

# What is Vis

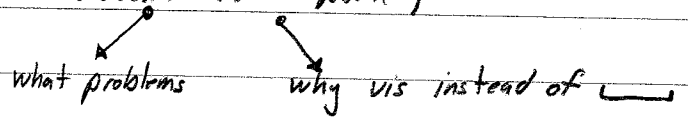
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Tangled knot -

Why do it? (why does it / doesn't it work)

How?

When is it good?



this will come back

- Challenger ; London Cholea
- Visual encoding + perceptual maps
- Evaluation

- Principles Perception Encodings

Card: psychology → motivations → specific designs

Tufte: history → specific designs

MONZNER: building blocks → Designs → Data Reduction → More Designs

data encoding interaction

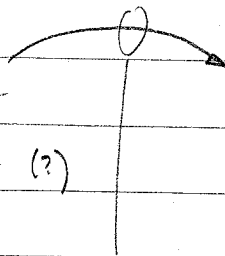
process

strategies

DATA

MULTIVARIATE

Beyond Tabular (?)



Projection

→ What space are we in

Even Geographic has issue

projection

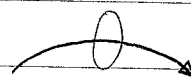
Lat, Long

value

→ x, y, z

z

→ draw a point



Derived Variables

Visual encodings

Mapping/Encoding

PIPELINE

Tufte at his worst/best

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file  
VOQZ:30

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

32 Playfair (first charter 1759-1823) "comparative perspective"

## CAUSAL EXPLANATIONS

we'll come back to John Snow ; 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

small multiples

tie noise → encoded channel (stapes on)  
p44

This is no accident, since the redemptive graphic

the scatterplot and its variants - is the greatest of all graphical designs.

# Principles of Graphical Excellence

It's an art  
It's about communication

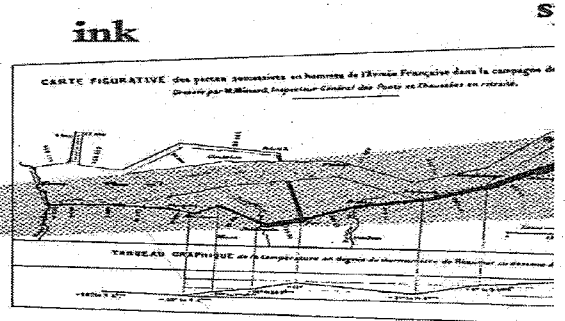
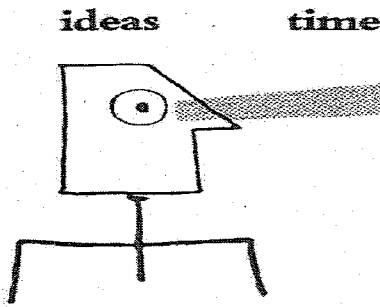
Graphical excellence is the well-designed presentation of information—*a matter of substance, of statistics, and of design.*

Graphical excellence consists of complex ideas communicated with clarity, precision, and efficiency.

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.

↑  
not always the goal  
not always trivial to measure



Data is complicated

Graphical excellence is nearly always multivariate.

And graphical excellence requires telling the truth about the

usually

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