

Bibliography

- [1] J. Abello, F. van Ham, and N. Krishnan. “ASK-GraphView: A Large Scale Graph Visualization System.” *IEEE Trans. Visualization and Computer Graphics* 12:5 (2006), 669–676.
- [2] ADVIZOR Solutions, Inc. “ADVIZOR Visual Discovery Software.” <http://www.advizorsolutions.com/>, accessed February 2003.
- [3] D. J. Aks and J. T. Enns. “Visual Search for Size Is Influenced by a Background Texture Gradient.” *Journal of Experimental Psychology: Human Perception & Performance* 22:6 (1996), 1467–1481.
- [4] V. V. Alexandrov and N. D. Gorsky. *From Humans to Computers: Cognition through Visual Perception*, World Scientific Series in Computer Science, 22. Singapore: World Scientific, 1991.
- [5] James P. Allen. *Middle Egyptian: An Introduction to the Language and Culture of Hieroglyphs*, tenth edition. Cambridge, UK: Cambridge University Press, 2000.
- [6] E. Anderson. “A Semigraphical Method for the Analysis of Complex Problems.” *Proceedings of the National Academy of Science* 13 (1957), 923–927.
- [7] K. Andrews and H. Heidegger. “Information Slices: Visualizing and Exploring Large Hierarchies Using Cascading, Semicircular Discs.” Late Breaking Hot Topics paper presented at IEEE Symposium on Information Visualization (InfoVis’98), Research Triangle Park, North Carolina, 1998.
- [8] D. F. Andrews. “Plots of High Dimensional Data.” *Biometrics* 28 (1972), 125–136.
- [9] Gennady L. Andrienko and Natalia V. Andrienko. “Interactive Maps for Visual Data Exploration.” *International Journal of Geographical Information Science* 13:4 (1999), 355–374.
- [10] Natalia V. Andrienko and Gennady L. Andrienko. “Informed Spatial Decisions through Coordinated Views.” *Information Visualization* 2:4 (2003), 270–285.

- [11] Natalia V. Andrienko and Gennady L. Andrienko. *Exploratory Analysis of Spatial and Temporal Data: A Systematic Approach*. Berlin: Springer, 2005.
- [12] M. Ankerst, D. Keim, and H. Kriegel. "Circle Segments: A Technique for Visually Exploring Large Multidimensional Data Sets." Hot Topics paper presented at presented at IEEE Visualization '96, San Francisco, CA, October 27–November 1, 1996.
- [13] Mihael Ankerst, Stefan Berchtold, and Daniel A. Keim. "Similarity Clustering of Dimensions for an Enhanced Visualization of Multidimensional Data." In *Proceedings of the IEEE Symposium on Information Visualization*, pp. 52–60. Los Alamitos, CA: IEEE Press, 1998.
- [14] Hassan Aref, Richard D. Charles, and T. Todd Elvins. *Scientific Visualization of Fluid Flow*, pp. 7–44. New York: John Wiley and Sons, Inc., 1994.
- [15] David Asimov. "The Grand Tour: A Tool for Viewing Multidimensional Data." *SIAM Journal of Scientific and Statistical Computing* 6:1 (1985), 128–143.
- [16] AVS. "Advanced Visual Systems Home Page." <http://www.avs.com/>, accessed July 1, 2008.
- [17] M. P. Baker and C. Bushell. "After the Storm: Considerations for Information Visualization." *IEEE Computer Graphics and Applications* 15 (1995), 12–15.
- [18] Lyn Bartram, Colin Ware, and Tom Calvert. "Filtering and Integrating Visual Information with Motion." *Information Visualization* 1:1 (2002), 66–79.
- [19] Lyn Bartram, Colin Ware, and Tom Calvert. "Moticons: Direction, Distraction, and Task." *International Journal of Computer-Human Studies* 58:5 (2003), 515–545.
- [20] G. Di Battista, P. Eades, R. Tamassia, and I.G. Tollis. *Graph Drawing: Algorithms for the Visualization of Graphs*. Upper Saddle River, NJ: Prentice Hall, 1998.
- [21] Richard A. Becker, Stephen G. Eick, and Allan R. Wilks. "Visualizing Network Data." *IEEE Transactions on Visualization and Computer Graphics* 1:1 (1995), 16–28.
- [22] Jeff Beddow. "Shape Coding of Multidimensional Data on a Microcomputer Display." In *Proceedings of the 1st IEEE Conference on Visualization*, pp. 238–246. Los Alamitos, CA: IEEE Computer Society Press, 1990.
- [23] R. Daniel Bergeron and Georges G. Grinstein. "A Reference Model for Scientific Visualization." In *Proceedings of Eurographics '89*, pp. 393–399. Aire-la-Ville, Switzerland: Eurographics Association, 1989.
- [24] L. D. Bergman, B. E. Rogowitz, and L. A. Treinish. "A Rule-Based Tool for Assisting Colormap Selection." In *Proceedings of the 6th Conference on Visualization '95*, p. 118. Washington, DC: IEEE Computer Society, 1995.
- [25] Berkeley Institute of Design. "Prefuse Home Page." <http://prefuse.org>, accessed July 1, 2008.
- [26] J. Bertin. *Semiology of Graphics: Diagrams, Networks, Maps*. Madison, WI: University of Wisconsin Press, 1983. (trans. W. Berg).

- [27] Clifford Beshers and Steven Feiner. "Automated Design of Virtual Worlds for Visualizing Multivariate Relations." In *Proceedings of the Third Conference on Visualization '92*, pp. 283–290. Los Alamitos, CA: IEEE Computer Society Press, 1992.
- [28] Clifford Beshers and Steven Feiner. "Auto Visual: Rule-Based Design of Interactive Multivariate Visualizations." *IEEE Computer Graphics and Applications* 13:4 (1993), 41–49.
- [29] C. G. Beshers and S. K. Feiner. "Automated Design of Data Visualizations." In *Scientific Visualization: Advances and Challenges*, edited by L. Roseblum et al., pp. 88–102. New York: Academic Press, 1994.
- [30] Faber Birren. *A Grammar of Color: A Basic Treatise on the Color System of Albert H. Munsell*. New York: Van Nostrand Reinhold Company, 1969.
- [31] James F. Blinn. "A Generalization of Algebraic Surface Drawing." *ACM Trans. Graph.* 1:3 (1982), 235–256.
- [32] Jules Bloomenthal and Brian Wyvill, editors. *Introduction to Implicit Surfaces*. San Francisco: Morgan Kaufmann Publishers Inc., 1997.
- [33] O. J. Braddick and I. E. Holliday. "Serial Search for Targets Defined by Divergence or Deformation of Optic Flow." *Perception* 20 (1991), 345–354.
- [34] C. A. Brewer. "Guidelines for Use of the Perceptual Dimensions of Color for Mapping and Visualization." In *Color Hard Copy and Graphic Arts III*, Society of Photo-Optical Instrumentation Engineers (SPIE) Conference Series, 2171, edited by J. Bares, Society of Photo-Optical Instrumentation Engineers (SPIE) Conference Series, 2171, pp. 54–63. Bellingham, WA: SPIE, 1994.
- [35] Manfred Brill, Hans Hagen, Hans-Christian Rodrian, Wladimir Djatschin, and Stanislav V. Klimenko. "Streamball Techniques for Flow Visualization." In *Proceedings of the Conference on Visualization '94*, pp. 225–231. Los Alamitos, CA: IEEE Computer Society Press, 1994.
- [36] D. Brodbeck and L. Girardin. "Design Study: Using Multiple Coordinated Views to Analyze Geo-referenced High-Dimensional Datasets." In *Proceedings of the International Conference on Coordinated and Multiple Views in Exploratory Visualization*, pp. 104–111. Los Alamitos, CA: IEEE Computer Society Press, 2003.
- [37] Dominique Brodbeck, Matthew Chalmers, Aran Lunzer, and Pamela Coture. "Domesticating Bead: Adapting an Information Visualization System to a Financial Institution." In *Proceedings of the IEEE Symposium on Information Visualization '97*, pp. 73–80. Los Alamitos, CA: IEEE Computer Society Press, 1997.
- [38] C. Brown and B. Shepherd. *Graphics File Formats: Reference and Guide*. Greenwich, CT: Manning Publications, 1995.
- [39] J. L. Brown. "Flicker and Intermittent Stimulation." In *Vision and Visual Perception*, edited by C. H. Graham, pp. 251–320. New York: John Wiley and Sons, 1965.

- [40] M. Bruls, K. Huizing, and J. van Wijk. "Squarified Treemaps." In *Proceedings of Joint Eurographics and IEEE TCVG Symposium on Visualization*, pp. 33–42. Los Alamitos, CA: IEEE Computer Society Press, 2000.
- [41] Clifford Brunk, James Kelly, and Ron Kohavi. "MineSet: An Integrated System for Data Mining." In *Proceedings of the Third International Conference on Knowledge Discovery and Data Mining*, pp. 135–138. Menlo Park, CA: AAAI Press.
- [42] Steve Bryson and Creon Levit. "The Virtual Windtunnel: An Environment for the Exploration of Three-Dimensional Unsteady Flows." In *Proceedings of the Second Conference on Visualization*, pp. 17–24. Los Alamitos, CA: IEEE Computer Society Press, 1991.
- [43] Brian Cabral and Leith Casey Leedom. "Imaging Vector Fields Using Line Integral Convolution." In *SIGGRAPH '93: Proceedings of the 20th Annual Conference on Computer Graphics and Interactive Techniques*, pp. 263–270. New York: ACM Press, 1993.
- [44] T. C. Callaghan. "Dimensional Interaction of Hue and Brightness in Preattentive Field Segregation." *Perception & Psychophysics* 36:1 (1984), 25–34.
- [45] T. C. Callaghan. "Interference and Domination in Texture Segregation: Hue, Geometric Form, and Line Orientation." *Perception & Psychophysics* 46:4 (1989), 299–311.
- [46] T. C. Callaghan. "Interference and Dominance in Texture Segregation." In *Visual Search*, edited by D. Brogan, pp. 81–87. New York: Taylor & Francis, 1990.
- [47] Stuart K. Card, Jock D. Mackinlay, and Ben Shneiderman, editors. *Readings in Information Visualization: Using Vision to Think*. San Francisco: Morgan Kaufmann Publishers Inc., 1999.
- [48] M. Carpendale, D. Cowperthwaite, and F. Fracchia. "Three-Dimensional Pliable Surfaces: For the Effective Presentation of Visual Information." In *Proceedings of the 8th Annual ACM Symposium on User Interface and Software Technology*, pp. 217–226. New York: ACM Press, 1995.
- [49] M. Carpendale, D. Cowperthwaite, and F. Fracchia. "Extending Distortion Viewing from 2D to 3D." *IEEE Computer Graphics and Applications* 17 (1997), 42–51.
- [50] M. S. T. Carpendale, D. J. Cowperthwaite, M. Tigges, A. Fall, and F. D. Fracchia. *The Tardis: A Visual Exploration Environment for Landscape Dynamics*, Proceedings SPIE, 3643, pp. 110–119. Bellingham, WA: SPIE, 1999.
- [51] Stephen M. Casner. "Task-Analytic Approach to the Automated Design of Graphic Presentations." *ACM Trans. Graph.* 10:2 (1991), 111–151.
- [52] C. Cauvin, C. Schneider, and G. Cherrier. "Cartographic Transformations and the Piezopleth Method." *The Cartographic Journal* 26:2 (1989), 96–104.
- [53] Center for Integrative Biomedical Computing. "SCIRun Home Page." <http://software.sci.utah.edu/scirun.html>, accessed July 1, 2008.

