Big Thing

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Real Big thing

OpenType is an awesome font format. Based on Unicode, and created by Microsoft and Adobe, it will inevitably become a universal standard—sooner or later. By Nick Shinn

It's a Babel out there.

A single weight of a popular typeface can exist in many versions, each required to work in different circumstances. There are formats for different operating systems (Mac/PC), and for different software (TrueType/Type 1). There are encodings for different langauges (Latin/Central European/Greek/etc). For expert typography (alternate figures, small caps, etc) additional fonts are needed.

With OpenType, one big font does it all. A full-featured OT font is around 150k in size, and contain about 500 glyphs.

GENESIS

Adobe introduced the Type 1 font in 1984, and this format became the standard for the graphics industry, on the Macintosh. Microsoft's TrueType then came along to dominate the PC world.

More sophisticated formats—Apple's GX, and Adobe's Multiple Master—were launched in the early '90s, but failed.

In 1996 rivals Adobe and Microsoft teamed up to create OpenType, a single-platform format based on Unicode, the multi-lingual international standard of character encoding founded in 1991.

In 1999, Adobe stopped making new Type 1 and Multiple Master fonts. In 2000, the first OpenType fonts were released.

OpenType fulfills the visionary goals of its architects, but its widespread implementation faces significant hurdles, such as QuarkXPress, a lack of exciting new fonts, and the poor design of the Open-Type controls in InDesign.

ONE FILE FITS ALL

The benefits of a cross-platform format are simpler font management and the removal of text corruptions that occur when encodings don't match, such as the **fi** ligature from a Mac file that becomes **?** on a PC.

With its large size, an OpenType font easily accommodates the standard range of

western characters, as well as international characters such as the euro and the litre, accented characters for Central European languages such as Croatian and Polish, and even Cyrillic and Greek characters.
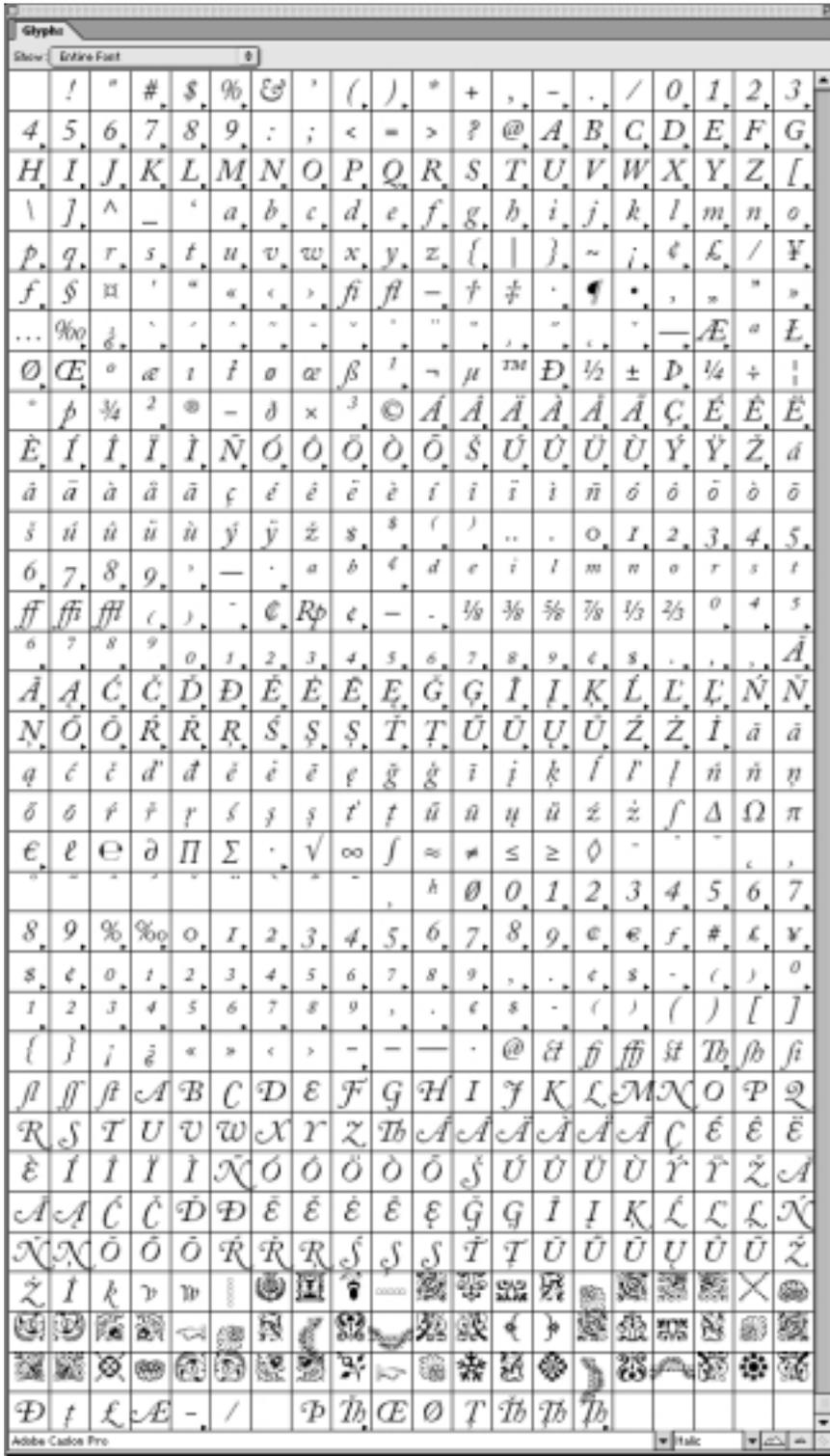
Perhaps the most significant development of OpenType is for Arabic. With a set-up of Arabic OpenType fonts, Microsoft Word, and Windows 2000, it's possible to set the full range of contextual modifications to character forms that are essential to written Arabic. Hopefully, this will bring East and West closer together.

