Bibliography

[1] Adobe Systems Inc. (Glenn C. Reid). PostScript Language Program Design. Addison-Wesley, Reading, MA, 1988.

This so-called "Green Book" introduces programming techniques for designing efficient PostScript programs with the help of examples in the areas of typesetting text, constructing graphics, writing calculators, debugging programs, etc. These directly usable examples accomplish specific practical tasks and have been carefully designed and debugged to show in detail how the language works. Each of the fifteen chapters addresses a specific aspect of top-to-bottom program design or problem solving and contains some useful advice. Available electronically from

http://partners.adobe.com/public/developer/ps/sdk/sample/index_psbooks.html

[2] Adobe Systems Inc. PostScript Language Tutorial and Cookbook. Addison-Wesley, Reading, MA, 1985.

This so-called "Blue Book" has a *Tutorial* section with numerous annotated examples and short programs, and a *Cookbook* section which is a collection of useful techniques and procedures for the PostScript language. Available electronically from

http://partners.adobe.com/public/developer/ps/sdk/sample/index_psbooks.html

[3] Adobe Systems Inc. "Encapsulated PostScript File Format Specification (Version 3.0)". Technical Note 5002, 1992.

This technical note details the Encapsulated PostScript file (EPSF) format, a standard format for importing and exporting PostScript language files among applications in a variety of heterogeneous environments. The EPSF format is based on and conforms to the document structuring conventions (DSC) [4].

http://partners.adobe.com/public/developer/en/ps/5002.EPSF_Spec.pdf

[4] Adobe Systems Inc. "PostScript Document Structuring Conventions Specification (Version 3.0)". Technical Note 5001, 1992.

This technical note defines a standard set of document structuring conventions (DSC), which will help ensure that a PostScript document is device independent. DSC allows PostScript language programs to communicate their document structure and printing requirements to document managers in a way that does not affect the PostScript language page description.

http://partners.adobe.com/public/developer/en/ps/5001.DSC_Spec.pdf

[5] Adobe Systems Inc. PostScript Language Reference Manual, Third Edition. Addison-Wesley, Reading, MA, 1999.
This so-called "Red Book" describes the syntax and semantics of the complete PostScript language. The book documents the imaging model and the graphics, fonts, device, and rendering operators. Available electronically from http://www.adobe.com/products/postscript/pdfs/PLRM.pdf

[6] Adobe Systems Inc. PDF Reference (Version 1.6), Fifth Edition. Addison-Wesley, Reading, MA, 2005.
This is the specification of Adobe's Portable Document Format (PDF). The book introduces and explains all aspects of the PDF format, including its architecture and imaging model (allowing transparency and opacity for text, images, and graphics), the command syntax, the graphics operators, fonts, and rendering, and the relation between PostScript and PDF.
http://partners.adobe.com/public/developer/en/pdf/PDFReference16.pdf

[7] Alfred V. Aho, Monica S. Lam, Ravi Sethi, and Jeffrey D. Ullman. Compilers: Principles, Techniques and Tools, Second Edition. Addison-Wesley, Reading, MA, 2007.
This book is the standard reference about compiler construction and is widely regarded as the classic definitive compiler technology text. It not only provides a thorough introduction to compiler design but it also shows how to apply compiler technology to a broad range of problems in software design and development. This second edition includes the most recent developments in compiling. See also
http://en.wikipedia.org/wiki/Compilers:_Principles,_Techniques_and_Tools

[8] Dwight Aplevich. "Circuit_macros". *MAPS*, 31:19–24, 2005.
This article describes macros for drawing electrical circuits. On CTAN at: graphics/circuit_macros

[9] Wolfgang Appelt. "Typesetting chess". *TUGboat*, 9(3):284–287, 1988.
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http://www.tug.org/TUGboat/Articles/tb09-3/tb22appelt.pdf

[10] Gustavo S. Bustamante Argañaraz. makecirc: A METAPOST library for electrical circuit diagrams drawing.
This manual is the documentation of makecirk, a METAPOST library containing diverse symbols for use in (electric) circuit diagrams. The system can be easily integrated in LATEX documents and combined with other METAPOST drawings and graphics.
On CTAN at: graphics/metapost/contrib/macros/makecirc/MakeCirc-en.pdf

[11] Jon Bentley and Brian Kernighan. "Grap — a language for typesetting graphs". Computing Science Technical Report 114, AT&T Bell Laboratories, Murray Hill, NJ, 1984.
Grap is a language for describing graphical displays of data. It provides automatic scaling, labeling of axes, some programming constructs, and a macro facility. It is intended primarily for including graphs in documents prepared for the Unix operating system. Document available electronically as:
http://cm.bell-labs.com/cm/cs/cstr/114.ps.gz

[12] Piotr Bolek. "METAPOST and patterns". *TUGboat*, 19(3):276–283, 1998.
This article presents METAPOST macros for defining and using patterns.
http://www.tug.org/TUGboat/Articles/tb19-3/tb60bolek.pdf
On CTAN at: graphics/metapost/contrib/macros/mpattern

[13] Anne Brüggemann-Klein and Derrick Wood. "Drawing trees nicely with TEX". *Electronic publishing — origin, dissemination and design*, 2(2), 1989.
This article describes a solution to the tree-drawing problem that integrates an excellent tree-drawing algorithm implemented as a TEX package (TreeTEX). Also available on pages 185–206 of [18].

[14] Włodzimierz Bzyl. "The Tao of fonts". *TUGboat*, 23(1):27–40, 2002.
This article presents a new technique for creating fonts. It is based on METAPOST, and is able to produce Type 1 and Type 3 fonts. http://www.tug.org/TUGboat/Articles/tb23-1/bzyl.pdf

[15] David Carlisle. "Packages in the "graphics" bundle (The LaTeX3 Project)", 2006.
Part of the LaTeX distribution, the documentation describes a collection of LaTeX packages for: producing color, including graphics (e.g., PostScript) files and how to rotate and scale objects.
On CTAN at: latex/required/graphics/grfguide.pdf

[16] Bill Casselman. Mathematical Illustrations. A manual of geometry and PostScript. Cambridge University Press, Cambridge, United Kingdom, 2005.
This book shows how to use PostScript for producing mathematical graphics at several levels of sophistication. It discusses some of the mathematics involved in computer graphics and gives some hints about good style in mathematical illustration. After providing a short introduction to the basic features of the PostScript language, the author describes several 2-D and 3-D graphics techniques and algorithms. The appendices deal with more technical matters (see http://www.ams.org/notices/200701/rev-roegel.pdf for a detailed review). http://www.math.ubc.ca/~cass/graphics/manual/

[17] Adrian F. Clark. "Halftone Output from TeX". *TUGboat*, 8(3):270–274, 1987.
This article presents results that the author obtained while doing experiments with halftone production on an early laser printer device. http://www.tug.org/TUGboat/Articles/tb08-3/tb19clark.pdf

[18] Malcolm Clark, editor. TeX Applications, Uses, Methods. Ellis Horwood, Chichester, 1990.
Papers from the 1988 TeXeter Conference.

[19] Pierre Duplan, Roger Jauneau, and Jean-Pierre Jauneau. Maquette et mise en page, Fifth Edition. Electre - Éditions du Cercle de la Librarie, Paris, 2004.
This book (in French) presents the results of an analysis by the authors of the layout of over 400 documents—on paper as well as on screen. From this study they derive a set of fundamental rules for making a graphical composition look well balanced geometrically and color-wise. The importance of fully integrating image and text is emphasized. When designing for the Internet its space- and timeless communication aspects should be fully integrated from the start.

[20] Hagen Eck and Sepp Küblbeck. "Generating Feynman graphs and amplitudes with FeynArts 3". *Computer Physics Communications*, 140:418–431, 2001.
This article describes FeynArts (http://www.feynarts.de/), a Mathematica package that can be used for the generation and visualization of Feynman diagrams and amplitudes. The main features of version 3 are: generation of diagrams at three levels, user-definable model files, support for supersymmetric models, and publication-quality Feynman diagrams in PostScript or LaTeX.
http://arxiv.org/abs/hep-ph/0012260

[21] Philippe Esperet and Denis Girou. "Coloriage du pavage dit « de Truchet »". *Cahiers GUTenberg*, 31:5–18, 1998.
This article presents the results of a contest to solve an algorithmic problem on tiling of a plane. A presentation of the main answers received is followed by an implementation of the algorithms in METAPOST and PSTricks. http://www.gutenberg.eu.org/pub/GUTenberg/publicationsPDF/31-girou.pdf

[22] James D. Foley, Andries van Dam, Steven K. Feiner, and John F. Hughes. Computer Graphics, Principles and Practice, Second Edition. Addison-Wesley, Reading, MA, 1990.
This standard reference work is one of the most comprehensive and authoritative in the field of computer graphics. Current concepts as well as practical applications are dealt with. The text also provides a thorough presentation of the mathematical principles of geometric transformations and viewing. Lecture notes on computer graphics are available from van Dam's web site
http://www.cs.brown.edu/courses/cs123/lectures.shtml

[23] Shinsaku Fujita and Nobuya Tanaka. "XyMTeX (Version 2.00) as Implementation of the XyM Notation and the XyM Markup Language". *TUGboat*, 21(1):7–14, 2000.
This article presents some of the new features added in versions 1.01 and 2 of XyMTeX. Version 2 implements the XyM notation, a linear notation for representing organic structures. The XyM notation removes layout data by virtue of the newly introduced concepts of yl-function, substitution derivation, atom derivation, and bond derivation. The article also describes the XyMML markup language. It shows how XyMML markup can be used for representing organic structures and how it translates into the XyM notation, which, in turn, can be typeset with XyMTeX. http://www.tug.org/TUGboat/Articles/tb21-1/tb66fuji.pdf

[24] Shinsaku Fujita and Nobuya Tanaka. "Size reduction of chemical structural formulas in XyMTEX (Version 3.00)". *TUGboat*, 22(4):285–289, 2001.