- [54] K Chang. *Introduction to Geographic Information System*, Fourth edition. New York: McGraw Hill, 2007.
- [55] D. W. Chapman. "Relative Effects of Determinate and Indeterminate." *Amer. J. Psychology* 44 (1932), 163–174.
- [56] Chaomei Chen and Mary P. Czerwinski. "Empirical Evaluation of Information Visualizations: An Introduction." *Int. J. Hum.-Comput. Stud.* 53:5 (2000), 631–635.
- [57] C. Chen and Y. Yu. "Empirical Evaluation of Information Visualization: An Introduction." *International Journal of Human-Computer Studies* 53:5 (2002), 851–866.
- [58] Chaomei Chen. "Top 10 Unsolved Information Visualization Problems." *IEEE Comput. Graph. Appl.* 25:4 (2005), 12–16.
- [59] H. Chernoff. "The Use of Faces to Represent Points in k -Dimensional Space Graphically." *Journal of the American Statistical Association* 68 (1973), 361–368.
- [60] Ed Chi. "A Framework for Information Visualization Spreadsheets." PhD thesis, University of Minnesota, 1999.
- [61] Ed H. Chi. "A Taxonomy of Visualization Techniques Using the Data State Reference Model." In *Proceedings of the IEEE Symposium on Information Visualization 2000*, p. 69. Washington, DC: IEEE Computer Society, 2000.
- [62] Ed H. Chi. *A Framework for Visualizing Information*. New York: Springer, 2002.
- [63] Jon Christensen, Joe Marks, and Stuart Shieber. "An Empirical Study of Algorithms for Point-Feature Label Placement." *ACM Trans. Graph.* 14:3 (1995), 203–232.
- [64] Mei C. Chuah and Stephen G. Eick. "Information Rich Glyphs for Software Management Data." *IEEE Comput. Graph. Appl.* 18:4 (1998), 24–29.
- [65] CIE. "Official Recommendations on Uniform Color Spaces, Color-Difference Equations, and Metric Color Terms. Commission Internationale de L'Éclairage." CIE Publication No. 15, Supplement Number 2 (E-1.3.1), 1976.
- [66] W. Cleveland and R. McGill. "Graphical Perception: Theory, Experimentation and Application to the Development of Graphical Methods." *J. Am. Stat. Assoc.* 79:387 (1984), 531–554.
- [67] William S. Cleveland. *The Elements of Graphing Data*. Belmont, CA: Wadsworth, Inc., 1985.
- [68] William S. Cleveland. *Visualizing Data*. Summit, NJ: Hobart Press, 1993.
- [69] Christopher Collins. "DocuBurst: Document Content Visualization Using Language Structure." Poster presented at the Symposium on Information Visualization (InfoVis '06), Baltimore, MD, October 29–November 3, 2006. Available online (<http://faculty.uoit.ca/collins/publications/docs/ivposter2006.pdf>).

- [70] D. Cook and D. Swayne. *Interactive and Dynamic Graphics for Data Analysis: With R and GGobi*. New York: Springer, 2007.
- [71] K. A. Cook and J. J. Thomas. *Illuminating the Path: The Research and Development Agenda for Visual Analytics*. Los Alamitos, CA: IEEE Computer Society Press, 2005.
- [72] Nelson Cowan. "Evolving Conceptions of Memory Storage, Selective Attention, and Their Mutual Constraints within the Human Information-Processing System." *Psychological Bulletin* 104 (1988), 163–191.
- [73] Donna Cox and Robert Patterson. "NSFNET Growth until 1995." <http://www.caida.org/projects/internetatlas/gallery/nsfnet/index.xml>, 2008.
- [74] K. C. Cox, S. G. Eick, and T. He. "3D Geographic Network Displays." *SIGMOD Record* 25:4 (1996), 50–54.
- [75] David Crystal. *Logograms*, pp. 200–201. Cambridge University Press, 1987.
- [76] J. E. Cutting and R. T. Millard. "Three Gradients and the Perception of Flat and Curved Surfaces." *Journal of Experimental Psychology: General* 13:2 (1984), 198–216.
- [77] Hervé Delingette, Stéphane Cotin, and Nicholas Ayache. "A Hybrid Elastic Model allowing Real-Time Cutting, Deformations and Force-Feedback for Surgery Training and Simulation." In *Proceedings of the Conference on Computer Animation*, pp. 70–81. Washington, DC: IEEE Computer Society, 1999.
- [78] Borden Dent. "A Note on the Importance of Shape in Cartogram Communication." *The Journal of Geography* 71:7 (1972), 393–401.
- [79] Borden Dent. "Communication Aspects of Value-By-Area Cartograms." *The American Cartographer* 2:2 (1975), 154–168.
- [80] Borden D. Dent. *Cartography: Thematic Map Design*, Fourth edition. Dubuque, IA: William C. Brown, 1996.
- [81] Alan Dix, Janet E. Finlay, Gregory D. Abowd, and Russell Beale. *Human-Computer Interaction*, Third edition. Upper Saddle River, NJ: Prentice Hall, 2003.
- [82] Srinivas Doddi, Madhav V. Marathe, Andy Mirzaian, Bernard M. E. Moret, and Binhai Zhu. "Map Labeling and Its Generalizations." In *Proceedings of the Eighth Annual ACM-SIAM Symposium on Discrete Algorithms*, pp. 148–157. Philadelphia: Society for Industrial and Applied Mathematics, 1997.
- [83] Martin Dodge, Mary McDerby, and Martin Turner, editors. *Geographic Visualization: Concepts, Tools, and Applications*. New York: Wiley, 2008.
- [84] Daniel Dorling. *Area Cartograms: Their Use and Creation*. Bristol, UK: Department of Geography, University of Bristol, 1996.
- [85] James A. Dougenik, Nicholas Chrisman, and Duane R. Niemeyer. "An Algorithm to Construct Continuous Area Cartograms." *The Professional Geographer* 37:1 (1985), 75–81.
- [86] J. Driver, P. McLeod, and Z. Dienes. "Motion Coherence and Conjunction Search: Implications for Guided Search Theory." *Perception & Psychophysics* 51:1 (1992), 79–85.

- [87] S. du Toit, A. Steyn, and R. Stumpf. *Graphical Exploratory Data Analysis*. Berlin: Springer-Verlag, 1986.
- [88] J. Duncan and G. W. Humphreys. "Visual Search and Stimulus Similarity." *Psychological Review* 96:3 (1989), 433–458.
- [89] J. Duncan. "Boundary Conditions on Parallel Processing in Human Vision." *Perception* 18:4 (1989), 457–469.
- [90] J. Dykes, A. M. MacEachren, and M.-J. Kraak. *Exploring Geovisualization*. Amsterdam: Elsevier, 2005.
- [91] Herbert Edelsbrunner and Roman Waupotitsch. "A Combinatorial Approach to Cartograms." *Computational Geometry*, pp. 343–360.
- [92] H. E. Egeth and S. Yantis. "Visual Attention: Control, Representation, and Time Course." *Annu. Rev. Psychol.* 48 (1997), 269–297.
- [93] Stephen G. Eick and Graham J. Wills. "Navigating Large Networks with Hierarchies." In *Proceedings of the 4th Conference on Visualization '93*, pp. 204–210. Washington, DC: IEEE Computer Society, 1993.
- [94] S. G. Eick, J. L. Steffen, and E. E. Sumner. "Seesoft—A Tool for Visualizing Line Oriented Software Statistics." *IEEE Transactions on Software Engineering* 18:11 (1992), 957–968.
- [95] Geoffrey Ellis and Alan Dix. "An Explorative Analysis of User Evaluation Studies in Information Visualisation." In *BELIV '06: Proceedings of the 2006 AVI Workshop on Beyond Time and Errors*, pp. 1–7. New York: ACM Press, 2006.
- [96] Geoffrey Ellis, Enrico Bertini, and Alan Dix. "The Sampling Lens: Making Sense of Saturated Visualisations." In *CHI '05 Extended Abstracts on Human Factors in Computing Systems*, pp. 1351–1354. New York: ACM Press, 2005.
- [97] John Ellson, Emden R. Gansner, Lefteris Koutsofios, Stephen North, and Gordon Woodhull. "Graphviz: Open Source Graph Drawing Tools." In *Graph Drawing: 9th International Symposium, GD 2001 Vienna, Austria, September 23–26, 2001, Revised Papers*, Lecture Notes in Computer Science, 2265, edited by Petra Mutzel, Michael Jünger, and Sebastian Leipert, Lecture Notes in Computer Science, 2265, pp. 483–484. Berlin: Springer, 2002.
- [98] Linda S. Elting, James M. Walker, Charles G. Martin, Scott B. Cantor, and Edward B. Rubenstein. "Influence of Data Display Formats on Decisions to Stop Clinical Trials." *British Medical Journal* 318 (1999), 1527–1531.
- [99] ERDAS Inc. "ERDAS Home Page." <http://gi.leica-geosystems.com/>, accessed July 1, 2008.
- [100] ESRI. "ArcView." <http://www.esri.com/software/arcgis/arcview/index.html>, 2003.
- [101] ESRI. "List of Supported Map Projections." http://webhelp.esri.com/arcgisdesktop/9.2/index.cfm?TopicName=List_of_supported_map_projections, August 3, 2007.
- [102] ESRI. "MapLex." <http://www.esri.com/library/whitepapers/pdfs/maplexwp.pdf>, August 1998.

