Effective Visual Encoding (2)

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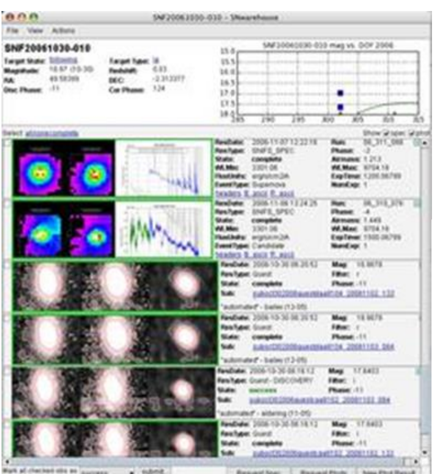
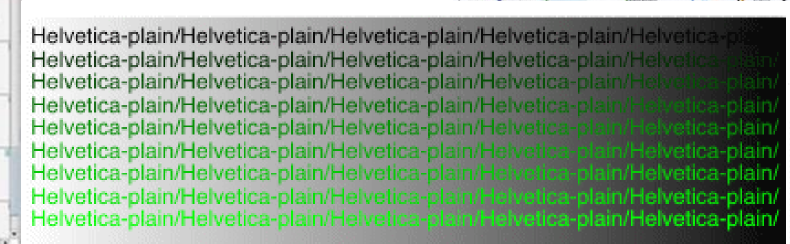
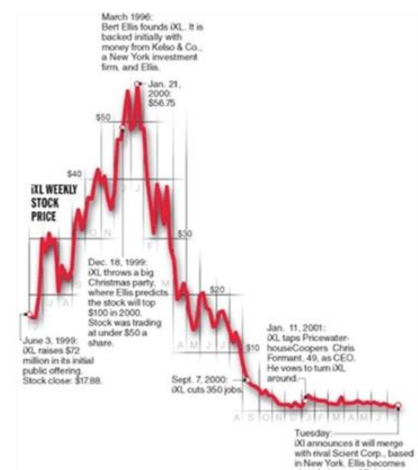