This article shows how XyMTEX system (Version 3.00) provides a method for permitting the size reduction of structural formulas within the scope of the LaTeX `picture` environment and the epic package.
http://www.tug.org/TUGboat/Articles/tb22-4/tb72fuji.pdf

[25] Shinsaku Fujita. "XyMTEX for drawing chemical structural formulas". *TUGboat*, 16(1):80–88, 1995.

This article introduces XyMTEX, a package consisting of a set of LaTeX style files. The package has been developed for drawing a wide variety of chemical structural formulas. Its commands offer an ensemble of systematic arguments for specifying substituents and their positions, endocyclic double bonds, and bond patterns. In some cases, they have an additional argument for specifying hetero-atoms on the vertices of heterocycles. As a result of this systematic feature, XyMTEX fits perfectly well in the device-independent concept of TEX. http://www.tug.org/TUGboat/Articles/tb16-1/tb46fuji.pdf

[26] Shinsaku Fujita. "XyMTEX: a macro package for typesetting chemical structural formulas", 2006.

The manual of successive XyMTEX versions as well as information about the latest developments are available from the URL http://imt.chem.kit.ac.jp/fujita/fujitas3/xymtex/indexe.html

[27] Federico Garcia. "On musical typesetting: Sonata for TEX and METAFONT, Op. 2". *TUGboat*, 24(2):169–182, 2003.

In this article the author explains why he thinks that existing typesetting systems for music cannot cope with several aspects of music compostion, such as new music and its non-standard representation, musicology, which needs some parts of a score to be circled, highlighted, tied together, etc. He first details the nature of musical typesetting with the problem of horizontal spacing, line breaking, and the use of glue. He then shows how his program TEX*muse* deals with the challenges mentioned and ends with a description of its implementation. http://www.tug.org/TUGboat/Articles/tb24-2/tb77garcia.pdf

[28] Hubert Gäßlein and Rolf Niepraschk. The `pict2e` - package, 2004.

This new package extends the existing LaTeX `picture` environment, using the familiar technique of driver files. On CTAN at: `macros/latex/contrib/pict2e/`

[29] Frans Gerritsen. Evolution in Color. Schiffer Publishing Ltd, West Chester, PA, 1988.

This book is an overview of the theory of color from antiquity to the present. Thanks to its many illustrations the book clearly explains how the concept of color perception evolved over the ages. More information on color is on Bruce MacEvoy's Web page (`http://www.handprint.com/HP/WCL/wcolor.html`) or Charles Poynton's color Web page (`http://www.poynton.com/ColorFAQ.html`).

[30] Ovidiu Gheorghieş. "An Introduction to MetaUML: Exquisite UML Diagrams in METAPOST". *MAPS*, 32:2–15, 2005.

This article provides an introduction to the MetaUML package, a METAPOST for drawing UML diagrams. On CTAN at: `graphics/metapost/contrib/macros/metauml`

[31] Denis Girou. `pst-fill`—A PSTricks package for filling and tiling, 2006.

This is the documentation of a PSTricks-based package for filling and tiling areas or characters. On CTAN at: `graphics/pstricks/contrib/pst-fill/`

[32] Luís Nobre Gonçalves. "FEATPOST and a Review of 3D METAPOST Packages". volume 3130 of *Lecture Notes in computer Science*, pp. 112–124. Springer-Verlag, Berlin, Germany / Heidelberg, Germany / London, UK / etc., 2004.

This article is a description of `FEATPOST`, a METAPOST package for 3-D graphics. On CTAN at: `graphics/metapost/contrib/macros/featpost/doc`

[33] Luís Nobre Gonçalves. "FEATPOST macros", 2004.

Manual of the METAPOST `FEATPOST` macros for 3-D graphics. On CTAN at: `graphics/metapost/contrib/macros/featpost/latex/macroMan.tex`

[34] Michel Goossens and Eric van Herwijnen. "The elementary Particle Entity Notation (PEN) scheme". *TUGboat*, 13(2):201–207, 1992.

This article introduces a scheme for marking up elementary particle names in LaTeX and SGML. The scheme assures the typographic correctness of the printed symbols. It also allows automatic extraction of information about the entities used in the text.

http://www.tug.org/TUGboat/Articles/tb13-2/tb35goossens.pdf

[35] Michel Goossens, Sebastian Rahtz, Eitan M. Gurai, Ross Moore, and Robert S. Sutor. The LaTeX Web Companion: Integrating TeX, HTML, and XML. Addison-Wesley, Reading, MA, 1999.

This book teaches (scientific) authors how to publish on the Web or other hypertext presentation systems, building on their experience with LaTeX and taking into account their specific needs in fields such as mathematics, non-European languages, and algorithmic graphics. The book explains how to make full use of the Adobe Acrobat format from LaTeX, convert legacy documents to HTML or XML, make use of math in Web applications, use LaTeX as a tool in preparing Web pages, read and write simple XML/SGML, and produce high-quality printed pages from Web-hosted XML or HTML pages using TeX or PDF.

[36] Michel Goossens and Vesa Sivunen. "LaTeX, SVG, Fonts". *TUGboat*, 22(4):269–280, 2001.

This article gives a short overview of SVG and points out its advantages for describing in a portable way the graphics content of electronic documents. The conversion of Type 1 font instances into SVG outlines is described, and it is shown how these SVG font glyphs can be used in SVG instances of documents typeset with TeX. http://www.tug.org/TUGboat/Articles/tb22-4/tb72goos.pdf

[37] Timothy G. Greenwood. "International cultural differences in software". *Digital Technical Journal*, 5(16):8–20, 1993.

Throughout the world, computer users approach a computer system with a specific set of cultural requirements. In all cultures, they expect computer systems to accommodate their needs, including when interacting with computers through written language where culture influences the way computer systems must operate. The article gives examples of various national conventions for the presentation of date, time, and numbers. It then explains how the design of an adequate user interface must take into account these conventions in the way it uses images, color, sound, and in the overall layout of the screen. The author concludes that successful computer systems must respond to the multicultural needs of users.

http://www.hpl.hp.com/hpjournal/dtj/vol5num3/vol5num3art1.pdf

[38] Branko Grünbaum and Geoffrey Sheppard. Tilings and Patterns. W.H. Freeman, New York, 1987.

This is the definitive book on ways to tile the two-dimensional plane. The authors treat well-known periodic tilings such as those in a bathroom, the patterns of bricks on walls, or the wonderful geometries created by Islamic artists. They also describe aperiodic tilings, such as Penrose tiles, which use a five-way symmetry to cover the plane without ever repeating; Amman constructs using a four-way plan to define tiles that forever create new patterns; and spiral tiles, which are perfectly regular, but different at every scale. For more on tilings see: http://en.wikipedia.org/wiki/Category:Tiling

[39] Eitan M Gurari. TeX and LaTeX: Drawing and Literate Programming. McGraw-Hill, New York, 1994.

This book describes device-independent tools for drawing figures with (La)TeX. Supported are drawing basic shapes, such as lines, rectangles and Bézier curves, as well as utilities for producing more complex graphs, such as charts and diagrams. Also described are packages that allow (La)TeX to support literate programming.

[40] Eckhart Guthörlein. "Object-Oriented Graphics with MetaObj". *MAPS*, 31:77–86, 2005.

This article is an introduction to the METAOBJ package, and provides some interesting examples.

[41] Roswitha T. Haas and Kevin C. O'Kane. "Typesetting chemical structure formulas with the text formatter TeX/LaTeX". *Computers and Chemistry*, 11(4):251–271, 1987.

This article describes how to incorporate chemical structure diagrams into compuscripts prepared with LaTeX. With the help of some 30 LaTeX macros it is easy to typeset common structural fragments such as branching patterns and alicyclic and heterocyclic rings. These macros permit optional substituents and multiple bonds. Fragments from different macros can be combined.

[42] Hans Hagen. "Pretty printing TEX, MetaPost, Perl and JavaScript". *MAPS*, 20:286–289, 1998.