- [103] Jonathan Feinberg. “Wordle Home Page.” <http://www.wordle.net/>, accessed August 31, 2009.
- [104] S. K. Feiner and Clifford Beshers. “Worlds within Worlds: Metaphors for Exploring n -Dimensional Virtual Worlds.” In *Proceedings of the 3rd Annual ACM SIGGRAPH Symposium on User Interface Software and Technology*, pp. 76–83. New York: ACM Press, 1990.
- [105] Jean-Daniel Fekete. “The InfoVis Toolkit.” <http://ivtk.sourceforge.net>, 2005.
- [106] Jean-Daniel Fekete and Catherine Plaisant. “Excentric Labeling: Dynamic Neighborhood Labeling for Data Visualization.” In *Proceedings of the SIGCHI Conference on Human Factors in Computing Systems*, pp. 512–519. New York: ACM Press, 1999.
- [107] Ronen Feldman and James Sanger. *The Text Mining Handbook: Advanced Approaches in Analyzing Unstructured Data*. Cambridge University Press, 2006.
- [108] Stephen Few. *Show Me the Numbers: Designing Tables and Graphs to Enlighten*. Oakland, CA: Analytics Press, 2004.
- [109] Stephen Few. *Information Dashboard Design: The Effective Visual Communication of Data*. Cambridge, MA: O’Reilly Media, Inc., 2006.
- [110] Fabian Fischer, Florian Mansmann, Daniel A. Keim, Stephan Pietzko, and Marcel Waldvogel. “Large-Scale Network Monitoring for Visual Analysis of Attacks.” In *Visualization for Computer Security: 5th International Workshop, VizSec 2008, Cambridge, MA, USA, September 15, 2008, Proceedings*, Lecture Notes in Computer Science, 5210, pp. 111–118. Berlin: Springer-Verlag, 2008.
- [111] R. A. Fisher. “The Use of Multiple Measurements in Taxonomic Problems.” *Annual Eugenics* 7:Part II (1936), 179–188.
- [112] J. C. Fisher. “Homicide in Detroit: The Role of Firearms.” *Criminology* 14 (1976), 387–400.
- [113] J. J. Flannery. “The Relative Effectiveness of Some Common Graduated Point Symbols in the Presentation of Quantitative Data.” *The Canadian Cartographer* 2 (2009), 96–109.
- [114] Michael Formann and Frank Wagner. “A Packing Problem with Applications to Lettering of Maps.” In *Proceedings of the Seventh Annual Symposium on Computational Geometry*, pp. 281–288. New York: ACM Press, 1991.
- [115] Herbert Freeman. “Automated Cartographic Text Placement.” *Pattern Recogn. Lett.* 26:3 (2005), 287–297.
- [116] J. Friedman, E. Farrell, R. Goldwyn, M. Miller, and J. Sigel. “A Graphic Way of Describing Changing Multivariate Patterns.” In *Proceeding of the Sixth Interface Symposium on Computer Science and Statistics*, pp. 56–59. North Hollywood, CA: Western Periodicals Co., 1972.
- [117] Michael Friendly. “Michael Friendly’s Home Page.” <http://www.math.yorku.ca/SCS/friendly.html>, 2008.

- [118] Ying-Huey Fua, Matthew O. Ward, and Elke A. Rundensteiner. "Hierarchical Parallel Coordinates for Exploration of Large Datasets." In *Proceedings of the Conference on Visualization '99*, pp. 43–50. Los Alamitos, CA: IEEE Computer Society Press, 1999.
- [119] Ying-Huey Fua, Matthew O. Ward, and Elke A. Rundensteiner. "Structure-Based Brushes: A Mechanism for Navigating Hierarchically Organized Data and Information Spaces." *IEEE Trans. Visualization and Computer Graphics* 6:2 (2000), 150–159.
- [120] Anton Fuhrmann and Eduard Gröller. "Real-Time Techniques for 3D Flow Visualization." In *Proceedings of the Conference on Visualization '98*, pp. 305–312. Los Alamitos, CA: IEEE Computer Society, 1998.
- [121] G. Furnas. "Generalized Fisheye Views." In *Proceedings of the SIGCHI Conference on Human Factors in Computing Systems*, pp. 16–23. New York: ACM Press, 1986.
- [122] J. W. Gebb, G. H. Mowbray, and C. L. Byham. "Difference Lumens for Photic Intermittence." *Quarterly Journal of Experimental Psychology* 7 (1955), 49–55.
- [123] J. Geier, L. Bernath, M. Hudak, and L. Sera. "Straightness as the Main Factor of the Hermann Grid Illusion." *Perception* 37 (2008), 651–665.
- [124] Gary Geisler. "Making Information More Accessible: A Survey of Information, Visualization Applications and Techniques." <http://www.ischool.utexas.edu/~geisler/info/infovis/paper.html>, January 31, 1998.
- [125] "GGobi Home Page." <http://www.ggobi.org>, accessed July 1, 2008.
- [126] E. W. Gilbert. "Pioneer Maps of Health and Disease in England." *Geographical Journal* 124 (1958), 172–183.
- [127] E. W. Gilbert. "The Map as Intent: Variations on the Theme of John Snow." *Cartographica* 30 (2004), 1–14.
- [128] A. S. Glassner. *Principles of Digital Image Synthesis*, 1. San Francisco: Morgan Kaufmann, 1995.
- [129] Arthur M. Glenburg. *Learning from Data: An Introduction to Statistical Reasoning*. Mahwah, NJ: Lawrence Erlbaum Associates, 1996.
- [130] R. Gnanadesikan. *Methods of Statistical Data Analysis of Multivariate Observations*. New York: John Wiley and Sons, 1977.
- [131] Goddard Institute for Space Studies. "GISS Surface Temperature Analysis: Global Maps from GHCN Data." <http://data.giss.nasa.gov/gistemp/maps/>, accessed July 1, 2008.
- [132] Gene Golovchinsky, Klaus Reichenberger, and Thomas Kamps. "Subverting Structure: Data-Driven Diagram Generation." In *Proceedings of the IEEE Conference on Visualization '95*, pp. 217–223. Los Alamitos, CA: IEEE Computer Society, 1995.
- [133] R. Gonzalez and R. Woods. *Digital Image Processing*. Upper Saddle River, NJ: Prentice Hall, 2007.

- [134] C. Gorg, Z. Liu, N. Parekh, K. Singhal, and J. Stasko. “Jigsaw Meets Blue Iguanodon—The VAST 2007 Contest.” In *Proceedings of the 2007 IEEE Symposium on Visual Analytics Science and Technology*, pp. 235–236. Washington, DC: IEEE Computer Society, 2007.
- [135] “GraphViz—Graph Visualization Software.” <http://www.graphviz.org>, accessed July 1, 2008. Available online (<http://www.graphviz.org>).
- [136] GRASS Development Team. “Grass GIS Home Page.” <http://grass.itc.it/>, accessed July 1, 2008.
- [137] M. Greenacre. *Correspondence Analysis in Practice*, Second edition. Boca Raton, FL: Chapman & Hall/CRC, 2007.
- [138] D. L. Gresh, B. E. Rogowitz, R. L. Winslow, D. F. Scollan, and C. K. Yung. “WEAVE: A System for Visually Linking 3D and Statistical Visualizations, Applied to Cardiac Simulation and Measurement Data.” In *Proceedings of the Conference on Visualization '00*, pp. 489–492. Los Alamitos, CA: IEEE Computer Society Press, 2000.
- [139] G. Grinstein, D. Keim, and T. Munzner. “Grand Challenges in Information Visualization.” Panel from VisWeek 2008, Columbus, OH, October 20, 2008. Report available at <http://www.cs.uml.edu/~grinstei/GrandChallengesPanelVisWeek2008.pdf>.
- [140] Georges G. Grinstein, Ronald M. Pickett, and M. Williams. “EXVIS: An Exploratory Data Visualization Environment.” In *Proceedings Graphics Interface '89*, pp. 254–261. Toronto: Canadian Information Processing Society, 1989.
- [141] Georges G. Grinstein, Patrick E. Hoffman, and Ronald M. Pickett. “Benchmark Development for the Evaluation of Visualization for Data Mining.” In *Information Visualization in Data Mining and Knowledge Discovery*, edited by U. Fayyad, G. Grinstein, and A. Wierse, pp. 129–176. San Francisco: Morgan Kaufmann Publishers, Inc., 2002.
- [142] Antal Guszlev. “Map Projections.” <http://lazarus.elte.hu/~guszlev/vet/>, June 2003.
- [143] Helmut Haase and Christoph Dohrmann. “Doing It Right: Psychological Tests to Ensure the Quality of Scientific Visualization.” In *Proceedings of the Eurographics Workshop on Virtual Environments and Scientific Visualization*, pp. 243–256. London: Springer-Verlag, 1996.
- [144] C. Hansen and C. Johnson, editors. *The Visualization Handbook*. Burlington, MA: Elsevier Butterworth-Heinemann, 2005.
- [145] Robert M. Haralick, K. Shanmugam, and Its'hak Dinstein. “Textural Features for Image Classification.” *Systems, Man and Cybernetics, IEEE Transactions on* 3:6 (1973), 610–621.
- [146] John Brian Harley and David Woodward. *The History of Cartography: Cartography in prehistoric, ancient, and medieval Europe and the Mediterranean*. Clifton, NJ: Humana Press, 1987.

- [147] Robert L. Harris. *Information Graphics: A Comprehensive Illustrated Reference*. New York: Oxford University Press, 1999.
- [148] J. Hartigan. "Printer Graphics for Clustering." *J. of Stat. Comp. and Sim* 4 (1975), 187–213.
- [149] S. Havre, E. Hetzler, P. Whitney, and L. Nowell. "Themeriver: Visualizing Thematic Changes in Large Document Collections." *IEEE Transactions on Visualization and Computer Graphics* 8:1 (2002), 9–20.
- [150] Christopher G. Healey. "Perception in Visualization." <http://www.csc.ncsu.edu/faculty/healey/PP/index.html>, 2009.
- [151] Christopher G. Healey and James T. Enns. "Building Perceptual Textures to Visualize Multidimensional Datasets." In *Proceedings of the Conference on Visualization '98*, pp. 111–118. IEEE Computer Society Press: Los Alamitos, CA, 1998.
- [152] Christopher G. Healey and James T. Enns. "Large Datasets at a Glance: Combining Textures and Colors in Scientific Visualization." *IEEE Transactions on Visualization and Computer Graphics* 5 (1999), 145–167.
- [153] Christopher G. Healey. "Choosing Effective Colours for Data Visualization." In *Proceedings of the 7th Conference on Visualization '96*, pp. 263–270. Los Alamitos, CA: IEEE Computer Society Press, 1996.
- [154] M.A. Hearst. "Tilebars: Visualization of Term Distribution Information in Full Text Information Access." In *Proceedings of the SIGCHI Conference on Human Factors in Computing Systems*, pp. 59–66. New York: ACM Press/Addison-Wesley Publishing Co., 1995.
- [155] Marti Hearst. *Search User Interfaces*. Cambridge, UK: Cambridge University Press, 2009.
- [156] Jeffrey Heer, Stuart K. Card, and James A. Landay. "Prefuse: A Toolkit for Interactive Information Visualization." In *Proceedings of the SIGCHI Conference on Human Factors in Computing Systems*, pp. 421–430. New York: ACM Press, 2005.
- [157] Roland Heilmann, Daniel A. Keim, Christian Panse, and Mike Sips. "RecMap: Rectangular Map Approximations." In *Proceedings of the IEEE Symposium on Information Visualization*, pp. 33–40. Washington, DC: IEEE Computer Society, 2004.
- [158] Jeffrey J. Hemphill. "TIN Errors—Flat Triangles, Slivers and the 'Wedding Cake Effect.'" *La Conchita*. http://www.geog.ucsb.edu/~jeff/projects/la_conchita/tinerror/1869_tinerror.html, accessed July 1, 2008.
- [159] Ivan Herman, Guy Melançon, and M. Scott Marshall. "Graph Visualization and Navigation in Information Visualization: A Survey." *IEEE Transactions on Visualization and Computer Graphics* 6:1 (2000), 24–43.
- [160] William L. Hibbard, Charles R. Dyer, and Brian E. Paul. "A Lattice Model for Data Display." In *Proceedings of the Conference on Visualization '94*, pp. 310–317. Los Alamitos, CA: IEEE Computer Society Press, 1994.