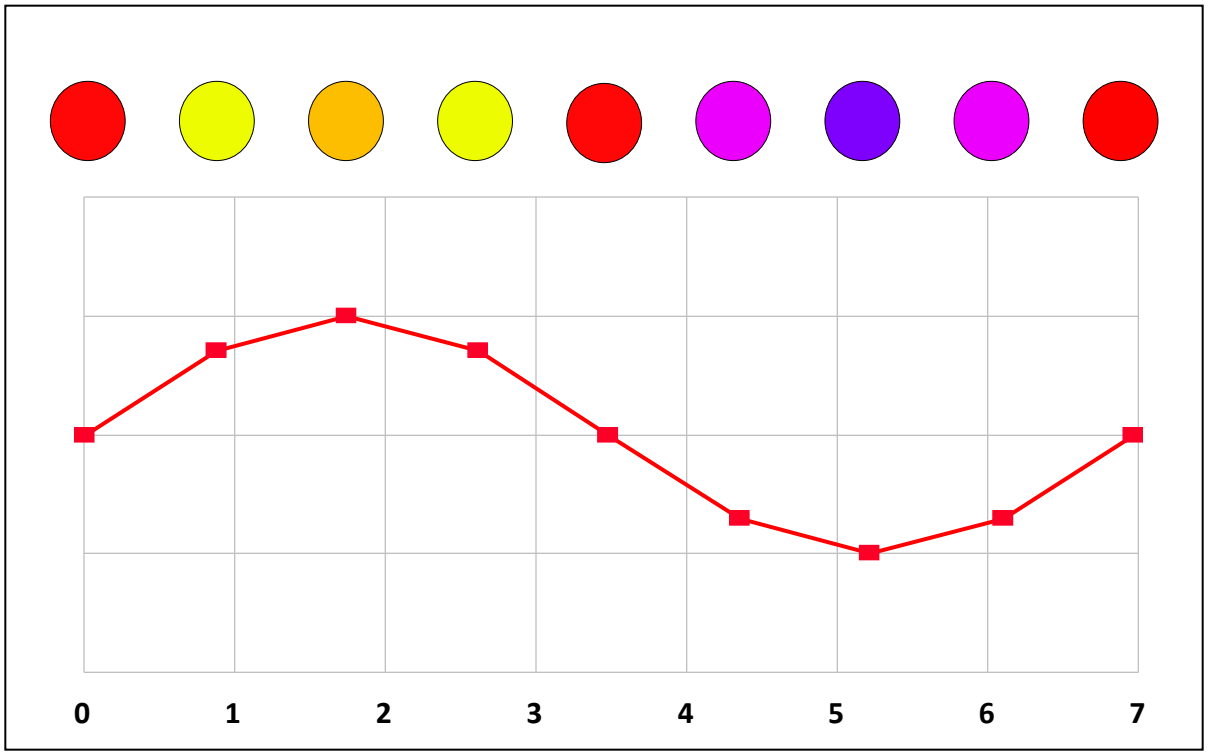


Design criteria: Effectiveness

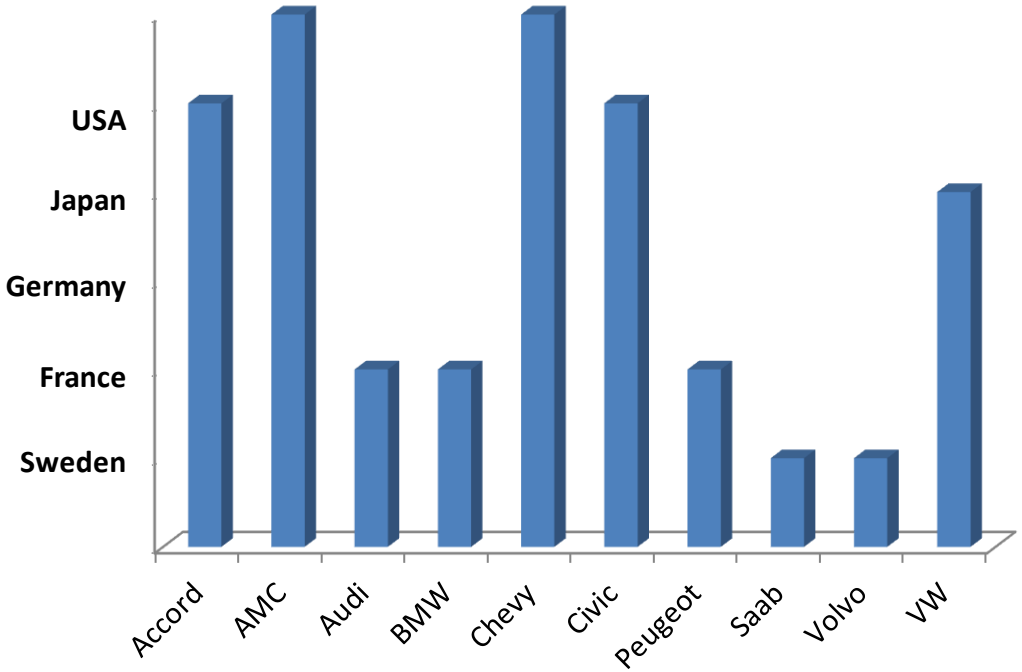
- Faster to interpret
- More distinctions
- Fewer errors

This?

Or this?



Is this an effective visual representation?



Is this an effective visual representation?

The visual representation is not expressive, because it implies incorrect ordinal relationship among countries.

Increasing the amount of information encoded by spatial position

- Composition
- Alignment
- Folding
- Recursion
- Overloading

[Card, S. and Mackinlay, J. and Shneiderman, B.: Readings in Information Visualization - Using Vision to Think, Morgan Kaufmann, 1999]

