzner: building blocks \(\rightarrow\) process \(\rightarrow\) designs \(\rightarrow\) data reduction + more designs

DATA

MULTIVARIATE

Beyond Tabular (?)

Derived Variables \(\rightarrow\) Visual encodings

Projection
- What space are we in
  Even Geographic has issue

\(\text{Lat, Long} \rightarrow x, y, z \rightarrow \text{draw a point}\)

PIPELINE
Why waste the power of data graphics on things that can usually better be summarized in one or two numbers before rhetorical game.

Playfair (first chart 1759-1823) "comparative perspective"

CAUSAL EXPLANATIONS

we'll come back to John Snow and Napoleon's March

HISTORICAL EXAMPLES
- Show what's possible
- See potential strategies / pitfalls
- Leave it to us to find rules (how to do it ourselves)

Some categories:
Maps -> Time Series -> Abstract

Hidden:
- mappings / encodings
- tie noise & encoded channel (slopes on)
- small multiples

This is no accident, since the traditional graphic, the scatterplot and its variants - is the greatest of all graphical design
Principles of Graphical Excellence

Graphical excellence is the well-designed presentation of 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.

Graphical excellence is nearly always multivariate.

And graphical excellence requires telling the truth about the data is complete.

? the whole truth?
no! abstraction — how to deal w/ too much stuff.
(every number is not sacred— might get in the way)