- [161] Patrick Hoffman, Georges Grinstein, Kenneth Marx, Ivo Grosse, and Eugene Stanley. "DNA Visual and Analytic Data Mining." In *Proceedings of the 8th Conference on Visualization '97*, pp. 437–ff. Los Alamitos, CA: IEEE Computer Society Press, 1997.
- [162] Patrick Hoffman. "Table Visualizations: A Formal Model and Its Applications." Ph.D. thesis, University of Massachusetts Lowell, 2000.
- [163] J. Hohnsbein and S. Mateeff. "The Time It Takes to Detect Changes in the Speed and Direction of Visual Motion." *Vision Research* 38:17 (1998), 2569–2573.
- [164] Danny Holten. "Hierarchical Edge Bundles: Visualization of Adjacency Relations in Hierarchical Data." *IEEE Transactions on Visualization and Computer Graphics* 12:5 (2006), 741–748.
- [165] A. Hotho, A. Nurnberger, and G. Paaß. "A Brief Survey of Text Mining." *LDV Forum-GLDV Journal for Computational Linguistics and Language Technology* 20:1 (2005), 19–62.
- [166] Stephen D. Houston. *The First Writing: Script Invention as History and Process*, Illustrated edition. Cambridge, UK: Cambridge University Press, 2004.
- [167] P. Huber. "Projection Pursuit." *Annals of Statistics* 13 (1985), 435–475.
- [168] IBM. "Many Eyes Home Page." <http://manyeyes.alphaworks.ibm.com/>, accessed August 31, 2009.
- [169] Information Interfaces Group. "Jigsaw: Visualization for Investigative Analysis." <http://www.cc.gatech.edu/gvu/ii/jigsaw/>, accessed August 31, 2009.
- [170] Alfred Inselberg. "The Plane with Parallel Coordinates." *The Visual Computer* 1:2 (1985), 69–91.
- [171] Instituto de Expanseo Commercial. *Brasil: Graphics Economicos-Estatisticas*. Rio de Janeiro, Brazil, 1929. Technical report.
- [172] Victoria Interrante and Sunghee Kim. "Investigating the Effect of Texture Orientation on the Perception of 3D Shape." In *Human Vision and Electronic Imaging VI*, Proceedings of SPIE, 4299, edited by Bernice E. Rogowitz and Thrasylvoulos N. Pappas, Proceedings of SPIE, 4299, pp. 330–339. Bellingham, WA: SPIE, 2001.
- [173] Victoria Interrante, Sunghee Kim, and Haleh Hagh-Shenas. "Conveying 3D Shape with Texture: Recent Advances and Experimental Results." In *Human Vision and Electronic Imaging VII*, Proceedings of SPIE, 4662, edited by Bernice E. Rogowitz and Thrasylvoulos N. Pappas, Proceedings of SPIE, 4662, pp. 197–206. Bellingham, WA: SPIE, 2002.
- [174] Anil K. Jain and Richard C. Dubes. *Algorithms for Clustering Data*. Upper Saddle River, NJ: Prentice-Hall, Inc., 1988.
- [175] Dean Jenkins and Stephen Gerred. *ECGs by Example*, First edition. Edinburgh: Churchill Livingstone, 1997.

- [176] Brian Johnson and Ben Shneiderman. "Tree-Maps: A Space-Filling Approach to the Visualization of Hierarchical Information Structures." In *Proceedings of the 2nd Conference on Visualization '91*, pp. 284–291. Los Alamitos, CA: IEEE Computer Society Press, 1991.
- [177] C. R. Johnson, R. Moorhead, T. Munzner, H. Pfister, P. Rheingans, and T. S. Yoo, editors. *NIH-NSF Visualization Research Challenges Report*. Los Alamitos, CA: IEEE Computer Society Press, 2006.
- [178] C. R. Johnson. "Top Scientific Visualization Research Problems." *IEEE Comput. Graph. Appl.* 24:4 (2004), 13–17.
- [179] Bela Julész and Bergen. "A Brief Outline of the Texton Theory of Human Vision." *Trends in Neuroscience* 7:2 (1984), 41–45.
- [180] Bela Julész, E. N. Gilbert, L. A. Shepp, and H. L. Frisch. "Inability of Humans to Discriminate between Visual Textures that Agree in Second-Order Statistics—Revisited." *Perception* 2 (1973), 391–405.
- [181] Bela Julész, E. N. Gilbert, and J. D. Victor. "Visual Discrimination of Textures with Identical Third-Order Statistics." *Biological Cybernetics* 31:3 (1978), 137–140.
- [182] Bela Julész. *Foundations of Cyclopean Perception*. Chicago: University of Chicago Press, 1971.
- [183] Bela Julész. "Experiments in the Visual Perception of Texture." *Scientific American* 232:4 (1975), 34–43.
- [184] Bela Julész. "Textons, the Elements of Texture Perception, and Their Interactions." *Nature* 290:5802 (1981), 91–97.
- [185] Bela Julész. "A Theory of Preattentive Texture Discrimination Based on First-Order Statistics of Textons." *Biological Cybernetics* 41:2 (1981), 131–138.
- [186] T. Kamps. *Diagram Design: A Constructive Theory*. New York: Springer, 1999.
- [187] R. Kasturi and R. C. Jain, editors. *Computer Vision: Principles*. Los Alamitos, CA: IEEE Computer Society Press, 1991.
- [188] T. Keahey. "Area-Normalized Thematic Views." Paper presented at the 19th International Cartographic Conference, Ottawa, Canada, August 14, 1999.
- [189] T. Keahey and E. Robertson. "Techniques for Nonlinear Magnification Transformations." In *Proceedings of the IEEE Symposium on Information Visualization '96*, pp. 38–45. Los Alamitos, CA: IEEE Computer Society, 1996.
- [190] T. Keahey and E. Robertson. "Nonlinear Magnification Fields." In *Proceedings of the IEEE Symposium on Information Visualization '97*, pp. 51–58. Los Alamitos, CA: IEEE Computer Society, 1997.
- [191] Daniel A. Keim and Hans-Peter Kriegel. "VisDB: Database Exploration Using Multidimensional Visualization." *IEEE Comput. Graph. Appl.* 14:5 (1994), 40–49.

- [192] D. A. Keim and D. Oelke. "Literature Fingerprinting: A New Method for Visual Literary Analysis." In *Proceedings of the IEEE Symposium on Visual Analytics Science and Technology*, pp. 115–122. IEEE Computer Society Press, 2007.
- [193] Daniel A. Keim, Mihael Ankerst, and Hans-Peter Kriegel. "Recursive Pattern: A Technique for Visualizing Very Large Amounts of Data." In *Proceedings of the 6th Conference on Visualization '95*, p. 279. Washington, DC: IEEE Computer Society, 1995.
- [194] Daniel A. Keim, E. Koutsofios, and S. C. North. "Visual Exploration of Large Telecommunication Data Sets." In *Proceedings of the Workshop on User Interfaces to Data Intensive Systems*, pp. 12–20. Los Alamitos, CA: IEEE Computer Society, 1999.
- [195] Daniel A. Keim, Ming C. Hao, and Umeshwar Dayal. "Hierarchical Pixel Bar Charts." *IEEE Trans. Vis. Comput. Graph.* 8:3 (2002), 255–269.
- [196] Daniel A. Keim, Ming C. Hao, Umeshwar Dayal, and Meichun Hsu. "Pixel Bar Charts: A Visualization Technique for Very Large Multi-attribute Data Sets?" *Information Visualization* 1:1 (2002), 20–34.
- [197] Daniel A. Keim, Christian Panse, and Mike Sips. "Visual Data Mining of Large Spatial Data Sets." In *Databases in Networked Information Systems*, Lecture Notes in Computer Science, 2822, pp. 201–215. Berlin: Springer, 2003.
- [198] Daniel A. Keim, Christian Panse, Mike Sips, and Stephen C. North. "PixelMaps: A New Visual Data Mining Approach for Analyzing Large Spatial Data Sets." In *Proceedings of the Third IEEE International Conference on Data Mining*, pp. 565–568. Los Alamitos, CA: IEEE Computer Society, 2003.
- [199] Daniel A. Keim, Stephen C. North, and Christian Panse. "CartoDraw: A Fast Algorithm for Generating Contiguous Cartograms." *IEEE Transactions on Visualization and Computer Graphics* 10:1 (2004), 95–110.
- [200] Daniel A. Keim, Christian Panse, Mike Sips, and Stephen C. North. "Pixel Based Visual Mining of Geo-Spatial Data." *Computers and Graphics* 28:3 (2004), 327–344.
- [201] Daniel A. Keim, Christian Panse, and Stephen C. North. "Medial-Axis-Based Cartograms." *IEEE Comput. Graph. Appl.* 25:3 (2005), 60–68.
- [202] Daniel A. Keim. "Pixel-Oriented Database Visualizations." *ACM SIGMOD Record* 25:4 (1996), 35–39.
- [203] Daniel A. Keim. "Designing Pixel-Oriented Visualization Techniques: Theory and Applications." *IEEE Transactions on Visualization and Computer Graphics* 6:1 (2000), 59–78.
- [204] Daniel A. Keim. "Information Visualization and Visual Data Mining." *IEEE Transactions on Visualization and Computer Graphics* 8:1 (2002), 1–8.
- [205] Peter R. Keller and Mary M. Keller. *Visual Cues: Practical Data Visualization*. Los Alamitos, CA: IEEE Computer Society Press, 1994.

- [206] G. David Kerlick. "Moving Iconic Objects in Scientific Visualization." In *Proceedings of the 1st Conference on Visualization '90*, pp. 124–130. Los Alamitos, CA: IEEE Computer Society Press, 1990.
- [207] Sunghee Kim, Haleh Hagh-Shenas, and Victoria Interrante. "Conveying Shape with Texture: An Experimental Investigation of the Impact of Texture Type on Shape Categorization Judgments." In *Proceedings of the IEEE Symposium on Information Visualization 2003*, pp. 163–170. Washington, DC: IEEE Computer Society, 2003.
- [208] Sunghee Kim, Haleh Hagh-Shenas, and Victoria Interrante. "Showing Shape with Texture: Two Directions Seem Better than One." In *Human Vision and Electronic Imaging VIII*, Proceedings of SPIE, 5007, edited by Bernice E. Rogowitz and Thrasyloulos N. Pappas, Proceedings of SPIE, 5007, pp. 332–339. Bellingham, WA: SPIE, 2003.
- [209] Gordon Kindlmann and James W. Durkin. "Semi-automatic Generation of Transfer Functions for Direct Volume Rendering." In *Proceedings of the 1998 IEEE Symposium on Volume Visualization*, pp. 79–86. New York: ACM Press, 1998.
- [210] R. M. Kirby, H. Marmanis, and David H. Laidlaw. "Visualizing Multivalued Data from 2D Incompressible Flows Using Concepts from Painting." In *Proceedings of the Conference on Visualization '99*, 20, 20, pp. 333–340. Los Alamitos, CA: IEEE Computer Society Press, 1999.
- [211] Kitware, Inc. "VTK Home Page." <http://www.vtk.org>, accessed July 1, 2008.
- [212] R. Victor Klassen and Steven J. Harrington. "Shadowed Hedgehogs: A Technique for Visualizing 2D Slices of 3D Vector Fields." In *Proceedings of the 2nd Conference on Visualization '91*, pp. 148–153. Los Alamitos, CA: IEEE Computer Society Press, 1991.
- [213] B. Kleiner and J. Hartigan. "Representing Points in Many Dimensions by Trees and Castles." *Journal of the American Statistical Association* 76 (1981), 260–269.
- [214] Christopher J. Kocmoud and Donald H. House. "Continuous Cartogram Construction." In *Proceedings of the Conference on Visualization '98*, pp. 197–204. Los Alamitos, CA: IEEE Computer Society Press, 1998.
- [215] T. Kohonen. *Self-Organizing Maps*, Springer Series in Information Sciences, 30, Third edition. Berlin: Springer, 2001.
- [216] Polina Kondratieva, Jens Kruger, and Rudiger Westermann. "The Application of GPU Particle Tracing to Diffusion Tensor Field Visualization." In *Proceedings of the IEEE Visualization Conference*, pp. 73–78. Los Alamitos, CA: IEEE Computer Society, 2005.
- [217] Robert Kosara, Gerald N. Sahling, and Helwig Hauser. "Linking Scientific and Information Visualization with Interactive 3D Scatterplots." *WSCG (Short Papers)* 12:1–3 (2004), 133–140.
- [218] S. M. Kosslyn. *Elements of Graph Design*. New York: W. H. Freeman and Co., 1994.