Composition

- Orthogonal placement of axes
- Creates a 2-D metric space

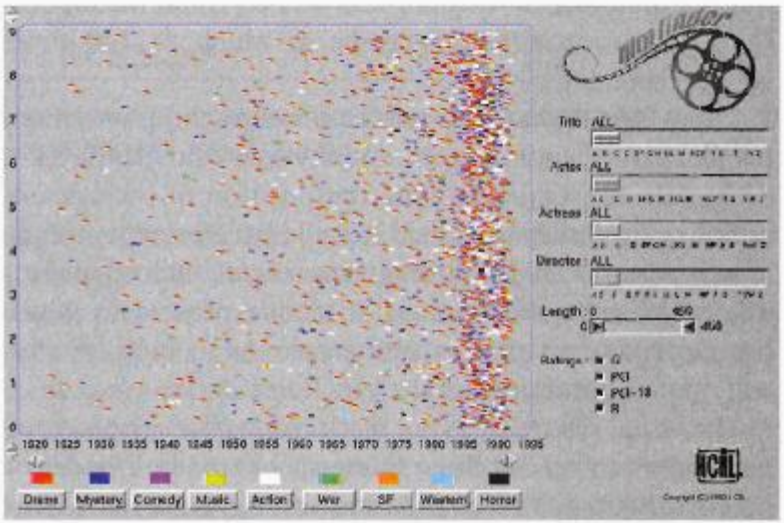


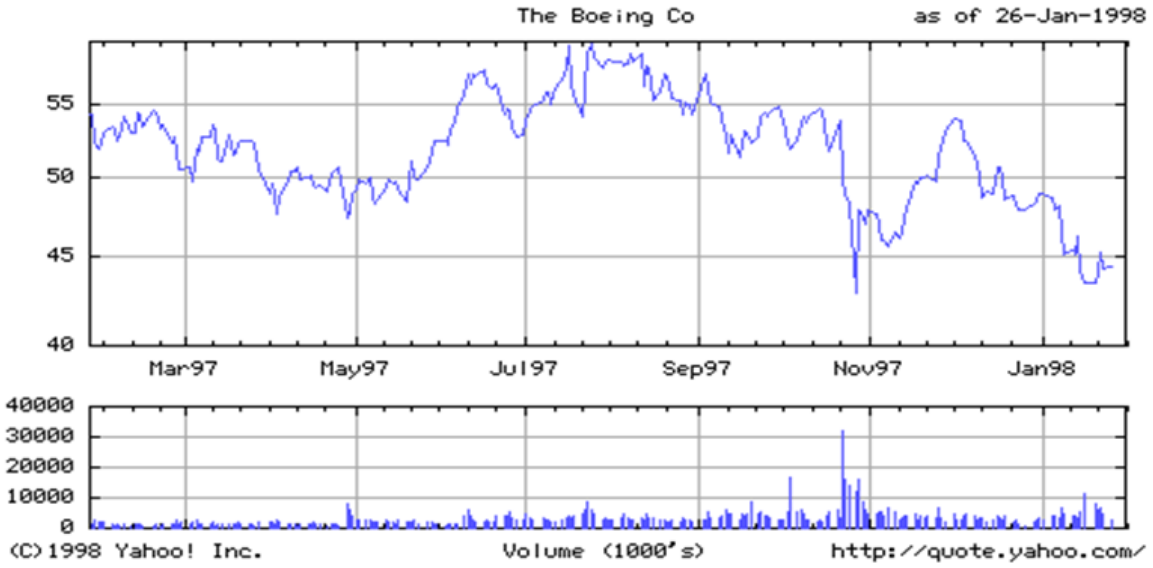
FIGURE **1.31**

The FilmFinder. Courtesy of the University of Maryland. See Ahlberg and Shneiderman (1994b).

Card, S. and Mackinlay, J. and Shneiderman, B.: Readings in Information Visualization - Using Vision to Think, Morgan Kaufmann, 1999

Alignment

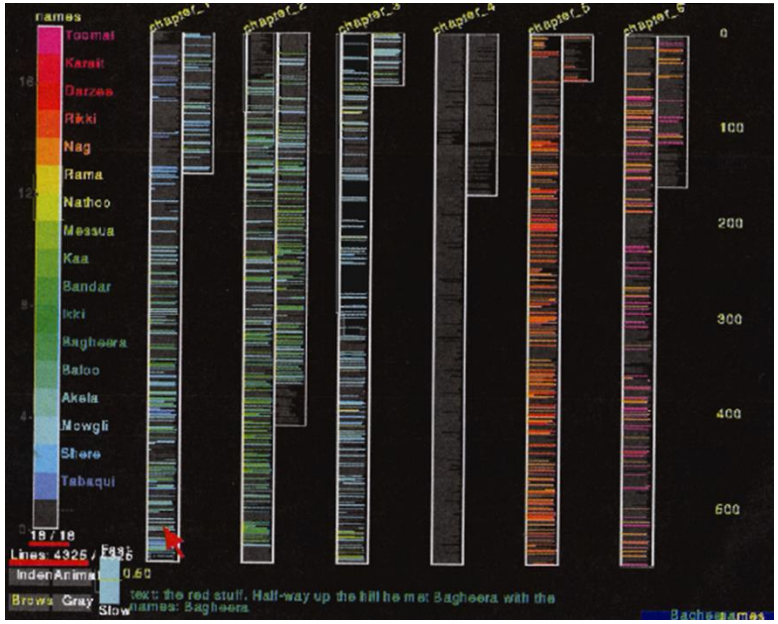
- Repetition of an axis at a different position in the space