Further down this road, OpenType leads to the possibility of a universal translator. Beam me up!

VIRTUOSITY ENABLED

In the aesthetic dimension, an OpenType font may include, as alternate glyphs, all the traditional typographic niceties—old-style figures, true small caps, fractions, swashes, superiors, inferiors, ornaments, and optical scaling. All manner of ligatures also, for contextual adjustments to otherwise rigid letterforms. This feature of OpenType is manipulated on the fly by In-Design, substituting the appropriate glyph

GRAPHIC EXCHANGE

Cornucopia of glyphs

Adobe's standard OpenType character set has 246 members, replacing the ISO-Adobe set and adding the euro, estimate, litre, and 14 Mac "symbol" characters. Beyond that it's up to the type designer what to include. Different combinations of alternates are applicable through the OpenType menu (see over) via InDesign and Photoshop, for instance "Swash" or "Fractions". Other glyphs, such as "Th" and the ornaments shown here, are inserted manually.

Adobe Caslon Pro Italic contains 674 glyphs:

• Latin capitals	• Figures
• Swash capitals	Lining tabular
• Latin lowercase	Lining proportional
• Latin lowercase alts	Oldstyle tabular
Swash	Oldstyle proportional
Superiors	Superscript
• Latin ligatures	Scientific Inferior
• Currency	Numerator
• Punctuations & marks	Denominator
• Ornaments & dingbats	Fractions
	Mathematic operators

There are no small caps in this italic font. But it does include the archaic long s, with ligatures. As an indication of the sheer scope of OpenType, the format contains a "hist" feature which could be used to automate the necessary substitution for 18th Century setting, although there is as yet no corresponding attribute in InDesign—wouldn't that be wicked!
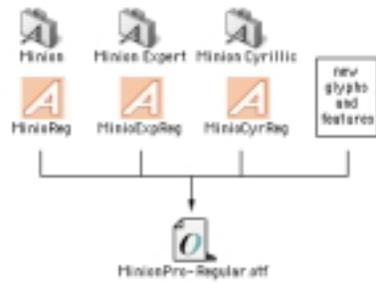
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when cued by a particular sequence of coded characters. In a traditional serifed face, eg. *Minion* or *Adobe Caslon*, this gives set text a well-mannered subtlety. In a script (*Zapfino, Caflisch*), the text appears convincingly handwritten.

A far cry from the 128 characters of ASCII, or the 256 glyphs in a PostScript font, there are a possible 65,000 glyphs in an OpenType font! In theory, separate word-glyphs could be created for complete vocabularies—an impossible task for a type designer, but not beyond the scope of a robotic software app. That tool already exists—Robofog—so it will be interesting to see the OpenType version of the van Blokland/van Rossum face *Kozmik*, later this year. One day someone will inject motion into an OpenType font, and each idiosyncratic character will Flash to life.

But to return to reality, it's worth mentioning that text set in OpenType, no matter how many ligatures, is fully editable.

PLUS ÇA CHANGE

While the sheer number of glyphs seems limitless, in practice OpenType fonts

One code
to rule them all

Comparable to the Human Genome Project, Unicode provides a "unique, universal, uniform" code for every character in almost every language of the world, as well as for symbols such as the Euro. In Unicode, characters are defined as "the smallest semantic units of a language," and glyphs as "the specific form characters can take in a font".

This distinction means that with OpenType fonts, expert typographic features can be applied to text without altering the base Unicode character values, facilitating spellchecking, importing/exporting, and copying.