This article explains that, although one has to use CWEB-like environments for real pretty printing of sources, TEX can also do a rather good job. CONTEXT's `verbatim` environment has pretty printing built in, and either specific colors or fonts can be used. http://www.ntg.nl/maps/pdf/20_43.pdf

[43] Hans Hagen. metafun, 2002.

This is the `metafun` manual. The `metafun` system provides an interface between METAPOST and TEX. The required TEX macros are included in CONTEXT, and the METAPOST code comes with `metafun`. Thanks to `metafun`, METAPOST definitions can be easily integrated in TEX code, thus adding large graphics capabilities to TEX. Available electronically from

http://www.pragma-ade.com/general/manuals/metafun-p.pdf

[44] J. Hagen and A. F. Otten. "PPCHTEX: typesetting chemical formulas in TEX". *TUGboat*, 17(1):54–66, 1996.

This article describes PPCHTEX, a package for typesetting chemical formulas with a multi-lingual interface. The manual is at the URL `http://www.pragma-ade.com/general/manuals/mp-ch-en.pdf`. The package can use PICTEX or PSTricks, is compatible with other macro packages, and falls back on a few generic context modules. It supports typesetting chemical structure formulas like six-rings at different sizes, parts of which can be reused. It also can deal with reaction mechanisms.

http://www.tug.org/TUGboat/Articles/tb17-1/tb50hage.pdf

[45] Brian Hamilton Kelly. "Some macros to draw crosswords". *TUGboat*, 11(1):103–119, 1990.

This is a description of a package to typeset crossword diagrams.

http://www.tug.org/TUGboat/Articles/tb11-1/tb27kelly.pdf

[46] Andy Hammerlindl, John Bowman, and Tom Prince. Asymptote, 2005. Version 0.76.

The manual of the Asymptote system, a system similar to METAPOST, is available electronically from

http://asymptote.sourceforge.net

[47] John D. Hobby. "A user's manual for METAPOST". Computing Science Technical Report 162, AT&T Bell Laboratories, 1992.

The METAPOST system implements a picture-drawing language very much like Knuth's METAFONT except that it outputs PostScript commands instead of bitmaps. METAPOST is a powerful language for producing figures for documents targetted to PostScript output devices. It provides easy access to all features of PostScript and it includes facilities for integrating text and graphics. The appendix of this user's manual explains the differences between METAPOST and METAFONT. The document is available electronically as: http://cm.bell-labs.com/cm/cs/cstr/162.ps.gz

[48] John D. Hobby. "Drawing graphs with METAPOST". Computing Science Technical Report 164, AT&T Bell Laboratories, 1993.

This report describes a graph-drawing package that has been implemented as an extension to the METAPOST graphics language, which has a powerful macro facility for implementing such extensions. A few new language features to support the graph macros are introduced. The proposed features for generating and manipulating pictures allow the user to perform actions that would be difficult to achieve in a stand-alone package. The document is available electronically as:

http://cm.bell-labs.com/cm/cs/cstr/164.ps.gz

[49] Alan Hoenig. TEX Unbound: Strategies for Fonts, Graphics, and More. Oxford University Press, New York, 1998.

This book describes how to produce good typography with LATEX, in particular how to set up and make proper use of PostScript fonts, and create high-quality graphics illustrations with TEX-friendly methods. It contains many examples and summaries of procedures to follow. The book starts with a good overview of TEX, LATEX, METAFONT, and METAPOST, explaining how they all fit together. The second part of the book describes TEX's font mechanisms. The author does not limit himself to a description of how to set up a standard font family, but includes a lot of more advanced material. Examples included are using special effect fonts, specifying font families that contain alternate character sets or symbols, integrating high-quality commercial fonts, and typesetting mathematics with fonts other than the original TEXfonts (there is a 30-page overview on how to combine available mathematics font families with various often-used typefaces). The final part of

the book discusses graphics applications, in particular METAFONT, METAPOST, PSTricks, PICTEX, and mfpic.

[50] Jan Holeček and Petr Sojka. "Animations in pdfTEX-generated PDF: A new method for directly embedding animation into PDF". volume 3130 of *Lecture Notes in computer Science*, pp. 179–191. Springer-Verlag, Berlin, Germany / Heidelberg, Germany / London, UK / etc., 2004.
This article describes a method for producing real animations within a PDF file.

[51] Andrew D. Hwang. "ePiX: A utility for creating mathematically accurate figures". *TUGboat*, 25(2):172–176, 2004.
This article describes ePiX, a collection of command line utilities for creating mathematically accurate, logically structured, camera-quality 2- and 3-dimensional figures and animations in LATEX. ePiX provides a bridge between the powerful numerical capabilities of C++ and the high-quality typesetting of LATEX.
http://www.tug.org/TUGboat/Articles/tb25-2/tb81hwang.pdf

[52] International Organization for Standardization, Geneva, Switzerland. Quantities and Units (Parts 0 to 13), 1992. International Standard ISO 31-0:1992.
Part 0: General principles (1992, Amd 1:1998, Amd 2:2005); Part 1: Space and time (1992, Amd 1:1998); Part 2: Periodic and related phenomena (1992, Amd 1:1998); Part 3: Mechanics (1992, Amd 1:1998); Part 4: Heat (1992, Amd 1:1998); Part 5: Electricity and magnetism (1992, Amd 1:1998); Part 6: Light and related electromagnetic (1992, Amd 1:1998); Part 7: Acoustics (1992, Amd 1:1998); Part 8: Physical chemistry and molecular (1992, Amd 1:1998); Part 9: Atomic and nuclear physics (1992, Amd 1:1998); Part 10: Nuclear reactions and ionizing (1992, Amd 1:1998); Part 11: Mathematical signs and symbols for for use in the physical sciences and technology (1992, Amd 1:1998); Part 12: Characteristic numbers (1992, Amd 1:1998); Part 13: Solid state physics (1992, Amd 1:1998).

[53] International Organization for Standardization, Geneva, Switzerland. SI Units and Recommendations for the Use of their Multiples and of Certain Other Units, 1992. International Standard ISO 1000:1992.

[54] International Organization for Standardization, Geneva, Switzerland. Information Technology—Computer graphics – Metafile for the Storage and Transfer of Picture Description Information, 1999. International Standard ISO 8632:1999.
Part 1: Functional specification (1999, Cor 1:2006); Part 2: Character Encoding (1999); Part 3: Binary encoding (1999); Part 4: Clear text encoding (1999). In part freely downloadable from http://isotc.iso.org/livelink/livelink/fetch/2000/2489/Ittf_Home/PubliclyAvailableStandards.htm

[55] International Union of Pure and Applied Chemistry. Nomenclature of Organic Chemistry. Pergamon, Oxford, 1979.
Many recommendations on organic and biochemical nomenclature, symbols and terminology, etc. are available at the IUPAP Web site: http://www.chem.qmul.ac.uk/iupac/

[56] International Union of Pure and Applied Physics. "Symbols, units, nomenclature and fundamental constants in physics". *Physica*, 146A:1–67, 1987.
Information is available on the IUPAP Web site (www.iupap.org). The IUPAP Report number is 25. For the latest on the values of fundamental constants consult the NIST website:
http://physics.nist.gov/cuu/Constants

[57] Johannes Itten. The Art of Color: The Subjective Experience and Objective Rationale of Color. Wiley, New York, 1974.
The author introduces two approaches to understanding the art of color. Subjective feelings and objective color principles are described in detail and clarified by color reproductions.

[58] Bogusław Jackowski. "A METAFONT-eps interface". *TUGboat*, 16(4):388–395, 1995.

This article explains that one of the best features of the TEX/METAFONT system is its openness, i.e., its capability of collaboration with other systems. This is illustrated by presenting a METAFONT-to-PostScript interface, mftoeps, based on a METAFONT kernel with the necessary definitions for translating the description of graphic objects from METAFONT to PostScript. The PostScript output code is written to a file from which it can be extracted. Two utilities that address the task of further manipulation of METAFONT graphics objects in PostScript are described.

http://www.tug.org/TUGboat/Articles/tb16-4/tb49jack.pdf

[59] Laura E. Jackson and Herbert Voß. "Die mathematischen Funktionen von PostScript". *Die TEXnische Komödie*, 1/02:40–47, 2002.

This article summerizes all PostScript functions that can be used to calculate mathematical expressions and can be used with the `\psplot` macro from the PSTricks package bundle.

[60] Laura E. Jackson and Herbert Voß. "Die plot-funktionen von `pst-plot`". *Die TEXnische Komödie*, 2/02:27–34, 2002.

This article describes the use of the plotting macros of pst-plot from the PSTricks package bundle. It gives examples for plotting mathematical functions and external data files that can be read by a special macro.

[61] Richard Jackson, Lindsay MacDonald, and Ken Freeman. Computer Generated Color: A Practical Guide to Presentation and Display. Wiley, New York, 1994.

This book offers practical advice on how to use color effectively for presentation on computer screens and for printing on paper.

[62] François Jalbert. "MuTEX user's guide", 1989.

