

Additions and Corrections

Toward the Photostability Mechanism of Intramolecular Hydrogen Bond Systems. The Photophysics of 1'-Hydroxy-2'-acetonaphthone [*J. Am. Chem. Soc.* 1993, 115, 4321-4325].

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Page 4321, line 6 of the abstract: The sentence should read: Despite the fact that the compound seemingly undergoes no proton phototransfer, it is more photostable than 2-(2'-hydroxy-5'-methylphenyl)benzotriazole itself ...

Computer Software Reviews

Classic Textures. Version 1.5. Blue Sky Research: 534 SW Third Avenue, Portland, Oregon 97204-9886. List price \$695.00 educational price \$495.00. Requirements: Macintosh System 6.0.4 or later; Adobe Type Manager 2.0 or later (2.0.2 for System 7); hard drive with 5 megabytes available storage; 2 megabytes RAM (4 MB recommended).

Classic Textures is a full featured implementation of Donald Knuth's T_EX typesetting program for the Apple Macintosh. It allows professional quality desktop publishing of any type of document but is particularly suited to documents making extensive use of mathematical expression. In Textures, the document editing and typesetting operations may be carried out either sequentially as with most T_EX systems or simultaneously through the use of Textures' unique "Flash Mode". This feature greatly streamlines the process of document creation and is not offered by any other implementation of T_EX of which I am aware.

A note of explanation for the uninitiated: T_EX is a software system which produces typeset documents from a plain text file with embedded typesetting commands. As such, it does not allow the free-form approach to document formatting of most modern word processors, instead granting the author the freedom to concentrate on the content of a document without expending a great deal of effort on its printed appearance. For example, the text

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\begin{displaymath}
\int_{\Omega} \{\Omega\} \{ \nabla \cdot F \} dV =
\int_{\Omega} \{\Delta \Omega\} \{ F \cdot n \} dS
\end{displaymath}
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produces

$$\int_{\Omega} (\nabla \cdot F) dV = \int_{\partial\Omega} (F \cdot n) dS.$$

T_EX is remarkably flexible, having been used in the past for everything from Feynman diagrams to typesetting of music; it however demands a great initial investment in the learning of its syntax. Blue Sky Research thoughtfully includes copies of the L^AT_EX user's guide by Leslie Lamport and "The T_EXbook" by Donald Knuth in the Classic Textures package. Novice users may wish to supplement these with one of the many excellent tutorial books on T_EX available today.

Each document in Textures has three windows associated with it: the text window in which the source file is composed, the Typeset window in which the typeset document is displayed, and the Picture window in which pictures may be stored for insertion into the document using T_EX's \special command. When Flash mode is engaged, a small traffic light in the text window indicates the progress of typesetting. The lights are however inverted with green on top, which takes some getting used to on a monochrome monitor. In the Typeset window, the user may view the typeset document at a variety of magnifications. Holding down the mouse button in the Typeset window zooms in on a small section of the page while keeping the remainder at its current magnification. Pictures must be created by software external to Textures and pasted into a document's Picture window in order to be accessible by the document. The Picture window displays these pictures and shows their size in inches, millimeters, or picas according to the user's preference.

Installation of Classic Textures from the supplied floppy disks was straightforward, though no installer program was included with the version reviewed. According to the technical staff of Blue Sky Research, more recent versions of Textures are supplied with Apple's Installer program, which if this reviewer's experience with Installer is any indicator should make installation nearly effortless. Because Textures is supplied with 75 Computer Modern PostScript fonts, users with many existing fonts will wish to consider adding a font management utility such as Adobe Type

Reunion or Suitcase II. If no font management utility is used, fonts must be installed in the System file rather than left in their suitcases, which may present problems for applications such as word processors which build font menus. The PK font formats familiar to T_EX users on other systems must be converted in order to be used with Textures; Blue Sky Research offers free conversion utilities for this purpose. Textures is capable of typesetting with any of the Adobe PostScript fonts built into the LaserWriter Plus or II NTX printers, so the user who dislikes Computer Modern fonts has plenty of alternatives. Textures does not by default store typeset documents in the device-independent DVI format; however, it is capable of saving typeset documents separately in DVI or Adobe Illustrator format. A desk accessory is also included which produces DVI files from Textures documents for export to other systems; it can also import DVI files for viewing in Textures, although Textures, like any T_EX package, does not support direct editing of DVI files.

Using Textures is a real pleasure compared to most T_EX implementations, although a few features could be improved. The text editor is adequate; the standard Macintosh text editing operations are complemented by selectable word wrapping and indentation, but the menu and command key facilities for T_EX commands which distinguish some competing editors are conspicuous by their absence here. Another feature on my wish list is online help with T_EX and L^AT_EX commands, which would be much more expedient than the traditional approach of hunting through the manuals for each needed bit of esoterica. What Textures lacks in ease of editing is more than made up for in speed of typesetting; Blue Sky has worked hard to optimize T_EX for the Macintosh, and the results in speed are quite impressive. I tried Textures on a Mac SE/30 and found the speed to be quite reasonable albeit no match for a RISC workstation. I also tried Textures on a Mac Quadra 700 and was astonished to find that it could typeset a document almost as fast as I could type! Finally, the DVITool desk accessory does a fine job of importing and exporting DVI files; I imported a small DVI file which displayed perfectly in Textures and later exported a different DVI file created by Textures to a Sparcstation 1+, where it was converted to PostScript format and laser printed without incident. Textures itself was also observed to export DVI files flawlessly using its built in capability.

Several shareware implementations of T_EX for the Macintosh are available, of which the most widely used is OzT_EX, which can be had for a \$30.00 fee (\$150.00 for organizations). OzT_EX is much less expensive than Textures and can use standard PK and DVI files but lacks the performance and tightly integrated typesetting available in Textures.

Classic Textures is an excellent package for scientific desktop publishing on the Macintosh. Though challenging for beginners (as any T_EX implementation is), it offers sprightly typesetting performance and a tightly integrated package which the experienced user will appreciate. With a more complete text editor, this package will be just about perfect.

Epilogue: I was able to inspect a beta version of Textures version 1.6, which is in production release as this goes to press. I am pleased to report that the text editor is much improved. Word wrapping of text files can now be disabled by simply indenting a line of text with white space. This is useful for mathematics or T_EX code, which is often sensitive to line structure. In addition, the editor now supports a user-defined macros menu, which can insert often used commands in a document upon selection of the corresponding menu item. This is far more convenient than typing commands in by hand or searching through manuals to check a command's syntax. Finally, Textures now supports virtual fonts, which make it possible to create substitutions for those fonts which might be present on an output device but not on the computer. For example, if you want to send output to an APS typesetter using the Univers font but need to preview on a laser printer using Helvetica and on screen using cms10,