Effective visual presentation*

*May not be present in this talk

Why worry?

n People are judgmental

n People know what they like

n If nobody understands your work, it doesn't matter

Outline

n Metrics for evaluating visual presentation

n Presentation tips

n Software tips

Data-ink ratio

$$\text{Data-ink ratio} = \frac{\text{data-ink}}{\text{total ink used to print the graphic}}$$

= proportion of a graphic's ink devoted to the non-redundant display of data-information

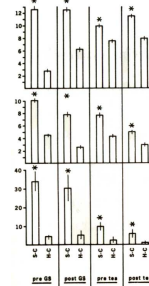= 1.0 – proportion of a graphic that can be erased without loss of data-information
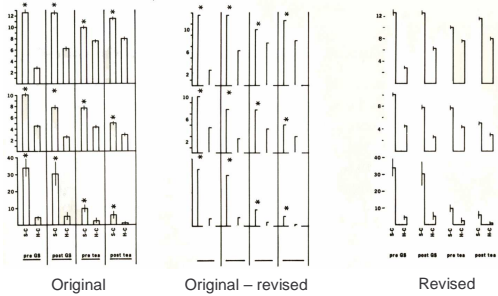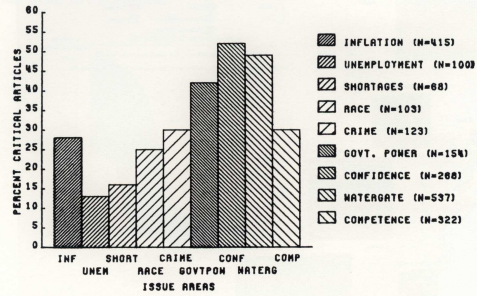

Example

Example

Possible reduction

Original   Original – revised   Revised

7

Chart junk

INFLATION (N=415)
UNEMPLOYMENT (N=100)
SHORTAGES (N=68)
RACE (N=103)
CRIME (N=123)
GOVT. POWER (N=154)
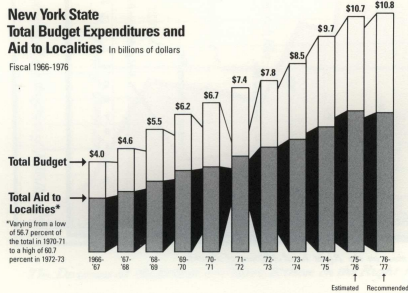CONFIDENCE (N=268)
WATERGATE (N=537)
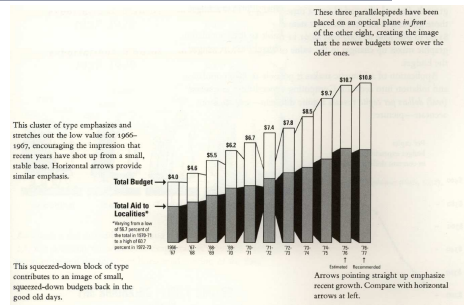COMPETENCE (N=322)

8

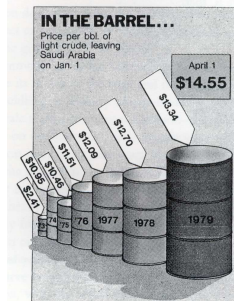## Time series with junk

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Observed deception

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Lie-factor

$$\text{Lie factor} \ = \ \frac{\text{size of effect shown in graphic}}{\text{size of effect in data}}$$
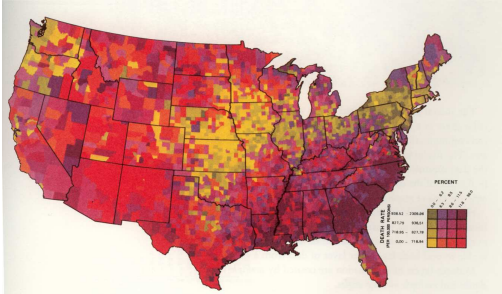
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Dimension deception
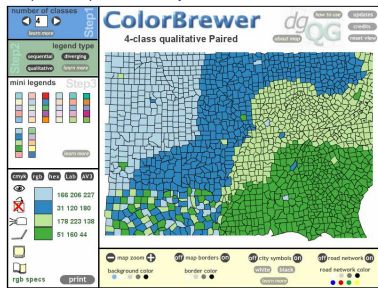