MuTEX, based on work for their Master's Thesis by Andrea Steinbach and Angelika Schofer, is a set of macros allowing TEX to typeset beautiful music. http://icking-music-archive.org/software/mutex/

[63] Christophe Jorssen and Herbert Voß. The `pst-circ` - package, 2004.

pst-circ is a package built above PSTricks and, in particular, pst-node. It can easily draw current dipoles, some tripoles, and quadrupoles used in elecronic or electric theory.

On CTAN at: `graphics/pstricks/contrib/pst-circ/`

[64] Christophe Jorssen. `pst-math` - a PSTricks package for mathematical function, 2004.

PostScript lacks a lot of basic operators. pst-math provides all the operators in a PostScript-header file. In addition, sinc, gauss, gammaln, and bessel are implemented (only partially for the latter). pst-math is designed essentially to work with pst-plot but can be used in whatever PostScript code.

On CTAN at: `graphics/pstricks/contrib/pst-math/`

[65] Deane B. Judd and Günter Wyszecki. Color in Business, Science, and Industry, Second Edition. Wiley, New York, 1963.

The perception of color permeates our daily lives. The color of soil, vegetables, fruit, meat, textiles, minerals, the sky, or a human face, informs us about their value or state. Color management is an essential tool to effectively control all aspects of color in the commercial process.

[66] David Kastrup. `preview-latex`, 2003.

`preview-latex` allows appropriately selected parts of a LATEX document to be formatted and displayed within your Emacs editor, allowing you to view what it looks like while still allowing you to edit it.

On CTAN at: `support/preview-latex/`

[67] Brian Kernighan. "PIC — a graphics language for typesetting". Computing Science Technical Report 116, AT&T Bell Laboratories, Murray Hill, NJ, 1984.

Pic is a language for drawing simple figures on a typesetter. The basic objects in pic are boxes, ellipses, lines, arrows, arcs, spline curves, and text. These may be placed anywhere, at positions specified absolutely or in terms of previous objects. Pic is a troff preprocessor.
Document available electronically as: http://cm.bell-labs.com/cm/cs/cstr/116.ps.gz

[68] Uwe Kern. Color extensions with the `xcolor` package, 2006.
Provides easy driver-independent access to several kinds of color tints, shades, tones, and mixes of arbitrary colors. It allows a user to select a document-wide target color model and offers complete tools for conversion between eight color models. Additionally, there is a command for alternating row colors and repeated non-aligned material (like horizontal lines) in tables. On CTAN at: `macros/latex/contrib/xcolor/`

[69] Jörg Knappen. "Changing the appearance of math". In Zlatuška [140], pp. 212–216.
Mathematical typesetting is based on many conventions, which can vary by country and by area of scientific activity. In particular American and European mathematics and physics journals often use different notations for identical items. The author presents his "European math" package, which makes it easy to adapt the notation needed for publishing in a given journal.

[70] Donald E. Knuth. The TEXbook, volume A of *Computers and Typesetting*. Addison-Wesley, Reading, MA, 1986.
This book is the definitive user's guide and complete reference manual for TEX.

[71] Donald E. Knuth. TEX: The Program, volume B of *Computers and Typesetting*. Addison-Wesley, Reading, MA, 1986.
This book contains the complete source code for the TEX program, typeset with several indices.

[72] Donald E. Knuth. The METAFONT Book, volume C of *Computers and Typesetting*. Addison-Wesley, Reading, MA, 1986.
This is the user's guide and reference manual for METAFONT, the companion program to TEX for designing fonts.

[73] Donald E. Knuth. METAFONT: The Program, volume D of *Computers and Typesetting*. Addison-Wesley, Reading, MA, 1986.
This book contains the complete source code listing of the METAFONT program.

[74] Donald E. Knuth. Computer Modern Typefaces, volume E of *Computers and Typesetting*. Addison-Wesley, Reading, MA, 1986.
This book depicts graphically more than 500 Greek and Roman letterforms, together with punctuation marks, numerals, and many mathematical symbols. The METAFONT code to generate each glyph is given and it is explained how, by changing the parameters in the METAFONT code, all characters in the Computer Modern family of typefaces can be obtained.

[75] Donald E. Knuth. "Fonts for digital halftones". *TUGboat*, 8(2):135–160, 1987.
This article explains how small pictures can be "typeset" on raster devices in a way that simulates the screens used to print fine books on photography. This article describes an experiment with METAFONT to generate halftone fonts to create such pictures on laser printers.
`http://www.tug.org/TUGboat/Articles/tb08-2/tb18knut.pdf`

[76] Helmut Kopka and Patrick W. Daly. Guide to LATEX, Fourth Edition. Addison-Wesley, Reading, MA, 2004.
This introductory book, which shows how to begin using LATEX to create high-quality documents, serves also as a handy reference for all LATEX users. The book covers the LATEX 2_ε standard and provides many details, examples, exercises, tips, and tricks. It goes beyond the base installation by describing important contributed packages that have become essential to LATEX processing. This book can be advantageously complemented by *The LATEX Companion* [83].

[77] Gerard Kunkel. Graphic Design with PostScript. Scott, Foresman, Glenview, IL, 1990.
This book is a hands-on guide to using PostScript containing complete coded examples for many practically relevant applications, including (pseudo) 3-D effects for graphs, etc.

[78] Leslie Lamport. LATEX: A Document Preparation System, Second Edition. Addison-Wesley, Reading, MA, 1994.
This book is the definitive user's guide and reference manual for LATEX 2_ε written by LATEX's original author.

[79] Michael J. S. Levine. "A LaTeX graphics routine for drawing feynman diagrams". *Computer Physics Communications*, 58:181–198, 1990.

This article describes a package that uses LaTeX's `picture` environment for drawing Feynman diagrams. The package and its manual are available On CTAN at: `macros/latex209/contrib/feynman`

[80] Manuel Luque. The `pst-vue3d` - package, 2004.

Three-dimensional objects like cubes, spheres, and others can be viewed from different points. The distribution includes a comprehensive set of examples of usage.

On CTAN at: `graphics/pstricks/contrib/pst-vue3d/`

[81] M. P. Maclenan and G. M. Burns. "An approach to drawing circuit diagrams for text books". *TUGboat*, 12(1):66–69, 1991.

This article describes a library of pictograms, which are defined using macros embodied in PiCTeX. These pictograms are used to create applications that enable high-definition circuit diagrams to be easily included in TeX documents. `http://www.tug.org/TUGboat/Articles/tb12-1/tb31maclenan.pdf`

[82] Henry McGilton and Mary Campione. PostScript by Example. Addison-Wesley, Reading, MA, 1992.

This book first introduces the basic concepts of PostScript language (paths, graphic states, text, clipping, transformations, arcs, curves, and images). It then presents a set of tools to construct fonts, patterns, forms, and manage your printing environment. PostScript Level 2 issues such as patterns, forms, images, composite fonts, halftones, and color models are covered. With its many hands-on exercises and step-by-step instructions, this book becomes a genuine toolkit, for building effective PostScript programs.

[83] Frank Mittelbach, Michel Goossens, Johannes Braams, David Carlisle, and Chris Rowley. The LaTeX Companion, Second Edition. Addison-Wesley, Reading, MA, 2004.

This book describes over 200 LaTeX packages and presents a whole series of tips and tricks for using LaTeX in both traditional and modern typesetting, in particular how to customize layout features to your own needs—from phrases and paragraphs to headings, lists, and pages. It provides expert advice on using LaTeX's basic formatting tools to create all types of publication, from memos to encyclopedias. It covers in depth important extension packages for tabular and technical typesetting, floats and captions, multi-column layouts, including reference guides and discussion of the underlying typographic concepts. It details techniques for generating and typesetting indexes, glossaries, and bibliographies, with their associated citations.

[84] Alun Moon. "Digital Illumination". *TUGboat*, 24(1):18–22, 2003.

This article explains how Donald Knuth's programs TeX and METAFONT (METAPOST) have made digital typography and calligraphy a reality. The author, an amateur calligrapher in Celtic artwork, explores how these tools can be used for digital illumination. He shows some nice examples of knotwork and keypatterns that he was able to draw. `http://www.tug.org/TUGboat/Articles/tb24-1/moon-celtic.pdf`

[85] Jens-Uwe Morawski. piechartMP: Drawing pie-charts with MetaPost, 2002.

This is the manual for the `piechartMP` METAPOST package.

On CTAN at: `graphics/metapost/contrib/macros/piechartmp`

[86] Santiago Muelas. "A macro routine for writing text along a path in MetaPost". *MAPS*, pp. 103–113, 2000.

This article describes a general macro written in pure METAPOST for putting any text using any font over any path. The routine is explained in detail and some graphics examples are given.

`http://www.ntg.nl/maps/pdf/25_14.pdf`

On CTAN at: `graphics/metapost/contrib/macros/txp`

[87] Antal Nemcsics. Colour Dynamics: Environmental Colour Design. Prentice Hall, New York, 1993.

The book defines color dynamics and their effects on the environment. After explaining the fundamentals of chromatics (color spaces, color vision, color harmony) the psychosomatic effects of color, such as the relation between color and space, color and function, and color and illumination, are discussed.

