

Book Review:

Design for information, an introduction to the histories, theories, and best practices behind effective information visualizations.

by

Isabel Meirelles

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Jorge Frascara

Design for information is a thorough representation of both the field of information visualization and the research interests of the author, whose focus is on “the theoretical and experimental examination of the fundamentals underlying how information is structured, represented and communicated in different media.”

Beginning with the “big picture,” the book includes an amazing collection of examples, the most thorough I have seen to date in a volume. The author organizes the content according to several categories represented by the titles of the chapters: 1. Hierarchical structures: trees; 2. Relational structures: networks; 3. Temporal structures: timelines and flows; 4. Spatial structures: maps; 5. Spatio-temporal structures; and 6) Textual structures. An appendix, notes, a bibliography, a contributors list, and an index complete the content of the book.

Design for information is an extensive taxonomy of data visualization types and is “a must” for anybody interested in the work done in the area. Each one of the hundreds of examples is explained and discussed, forming a kind of encyclopedia on the subject. It seems that nothing escaped the exemplary collection that Meirelles assembled. The discussions and explanations normally focus on what information is represented and how it is represented.

It is interesting to see, as well, how many different professional fields today use diagrams to organize and represent information: basic science, applied science, education, engineering, medicine, and technologies, etc. The value of the book is centered on the inclusion of examples of how many different problems are now being addressed through data visualizations, how many historical efforts preceded whatsoever is

done today, and how the advent of the computers have allowed the field to explode by handling large data sets as well as dynamic representations.

At the end of the examination of the 224-page volume I became curious as to how these diagrams might have performed with the users they were intended for in terms of ease of comprehension; what conclusions I could arrive at from an evaluation of the examples from a perceptual and cognitive human factors perspective; or how a complementary book could contribute to the development of best practices. I would not expect that one volume could be so extensive as this one and also cover the field critically. However, I have to wonder how the super-complex visualizations permitted by computer programs today would perform regarding comprehension, memorization, and use of the information presented. The discussion on perception and cognition is very brief, and it might leave some readers wondering about the assertions made: they are proposed as principles without them being discussed. This topic, as well as Gestalt theory, are not considered during the description of examples. The size of some reproductions is too small to assess their quality as data visualizations. They appear as examples of problems addressed but not as information in themselves. To compensate for this, the book includes valuable URLs for people interested in seeing in better detail many of the diagrams shown.

While the above issues could be perceived as weaknesses, the strength of the book is its truly amazing array of examples and the rare historical diagrams it offers. It also displays an uncommon erudition and includes an extensive and useful bibliography. I do not know how long Meirelles took to complete the manuscript, but it feels like a lifetime project. These assets, coupled by excellent production, make this an indispensable publication for anyone interested in information visualization.