- [219] S.M. Kosslyn. *Graph Design for the Eye and Mind*. New York: Oxford University Press, 2006.
- [220] Eleftherios E. Koutsofios, Daniel A. Keim, and Stephen C. North. "Visualizing Large Telecommunication Data Sets." *IEEE Computer Graphics and Applications Journal* 19:3 (1999), 16–19.
- [221] Eleftherios E. Koutsofios, Stephen C. North, Russell Truscott, and Daniel A. Keim. "Visualizing Large-Scale Telecommunication Networks and Services (Case Study)." In *Proceedings of the Conference on Visualization '99*, pp. 457–461. Los Alamitos, CA: IEEE Computer Society Press, 1999.
- [222] Menno-Jan Kraak and Ferjan Ormeling. *Cartography: Visualization of Geospatial Data*, Second edition. Upper Saddle River, NJ: Pearson Education, 2003.
- [223] Menno-Jan Kraak, Ferjan Ormeling, and Menno-Jan Kroak. *Cartography: Visualization of Spatial Data*. Reading, MA: Addison-Wesley Publishing Co., 1996.
- [224] M. Kreuseler, N. Lopez, and H. Schumann. "A Scalable Framework for Information Visualization." In *Proceedings of IEEE Symposium on Information Visualization 2000*, pp. 27–36. Los Alamitos, CA: IEEE Computer Society, 2000.
- [225] J. B. Kruskal and M. Wish. *Multidimensional Scaling*. Quantitative Applications in the Social Sciences Series, Newbury Park: Sage Publications, 1978.
- [226] R. Kurzweil. *The Age of Spiritual Machines*. London: Penguin, 2000.
- [227] P. Laarhoven and E. Aarts. *Simulated Annealing: Theory and Applications*. Mathematics and Its Applications, Dordrecht: Kluwer Academic Publishers, 1987.
- [228] David A. Lane. "UFAT: A Particle Tracer for Time-Dependent Flow Fields." In *Proceedings of the Conference on Visualization '94*, pp. 257–264. Los Alamitos, CA: IEEE Computer Society Press, 1994.
- [229] John T. Langton, Astrid A. Prinz, and Timothy J. Hickey. "NeuroVis: Combining Dimensional Stacking and Pixelization to Visually Explore, Analyze, and Mine Multidimensional Multivariate Data." In *Visualization and Data Analysis (VDA 2007)*, Proceedings of SPIE, 6495, Proceedings of SPIE, 6495, pp. 64950H–1–64950H–12. Bellingham, WA: SPIE, 2007.
- [230] E. Lawler, J. Lenstra, A. Rinnooy, A. Kan, and D. Shmoys. *The Traveling Salesman Problem: A Guided Tour of Combinatorial Optimization*. New York: J. Wiley, 1985.
- [231] J. LeBlanc, M. Ward, and N. Wittels. "Exploring N-Dimensional Databases." In *Proceedings of the 1st Conference on Visualization '90*, pp. 230–237. Los Alamitos, CA: IEEE Computer Society Press, 1990.
- [232] Y. K. Leung and M. D. Apperley. "A Review and Taxonomy of Distortion-Oriented Presentation Techniques." *ACM Transactions on Computer-Human Interaction* 1:2 (1994), 126–160.

- [233] Martin D. Levine. *Vision in Man and Machine*. New York: McGraw-Hill, 1985.
- [234] Haim Levkowitz. "Color Icons: Merging Color and Texture Perception for Integrated Visualization of Multiple Parameters." In *Proceedings of the 2nd Conference on Visualization '91*, pp. 164–170. Los Alamitos, CA: IEEE Computer Society Press, 1991.
- [235] Haim Levkowitz. *Color Theory and Modeling for Computer Graphics, Visualization, and Multimedia Applications*. Norwell, MA: Kluwer Academic Publishers, 1997.
- [236] B Lichtenbelt, R Crane, and S Naqvi. *Introduction to Volume Rendering*. Upper Saddle River, NJ: Prentice-Hall, 1998.
- [237] G. Liu, C. G. Healey, and J. T. Enns. "Target Detection and Localization in Visual Search: A Dual Systems Perspective." *Perception & Psychophysics* 65:5 (2003), 678–694.
- [238] H. Lohninger. "INSPECT: A Program System to Visualize and Interpret Chemical Data." *Chemometrics and Intelligent Laboratory Systems* 22 (1994), 147–153.
- [239] M. Looks, B. Goertzel, and C. Pennachin. "Novamente: An Integrative Architecture for Artificial General Intelligence." In *Proceedings of the AAAI Fall Symposium on Achieving Human-Level Intelligence through Integrated Systems and Research, AAAI Fall Symposium Series*, pp. 54–61. Menlo Park, CA: AAAI Press, 2004.
- [240] William E. Lorensen and Harvey E. Cline. "Marching Cubes: A High Resolution 3D Surface Construction Algorithm." In *SIGGRAPH '87: Proceedings of the 14th Annual Conference on Computer Graphics and Interactive Techniques*, pp. 163–169. New York: ACM Press, 1987.
- [241] A. M. MacEachren and M.-J. Kraak. "Research Challenges in Geovisualization." *Cartography and Geographic Information Science* 28:1 (2001), 3–12.
- [242] A. M. MacEachren, B. P. Buttenfield, J. B. Campbell, D. W. DiBiase, and M. Monmonier. "Visualization." In *Geography's Inner Worlds*, edited by Ronald F. Abler, Melvin G. Marcus, and Judy M. Olson, pp. 99–137. Piscataway, NJ: Rutgers University Press, 1992.
- [243] Alan M. MacEachren. *How Maps Work: Presentation, Visualization, and Design*. New York: The Guilford Press, 1995.
- [244] A. Mack and I. Rock. *Inattentional Blindness*. Cambridge, MA: MIT Press, 1998.
- [245] J. Mackinlay, G. Robertson, and S. Card. "The Perspective Wall: Detail and Context Smoothly Integrated." In *Proceedings of the SIGCHI Conference on Human Factors in Computing Systems: Reaching through Technology*, pp. 173–179. New York: ACM Press, 1991.
- [246] Jock Mackinlay. "Automating the Design of Graphical Presentations of Relational Information." *ACM Trans. Graph.* 5:2 (1986), 110–141.

- [247] Macrofocus GmbH. "Macrofocus Home Page." <http://www.macrofocus.com>, accessed July 1, 2008.
- [248] Florian Mansmann, Fabian Fischer, Daniel A. Keim, and Stephen C. North. "Visualizing Large-Scale IP Traffic Flows." Paper presented at the 12th International Workshop on Vision, Modeling, and Visualization, Saarbrücken, Germany, 2007.
- [249] Allen R. Martin and Matthew O. Ward. "High Dimensional Brushing for Interactive Exploration of Multivariate Data." In *Proceedings of the 6th Conference on Visualization '95*, pp. 271–278. Los Alamitos, CA: IEEE Computer Society Press, 1995.
- [250] S. Mateeff, G. Dimitrov, and J. Hohnsbein. "Temporal Thresholds and Reaction Time to Changes in Velocity of Visual Motion." *Vision Research* 35:3 (1995), 355–363.
- [251] J. Mezzich and D. Worthington. "A Comparison of Graphical Representations of Multidimensional Psychiatric Diagnostic Data." In *Graphical Representation of Multivariate Data*, edited by P. Wang, pp. 123–141. New York: Academic Press, 1978.
- [252] Ted Mihalisin, John Timlin, and John Schwegler. "Visualizing Multivariate Functions, Data, and Distributions." *IEEE Comput. Graph. Appl.* 11:3 (1991), 28–35.
- [253] John J. Miller and Edward J. Wegman. "Construction of Line Densities for Parallel Coordinate Plots." In *Computing and Graphics in Statistics*, edited by A. Buja and P. Tukey, pp. 107–123. New York: Springer-Verlag, 1991.
- [254] A. H. Miller, E. N. Goldenberg, and L. Erbring. "Type-set Politics: Impact of Newspapers on Public Confidence." *American Political Science Review* 73 (1979), 67–84.
- [255] George A. Miller. "The Magic Number Seven, Plus or Minus Two: Some Limits on Our Capacity for Processing Information." *Psychological Review* 63:2 (1956), 81–97.
- [256] E. Morse, M. Lewis, and K. A. Olsen. "Evaluating Visualizations: Using a Taxonomic Guide." *Int. J. Hum.-Comput. Stud.* 53:5 (2000), 637–662.
- [257] G. H. Mowbray and J. W. Gebhard. "Differential Sensitivity of the Eye to White Light." *Science* 121 (1955), 137–175.
- [258] H. J. Müller, G. W. Humphreys, P. T. Quinlan, and M. J. Riddoch. "Combined-Feature Coding in the Form Domain." In *Visual Search*, edited by D. Brogan, pp. 47–55. New York: Taylor & Francis, 1990.
- [259] K. Mullet and D. Sano. *Designing Visual Interfaces*. Mountain View, CA: SunSoft Press, 1995.
- [260] A. H. Munsell. *A Color Notation*. Boston: George H. Ellis Co., 1905.
- [261] Tamara Munzner. "H3: Laying Out Large Directed Graphs in 3D Hyperbolic Space." In *Proceedings of the 1997 IEEE Symposium on Information Visualization*, pp. 2–10. Washington, DC: IEEE Computer Society, 1997.

