



INTRODUCTION TO GRAPHIC COMMUNICATIONS Section No. **OPEN TYPE PROMISES A NEW ERA IN TYPOGRAPHY** **219**

Past enemies Microsoft and Adobe have joined forces with OpenType, a new font format with rich typographic capabilities. We users are beginning to reap the benefits.

By Edward Mendelson

In desktop publishing, some of you may remember when the Apple/Microsoft TrueType font format leapt onto the scene to challenge the entrenched Adobe PostScript Type 1 format. The subsequent battles that raged left many creative professionals bloodied. Today OpenType proves once again that peace is better than war.

OpenType is the umbrella name for an initiative launched by Adobe and Microsoft as a way of ending the "font wars" of the mid-1990s. Thanks to OpenType and related initiatives, users will be freed from worries over conflicting formats. As a bonus, we'll also get easy access to advanced typographic features such as small capitals, old-style ("lower-case") numerals, ligatures, and swash capitals.

Font Fury

You'll have a much better appreciation for OpenType and what it represents if you know the history behind it. The font wars erupted when Adobe's PostScript Type 1 format was challenged by the rival TrueType format, in turn created by Apple and militantly endorsed and defended by Microsoft. Adobe kept the Type 1 specification secret, and the only available Type 1 fonts were high-priced typefaces produced by Adobe and its licensees. (Third-party fonts used the less-sophisticated Type 3 format, which did not include "hints" for improving display and printing in small sizes.) Apple and Microsoft, in contrast, published the TrueType specification from the start, and flooded the market with inexpensive fonts. Adobe opened the Type 1 format to third-party developers in response, but because TrueType was the native format of both Windows and the Macintosh OS, Type 1 had to coexist on the same computers with TrueType, and endless troubles arose when a document created with one format was sent to a service bureau that used the other.

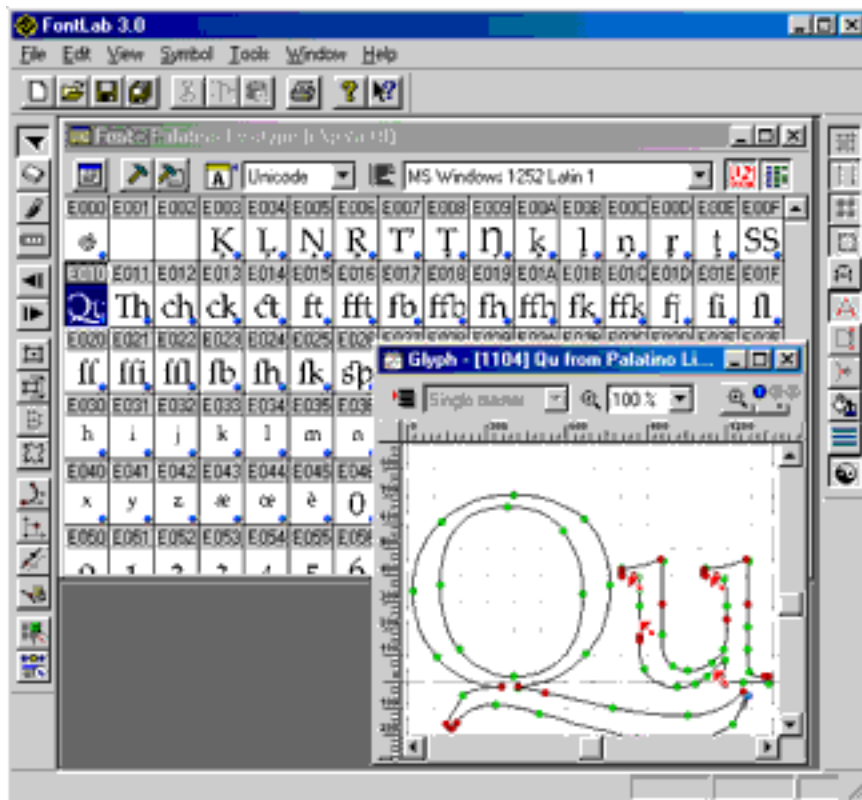
Both Microsoft and Adobe had strong incentives to make peace. Designers remained loyal to the Type 1 format, and Microsoft wanted to attract designers to Windows. Inexpensive TrueType had decimated the market for Type 1 fonts, and Adobe wanted to make the Type 1 format easier for ordinary users to work with. The result of these converging interests was the OpenType initiative.

