Ch 3: Clutter is your enemy!

Gestalt principles of visual perception
Early 1900s

Proximity
- Objects close together belong to part of a group

Similarity
- Objects of similar color, shape, size, or orientation are related

Enclosure
- Objects physically enclosed together belong to part of a group
  - Outline
  - Gray shaded box

Closure
- People like things to be simple and fit in the constructs in our heads.

Ch 4: Focus your audience's attention
- Preattentive attributes - size/color/position on page
  - Help direct your audience's attention to where you want them to focus it
  - Creates a visual hierarchy of elements to lead them how to process info
  - Visual Attributes p 105
    - Orientation
    - Shape
    - Line length
    - Line width
    - Size
    - Curvature
    - Added marks
    - Enclosure
    - Hue
    - Intensity
    - Spatial position
    - Motion
  - Textual Attributes p 107
    - Color
    - Size
    - Outline/enclosure
    - Bold
    - Italics
    - Separate spatially
    - Underline/added marks
- Can only keep 4 chunks of visual information in short-term memory at a time
- Only 3-8 seconds with our audience
  - Before they decided to continue looking or focus elsewhere
- Using preattentive attributes can obscure unhighlighted points and should be avoided during exploratory analysis.

- But helpful in directing your story during explanatory analysis.

Size
- Size denotes relative importance

Color
- Powerful tool to draw attention (when used sparingly)
- Ask where are your eyes drawn?
- Use color consistently
  - A change in color signals - a change
- Design with colorblind in mind
  - Vischeck (www.vischeck.com)
  - Color Oracle (www.colororacle.org)
  - CheckMyColours (www.checkmycolours.com)
- Color evokes emotion
  - Hot pink and teal (works for a dating magazine add - but not quarterly business report)
  - Cultural color connotations may be different
    - (https://informationisbeautiful.net/visualizations/colours-in-cultures/)
- Brand colors - be thoughtful when choosing color

Position on Page
- Information ingested in a Z pattern
- Most important info at Top Left
- Present information as audience expects it
  - Ex: Don't put positive numbers on the left of negative numbers

Ch 5: Think like a designer
Affordances
- Affordances are aspects inherent to the design that make it obvious how the product is to be used
  - Knob affords turning
  - Button affords pushing
  - Cord affords pulling

Highlight the important stuff
- At most 10% of the visual design be highlighted
- Attributes can be layered
- **Bold**, *italics*, and underlining
  - Use for titles, labels, captions, & short word sequences
  - Bold preferred
  - Italics don't stand out as much
  - Underlining adds noise - use sparingly
- CASE and typeface
  - Uppercase - easily scanned
    - Use for titles, labels, keywords
  - Avoid using different fonts
- Color
  - Effective highlighting technique when used sparingly
- Inversing elements
  - Effective but can add noise - use sparingly
- Size

- o Attracts attention
- o Signals importance

Eliminate distractions
- Think about context
- Not all data is equally important
- Summarize - when detail isn't needed
- Would eliminating this change anything?
- Push necessary, but non message impacting items to the background

Create a clear visual hierarch of information

Accessibility
- When people have trouble interpreting a graph - poor design
- Good design takes into account the needs of the user
  - o Easy to interpret & understand

Don't overcomplicate
- The more complicated it looks
  - o More time audience will perceive it will take to understand
  - o Less likely they are to try to understand it
- **Make it legible -** easy to read font
- **Keep it clean**
- **Use straightforward language**
  - o Simple words
  - o Fewer words
  - o Spell out acronyms (first use or footnote)
- **Remove unnecessary complexity**

Text is your friend
- Use it to
  - o Label
  - o Introduce
  - o Explain
  - o Reinforce
  - o Highlight
  - o Recommend
  - o Tell a Story
- Title
  - o Every chart
  - o Every axis
- If there is a conclusion you want your audience to reach - state it in words
  - o Make those important words stand out
  - o Action title (in PowerPoint)
- Annotate important data points
  - o Help user draw conclusions

Aesthetics

- Be smart with color
- Pay attention to alignment
- Leverage white space

Ch 6: Dissecting Model Visuals
- When you see something you like - pause to consider why
- Used total percentage to the left of a horizontal stacked bar graph