How to avoid misleading with data visualization

Displaying Data

This is a useful article on the ten rules for displaying (scientific) data in PLOS:

http://www.ploscompbiol.org/article/info:doi/10.1371/journal.pcbi.1003833

1. Know your audience
2. **Identify your message**
3. Adapt the figure to the support medium
4. Captions are not optional
5. Do not trust the defaults
6. USE COLOUR EFFECTIVELY
7. **Do not mislead the reader ←represent magnitudes honestly**
8. **Avoid "Chartjunk" ←make patterns easy to see**
9. **Message trumps beauty ←show data**
10. **Get the right tool ← draw graphical elements clearly**

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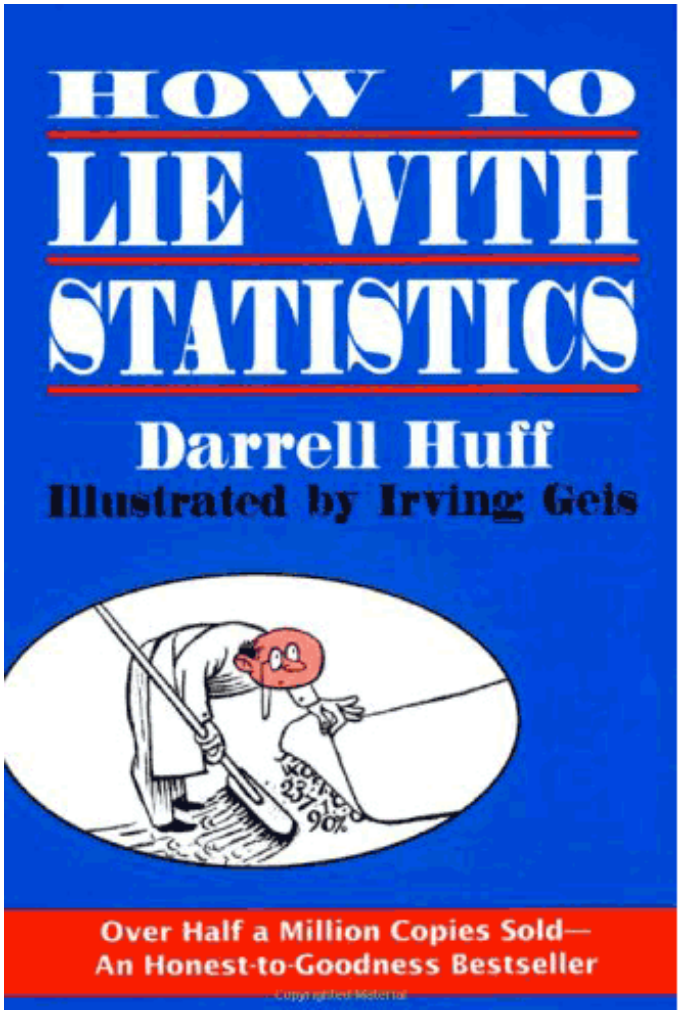

1. The sample with the built-in bias
2. The well-chosen average
3. The little figures that are not there
4. Much ado about practically nothing
5. The Gee-whiz graph
6. The one-dimensional picture
7. The semi-attached figure
8. Post hoc rides again
9. How to staticulate
10. How to talk back to a statistic

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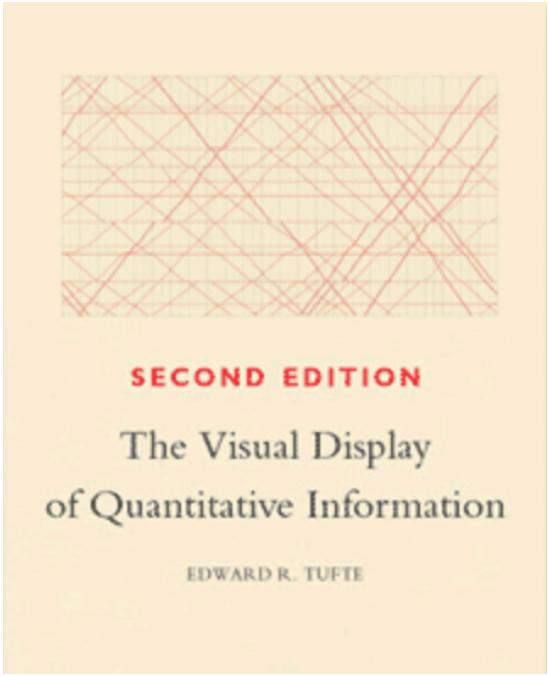
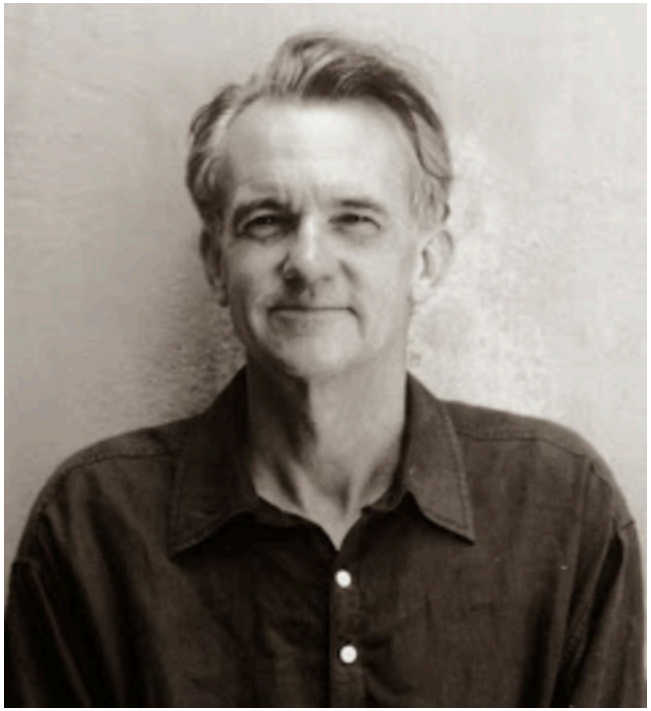
"How to Lie with Statistics" is still the gold standard of conveying statistical/ uncertain information.

More modern version: Edward R. Tufte "The Visual Display of Quantitative information" covers similar topics but adds a bit more modern depth.





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The "Gee Whiz" Graph