Font Detente

Adobe and Microsoft's initial goal with OpenType was to create a format that would let Windows users work with Type 1 font data without installing special software. But the two firms took the opportunity to extend their existing formats to add advanced typographic features missing from earlier versions. An application that supports OpenType would be able to support ligatures, true small capitals, and similar features built into a single OpenType font, instead of making users struggle to insert these features from different fonts that might or might not make it all the way to the service bureau. (Apple's proprietary TrueType GX format offered similar typographic features, but because it was a closed standard, it was never widely supported in applications, and Apple seemed to lose interest in supporting it in the Macintosh OS.)

OpenType was announced in 1997 but is only now beginning to see the light of day, in Adobe InDesign and Microsoft's Windows 2000 Professional. InDesign for either the Macintosh or PC comes with four weights of Tekton Pro. Microsoft's new operating system comes with four weights of Linotype Palatino, each with more than 1,800 characters in the font, including small capitals, old-style numerals, Greek and Cyrillic characters, and an amazing set of ligatures including the German "ch" ligature and such rarities as "fj" and "fft." It also includes letter pairs like "Qu" with the tail of the Q extending beneath the u -- a refinement rarely seen since the hot-metal era. When OpenType support is more mature, a setting in a desktop-publishing program will automatically replace the separate letters "Qu" with the letter pair in the font, and allow designers to choose between old-style and lining numerals with a single click.

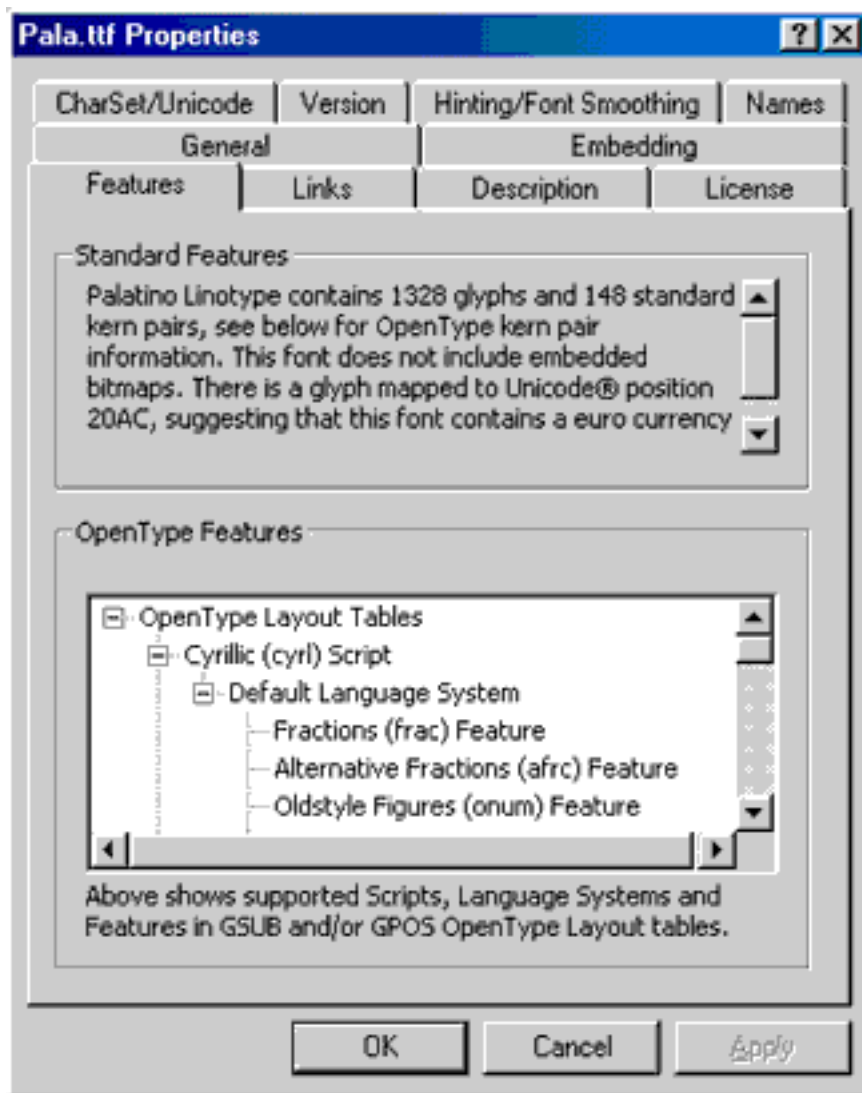
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The OpenType version of Linotype Palatino (seen here in the FontLab font editor) includes a typographic cornucopia of ligatures and other combined letters