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Color misuse

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Outline

n Metrics for evaluating visual presentation

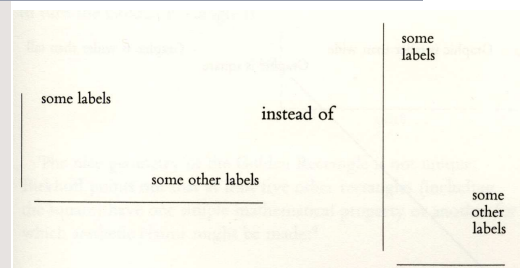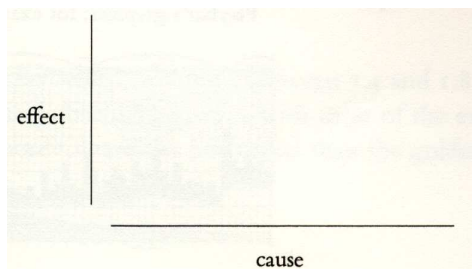n **Presentation tips**

n Software tips

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Color tip

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Labeling tips

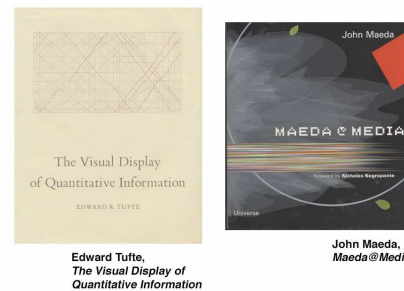some labels   instead of   some labels

some other labels

some other labels

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Causal inference

effect

cause

17

References

Edward Tufte,
*The Visual Display of
Quantitative Information*
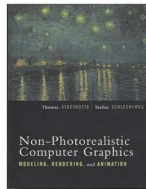
John Maeda,
Maeda@Media

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More references

Donald Hoffman,
Visual Intelligence

Thomas Strothotte and
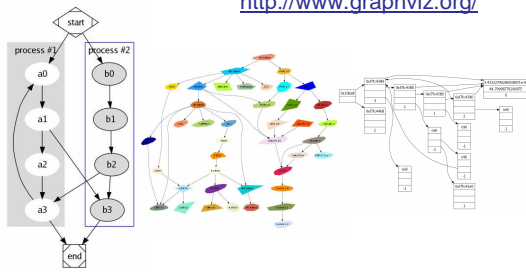Stefan Schlechtweg,
*Non-Photorealistic
Computer Graphics*

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Outline

n Metrics for evaluating visual presentation

n Presentation tips

n **Software tips**

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GraphViz

http://www.graphviz.org/

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LaTeX tips

n Use pdflatex – TeX + ghostscript often produces poor output

n Bitmap images should be ~300 dpi

n Line art best from Adobe Illustrator*

n Gnuplot or MATLAB best for graphs*

*opinion

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Labeling bitmaps in LaTeX

QuickTime™ and a
TIFF (Uncompressed) decompressor
are needed to see this picture.

23

Labeling bitmaps in LaTeX

QuickTime™ and a
TIFF (Uncompressed) decompressor
are needed to see this picture.

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If all else fails

PostScript
LANGUAGE REFERENCE
third edition
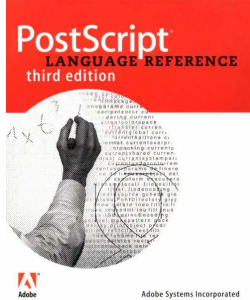
Adobe Systems Incorporated

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Thanks for coming!

Questions?

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