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Understanding Font Substitution in Word: Part 2

Brett Lockwood

In the second part of this two-part article, Brett Lockwood explains aspects of viewing substituted fonts and the permanent conversion of substituted fonts, and how to minimise font substitution problems.

When fonts are specified in a Word document created on one computer and then opened on another computer that does not have the same fonts installed, Word substitutes fonts on the "destination" computer for the fonts that were specified on the "source" computer, to allow the document to be used. In Part 1 of this article (PC Update, October 2003), I explained why font substitution in Word documents is becoming an increasing problem and how it can cause text errors.

> The procedures in this article have been checked for versions of Word up to and including
> Word 2000 (PC) and Word 2001 (Mac)

I also discussed the primary cause of font substitution, how Word style specifications can also cause font substitution, the basics of font mapping, and how to check for the presence of substitution in a document.

Checking for Substitution

Font substitution, if it occurs, takes place automatically as a document is opened. You are not notified. To check for font substitution, open the document and use `Tools|Options`, click the Compatibility tab, then the Font Substitution button. If substitution has occurred, the Font Substitution dialog box will appear (see Figure 1, Part 1, and Figure 1, below). If not, you get a message saying that substitution is not necessary (Figure 2, Part 1).

Viewing Text With Substituted Fonts

The Font Substitution box contains a button labelled Convert Permanently, and you can use this button to convert the "missing" fonts to the "substituted" fonts for the document (more on this below). If substitution occurs, and you do not use the Convert Permanently button (most people do not, but in the first instance because they are not aware of substitution), you can still edit a document, but it will display differently, and this can cause confusion and uncertainty. Figure 1 illustrates the main aspects of text viewing after font substitution.

4 The Style Preview box shows that the style name for the selected text is Theses Title. The font A Garamond may have been applied to the text as part of this style description, or via direct formatting (selecting text and applying a font to it), or a combination of the two. For the purposes of understanding font substitution display, it does not matter.

3 Some text has been selected, and the Font box on the Formatting toolbar shows A Garamond, not Tahoma. When font substitution occurs, the "original" font names appear in the toolbar Font box, unless you choose to permanently replace the missing fonts with the substituted fonts using the Font Substitution box Convert Permanently button.

5 The outcome of substitution for this document is that text is displayed using Tahoma. It is also printed using Tahoma. However, the name A Garamond, not Tahoma, will appear in the Formatting toolbar Font box and in the Font dialog box (see inset).

1 A document has been created on another computer using the font A Garamond, which is not installed on this computer.

Inset The Font dialog box (opened using Format | Font) shows information on the highlighted text. The font listed is A Garamond, even though it is not installed on the computer. Keep this aspect of font substitution in mind (don't be misled by it).
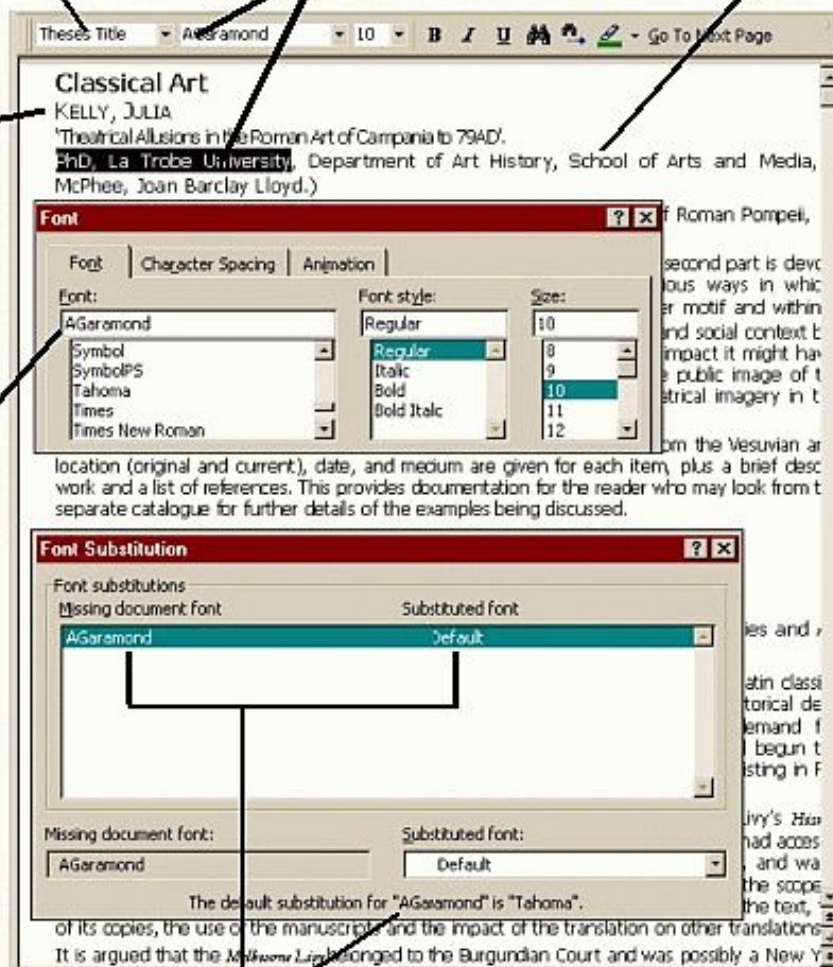
2 The Font Substitution box (cropped) shows that the font substituted for A Garamond is the "default" font. The description area at the bottom of the box shows that the default font is Tahoma.