[88] Rolf Niepraschk. "Anwendungen des LaTeX-pakets preview". *Die TeXnische Komödie*, 1/2003:60–65, 2003.

This article describes how PostScript-related code can be integrated into sources, which will be compiled with pdfLaTeX.

[89] Jan Nieuwenhuizen and Han-Wen Nienhuys. "MusiXTEX pre-processor—using TEX and the MusiXTEX macro package to write parts and scores of music", 1996.
Deprecated package, replaced by LilyPond. http://icking-music-archive.org/software/mpp/

[90] A. C. Norris and A. L. Oakley. "Electronic publishing and chemical text processing". In Clark [18], pp. 207–225.
This article describes strategies to combine high-quality computer-based scientific typesetting of chemical structures with low cost. Results are reported of how to interface an interactive chemical editor with PostScript and TEX.

[91] Thorsten Ohl. "Drawing feynman diagrams with LATEX and METAFONT". *Computer Physics Communications*, 90:340–354, 1995.
This article describes FeynMF, a package for easy drawing of professional-quality Feynman diagrams with METAFONT (or METAPOST). Most diagrams are drawn satisfactorily from the structure of the graph without need for manual intervention. Nevertheless all the power of METAFONT (or METAPOST) is available for the more complicated cases or for fine tuning the layout.
http://www.cpc.cs.qub.ac.uk/summaries/ADCD_v1_0.html

[92] Thorsten Ohl. "feynMF, Drawing Feynman Diagrams with LATEX and METAFONT", 1996.
Some information is available at the URL `http://xml.cern.ch/textproc/feynmf.html`.
On CTAN at: macros/latex/contrib/feynmf

[93] Premshree Pillai. `infix-postfix.py`, 2003.
This package provides a solution with Python for an Infix–Postfix converter.
http://aspn.activestate.com/ASPN/Cookbook/Python/Recipe/228915

[94] Sunil Podar. "Enhancements to the picture environment of LATEX". Technical Report 86-17, Dept. of Computer Science, State University of New York, Stony Brook, NY, 1986.
This report describes the epic macros, which extend the capabilities of LATEX picture without requiring new facilities. On CTAN at: macros/latex/contrib/epic/picman.tex

[95] Sebastian Rahtz. "The Protestant Cemetery, Rome". *Opuscula Romana*, 16:149–167, 1987.
This article discusses a study undertaken under the auspices of the Unione Internazionale degli Istituti di Archeologia, Storia e Storia dell'Arte in Roma.

[96] Michael Ramek. "Chemical structure formulae and x/y diagrams with TEX". In Clark [18], pp. 227–258.
Macros are presented to easily generate chemical structure formulae and x/y diagrams. Plain TEX and a DVI driver that can handle rules are sufficient to generate the graphics output.

[97] Denis Roegel. "Creating 3D animations with METAPOST". *TUGboat*, 18(4):274–283, 1997.
This article describes the METAPOST 3d package for representing and animating objects in space.
http://www.tug.org/TUGboat/Articles/tb18-4/tb57roeg.pdf
On CTAN at: graphics/metapost/contrib/macros/3d

[98] Denis Roegel. "METAPOST, l'intelligence graphique". *Cahiers GUTenberg*, 41:5–16, 2001.
This article, in French, explains the advantages of a text-oriented approach to graphics, as provided by the METAPOST language.
http://www.gutenberg.eu.org/pub/GUTenberg/publicationsPDF/41-roegel.pdf

[99] Denis Roegel. "Space geometry with METAPOST". *TUGboat*, 22(4):298–314, 2001.
This article describes the author's package for drawing space geometry figures in METAPOST.
http://www.tug.org/TUGboat/Articles/tb22-4/tb72roeg.pdf

[100] Denis Roegel. "METAOBJ: Very high-level objects in METAPOST". *TUGboat*, 23(1):93–100, 2002.
This article summarizes the main features of METAOBJ, a METAPOST package for manipulating graphics in a structured way. http://www.tug.org/TUGboat/Articles/tb23-1/roegel.pdf
On CTAN at: graphics/metapost/contrib/macros/metaobj

[101] Denis Roegel. "Kissing Circles: A French Romance in METAPOST". *TUGboat*, 26(1):10–17, 2005.
This article describes METAPOST macros for drawing the Apollonian gasket, a well known fractal.
http://www.tug.org/TUGboat/Articles/tb26-1/tb82roegel.pdf

[102] Denis Roegel. The METAOBJ tutorial and reference manual, 2007.
This is the METAOBJ manual, describing a METAPOST package for the manipulation of structured objects, boxes, trees, matrices, connections, etc.
On CTAN at: graphics/metapost/contrib/macros/metaobj

[103] Tom Rokicki. "Driver Support for Color in TEX: Proposal and Implementation". *TUGboat*, 15(3):205–212, 1994.
This article presents a new implementation of color support, with a proposal for an initial standard for color and color-like specials. Examples show the difficulties to be addressed when supporting color. An implementation of a driver providing a solution to these problems is described.
http://www.tug.org/TUGboat/Articles/tb15-3/tb44rokicki.pdf

[104] Kristoffer H. Rose and Ross Moore. "XY-pic reference manual. version 3.7", 1999.
This document describes in detail the capabilities of the XY-pic package for typesetting graphs and diagrams in TEX. The package works with most TEX formats, including plain TEX, LATEX, and $\mathcal{A}\mathcal{M}\mathcal{S}$-LATEX. Several styles of input for various diagram types are supported; they all share a mnemonic notation based on the logical composition of visual components. The electronic version of the manual is distributed with the package.
On CTAN at: macros/generic/diagrams/xypic/xy-3.7/doc/xyrefer.pdf

[105] Kristoffer H. Rose. "How to typeset pretty diagram arrows with TEX—design decisions used in XY-pic". In Zlatuška [140], pp. 183–190.
This article gives a non-technical overview of how to draw arrows with TEX, and in particular with the author's XY-pic system. The article shows how a large variety of arrows can be obtained by combining a few special fonts.

[106] Kristoffer H. Rose. "XY-pic user's guide. version 3.7", 1999.
XY-pic is a package for typesetting graphs and diagrams with TEX. This user guide concentrates on how to typeset matrix-like diagrams. The electronic version of the manual is distributed with the package.
On CTAN at: macros/generic/diagrams/xypic/xy-3.7/doc/xyguide.pdf

[107] Zalman Rubinstein. "Chess printing via METAFONT and TEX". *TUGboat*, 10(2):170–172, 1989.
This article presents a METAFONT-TEX system to enable printing chess positions with ease by incorporating them in arbitrary TEX output. The chess board is integrated with the chess pieces.
http://www.tug.org/TUGboat/Articles/tb10-2/tb24rubinstein.pdf

[108] Rod Salmon and Mel Slater. Computer Graphics — Systems & Concepts. Addison-Wesley Europe, Amsterdam, 1987.
A practical guide to the construction and implementation of computer graphics systems. The basic principles for building such systems for a range of 2-D and 3-D applications are explained. The Graphical Kernel System (GKS) is treated in detail and its characteristics are compared with those of other systems, including PostScript. Aspects of human–computer interaction, equipment, and systems design are discussed.

[109] Andreas Scherer. "Smoothing *augmented* paths in METAPOST". *TUGboat*, 20(2):142, 1999.
This article shows a slight change to the METAPOST graph package in order to produce smooth curves in graphs drawn from data. http://www.tug.org/TUGboat/Articles/tb20-2/tb63gibb.pdf

[110] Angelika Schofer and Andreas Steinbach. "Automatisierter Notensatz mit TEX". Technical report, Rheinische Friedrich-Wilhelms-Universität, Bonn, 1987.

This report, which combined and updated the content of the masters theses of both authors, demonstrated that music typesetting was possible. Their mutex package was rather limited, and is hardly ever used nowadays. However, it inspired Daniel Taupin, who took up the baton, and developed MusixTEX (see Ref. [116]).

On CTAN at: macros/mtex

[111] Claus Schönleber and Frank Klinkenberg-Haaß. "Goldene Schnittmuster". *mc-Extra*, 2:21–25, 1995.

This article covers metalic alloys, non-periodic tilings and Penrose-tilings.

[112] Don Simons. "PMX, a preprocessor for MusiXTEX. Version 0.92", 1995.

PMX facilitates typesetting music scores and parts that have an almost professional appearance. It is easier to learn than MusiXTEX, of which it is a preprocessor. PMX automatically takes care of grouping notes, selecting groups of notes to be beamed, defining beam heights and slopes, spreading the entire piece evenly over specified numbers of systems and pages, and inserting extra spaces where needed to make room for accidentals, flags, dots, and new clefs. Note values, rests, ornaments, slurs, and limited text strings can be specified. Every voice in every bar must have exactly the correct number of beats in the current meter, but you may change the meter at the beginning of any measure, with or without printing the new time signature. PMX checks the timings and other aspects of the input for consistency before generating its output. http://icking-music-archive.org/software/pmx/pmx250.pdf

[113] Ian Stewart. "Ungewöhnliche Kachelungen". *Spektrum der Wissenschaft*, p. 114, 2001.

