

## Book Reviews / Comptes rendus de livres

**Stephanie D. H. Evergreen. (2019). *Effective Data Visualization: The Right Chart for the Right Data*. Second Edition. Thousand Oaks, CA: SAGE. Paperback, 352 pages. (ISBN: 978-1-5443-5088-2) Stephanie D. H. Evergreen. (2019). *The Data Visualization Sketchbook*. Thousand Oaks, CA: SAGE. Spiral, 136 pages. (ISBN: 978-1-5443-8469-6)**

---

Reviewed by Lisa M. P. O'Reilly MPA, CE

Stephanie Evergreen has a solid reputation as an expert on data visualization (dataviz) and reporting in evaluation. Her blog (<https://stephanieevergreen.com/blog>) is on my list of resources for how to make a phonebook of data into a focused visual. Her most recent book on dataviz, the second edition of *Effective Data Visualization: The Right Chart for the Right Data*, and its companion *The Data Visualization Sketchbook* are the “in real life” (IRL) version of her blog.

Much of the book is a repurposing of work published online. As is the case in her blog, Evergreen's tone in the book is light and clear. We are her colleagues with whom she is sharing something she has figured out. There are helpful asides and words of encouragement that endear her to us and make the text an enjoyable read. (Note: To get the most from this resource, read with MS Excel open, preferably while online, and play along. Readers will finish with a file of useful example visuals. Thanks Stephanie!)

My favourite part of Evergreen's work is when she shares research on dataviz and explains how she incorporates it into better practice. She is clear and not overly technical. From her description of [Cleveland and McGill's \(1984\)](#) hierarchy of graph types (p. 7) to [Ajenstat's \(2018\)](#) work on data literacy (p. 321), it is Evergreen's references to existing research on how people view and understand different kinds of visualizations that will remain useful beyond the described version of Microsoft Excel.

Evergreen shares her vision for readers to be able to “scan the chapter titles for the one that matches what you are trying to show, and then skip straight to that chapter to home in on your data visualization possibilities” (p. 9). While this may be her hope, the book reads more as a story than as a reference guide. Later chapters build on earlier ones, lists of instructions assume previously described steps, readers are asked to review prior sections (e.g., on p. 196), and the images get smaller. Some of the screenshots are really small. To read the tiniest images, readers will need to replicate the steps in Excel to read menus and boxes or turn back to her blog and search for the corresponding entry to zoom in on an image.

**Corresponding Author:** Lisa O'Reilly, [enquiries@lisaoreilly.ca](mailto:enquiries@lisaoreilly.ca)

Readers can look forward to adding useful tools to their own dataviz repertoire. Some ideas (buffer data and manipulating scatter plots charts) are repeated to create a number of chart options. Having learnt how handy buffer data is in shaping a visual, I was surprised to see that same technique not used to host labels in back-to-back bar graphs (pp. 64–65) or for stacked bars (p. 134). Evergreen inserts text boxes for labels, which seems harder and is less likely to rescale with a chart. Similarly, Evergreen suggests eyeballing a line (p. 142) in diverging stacked bar (which is a great way to split survey data along points of interest, such as between “agree” and “disagree”). I instead included buffer data with a very low value to produce a thin, scalable line. Other readers may have other simpler workarounds.

By and large, of the dozen charts that I produced a bit differently, I did so using techniques from *Effective Data Visualization*. One exception of note relates to shading below the x-axis line when demonstrating a downward trend against a target (think weight loss or debt reduction, p. 272). The practice file includes a marvel (mess) of data and formulas that produce an image with data above the target in light brown and data below in dark brown. There are 32 rows by 10 columns in play, including formulas with 28 embedded features that are more than 400+ characters long. It's extraordinary and not necessary. (In the next edition, might I suggest using a stock area graph, changing where the horizontal axis crosses from “Automatic” to Axis value, and use gradient fill of area to include the two desired colours with white in between at the axis line.)

A few of the more interesting visuals require software beyond Excel (nested area graphs, network diagrams) or require the reader to source a hard-to-find widget from a recommended website (Sankey diagrams on <http://ramblings.mcpher.com/>).

On a wish list for the third edition of *Effective Data Visualization* is what to do before selecting and building a visual, along with when and why to sketch (how is covered in the *Data Visualization Sketchbook*). Rather than re-colour visuals or apply fonts after visuals are built, the reader can set up themes (on the layout tab) with their own or their client's preferred colours and fonts. I would like a summary of how people process visuals so that the rationale for selecting a given visualization is not based on the chart choosers but rather on the research, and the chart chooser is a reminder of the research. For ideas and steps that are duplicated, a reference to the page on which it was last explained would be helpful.

Looking at the companion *Data Visualization Sketchbook*, I would rather it was rolled into the beginning of *Effective Data Visualization* or have them sold as a set. There are 15 pages of ideas in the *Sketchbook*. Sketching first, and generally thinking about what visual to build, is an important precursor to data visualization. The absence of the information on these 15 pages from the main book is notable. The *Sketchbook* is not expensive, but the fact that it is sold separately may be enough that some readers will miss out on those fifteen pages.

Evergreen fans will want to have this book on their shelves. It is a good, permanent summary of her online work. Equally, data visualizers who are just

getting started, or who want to move from just dipping their toes in the water to actually swimming in this space, will appreciate *Effective Data Visualization*'s collection of skills.

## REFERENCES

- Ajenstat, F. (2018, October 10). *Three challenges that keep companies from adopting a data-centric culture*. Retrieved from <https://www.forbes.com/sites/forbestechcouncil/2018/10/10/three-challenges-that-keep-companies-from-adopting-a-data-centric-culture/>
- Cleveland, W. S., & McGill, R. (1984). Graphical perception: Theory, experimentation, and application to the development of graphical methods. *Journal of the American Statistical Association*, 79(387), 531–554.