
Table of Contents

Preface	vii
---------------	-----

Part I. What Will You Design?

1. Classifications of Visualizations	3
Complexity	3
Infographics versus Data Visualization	4
Infographics	5
Data Visualization	7
Exploration versus Explanation	7
Exploration	7
Explanation	8
Hybrids: Exploratory Explanation	8
Informative versus Persuasive versus Visual Art	8
The Designer-Reader-Data Trinity	9
Informative	9
Persuasive	10
Visual Art	10
2. Source Trinity: Ingredients of Successful Visualizations	13
Designer	13
Why Are You Here?	13
Reader	14
You Are Creating This for Other People	14
They Are Not You	15
Contextual Considerations for the Reader	15
Context of Use	16
Data	16

Part II. How Should You Design It?

3. Determine Your Goals and Supporting Data	21
Knowledge Before Structure	21
Avoiding TMI	23
4. Choose Appropriate Visual Encodings	25
Choosing Appropriate Visual Encodings	25
Natural Ordering	25
Distinct Values	28
Redundant Encoding	29
Defaults versus Innovative Formats	30
Readers' Context	31
Compatibility with Reality	34
Patterns and Consistency	37
Selecting Structure	38
Comparisons Need to Compare	40
Some Structures Are Just Inherently Bad	40
Some Good Structures Are Often Abused	42
Keep It Simple (or You Might Look) Stupid	44
5. First, Place	47
Position: Layout and Axes	47
Position Is Your Most Powerful Encoding	48
The Meaning of Placement and Proximity	49
Semantic Distance and Relative Proximity	49
Absolute Placement	50
Representation of Physical Space	50
Logical Relationships versus Physical Relationships	51
Patterns and Grouped Objects	52
Patterns of Organization (and More!)	52
Specific Graphs, Layouts, and Axis Styles	53
Appropriate Use of Circles and Circular Layouts	58
6. Apply Your Encodings Well	65
Color	65
Leverage Common Color Associations	66
Cognitive Interference and the Stroop Test	67
Color Theory	68
Size	71
Conveying Size	71
Comparing Sizes	72

Text and Typography	74
Use Text Sparingly	74
Fonts and Hierarchies	75
Beware of All Caps	75
Avoid Drop Shadows	76
Shape	77
Cultural Connotations	77
Icons	77
Illusions	77
Lines	78
When Not to Use Lines	79
Keys versus Direct Labeling of Data Points	80
Pitfalls to Avoid	81
3D	81
Pies	82
Gradients	82
Drop Shadows	83
Any Excel Defaults	84
Conclusion	84

A. Additional Resources	85
--------------------------------	-----------

B. Checklist	91
---------------------	-----------