This article explains how, starting with a very simple construction, one can get very complicated tilings and patterns. http://www.wissenschaft-online.de/spektrum/index.php?action=rubrik_detail&artikel_id=5811

[114] Sebastian Tannert and Andreas Tille. "The CIRC package", 2005.

This is a description of CIRC, a tool for typesetting circuit diagrams and block schematics. The package defines a large set of electrical symbols including resistors, capacitors, and transistors, which can be connected with wires in a very easy way. All symbols are drawn with METAFONT and the symbol set can be easily extended by the user. On CTAN at: macros/generic/diagrams/circ/circ.pdf

[115] Till Tantau. The Ti*k*Z and PGF Packages.

PGF is a TEX macro package for generating graphics. It is platform- and format-independent. It comes with a user-friendly syntax layer called Ti*k*Z. It is somewhat less powerful than PSTricks, which can use the full power of the PostScript language (e.g., for inline function plotting) and has a nice library of extra packages for specific application areas. However, it works together with most important TEX backend drivers, including pdftex (which is not directly possible with PSTricks) and dvips. Moreover, since it is a recent development, its syntax is somewhat more consistent that PSTricks'. The home page is at http://sourceforge.net/projects/pgf/. On CTAN at: graphics/pgf/doc/generic/pgf/version-for-pdftex/en/pgfmanual.pdf

[116] Daniel Taupin, Ross Mitchell, and Andreas Egler. "MusiXTEX, using TEX to write polyphonic or instrumental music, Version T.113", 2005.

MusiXTEX is a set of TEX macros to typeset orchestral or polyphonic music. This guide contains a technical and detailed description of all features of the system. The main author of MusiXTEX, Daniel Taupin, passed away in 2003. Two years later the MusiXTEX community decided to help keep his excellent work alive and current by assembling a new release (T.113), correcting various minor bugs, updating some references and providing dynamic links to archived versions where possible. No new functionality was introduced but a few additional packages were added to the basic distribution.

http://icking-music-archive.org/software/musixtex/musixdoc.pdf

[117] Daniel Taupin. "MusicTEX: using TEX to write polyphonic or instrumental music". In Zlatuška [140], pp. 257–272.

This article gives a short overview of MusicTEX, a set of (LA)TEX macros to nicely typeset polyphonic, instrumental, or orchestral music. Many voices or instrument lines, as well as up to four staffs per voice are supported. Several note sizes, most usual ornaments, and such features as grace notes and cadenzas are also available. It is explained that the major typesetting difficulty resides in the handling of glue and of breaking lines when meeting irregular music and slurs.

[118] Daniel Taupin. "MusicTEX: using TEX to write polyphonic or instrumental music". *TUGboat*, 14(3):203–211, 1993.

This article is a short introduction to MusicTEX, a set of TEX and LATEX macros to typeset polyphonic, instrumental or orchestral music. It handles an important number of instruments or voices (up to nine) and staffs (up to four for each instrument). Most usual ornaments are available, including several note sizes, grace notes, and cadenzas. Several staff sizes can coexist in the same score to combine full-size staffs with smaller "reminder" staffs. The LATEX version is not suited for producing full scores but it can be used to typeset music excerpts in musicographic texts. Special attention has to be given to glue and line breaking in the case of irregular music and slurs. http://www.tug.org/TUGboat/Articles/tb14-3/tb40musictex.pdf

[119] Daniel Taupin. "Using TEX and METAFONT to build complicated maps". *TUGboat*, 14(3):196–202, 1993.

The article descibes the procedure to publish a catalog of 1500 crags and climbable rocks in France. All relevant information, such as name, location, and importance, are stored in a large TEX master file. The marks and their associated text, as well as their optimal position are calculated from these data and are superimposed on a map generated in METAFONT.

http://www.tug.org/TUGboat/Articles/tb14-3/tb40taupin-maps.pdf

[120] Daniel Taupin. "MusiXTEX, even more beautiful than MusicTEX for music typesetting". In Wietse Dol, editor, "Proceedings of the 9th European TEX Conference, September 4–8 1995, Arnhem, The Netherlands", pp. 351–358. Nederlandstalige TEX Gebruikersgroep, 1995.

This article is a description of MusiXTEX as a new music typesetting package derived from MusicTEX. MusiXTEX is a three-pass system and produces more beautiful scores than MusicTEX, which was a one-pass system. The first pass performs a rough TEXing which reports the spacings of each music section, the second pass uses an external program to compute optimal note spacings, and the third pass lets TEX include this information to typeset the final score. This results in more visually attractive slurs and regularly spaced notes. http://www.ntg.nl/maps/pdf/E_23.pdf

[121] Daniel Taupin. "MusicTEX, using TEX to write polyphonic and instrumental music, Version 5.17", 1996.

This is a deprecated package. Use MusiXTEX instead. Old files are still available at the URL

http://icking-music-archive.org/software/musictex/

[122] Piet Tutelaers. "A font and a style for typesetting chess using LATEX or TEX". *TUGboat*, 13(1):85–90, 1992.

The author decribes how he built a 26-character chess font with METAFONT. The font consists of a chess board and separate sets of black and white chess pieces and empty squares. The TEX macros for typesetting chess using the font are described.

http://www.tug.org/TUGboat/Articles/tb13-1/tb34tutelaers.pdf

[123] Gabriel Valiente Feruglio. "Typesetting commutative diagrams". *TUGboat*, 15(4):466–484, 1994.

This article presents a review of macro packages for typesetting commutative diagrams, which are compared according to several criteria, such as capability to produce complex diagrams, ease of use, quality of the output diagrams, readability of the documentation, installation procedures, resource requirements, availability, and portability. The compatibility of the different macro packages is also analyzed.

http://www.tug.org/TUGboat/Articles/tb15-4/tb45vali.pdf

[124] Kees van der Laan. "Typesetting bridge via LATEX". *TUGboat*, 10(1):113–116, 1989.

Macros and a bidding environment for typesetting bridge card distributions and bidding sequences are described complemeted by examples borrowed from the bridge literature.

http://www.tug.org/TUGboat/Articles/tb10-1/tb23laan.pdf

[125] Kees van der Laan. "Tiling in PostScript and METAFONT — Escher's wink". *MAPS*, 19:39–67, 1997.

This article describes programs for various tilings, both in METAFONT and in PostScript.

http://www.ntg.nl/maps/pdf/19_12.pdf

[126] Timothy Van Zandt and Denis Girou. "Inside PSTricks". *TUGboat*, 15(3):239–246, 1994.

The macro-commands of the PSTricks package offer impressive additional capabilities to (LA)TEX users, by giving them direct access to much of the power of PostScript, including full support for color. The article describes the implementation of a few of the features of PSTricks (version 0.94).

http://www.tug.org/TUGboat/Articles/tb15-3/tb44tvz.pdf

[127] Timothy Van Zandt. "PSTricks user's guide", 1993.

This is the official PSTricks documentation. http://tug.org/PSTricks/doc/pst-usrfull.pdf

[128] Timothy Van Zandt. PSTricks - PostScript macros for Generic TEX, Documented Code, 1997.

PSTricks is a collection of PostScript macros that is compatible with most TEX macro packages, including Plain TEX and LATEX. Included are macros for color, graphics, rotation, and overlays. This is the documented code. There is also a *User's Guide* and a read-me file.

On CTAN at: graphics/pstricks/doc/code/pst-code.pdf

[129] Timothy Van Zandt. The multido package, 2004.

Fixed-point arithmetic is used when working on the loop variable, so that the package is equally applicable in graphics applications like PSTricks as it is with the more common integer loops.

On CTAN at: graphics/pstricks/base/generic/

[130] Boris Veytsman and Leila Akhmadeeva. "Drawing Medical Pedigree Trees with TEX and PSTricks". *The PracTEX Journal*, 2006(4).

The package provides a set of macros based on PSTricks to draw medical pedigrees according to the recommendations for standardized human pedigree nomenclature. The drawing commands place the symbols on a pspicture canvas. An interface for making trees is also provided.

http://tug.org/pracjourn/2006-4/veytsman

[131] Herbert Voß and Jana Voß. "The plot functions of pst-plot". *TUGboat*, 22-4:314–318, 2001.

Plotting of external data records is one of the standard problems of technical–industrial publications. Very often the data files are imported into gnuplot, provided with axes of coordinates and further references and finally exported to LATEX. This article explains ways to get proper data plotting without using external applications. http://www.tug.org/TUGboat/Articles/tb22-4/tb72vossplot.pdf

[132] Herbert Voß. "Three-dimensional plots with pst-3dplot". *TUGboat*, 22-4:319–329, 2001.

There exist several packages for plotting three-dimensional graphical objects. This article describes pst-3dplot, which is similiar to the pst-plot package for two dimensional objects, mathematical functions and datafiles. http://www.tug.org/TUGboat/Articles/tb22-4/tb72voss3d.pdf

[133] Herbert Voß. The pstricks-add - package, 2006.