Card, S. and Mackinlay, J. and Shneiderman, B.: Readings in Information Visualization - Using Vision to Think, Morgan Kaufmann, 1999

Folding

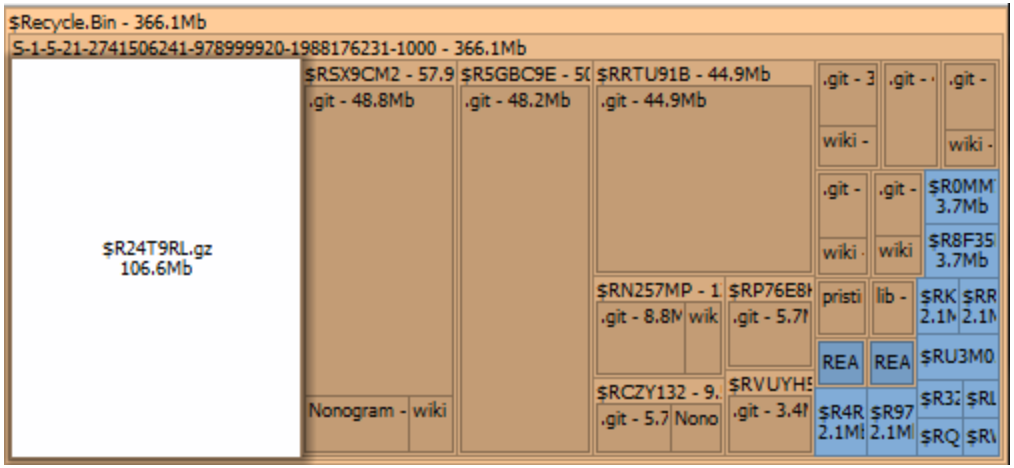
- Continuation of an axis in an orthogonal dimension



Card, S. and Mackinlay, J. and Shneiderman, B.: Readings in Information Visualization - Using Vision to Think, Morgan Kaufmann, 1999

Recursion

- Repeated subdivision of space



SpaceSniffer provides an interactive zoom into a recursive space of directories and files.

Overloading

- The reuse of the same space for different data

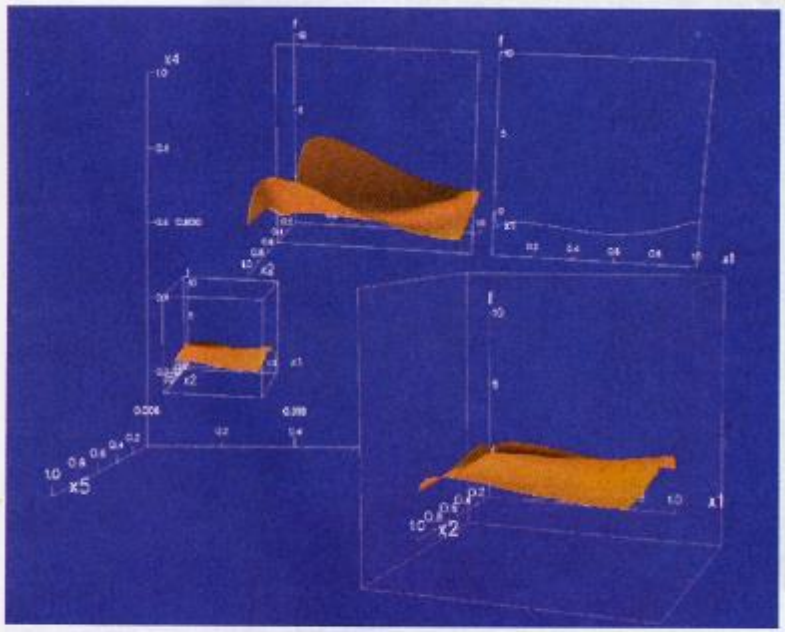


FIGURE **1.34**

Worlds within worlds (Feiner and Beshers, 1993, Figure 2) overloads space to visualize multivariable data tables.

Card, S. and Mackinlay, J. and Shneiderman, B.: Readings in Information Visualization - Using Vision to Think, Morgan Kaufmann, 1999