- [262] Tamara Munzner. “Exploring Large Graphs in 3D Hyperbolic Space.” *IEEE Computer Graphics & Applications* 18:4 (1998), 18–23.
- [263] Ken Nakayama and Gerald H. Silverman. “Serial and Parallel Processing of Visual Feature Conjunctions.” *Nature* 320:6059 (1986), 264–265.
- [264] NOAA. “Online Climate Data Repository.” <http://www.ncdc.noaa.gov/oa/climate/climatedata.html>, accessed July 1, 2008.
- [265] Matej Novotny and Helwig Hauser. “Outlier-Preserving Focus+Context Visualization in Parallel Coordinates.” *IEEE Transactions on Visualization and Computer Graphics* 12:5 (2006), 893–900.
- [266] Open Indicators Consortium. “Weave Home Page.” <http://www.openindicators.org/>, accessed July 1, 2008.
- [267] OpenDX.org. “OpenDX Home Page.” <http://www.opendx.org/>, accessed July 1, 2008.
- [268] T. Ott and F. Swiaczny. *Time-Integrative Geographic Information Systems: Management and Analysis of Spatio-temporal Data*. Berlin: Springer, 2001.
- [269] I. Overington. *Computer Vision: A Unified, Biologically-Inspired Approach*. Amsterdam: Elsevier Science, 1992.
- [270] W.B. Paley. “TextArc: Showing Word Frequency and Distribution in Text.” Poster presented at IEEE Symposium on Information Visualization, Boston, MA, October 27–November 1, 2002.
- [271] Rick Parent. *Computer Animation: Algorithms and Techniques*, Second edition. Burlington, MA: Morgan Kaufmann/Elsevier, 2008.
- [272] Wei Peng, Matthew O. Ward, and Elke A. Rundensteiner. “Clutter Reduction in Multi-Dimensional Data Visualization Using Dimension Reordering.” In *INFOVIS '04: Proceedings of the IEEE Symposium on Information Visualization*, pp. 89–96. Washington, DC: IEEE Computer Society, 2004.
- [273] Doantam Phan, Ling Xiao, Ron Yeh, Pat Hanrahan, and Terry Winograd. “Flow Map Layout.” In *Proceedings of the 2005 IEEE Symposium on Information Visualization*, p. 29. Washington, DC: IEEE Computer Society, 2005.
- [274] R. Pickett and G. Grinstein. “Iconographic Displays for Visualizing Multi-dimensional Data.” In *Proceedings of the 1988 IEEE Conference on Systems, Man, and Cybernetics*, pp. 164–170. Los Alamitos, CA: IEEE Computer Society Press, 1988.
- [275] Filip Piekiewicz and Leszek Rybicki. *Visualizing and Analyzing Multidimensional Output from MLP Networks via Barycentric Projections*, Lecture Notes in Computer Science, 3070, pp. 247–252. Berlin/Heidelberg: Springer, 2004.
- [276] Catherine Plaisant. “The Challenge of Information Visualization Evaluation.” In *Proceedings of the Working Conference on Advanced Visual Interfaces*, pp. 109–116. New York: ACM Press, 2004.
- [277] William Playfair. *Commercial and Political Atlas and Statistical Breviary*, Reprint of Third edition. New York: Cambridge University Press, 2005.

- [278] J. Pomerantz and E. A. Pristach. “Emergent Features, Attention, and Perceptual Glue in Visual Form Perception.” *Journal of Experimental Psychology: Human Perception & Performance* 15:4 (1989), 635–649.
- [279] Frits H. Post, Frank J. Post, Theo Van Walsum, and Deborah Silver. “Iconic Techniques for Feature Visualization.” In *Proceedings of the IEEE Conference on Visualization*, pp. 288–295. Los Alamitos, CA: IEEE Computer Society, 1995.
- [280] XmdvTool Project. “XmdvTool Home Page.” <http://davis.wpi.edu/~xmdv>, accessed July 1, 2008.
- [281] P. T. Quinlan and G. W. Humphreys. “Visual Search for Targets Defined by Combinations of Color, Shape, and Size: An Examination of Task Constraints on Feature and Conjunction Searches.” *Perception & Psychophysics* 41:5 (1987), 455–472.
- [282] “The R Project for Statistical Computing.” <http://www.r-project.org/>, accessed July 1, 2009.
- [283] Erwin Raisz. *Principles of Cartography*. New York: McGraw-Hill, 1962.
- [284] R. Rao and S. Card. “The Table Lens: Merging Graphical and Symbolic Representations in an Interactive Focus + Context Visualization for Tabular Information.” In *Proceedings of the SIGCHI Conference on Human Factors in Computing Systems: Celebrating Interdependence*, pp. 318–322. New York: ACM Press, 1994.
- [285] A. Ravishankar Rao and Gerald L. Lohse. “Identifying High Level Features of Texture Perception.” *CVGIP: Graph. Models Image Process.* 55:3 (1993), 218–233.
- [286] A. Ravishankar Rao and Gerald L. Lohse. “Towards a Texture Naming System: Identifying Relevant Dimensions of Texture.” In *Proceedings of the IEEE Conference on Visualization '93*, pp. 220–227. Los Alamitos, CA: IEEE Computer Society, 1993.
- [287] Roland Rensink. “The Need for Attention to See Change.” <http://www.psych.ubc.ca/~rensink/flicker>, March 2, 2003.
- [288] R. A. Rensink. “Seeing, Sensing, and Scrutinizing.” *Vision Research* 40:10–12 (2000), 1469–1487.
- [289] R. J. Resnick, M. O. Ward, and E. A. Rundensteiner. “FED: A Framework for Iterative Data Selection in Exploratory Visualization.” In *Proceedings of the 10th International Conference Scientific and Statistical Database Management*, pp. 180–189. Washington, DC: IEEE Computer Society, 1998.
- [290] Penny Rheingans and Brice Tebbs. “A Tool for Dynamic Explorations of Color Mappings.” In *Proceedings of the 1990 Symposium on Interactive 3D Graphics*, pp. 145–146. New York: ACM Press, 1990.
- [291] William Ribarsky, Eric Ayers, John Eble, and Sougata Mukherjea. “Glyph-maker: Creating Customized Visualizations of Complex Data.” *Computer* 27:7 (1994), 57–64.

- [292] B. Roberts, M. G. Harris, and T. A. Yates. “The Roles of Inducer Size and Distance in the Ebbinghaus Illusion (Titchener Circles).” *Perception* 34:7 (2005), 847–56.
- [293] George G. Robertson, Jock D. Mackinlay, and Stuart K. Card. “Cone Trees: Animated 3D Visualizations of Hierarchical Information.” In *Proceedings of the SIGCHI Conference on Human Factors in Computing Systems*, pp. 189–194. New York: ACM Press, 1991.
- [294] George Robertson, Mary Czerwinski, Kevin Larson, Daniel C. Robbins, David Thiel, and Maarten van Dantzich. “Data Mountain: Using Spatial Memory for Document Management.” In *Proceedings of the 11th Annual ACM Symposium on User Interface Software and Technology*, pp. 153–162. New York: ACM Press, 1998.
- [295] Philip K. Robertson. “A Methodology for Scientific Data Visualisation: Choosing Representations Based on a Natural Scene Paradigm.” In *Proceedings of the First Conference on Visualization '90*, pp. 114–123. Los Alamitos, CA: IEEE Computer Society Press, 1990.
- [296] Bernice E. Rogowitz and Lloyd A. Treinish. “An Architecture for Rule-Based Visualization.” In *Proceedings of the 4th Conference on Visualization '93*, pp. 236–243. Washington, DC: IEEE Computer Society, 1993.
- [297] Randall M. Rohrer, John L. Sibert, and David S. Ebert. “The Shape of Shakespeare: Visualizing Text Using Implicit Surfaces.” In *Proceedings of the 1998 IEEE Symposium on Information Visualization*, pp. 121–129. Washington, DC: IEEE Computer Society, 1998.
- [298] Geraldine E. Rosario, Elke A. Rundensteiner, David C. Brown, Matthew O. Ward, and Shiping Huang. “Mapping Nominal Values to Numbers for Effective Visualization.” *Information Visualization* 3:2 (2004), 80–95.
- [299] Steven F. Roth, John Kolojechick, Joe Mattis, and Jade Goldstein. “Interactive Graphic Design Using Automatic Presentation Knowledge.” In *Proceedings of the SIGCHI Conference on Human Factors in Computing Systems*, pp. 112–117. New York: ACM Press, 1994.
- [300] S. F. Roth, P. Lucas, J. A. Senn, C. C. Gomberg, M. B. Burks, P. J. Stroffolino, A. J. Kolojechick, and C. Dunmire. “Visage: A User Interface Environment for Exploring Information.” In *Proceedings of the 1996 IEEE Symposium on Information Visualization*, pp. 3–12. Washington, DC: IEEE Computer Society, 1996.
- [301] Elke A. Rundensteiner, Matthew O. Ward, Zaixian Xie, Qingguang Cui, Charudatta V. Wad, Di Yang, and Shiping Huang. “XmdvtoolQ: Quality-Aware Interactive Data Exploration.” In *Proceedings of the 2007 ACM SIGMOD International Conference on Management of Data*, pp. 1109–1112. New York: ACM Press, 2007.
- [302] S. J. Russell and P. Norvig. *Artificial Intelligence: A Modern Approach*, Second edition. New Jersey: Prentice Hall, 2002.
- [303] Gerard Salton and Christopher Buckley. “Term-Weighting Approaches in Automatic Text Retrieval.” *Information Processing and Management* 24:5 (1988), 513–523.

- [304] G. Salton, A. Wong, and C. S. Yang. “A Vector Space Model for Automatic Indexing.” *Commun. ACM* 18:11 (1975), 613–620.
- [305] Purvi Saraiya, Chris North, and Karen Duca. “An Insight-Based Methodology for Evaluating Bioinformatics Visualizations.” *IEEE Transactions on Visualization and Computer Graphics* 11:4 (2005), 443–456.
- [306] M. Sarkar, S. Snibbe, O. Tversky, and S. Reiss. “Stretching the Rubber Sheet: A Metaphor for Viewing Large Layouts on Small Screens.” In *Proceedings of the 6th Annual ACM Symposium on User Interface Software and Technology*, pp. 81–91. New York: ACM Press, 1993.
- [307] SAS Institute. “SAS Home Page.” <http://www.sas.com>, accessed July 1, 2008.
- [308] J. L. Schafer. *Analysis of Incomplete Multivariate Data*. Boca Raton, FL: CRC Press, 1997.
- [309] M. Schrauf, B. Lingelbach, E. Lingelbach, and E. R. Wist. “The Hermann Grid and the Scintillation Effect.” *Perception* 24:supplement A (1995), 88–89.
- [310] W. J. Schroeder, C. R. Volpe, and W. E. Lorensen. “The Stream Polygon: A Technique for 3D Vector Field Visualization.” In *Proceedings of the 2nd Conference on Visualization '91*, pp. 126–132. Los Alamitos, CA: IEEE Computer Society Press, 1991.
- [311] Will Schroeder, Ken Martin, and Bill Lorensen. *The Visualization Toolkit: An Object-Oriented Approach to 3D Graphics*, Fourth edition. Clifton Park, NY: Kitware, Inc., 2006.
- [312] S. Selvin, D. Merrill, J. Schulman, S. Sacks, L. Bedell, and L. Wong. “Transformations of Maps to Investigate Clusters of Disease.” *Social Science and Medicine* 26:2 (1988), 215–221.
- [313] Hikmet Senay and Eve Ignatius. “A Knowledge-Based System for Visualization Design.” *IEEE Comput. Graph. Appl.* 14:6 (1994), 36–47.
- [314] L. Shapiro and G. Stockman. *Computer Vision*. Upper Saddle River, NJ: Prentice Hall, 2001.
- [315] John Sharko, Georges Grinstein, and Kenneth A. Marx. “Vectorized Radviz and Its Application to Multiple Cluster Datasets.” *IEEE Transactions on Visualization and Computer Graphics* 14:6 (2008), 1427–1444.
- [316] Helen Sharp, Yvonne Rogers, and Jenny Preece. *Interaction Design: Beyond Human-Computer Interaction*, Second edition. New York: John Wiley and Sons, 2007.
- [317] Ben Shneiderman and Catherine Plaisant. *Designing the User Interface: Strategies for Effective Human-Computer Interaction*, Fourth edition. Boston, MA: Addison Wesley, 2004.
- [318] Ben Shneiderman. “Dynamic Queries for Visual Information Seeking.” *IEEE Software* 11 (1994), 70–77.
- [319] Ben Shneiderman. “The Eyes Have It: A Task by Data Type Taxonomy for Information Visualizations.” In *Proceedings of the 1996 IEEE Symposium on Visual Languages*, pp. 336–343. Washington, DC: IEEE Computer Society, 1996.