This package collects together examples that have been posted to the PSTricks mailing list, together with some additional features for PSTricks . The package also includes additions and bugfixes for PSTricks, pst-plot, pst-node and pst-tree. On CTAN at: graphics/pstricks/contrib/pstricks-add/

[134] Herbert Voß. The pst-3dplot - package, 2006.

A package using PSTricks to draw a large variety of graphs and plots, including 3-D math functions. Data can be read from external data files, making this package a generic tool for graphing within TEX/LATEX without the need for external tools. On CTAN at: graphics/pstricks/contrib/pst-3dplot/

[135] Herbert Voß. PSTricks: Grafik für TEX und LATEX, Fourth Edition. DANTE – Lehmanns, Heidelberg/Hamburg, 2007.

This book explains all keywords and macros of the basic packages of the PSTricks bundle uing examples. A lot of the additional packages including pst-vue3d, pst-3dplot or pst-eucl, are also mentioned.

[136] Helene Wanske. "Notenproduktion im Umbruch. Gedanken zur gegenwärtigen und zukünftigen Musikalienherstellung". In Hans-Joachim Koppitz, editor, "Gutenberg-Jahrbuch 1990", pp. 237–243. Gutenberg-Gesellschaft, Internationale Vereinigung für Geschichte und Gegenwart der Druckkunst e.V., Mainz, Germany, 1990.

[137] Jan V. White. Color for the Electronic Age. Watson-Guptil Publications, New York, 1990.

This book is about the functional use of color in charts, graphs, typography, and pictures. It shows how color can be used as a practical and efficient tool to focus attention, explain relationships, and analyze data; how color helps the reader comprehend information faster; and how it can establish identity by associating a certain color with a given element thus easing recognition and turning information into knowledge. Colors can have psychological and emotional effects, carry cultural connotations, and must thus be used with great care. With the help of hundreds of "right" and "wrong" examples the author shows practically and clearly what works and what does not in many of the important areas of written communication.
Useful rules about color patterns can also be found on the Web in Susan Fowler's "Color and patterns" (`http://www.fast-consulting.com/color/cp_toc.htm`), Jan White's "Full color" (`http://www.insideoutdesign.com/full_color.pdf`), Ann L. Wiley's "Effective color" (`http://www.tec.ufl.edu/~kdtn/effcol.pdf`), or Aries Arditi's "Effective color contrast" (`http://www.lighthouse.org/color_contrast.htm`).

[138] Michael J. Wichura. The PICTEX Manual. Number 6 in TEXniques: publications for the TEX community. TEX Users Group, Providence, RI, 1987.

This book describes the PICTEX language. The syntax of each command is fully detailed. With the help of many examples it is explained how to setup a graph, draw rules, lines, curves, dots and dashes, and generate shadings. Inclusion of PICTEX pictures in a page, the rotation of images, and how to use LATEX and PICTEX together are described. The level of reader understanding can be tested with the help of several dozen exercises, whose answers are included in an appendix.

[139] Michael J. Wichura. "Macros for drawing PiCtures". *TUGboat*, 9(2):193–197, 1988.

This article is a short overview of PICTEX, a collection of TEX macros that let TEX users easily instruct TEX to typeset beautiful pictures, and in particular mathematical figures, as a part of their books.
`http://www.tug.org/TUGboat/Articles/tb09-2/tb21wichura-pictex.pdf`

[140] Jiřík Zlatuška, editor. EuroTEX '92: Proceedings of the 7th European TEX Conference, Prague, Czechoslovakia, September 14–18, 1992. Masarykova Universita, Brno, 1992.

Indexes

The index has been split into five parts. We start with a general index that covers all entries apart from those of the three large graphics languages, METAPOST, PSTricks, and Xy-pic, that are described in chapters 3, 5, and 7 respectively. These three languages each have their own separate index, in order to do justice to the specific terms they use to denote their native constructs. This also helps the reader to avoid mistakenly finding a solution offered by one language when creating a graphic in one of the other languages. Important general concepts are additionally cross-referenced from the general index. We end with an index of authors.

To make the indexes easier to use, the entries are distinguished by their "type", and this is often indicated by one of the following "type words" at the beginning of the main entry or a sub-entry:

> boolean, counter, document class, env., file, file extension, font, key, key value, option, package, program, rigid length, or syntax.

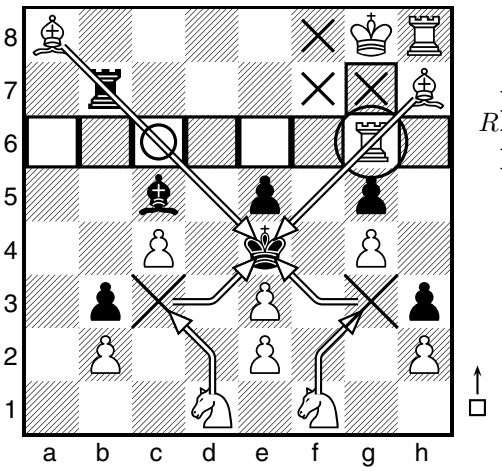
The absence of an explicit "type word" means that the "type" is either a LaTeX "command" or simply a "concept".

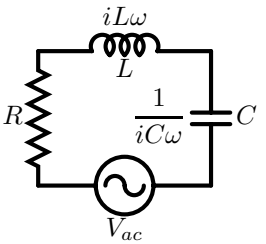
Use by, or in connection with, a particular package is indicated by adding the package name (in parentheses) to an entry or sub-entry. There is one "virtual" package name, tlgc, that indicates commands introduced only for illustrative purposes in this book.

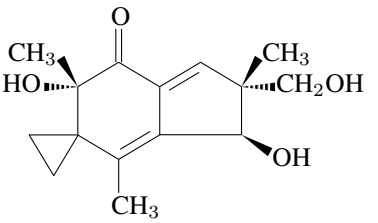
A *blue italic* page number indicates that the command or concept is demonstrated in an example on that page.

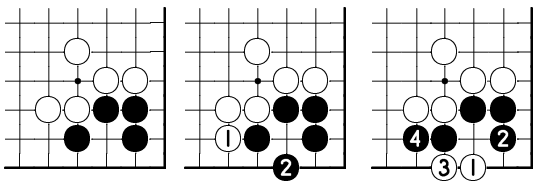
When there are several page numbers listed, **bold** face indicates a page containing important information about an entry, such as a definition or basic usage.

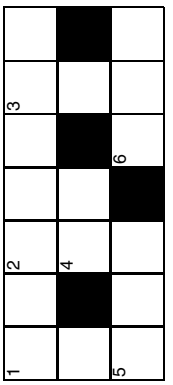
When looking for the position of an entry in the index, you need to realize that, when they come at the start of a command or file extension, both the characters \ and . are ignored. All symbols come before all letters and everything that starts with the @ character will appear immediately before A.