Figure 1. Understanding text display after font substitution.

Figure 1. Understanding text display after font substitution.

How Word Chooses Substitute Fonts

The rules by which Word automatically selects substitute fonts are not provided, but in my experience there are predictable patterns. If a missing font is a serif font (for example, the Times font from a Mac) Word will substitute a serif font (probably Times New Roman), and likewise with a sans serif font (Arial might be used for Helvetica). I imagine this dimension of substitution is designed to allow the document to look similar to how it looked on the "source" computer. Also, I've noticed that documents specifying Palatino invoke the substitute of Book Antiqua (if the latter is installed), which I understand was designed specifically as a substitute font for Palatino. In this case, the same dimension of substitution applies (the document will look similar), but perhaps the more important dimension is embraced in that all the characters will map correctly to each other and so text errors will not occur.

One suggestion here is that if you open a document and it contains unexpected symbols or characters (sometimes these will not appear until the document is printed), check if substitution is occurring, and if so you can change substituted fonts using the Substituted font: drop-down list in the Font Substitution box. Of course, this is going to be a hit or miss process, but it might help and you'll know soon enough as it can be done quickly. The sure-fire fix is to install the missing fonts on the computer (see below).

Permanent Conversion

When substitution happens, you can remove any inconveniences associated with text display by using the Convert Permanently button in the Font Substitution box. Use of this button will irreversibly convert all the missing fonts to the substitution fonts listed in the Font Substitution box, and the fonts displayed in the Formatting toolbar Font box will correctly reflect the fonts of the document text. You cannot selectively convert fonts. The Convert Permanently button converts all missing fonts for the document.

In my own work I have not seen any need to permanently convert fonts. I check for font substitution as a matter of course when receiving documents, so that I can see whether font mapping problems and subsequent text errors may occur in a document, and perhaps be mindful that the font I see in the toolbar Font box may not be the font used to display and print the document, or that a font that apparently forms part of a style may not in fact do so. I would suggest that the Convert Permanently button be used with caution, particularly as it can change style descriptions in unwanted ways.

Style Descriptions

If you permanently convert substituted fonts for a document, any style descriptions specifying missing fonts will also change to specify the substituted font. These changes occur automatically and without notification. For example, any styles in the document in Figure 1 that specify AGaramond will change to specify Tahoma, and these changes will be saved as part of the document. In addition, if style specifications change in this way, and the document styles are sourced from an attached custom template, the risk then exists that in creating a new style or modifying a style you could check the Add to template option in the New Style or Modify Style dialog boxes and the template styles will be modified too. If another document is then attached to the template, the problems can flow down the (document) line with no one knowing about them. This touches upon one of the reasons why font substitution is increasing in frequency. As templates are being increasingly used, template designers, often ignorant as are most of us of this font substitution process, are tempted to build the final publication fonts into Word templates (.dot files), or into "standard" Word documents (.doc files) at the "front end" of the publication process, so to speak, instead of applying them at the "back end" that is, applying them when the Word document is finally imported into the desktop publishing application. These "designer" fonts are often postscript fonts, not TrueType fonts, so font substitution is almost guaranteed once the document is opened on another computer. A document of this type that I received recently specified nine ITC Franklin Gothic postscript fonts in its styles.

