End Note

Many Eyes—
A Data Kaleidoscope

The amazing thing about a kaleidoscope is that the same 30 or 40 bits of glass can produce an infinite variety of geometric images. With a simple rotation, gravity and the mirror rearrange an endless variety of views from the same small number of parts.

In a much more modest but similar way, computer programs can re-sort data into a number of different visualizations. With each different view, there's the possibility of a different understanding—and perhaps even some lateral thinking. Patterns not seen on a bar graph might be more apparent on a treemap.

This is the idea behind IBM's Many Eyes experiment (www.many-eyes.com). Two researchers, Martin Wattenberg and Fernanda B. Viégas, created a site at the company's Watson Research Center in Cambridge, Mass., where anyone can input a data set and subject it to 16 different visualization tools. The tools create interactive graphs, charts, and other less conventional displays. Anyone can then comment on the data set and/or the charted image in an online discussion.

According to the researchers, "You can explore data using your eyes! [The] site is set up to allow the entire Internet to upload data, visualize it, and talk about their discoveries with other people."

You input your own data by cutting and pasting from Excel, or you can use tab-delimited text files. You also can import data from government or other published sources or just browse the 34,284 sets already posted on the site.

Then you select the visualization. To see the parts of a whole, select a pie chart or treemap, comparative or conventional; to compare a set of values, select bar or bubble chart or block histogram; to see relationships among data points, there's a matrix chart, network diagram, or scatter-plot; there are world and country maps; and to track differences over time, there are line and stack graphs and a stack graph for categories. You can even chart text with a tag cloud (sorts the more frequent words in a text) or word tree (presents a branching view of how words are used) or use Wordle to generate "word clouds" that also identify prominent words.

Visit the site and bring along a few data sets. Not only is the page worth a look, but your data might benefit from a second look as well. ■