

Lecture 8: Micro/Macro and Small Multiples

In this lecture, we continue our exploration of Tufte's design principles. Our overarching goal is to explore the different ways of visualizing complex, multi-variate data.

In Micro/Macro, Tufte presents images that are created by combining many small pieces into a single whole. Rather than removing detail for clarity, this technique adds detail to create images that show clearly the whole as the sum of its parts. The result provides both overview plus detail in the same image.

In Small Multiples, visualization is tiled with small, related images. These can be variations on a common model, or express a sequence over time. By distilling each image into its essential form, then repeating, the variations become visible at a glance. Again, overview plus detail.

Animated sequences present images over time. Considering their popularity, they are surprisingly ineffective for conveying a precise sequence of visual instructions. In most circumstances, a sequence of still images, like Tufte's small multiples, are easier to interpret and use.

Goals for the lecture

By the end of the class, you will be able to:

- Describe the key characteristics of the Micro/Macro technique, and how it is applied.
- Describe the key characteristics of the Small Multiples technique, and how it is applied.
- Appreciate the difficulty of using animation for visual instructions.

Reading Assignment

Tufte, *Envisioning Information*, chapters 2&3.

Things to consider as you read

1. Consider how these techniques could be applied to your project
2. What are the disadvantages of these techniques, especially for digital applications, and how might they be enhanced or improved.

Reflection questions

The questions below are to help you think more broadly about what you've read and its relationship to the class. It is optional, but strongly encouraged, that you answer them and email your answers to info424@gmail.com to aid in discussion in class. Email must be received by 7 am on the day of the class.

1. Find an image or a link that illustrates each of these two techniques.