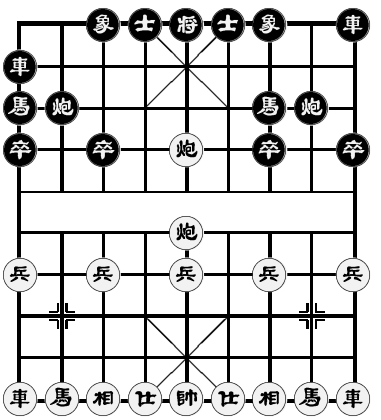


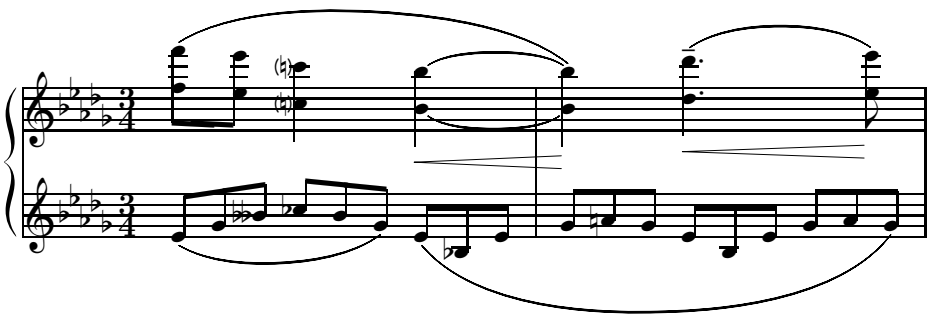


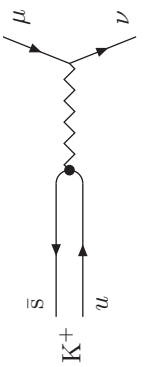












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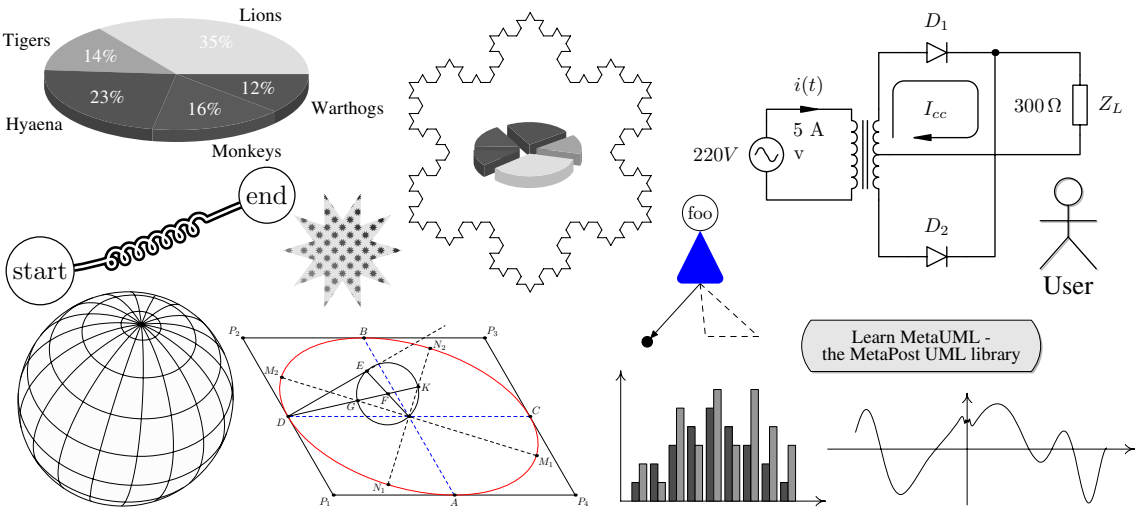

METAFONT and METAPOST

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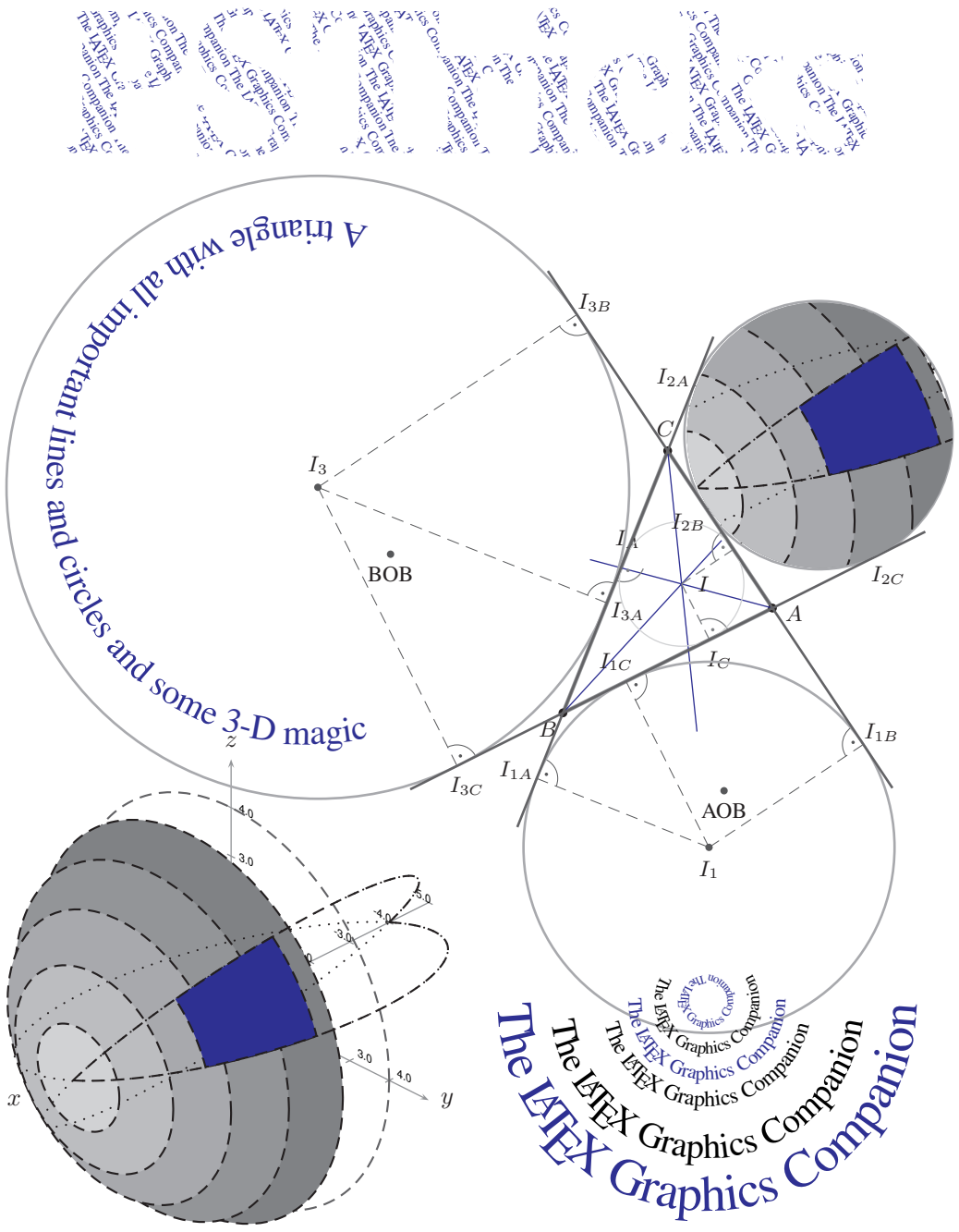
A triangle with all important lines and circles and some 3-D magic
I_{3B}
I_{2A}
C
I_3
I_{2B}
I_A
BOB
I
I_{2C}
I_{3A}
A
I_{1C}
I_C
B
I_{1B}
I_{1A}
I_{3C}
AOB
I_1
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x
y
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3.0
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-4.0
-5.0
The LaTeX Graphics Companion

PSTricks

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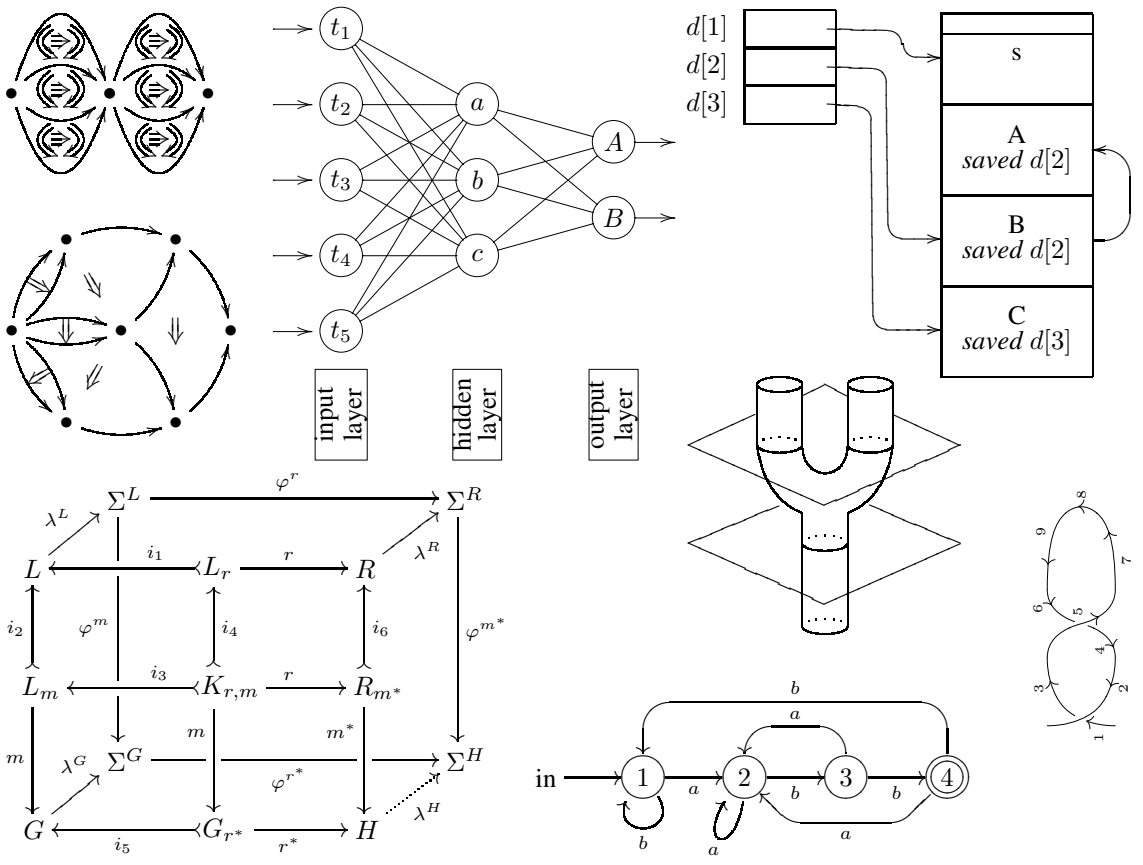

Xy-pic

Symbols

People