- [320] Ben Shneiderman. "Extreme Visualization: Squeezing a Billion Records into a Million Pixels." In *Proceedings of the 2008 ACM SIGMOD International Conference on Management of Data*, pp. 3–12. New York: ACM Press, 2008.
- [321] J. Siegel, E. Farrell, R. Goldwyn, and H. Friedman. "The Surgical Implication of Physiologic Patterns in Myocardial Infarction Shock." *Surgery* 72 (1972), 126–141.
- [322] Simeon Simoff, Michael H. Böhlen, and Arturas Mazeika, editors. *Visual Data Mining: Theory, Techniques and Tools for Visual Analytics*. Berlin: Springer, 2008.
- [323] D. J. Simons and D. T. Levin. "Change Blindness." *Trends in Cognitive Sciences* 1 (1997), 261–267.
- [324] D. J. Simons. "In Sight, Out of Mind: When Object Representations Fail." *Psychological Science* 7:5 (1996), 301–305.
- [325] D. J. Simons. "Current Approaches to Change Blindness." *Visual Cognition* 7:1–3 (2000), 1–15.
- [326] Terry A. Slocum, Robert B. McMaster, Fritz C. Kessler, and Hugh H. Howard. *Thematic Cartography and Geovisualization*, Third edition. Prentice Hall, 2009.
- [327] Terry A. Slocum. *Thematic Cartography and Visualization*. Upper Saddle River, NJ: Prentice Hall, 1999.
- [328] Lindsay I. Smith. "A Tutorial on Principal Component Analysis." http://www.cs.otago.ac.nz/cosc453/student_tutorials/principal_components.pdf, February 26, 2002.
- [329] Douglas Smith. "Beyond the Cave: Lascaux and the Prehistoric in Post-War French Culture." *French Studies* 58 (2004), 219–232.
- [330] R. J. Snowden. "Texture Segregation and Visual Search: A Comparison of the Effects of Random Variations along Irrelevant Dimensions." *Journal of Experimental Psychology: Human Perception & Performance* 24:5 (1998), 1354–1367.
- [331] John P. Snyder. *Map Projections: A Working Manual*. Washington, DC: US Government Printing Office, 1987.
- [332] Pierre Soille. *Morphological Image Analysis: Principles and Applications*. Berlin: Springer-Verlag Telos, 1999.
- [333] Robert Spence. *Information Visualization: Design for Interaction*, Second edition. Upper Saddle River, NJ: Prentice-Hall, 2007.
- [334] L. Spillmann. "The Hermann Grid Illusion: A Tool for Studying Human Perceptive Field Organization." *Perception* 23 (1994), 691–708.
- [335] SPSS Inc. "SPSS Home Page." <http://www.spss.com>, accessed July 1, 2008.
- [336] John Stasko and Eugene Zhang. "Focus+Context Display and Navigation Techniques for Enhancing Radial, Space-Filling Hierarchy Visualizations." In *Proceedings of the IEEE Symposium on Information Visualization*, pp. 57–65. Los Alamitos, CA: IEEE Computer Society, 2000.

- [337] StatLib. “StatLib—Datasets Archive.” <http://lib.stat.cmu.edu/datasets/>, accessed July 1, 2008.
- [338] Peter Stearns. *The Encyclopedia of World History*. New York: Houghton-Mifflin, 2001.
- [339] Daniel Steinbock. “TagCrowd Home Page.” <http://www.tagcrowd.com/>, accessed August 31, 2009.
- [340] Debbie Stone, Caroline Jarrett, Mark Woodroffe, and Shailey Minocha. *User Interface Design and Evaluation*. The Morgan Kaufmann Series in Interactive Technologies, San Francisco: Morgan Kaufmann Publishers, Inc., 2005.
- [341] Magnus Strengert, Marcelo Magallón, Daniel Weiskopf, Stefan Guthe, and Thomas Ertl. “Hierarchical Visualization and Compression of Large Volume Datasets Using GPU Clusters.” In *Proceedings of the Eurographics Symposium on Parallel Graphics and Visualization*, pp. 41–48. Aire-la-Ville, Switzerland: Eurographics Association, 2004.
- [342] H. Strobelt, D. Oelke, C. Rohrdantz, A. Stoffel, D. Keim, and O. Deussen. “Document Cards: A Top Trumps Visualization for Documents.” *IEEE InfoVis 2009: IEEE Transactions on Visualization and Computer Graphics* 15:6 (2009), 1145–1152.
- [343] Steve Summit. “Data File Formats.” <http://www.eskimo.com/~scs/datafiles.html>, accessed July 1, 2008.
- [344] Tableau Software. “Tableau Home Page.” <http://www.tableausoftware.com>, accessed July 1, 2008.
- [345] H. Tamura, S. Mori, and T. Yamawaki. “Textural Features Corresponding to Visual Perception.” *IEEE Transactions on Systems, Man, and Cybernetics* 8:6 (1978), 460–473.
- [346] Alexandru Telea. *Data Visualization: Principles and Practice*. Wellesley, MA: A K Peters, 2008.
- [347] T. Tenev and R. Rao. “Managing Multiple Focal Levels in Table Lens.” In *Proceedings of the 1997 IEEE Symposium on Information Visualization*, pp. 59–63. Washington, DC: IEEE Computer Society, 1997.
- [348] J. Thomas, P. Cowley, O. Kuchar, L. Nowell, J. Thomson, and P. Chung Wong. “Discovering Knowledge Through Visual Analysis.” *Journal of Universal Computer Science* 7:6 (2001), 517–529. http://www.jucs.org/jucs_7_6/discovering_knowledge_through_visual.
- [349] David Thompson, Jeff Braun, and Ray Ford. *OpenDX: Paths to Visualization*. Missoula, MT: VIS, Inc., 2004.
- [350] J. Thurston, T. K. Poiker, and J. Patrick Moore. *Integrated Geospatial Technologies: A Guide to GPS, GIS, and Data Logging*. Hoboken, NJ: Wiley, 2003.
- [351] TIBCO Software, Inc. “Spotfire Home Page.” <http://spotfire.tibco.com>, accessed July 1, 2008.

- [352] Vladimir Tikunov and Sabir Gusein-Zade. "A New Technique for Constructing Continuous Cartograms." *Cartography and Geographic Information Systems* 20:3 (1993), 66–85.
- [353] Vladimir Tikunov and Sabir Gusein-Zade. "Map Transformations." *Geography Review* 9:1 (1995), 19–23.
- [354] W. R. Tobler. "Cartograms and Cartosplines." In *Proceedings of the 1976 Workshop on Automated Cartography and Epidemiology*, pp. 53–58. Washington, DC: Department of Health Education and Welfare, 1976.
- [355] W. R. Tobler. "Pseudo-Cartograms." *The American Cartographer* 13:1 (1986), 43–40.
- [356] Tom Sawyer Software. "Tom Sawyer Home Page." <http://www.tomsawyer.com>, accessed July 1, 2008.
- [357] Melanie Tory and Torsten Müller. "Evaluating Visualizations: Do Expert Reviews Work?" *IEEE Computer Graphics and Applications* 25:5 (2005), 8–11.
- [358] Anne M. Treisman and Garry Gelade. "A Feature-Integration Theory of Attention." *Cognitive Psychology* 12:1 (1980), 97–136.
- [359] Anne M. Treisman and S. Gormican. "Feature Analysis in Early Vision: Evidence from Search Asymmetries." *Psychological Review* 95:1 (1988), 15–48.
- [360] Anne M. Treisman and J. Souther. "The Roles of Attention and Top-Down Constraints in Conjoining Letters to Form Words." *Journal of Experimental Psychology: Human Perception & Performance* 12 (1986), 107–141.
- [361] Anne M. Treisman. "Preattentive Processing in Vision." *Computer Vision, Graphics, and Image Processing* 31:2 (1985), 156–177.
- [362] Anne M. Treisman. "Search, Similarity, and Integration of Features between and within Dimensions." *Journal of Experimental Psychology: Human Perception & Performance* 17:3 (1991), 652–676.
- [363] E. R. Tufte. *The Visual Display of Quantitative Information*. Cheshire, CT: Graphics Press, 1983.
- [364] E. R. Tufte. *Envisioning Information*. Cheshire, CT: Graphics Press, 1990.
- [365] E. R. Tufte. *Visual Explanations*. Cheshire, CT: Graphics Press, 1997.
- [366] E. R. Tufte. *Beautiful Evidence*. Cheshire, CT: Graphics Press, 2006.
- [367] P. D. Tynan and R. Sekuler. "Motion Processing in Peripheral Vision: Reaction Time and Perceived Velocity." *Vision Research* 22:1 (1982), 61–68.
- [368] Fan-Yin Tzeng and Kwan-Liu Ma. "Intelligent Feature Extraction and Tracking for Visualizing Large-Scale 4D Flow Simulations." In *Proceedings of the 2005 ACM/IEEE Conference on Supercomputing*, p. 6. Washington, DC: IEEE Computer Society Press, 2005.
- [369] University of California, Irvine Department of Information and Computer Science. "UCI KDD Data Archive." <http://kdd.ics.uci.edu/>, accessed July 1, 2008.