Windows 2000 Pro also marks the end of the font wars by including equal support for TrueType and Type 1 fonts, though Microsoft has said little about this change. When you install Type 1 fonts in Windows 2000, they appear on the font menus of all applications and print from all applications. Earlier Windows versions required the Adobe Type Manager (ATM) add-on if you wanted to see Type 1 fonts on screen and print them to non-PostScript printers, and ATM slowed down the system and made it more complex. Windows 2000 makes ATM unnecessary unless you want to manipulate Adobe's Multiple Master fonts or use ATM's font management features.

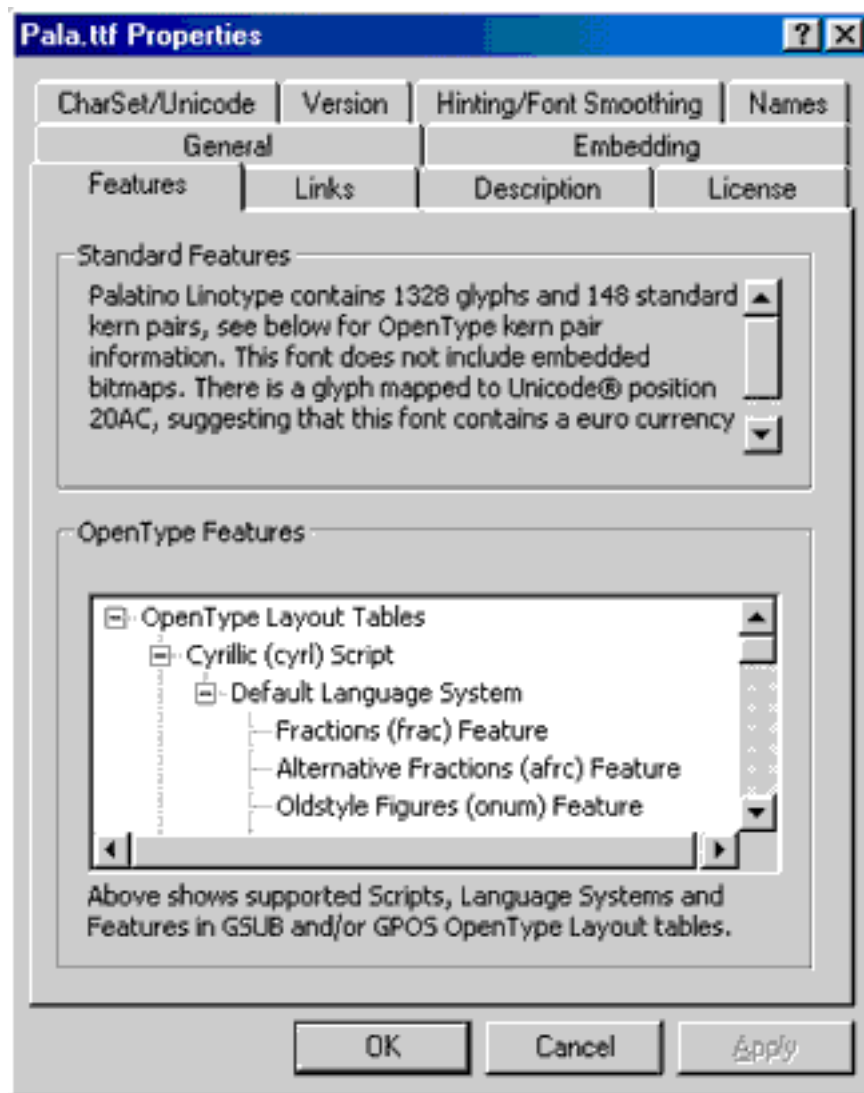
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Microsoft's TrueType Properties Extension displays OpenType features when you right-click on a font.