The relationship between characters and glyphs varies:

One to one

$a = a$ or A or a

Many to one

$f + f + l = ffl$

One to many

$à = a + $ `
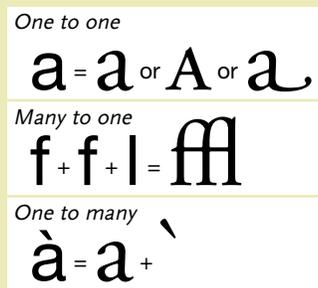
Simplify
tricky typography

Waffle

Type 1: Three fonts required, with special keying for the ffl ligature: *Adobe Garamond Italic, Expert Italic,* and *Alternate Italic.*

OpenType: *Adobe Garamond Pro Italic,* with OpenType "Swash" attribute applied. The text remains editable.

SIZE: 19½"
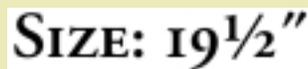
Type 1: Small Cap and Expert fonts, with special keying for the fraction.

OpenType: One font, with standard keying, and OT "fraction" attribute applied.

Thirsty
Thirsty
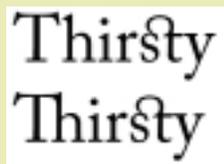
Top: *Adobe Caslon Pro* with OpenType "Discretionary ligatures" attribute.

Bottom: The "Th" ligature is applied by default ("Ligatures" in the styling palette).

work, seamlessly, just like any other font on your hard drive. Adobe has converted most of its library into *Standard* OpenType fonts that contain almost exactly the same characters as a regular font, and these will have the primary OpenType benefit of cross-platform usefulness.

So far only 14 Adobe typefaces have been given the superior *Pro* designation, with expert features supported by software such as InDesign and Photoshop. These are mainly Multiple Master conversions.

While Adobe has produced the vast majority of OpenType faces, two of the most interesting come from elsewhere. Zuzana Licko's *Mrs Eaves* was, of course, a prime candidate; Licko had already (1996) created a menagerie of bizarre ligatures for her riff on Baskerville, activated by the proprietary LigatureMaker software. More recently, House Industries designed *Simian* as an OpenType font, with all-cap ligatures that relate not so much to the traditional typographic source of ligatures, the written word, but rather to lettered logotypes.

Adobe, or is it ITC, has not yet gone to town on *Avant Garde*, for which Herb Lubalin designed a fine collection of his trademark ultra-tight ligatures.

THE COUNTER FORCES

So much for hype. To sum up, OpenType provides the benefits of cross-platform consistency, improved language support, and the capability of expert typography.

But this vision of excellence is clouded by practicality.

Idealism is a hard sell, even at par. And OpenType fonts cost more. Sure, the extra features are a good value, but for the average typographer, who works on one platform and in one language, the perception is that you're paying for stuff you don't need. Nonetheless, there are significant markets, such as fine book publishing. John D. Berry has used *Minion Pro* for a large book of poetry and found it a timesaver (*Putting OpenType Through Its Paces*, *www.creativepro.com/story/feature/16934.html*). Government organizations, particularly those that deal with

Mrs Eaves Smart Ligatures

many languages, will take to the format. With OpenType fonts on Windows XP, Windows NT 4, Windows 2000, or Mac OS X, it's possible to change keyboards (i.e. keyboard drivers) in mid text, switching from, say, English (Latin) to Croatian (CE) copy without missing a beat.

CHANGE-OPHOBIA

Quite apart from functionality is the question of inertia. If you already know how to do something (such as work with Latin and CE fonts), the inconvenience of even a small change will mitigate against the move to a more productive workflow.

On the question of cost: OpenType fonts are a good value compared with PostScript or TrueType, *if you're buying a new typeface.* But persuading your boss (or yourself) to replace a typeface you already have is tough. And if you want expert features and don't use InDesign, forget it.

WAITING FOR QUARK

The largest impediment to the widespread adoption of OpenType is the indifferent role of QuarkXPress, which, from the vantage point of almost complete domination of the market for page layout software, is in no rush to support the big gizmo of its only feasible competitor, Adobe's InDesign.

Of course, OpenType fonts work just as well as Type 1 in QuarkXPress, with added cross-platform benefits, but the expert typographic features are inaccessible.

INDESIGN INADEQUATE

Left to spearhead OpenType, InDesign fails to take advantage of its best product differentiation over XPress. While non-

InDesign does OpenType
But with considerable room for improvement

font-specific parameters (e.g. size, tracking, scaling) are permanently on view, the OpenType control panel is buried at the level of a second pop-up menu.

