Envisioning Information

Escaping Flatland

When I first started reading this section, I thought it was going to be all about visualizations on media with more than two dimensions. It was a pleasant surprise to instead read about ways that some data representations stay stuck in flatland and how some attempt to escape.

I particularly liked the last example poster with the silverware falling off of the table, which makes fun of ducks’ failure to escape flatland. “Ducks” are too commonly seen these days; whether they’re in architectural design or information design, displays seem to be difficult to build or publish without some sort of embellishment. It’s not strange that the creators want to show off a little, but when taken to the lengths that ducks exemplify, they just don’t quite make sense anymore.

Another point I agree with is that good design should be invisible. Data should be quickly and intuitively extracted from the visualization, even when there are more than two dimensions. Take the Color Coordination piece, for instance. With a couple of exceptions, the shirts are colored and positioned in a way that makes choices easy to make. There is also another important factor of showing small multiples rather than single shirts, but that analysis is for a separate section. I found it odd that a small allusion to a later section would be inserted in the first chapter, but I suppose it’s pertinent enough to the drawing to justify doing that.

A piece of work that seemed to receive praise from Tufte is the Tokyo climate chart. It is densely packed with data and presents it in such a way that five years of weather information can be summarized in about five seconds (and described in more detail if desired). One improvement to this chart could be to use the same unit of measurement for rain and snow. I don’t see a reason for changing from millimeters for rain to centimeters for snow, especially when 1 cm is just 10 mm. It’s not hard for readers to distinguish between the two units, but using the same one saves them from having to transition scales. Or perhaps the authors intentionally shifted units to bring to readers’ attention the fact that the centimeters measure snow instead of rain, but then again the snowflake icon should do the job by itself. In this case I do not think the redundancy helps much.
Layering and Separation

Reading this section reminded me of The Psychology/Design of Everyday Things. Many of the examples in this chapter were poorly designed for end use. Maybe the creators didn’t have the final consumers in mind or had never had experience, say, riding in a plane, but the blame can still be put on the design of the thing in question rather than users’ ignorance or inability to figure out the diagram/contraption.

The example that stuck out to me as most relevant was the train time table. Whoever designed the original piece probably didn’t consider (or care) that the vast majority of viewers would be busy people quickly reading through the list. The improved version got rid of the thick lines on the borders of each cell, zebra-striped the locations, and reordered information by general importance. It is almost surprising how such simple fixes improve both form and function, as the chart becomes both more practical and more aesthetically pleasing with these corrections in place. I’ve read studies where it’s been shown that laying out tabular data using zebra stripes as background colors does not speed up comprehension time (one of the measures of effectiveness in a table like this), but I don’t think any of those tested completely borderless tables such as this one.

Another riveting example of this chapter’s theme is the comparison of mapping styles. Without distinction between different types of terrain, landmarks, etc., a detailed map quickly becomes too cluttered and illegible. The local map of Simla, India is simply a pain to try to read. In the end the piece looks like a massive bunch of scribbles. On the other hand, just about everything on the Kurumazaka area map is easily identified. Again, simple changes greatly improve the diagram: the addition of color to mark certain things and omission of labels on roads and paths give a map some much-needed whitespace and padding.

The Nolli map (which may have been trying to escape flatland) goes too far in the other direction. In particular, the river “pops out” too much. The so-called muting done by using blue ink for water puts the river in its proper place among the layers of the map.

Perhaps something Tufte failed to keep in mind is the availability of certain commodities. Many of the improvements add a touch of color, and while that’s relatively simple nowadays, it may not have been so easy in the 1920s.
Color and Information

This section started off sounding like a continuation of *Layering and Separation*, but I soon realized it highlighted the misuse of color rather than the lack of it in most examples. Maps seem able to be excellent displays of information utilizing color properly as well as terrible offenders of Imhof’s principles. Although some attempt to separate information by coloring certain areas differently, they fail because doing so either adds no benefit or serve only to further confuse the reader.

Something else which showed that color usage could be in a different domain from simple layering of information was the example of Byrne’s visual Euclidean geometry. Instead of using only purely mathematical statements, some visual shapes were thrown into proofs. Although this was an innovative technique of writing out the proofs, one could argue that it was only natural since they were dealing with geometry. Either way, it provides a more intuitive and perhaps easier view for some people by presenting the shapes as almost tangible objects which may be more easily manipulated in their minds.

Minor annoyances throughout the book which bugged me were some of Tufte’s references to “video games” whenever something looked like a messy jumble. I looked at the example pictures for each one, and I have never seen any game look that bad. Maybe he’s only played ugly games, but I’m fairly sure nobody would want to play a video game like that. What, then, do we call something this horrible?

However wrong Tufte may be about video games, his assertion that computer monitors are low-resolution devices (and TVs even worse) is absolutely correct. Even though they’re constantly improving, it’s still easy to see jagged edges and other artifacts of the pixelated portal between human eyes and computer display. It’s nice to see today’s software developers/designers taking this into account more often. Most window-based user interfaces aren’t as $(1 + 1 = 3)$ cluttered and noisy as ones in the past, whether they implemented the same suggestion featured by Tufte or not.