The new-found parity between Type 1 and TrueType fonts goes one step beyond Microsoft's almost unnoticed font revolution in Windows NT 4.0, which offered the option of converting Type 1 fonts into TrueType fonts when you installed a Type 1 file. Microsoft seems never to have said anything in public about its Type 1-to-TrueType converter, but font experts were quick to observe that it did a better job of conversion than anything else on the market, although converted Type 1 fonts were sometimes one pixel thinner in their converted versions than in their original form. The same font-rendering technology used in the Windows NT converter seems to be used on-the-fly in Windows 2000 Pro: The Windows 2000 font renderer sometimes makes Type 1 fonts look one pixel thinner than they look when displayed with Adobe Type Manager.

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Windows 2000 includes equal support for Type 1 and TrueType font formats.

Adobe InDesign Brings OpenType to the Desktop

As mentioned above, OpenType is a new font format that promises to bring creative professionals the best of all possible typographic worlds. Not only does it bridge the technical gap between PostScript and TrueType, it also resurrects design elegance through its built-in support for ligatures, through the precise control it allows over baseline and horizontal positioning, and through a few other advanced features we haven't been able to use since the days when typesetters scraped metal type with a file to make it fit exactly as they wished.

But as we learned with Apple's TrueType GX, font formats have come and gone. Unless there is widespread support on behalf of application vendors, OpenType could meet the same fate. What gives OpenType a fighting chance is the backing of two industry heavyweights: Adobe and Microsoft.

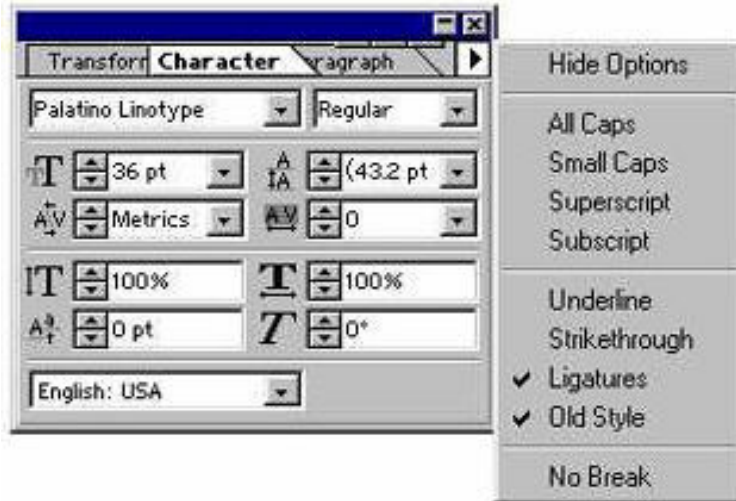
Microsoft has been the main benefactor of OpenType since it was first announced in 1997. Adobe, which developed the spec along with Microsoft, now supports OpenType with its InDesign 1.5 page-layout program.

Recently, I had a chance to work with OpenType fonts in InDesign. At this juncture, InDesign's OpenType support is relatively primitive, but it gives a glimpse of what may be coming in the future. Adobe is offering a free tryout of InDesign 1.5, but remember you'll also need OpenType fonts -- that is, fonts specifically written for that format, such as the Tekton Pro font that ships with InDesign 1.5

In Character

OpenType fonts can contain the full range of advanced typographic variations, such as true small capitals, old-style ("lower-case") numerals, ligatures, alternative characters, and combined characters

such as "Qu" with the tail of the Q extending beneath the u. An application (such as InDesign) that supports OpenType can automatically insert substitute characters such as small capitals instead of the standard characters when the user selects an option in the application. InDesign 1.5 supports only a subset of the potential features of OpenType fonts, but for the time being it's the only application for graphic designers that supports OpenType at all (although Adobe Type Manager 4.1 and Windows 2000 also provide OpenType support).