- [370] University of Maryland HCI Lab Data Repository. “SEMVAST: Scientific Evaluation Methods for Visual Analytics Science and Technology.” <http://www.cs.umd.edu/hcil/semvast/>, accessed August 27, 2009.
- [371] Eliane R. A. Valiati, Marcelo S. Pimenta, and Carla M. D. S. Freitas. “A Taxonomy of Tasks for Guiding the Evaluation of Multidimensional Visualizations.” In *BELIV '06: Proceedings of the 2006 AVI Workshop on Beyond Time and Errors*, pp. 1–6. New York: ACM Press, 2006.
- [372] A. van Doorn and J. Koenderink. “Temporal Properties of the Visual Detectability of Moving Spatial White Noise.” *Experimental Brain Research* 45:1–2, 179–188.
- [373] A. van Doorn and J. Koenderink. “Spatial Properties of the Visual Detectability of Moving Spatial White Noise.” *Experimental Brain Research* 45:1–2 (1982), 189–195.
- [374] J. J. van Wijk and W. Nuij. “Smooth and Efficient Zooming and Panning.” In *Proceedings of the IEEE Symposium on Information Visualization 2003*, pp. 15–23. Los Alamitos, CA: IEEE Computer Society Press, 2003.
- [375] VRVis. “High Quality Volume Rendering with 2D and 3D Textures.” <http://old.vrvis.at/via/resources/PR-CBerger-2/index.html>, accessed August 1, 2008.
- [376] F. Wanner, C. Rohrdantz, F. Mansmann, D. Oelke, and D. A. Keim. “Visual Sentiment Analysis of RSS News Feeds Featuring the US Presidential Election in 2008.” Paper presented at the Workshop on Visual Interfaces to the Social and the Semantic Web, Sanibel Island, FL, February 8, 2009.
- [377] M. O. Ward and B. N. Lipchak. “A Visualization Tool for Exploratory Analysis of Cyclic Multivariate Data.” *Metrika* 51:1 (2000), 27–38.
- [378] Matthew O. Ward and Kevin J. Theroux. “Perceptual Benchmarking for Multivariate Data Visualization.” In *DAGSTUHL '97: Proceedings of the Conference on Scientific Visualization*, pp. 314–321. Washington, DC: IEEE Computer Society, 1997.
- [379] Matthew O. Ward and Jing Yang. “Interaction Spaces in Data and Information Visualization.” In *Eurographics Symposium on Visualization (Vis-Sym)*, edited by Oliver Deussen, Charles D. Hansen, Daniel A. Keim, and Dietmar Saupe, pp. 137–145. Aire-la-Ville, Switzerland: Eurographics Association, 2004.
- [380] Matthew O. Ward. “XmdvTool: Integrating Multiple Methods for Visualizing Multivariate Data.” In *Proceedings of the Conference on Visualization '94*, pp. 326–333. Los Alamitos, CA: IEEE Computer Society Press, 1994.
- [381] Matthew O. Ward. “A Taxonomy of Glyph Placement Strategies for Multidimensional Data Visualization.” *Information Visualization* 1:3–4 (2002), 194–210.
- [382] Colin Ware and William Knight. “Using Visual Texture for Information Display.” *ACM Trans. Graph.* 14:1 (1995), 3–20.

- [383] Colin Ware. “Color Sequences for Univariate Maps: Theory, Experiments and Principles.” *IEEE Comput. Graph. Appl.* 8:5 (1988), 41–49.
- [384] Colin Ware. *Information Visualization: Perception for Design*. San Francisco: Morgan Kaufmann Publishers Inc., 2000.
- [385] A. Watt and M. Watt. *Advanced Rendering and Animation Techniques: Theory and Practice*. Reading, MA: Addison-Wesley, 1991.
- [386] M. Wattenberg and F. B. Viégas. “The Word Tree: An Interactive Visual Concordance.” *IEEE Transactions on Visualization and Computer Graphics* 14:6 (2008), 1221–1228.
- [387] M. Wattenberg. “Arc Diagrams: Visualizing Structure in Strings.” In *Proceedings of the IEEE Symposium on Information Visualization*, pp. 110–116. Washington, DC: IEEE Computer Society Press, 2002.
- [388] WEBSOM research group. “WEBSOM Map—Million Documents.” <http://websom.hut.fi/websom/milliondemo/html/root.html>, accessed August 31, 2009.
- [389] Edward J. Wegman and Jeffrey L. Solka. “On Some Mathematics for Visualizing High Dimensional Data.” *Sankhya—The Indian Journal of Statistics, Series A* 64:2 (2002), 429–452.
- [390] Stephen Wehrend and Clayton Lewis. “A Problem-Oriented Classification of Visualization Techniques.” In *Proceedings of the First Conference on Visualization '90*, pp. 139–143. Los Alamitos, CA: IEEE Computer Society Press, 1990.
- [391] C. Weigle, W. Emigh, G. Liu, R. Taylor, J. Enns, and C. Healey. *Oriented Sliver Textures: A Technique for Local Value Estimation of Multiple Scalar Fields*, pp. 163–170. Toronto: Canadian Information Processing Society, 2000.
- [392] Scott D. Westrem. “Making a Mappamundi: The Hereford Map.” http://www.sochistdisc.org/2002_articles/westrem.htm, 2008.
- [393] Leland Wilkinson. *SYSTAT for DOS: Advanced Applications, Version 6*. Evanston, IL: SYSTAT, Inc., 1994.
- [394] Leland Wilkinson. *The Grammar of Graphics*. Statistics and Computing, New York: Springer-Verlag, 2005.
- [395] G. Wills. “Selection: 524,288 Ways to Say ‘This Is Interesting’.” In *Proceedings of the IEEE Symposium on Information Visualization '96*, pp. 54–60. Los Alamitos, CA: IEEE Computer Society Press, 1996.
- [396] Craig M. Wittenbrink, Alex T. Pang, and Suresh K. Lodha. “Glyphs for Visualizing Uncertainty in Vector Fields.” *IEEE Transactions on Visualization and Computer Graphics* 2:3 (1996), 266–279.
- [397] J. M. Wolfe and K. R. Cave. *Deploying Visual Attention: The Guided Search Model*, pp. 79–103. Chichester, UK: John Wiley & Sons, Inc., 1989.
- [398] J. M. Wolfe and S. L. Franzel. “Binocularity and Visual Search.” *Perception & Psychophysics* 44 (1988), 81–93.

- [399] J. M. Wolfe, K. R. Cave, and S. L. Franzel. "Guided Search: An Alternative to the Feature Integration Model for Visual Search." *Journal of Experimental Psychology: Human Perception & Performance* 15:3 (1989), 419–433.
- [400] J. M. Wolfe, K. P. Yu, M. I. Stewart, A. D. Shorter, S. R. Friedman-Hill, and K. R. Cave. "Limitations on the Parallel Guidance of Visual Search: Color \times Color and Orientation \times Orientation Conjunctions." *Journal of Experimental Psychology: Human Perception & Performance* 16:4 (1990), 879–892.
- [401] J. M. Wolfe, S. R. Friedman-Hill, M. I. Stewart, and K. M. O'Connell. "The Role of Categorization in Visual Search for Orientation." *Journal of Experimental Psychology: Human Perception & Performance* 18:1 (1992), 34–49.
- [402] J. M. Wolfe, N. Klempen, and K. Dahlen. "Postattentive Vision." *Journal of Experimental Psychology: Human Perception & Performance* 26:2 (2000), 693–716.
- [403] J. M. Wolfe. "Guided Search 2.0: A Revised Model of Visual Search." *Psychonomic Bulletin & Review* 1:2 (1994), 202–238.
- [404] P. Wong and R. Bergeron. "Multiresolution Multidimensional Wavelet Brushing." In *Proceedings of the 7th Conference on Visualization '96*, pp. 141–148. Los Alamitos, CA: IEEE Computer Society Press, 1996.
- [405] Pak Chung Wong, Harlan Foote, Dan Adams, Wendy Cowley, and Jim Thomas. "Dynamic Visualization of Transient Data Streams." In *Proceedings of the IEEE Symposium on Information Visualization*, pp. 97–104. Los Alamitos, CA: IEEE Computer Society Press, 2003.
- [406] H. Wright. *Introduction to Scientific Visualization*. New York: Springer, 2007.
- [407] G. Wyvill, C. McPheeters, and B. Wyvill. "Data Structure for Soft Objects." *The Visual Computer* 2 (1986), 227–234.
- [408] Zaixian Xie, Shiping Huang, Matthew O. Ward, and Elke A. Rundensteiner. "Exploratory Visualization of Multivariate Data with Variable Quality." In *Proceedings of the IEEE Symposium on Visual Analysis Science and Technology*, pp. 183–190. Los Alamitos, CA: IEEE Computer Society Press, 2006.
- [409] Jing Yang, Matthew O. Ward, and Elke A. Rundensteiner. "InterRing: An Interactive Tool for Visually Navigating and Manipulating Hierarchical Structures." In *Proceedings of the IEEE Symposium on Information Visualization '02*, pp. 77–84. Washington, DC: IEEE Computer Society, 2002.
- [410] J. Yang, W. Peng, M. O. Ward, and E. A. Rundensteiner. "Interactive Hierarchical Dimension Ordering, Spacing and Filtering for Exploration of High Dimensional Datasets." In *Proceedings of the IEEE Symposium on Information Visualization*, pp. 105–112. Washington, DC: IEEE Computer Society, 2003.
- [411] Jing Yang, Matthew O. Ward, Elke A. Rundensteiner, and S. Huang. "Visual Hierarchical Dimension Reduction for Exploration of High Dimensional Datasets." In *VISSYM '03: Proceedings of the Symposium on Data Visualization*, pp. 19–28. Aire-la-Ville, Switzerland: Eurographics Association, 2003.

- [412] Jing Yang, Matthew O. Ward, Elke A. Rundensteiner, and Anilkumar Patro. “InterRing: A Visual Interface for Navigating and Manipulating Hierarchies.” *Information Visualization* 2:1 (2003), 16–30.
- [413] J. Yang, A. Patro, S. Huang, N. Mehta, M. O. Ward, and E. A. Rundensteiner. “Value and Relation Display for Interactive Exploration of High Dimensional Datasets.” In *Proceedings of the IEEE Symposium on Information Visualization*, pp. 73–80. Washington, DC: IEEE Computer Society, 2004.
- [414] Fanhai Yang, Howard Goodell, Ronald Pickett, Robert Bobrow, Alexander Baumann, Alexander Gee, and Georges Grinstein. “Data Exploration Combining Kinetic and Static Visualization Displays.” In *Proceedings of the Fourth International Conference on Coordinated and Multiple Views in Exploratory Visualization*, pp. 21–30. Washington, DC: IEEE Computer Society, 2006.
- [415] D. Yang, Elke A. Rundensteiner, and Matthew O. Ward. “Analysis Guided Visual Exploration of Multivariate Data.” In *Proceedings of the IEEE Symposium on Visual Analytics Science and Technology*, pp. 83–90. Washington, DC: IEEE Computer Society, 2007.
- [416] Jing Yang, Daniel Hubball, Matthew Ward, Elke Rundensteiner, and William Ribarsky. “Value and Relation Display: Interactive Visual Exploration of Large Data Sets with Hundreds of Dimensions.” *IEEE Trans. Visualization and Computer Graphics* 13:3 (2007), 494–507.
- [417] Li Yang. “Pruning and Visualizing Generalized Association Rules in Parallel Coordinates.” *IEEE Transactions on Knowledge and Data Engineering* 17:1 (2005), 60–70.
- [418] Ji Soo Yi, Youn ah Kang, John T. Stasko, and Julie A. Jacko. “Toward a Deeper Understanding of the Role of Interaction in Information Visualization.” *IEEE Trans. Visualization and Computer Graphics* 13 (2007), 1224–1231.
- [419] J. Zhou, G. Grinstein, and K. Marx. “A New Gene Selection Method for Visual Analysis.” Scientific Report No. 015, University of Massachusetts Lowell, 2007.
- [420] G. K. Zipf. *Human Behavior and the Principle of Least Effort: An Introduction to Human Ecology*. Reading, MA: Addison-Wesley Press, 1949.
- [421] Christian Zuchner. “Grotte Chauvet Archaeologically Dated.” <http://www.rupestre.net/tracce/12/chauv.html>, 2000.
- [422] Torre Zuk, Lothar Schlesier, Petra Neumann, Mark S. Hancock, and Sheelagh Carpendale. “Heuristics for Information Visualization Evaluation.” In *BELIV '06: Proceedings of the 2006 AVI Workshop on Beyond Time and Errors*, pp. 1–6. New York: ACM Press, 2006.
- [423] Zuse Institute Berlin. “LicFactory Home Page.” <http://www.zib.de/visual/software/LicFactory/>, accessed August 1, 2008.