There is a conflict, as there has been since day one of desktop, between faux and real styles. While InDesign omits faux bold and italic options, you can still style text as all-caps or small caps, superior or inferior. These settings seemingly duplicate choices from the OpenType menu, and it's more confusing than in Quark or Word, where the stying is on a palette, and the real characters are designated by a distinct font, eg "Small Caps & Oldstyle Figures". Somehow that seems right, because deep down it's nice to pretend there is a collection of hard-and-fast little images somewhere in the font. But with InDesign, both the styling menu and the OpenType menu have options marked "Small caps". Furthermore, there is no indication of whether the attribute "small caps" in the OpenType menu is faux or real. In *Adobe Caslon Pro Regular*, you get real small caps with the OpenType small caps checked, but faux when the font is switched to Italic or Bold. You're forced to rely on visual discrimination, which may not be a bad thing, but it would be nice to be able to check it against a label.

Some Pro font ligatures are more discretionary than others. For instance, the "Th" in *Caslon Pro* and *Garamond Pro* is a default ligature, not a "Discretionary ligatures" attribute.

The bottom line is this: too many options is a luxury that the user pays for with inconvenience. Rather than two separate pop-up menus for glyph selection (above), InDesign should have one menu, permanently on display, that shows the options available for a particular font. Faux styling for PostScript/TrueType fonts, and the real thing for OpenType fonts. Yes, deny the user the right to superscript superiors!

BOTTOM-UP FONT DEVELOPMENT

While OpenType has had more support from third party developers than GX ever did, it is lacking in one key area—indie
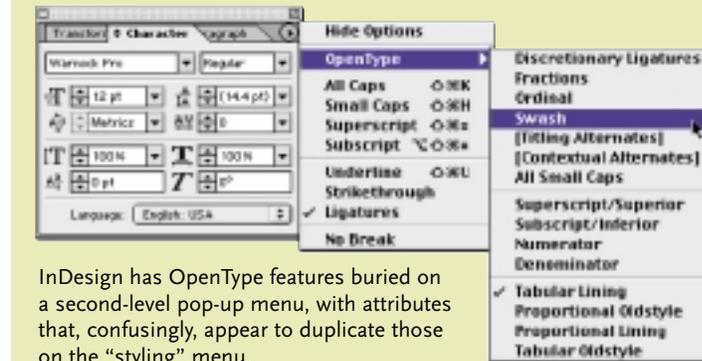
InDesign has OpenType features buried on a second-level pop-up menu, with attributes that, confusingly, appear to duplicate those on the "styling" menu.

font development. For the small foundry, converting one's back catalog is a daunting task, and what's the point of putting the extra effort into developing new OpenType fonts when there's no market for them? "The industry is slow to change," says FontShop Canada manager Rob Snider, "Most of the people excited about OpenType are not the people who buy fonts."

Adobe has not marketed OpenType aggressively, and certainly not through a dealer network. It has one primary reseller, Eyewire, that has little to say about the format. The result is that FontShop, the only place you can call up and get rocket science explained, and potentially a great proselytizer of this new mousetrap, is not pushing OpenType, and has received hardly any enquiries. It has sold only a handful of OpenType fonts.

FROM FANS TO PURCHASERS?

OpenType really needs some hot fonts that exploit its ligaturing capabilities with strange new forms. Up to now, the authoring software has been a little too techy for the majority of type designers. We're comfortable with Fontographer, a marvelous piece of software that hasn't been updated since 1994. The major alternative, FontLab, has kept up with the tour, but as a PC application first and foremost. Later this year FontLab 4 for Mac will be released, with OpenType capability, and that should make the difference.

One reason Multiple Masters never caught fire was the lack of typefaces from indie foundries (it was hard to make the fonts correctly, and paranoia suggests that

one or two trade secrets were withheld); Adobe's efforts in the genre were a little too earnest—the potential was hinted at, towards the end, by *Reliq*, with its design axis of Calm/Active (animate that!) but in general MM technology was used to mimic the golden age of metal. From the outset Adobe has matched innovative software with conservative type design, transporting the riches of the past into the digital era. A noble cause, but understandably, amongst the many revivals labelled "Original", there are no badass techno faces.

OPEN IS AS OPEN DOES

I once went to a Louis Lortie performance of Beethoven's *Waldstein Concerto*. It was composed shortly after Ludwig had received delivery of a new 88-key piano. With an extra octave at either end, he must have had a lot of fun experimenting, because that's what the *Waldstein* sounded like live, the ultimate car vs. train silent movie music, like listening to Beethoven jam. It's that kind of creativity, distributed throughout the culture, that will put some steam under OpenType's wheels.

In the meantime, consider OpenType fonts for cross platform utility and network publishing. If you're a fastidious typographer, *Minion Pro Opticals* are worth exploring. And if you have one foot firmly planted in a parallel universe, *Mrs Eaves*.

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