InDesign 1.5's character palette includes options such as Old Style that work only if OpenType fonts are installed.

When you format text in InDesign you use the Character Palette to select fonts, sizes, tracking, and other basic typographic features. The right-pointing arrow near the upper right of the palette brings up a menu with three options that use OpenType features if available: Small Caps, Old Style, and Ligatures. If the current font is an OpenType font that includes true small caps, old-style ("lower-case") numerals, or ligatures, these options tell InDesign to use those characters instead of the font's ordinary characters. If you tell InDesign to use ligatures, a word like "office" will appear on screen and paper with an "ffi" ligature instead of three separate letters, but you edit the word as if it contained separate letters, not a special character. Plus, the spell-checker recognizes the correct spelling of the word instead of stumbling over the ligature. Without an OpenType font, the only way a user could use small capitals or old-style numerals is by manually selecting a separate font that contained those characters, or by manually formatting numbers to use one of Adobe's "expert set" fonts that contain typographic characters not found in the normal fonts.

Macintosh PostScript fonts, of course, include the "fi" and "fl" ligatures, and InDesign can automatically substitute those ligatures without requiring OpenType. But OpenType fonts promise a much wider range of ligatures. For instance, the Linotype Palatino that ships with Windows 2000 includes rarely found ligatures such as "fj" and "ffk." InDesign uses these ligatures effortlessly, but it doesn't use ligatures that are marked in an OpenType font as "discretionary," and as yet there is no way to specify that a font's "discretionary" ligatures should be used. For example, the "ck" and "ch" ligatures common in German typography are present in Linotype Palatino, but they are marked as discretionary, so InDesign doesn't use them, even when you mark the text language as German. The f-ligatures, in contrast, are marked as required ligatures, so InDesign automatically uses them when its ligature option has been enabled.

Slow Start

Unfortunately, the only OpenType fonts currently available that include typographic niceties such as ligatures and old-style numerals are Tekton Pro, which ships with InDesign, and Microsoft's Linotype Palatino. Unless you're willing to use these two over-familiar faces, OpenType will still seem more a promise than a reality. Furthermore, if you choose the OpenType-based options in InDesign without using an OpenType font, InDesign will generate fake small capitals by reducing the point size of the true capitals, and these will inevitably look clumsy and spindly. And if you do use an OpenType font, make sure to embed it in documents you send to your service bureau, using the font downloading options in the Print/Graphics dialog, or you may not get the results you expect. More OpenType fonts are under development by Adobe and other vendors, but there's no indication of when they'll arrive.

One reason OpenType fonts have been slow to reach the market may be Apple's lack of interest in the

format. Before Microsoft and Adobe got together to promote OpenType, at a time when Microsoft was talking about a less-capable format called TrueType Open, Apple announced its own extension to the TrueType format, called TrueType GX, and more than 60 GX fonts were released by Apple and other vendors. But application support was lacking, and Apple seems to have lost interest in TrueType GX: The pages on Apple's Web site once devoted to TrueType GX have apparently disappeared. GX was typographically far more sophisticated than Microsoft's original TrueType Open, but the later Adobe-Microsoft OpenType standard is a close match for GX. Macintosh users may be obliged to use only Adobe applications and OpenType fonts if they want the typographically sophisticated features that Apple intended to offer system-wide in TrueType GX.

Microsoft said little about OpenType in the years after the initial announcement, but it quietly began using the new standard in Arabic and some other non-Western versions of Microsoft Word before officially introducing it worldwide in Windows 2000. Arabic and some other languages use different forms of the same letter depending on the letter's position in a word, and the Arabic version of Word uses OpenType to make the substitution without any effort by the user.

Waiting Game

Given that it enjoys the backing of both Adobe and Microsoft, OpenType seems sure to embody the future of advanced typography. That future has begun to arrive, but there is no way of knowing how long typographers and graphic designers will have to wait until OpenType is something they can take for granted when laying out a page. Here's to hoping the wait won't be too terribly long.