Keep in mind that choosing to convert fonts using the Convert Permanently button will not necessarily change any style descriptions in a document. If fonts listed as missing were applied to text with direct formatting (for example, by selecting text and choosing the font from the Formatting toolbar Font box), and are not included in any style descriptions, styles will not be affected at all. You can always quickly identify direct formatting applied to any piece of text by using the What's This? (PC) or Reveal Formatting (Mac) feature off the Help menu.

Minimising Substitution Problems

Font substitution is a complex area. No one can be expected to understand all the possible problems and all the solutions. Sometimes, it is only when you see strange characters in a document that font substitution comes to mind. Often, people don't think about font substitution at all when problems occur because it's a little known part of Word. But several actions can be taken to minimise possible difficulties.

1. Use Recommended Fonts

The Microsoft TrueType font set that is now common to installations of Word (PC and Mac) contains:

- Times New Roman (Word's main serif typeface)
- Arial (Word's main sans serif typeface)
- Courier New (Word's main nonproportional or fixed pitch or monotype typeface)
- Wingdings (symbol set).

Font incompatibility problems are reduced if you ensure that these fonts are used in your styles and in any body text or symbols contained in a template. Because these fonts are now common to PCs and Macs, use of them is recommended in documents to be shared between PCs and Macs. Remember that the Macintosh fonts of Times and Courier are different to the Times New Roman and Courier New fonts on a PC.

Further information on cross-platform compatibility is at:
http://www.microsoft.com/Mac/officex/officex_main.asp?embfname=of_thm_compatibility.asp&embfpath=featartx

2. Check For Substitution

When you open a document for the first time, check for the presence of font substitution. This process alone may not provide you with solutions to any problems that arise (though it will help you understand font display aspects illustrated in Figure 1), but knowing whether substitution has occurred or not may help. As part of this checking, it may be worthwhile determining whether substitution has occurred because missing fonts have been used in direct formatting, or have been specified in styles. If substitution is due solely to direct formatting (if any document styles you need to use do not specify missing fonts), it should be possible to fully style the document without problems.

3. Convert Fonts Permanently?

Remember that if you use the Convert Permanently button in the Font Substitution box, styles specifying missing fonts will change to specify substituted fonts. There is no right or wrong procedure to this aspect of font substitution. It depends on how you will work with styles in the document. It will also depend on whether you are accessing the styles from a template, and how you intend to use that template. There is no reason why the Convert Permanently button should have to be used in order to edit a document successfully.

4. Use Common Fonts For Text

You can see from the logic of the font substitution process that it can be better practice to ensure that a document uses "common" fonts by the time it leaves the computer on which it has been created, rather than spending time fixing font mapping errors once they have occurred on a "destination" computer. For example, if you are writing a document and your preference is to work with the Palatino typeface, then use it, but unless you know that the document will only be used on computers with Palatino installed on them, try to replace Palatino with one of the three common text typefaces specified above, as part of the process of finalising the document. If this is done, font substitution probably won't occur.

5. Use Common Fonts For Symbols

When inserting symbols into documents using the Symbol box (usually opened with `Insert|Symbol`), try to use only the common fonts of Times New Roman, Arial, Courier New and Wingdings. Use of inappropriate fonts for symbol insertion is possibly the greatest cause of font substitution problems.

6. Install Missing Fonts

Another solution can be to install the missing fonts on the destination computer so that font substitution just doesn't happen. If you are being supplied with standard documents or templates, you could consider this before beginning work on them. Conversely, if you are supplying standard documents or templates to other people, supply documents that use only common Word fonts for both text and symbols. If other fonts are specified, providing these for installation on the destination computer/s may save much time in rectifying font mapping problems.

Minimising font substitution is beneficial, but keep the particular publication or editorial process in mind when deciding how far to go in this area. If fonts are being substituted in a document, there is no certainty that problems will occur. If problems do occur, you may be advised that the designer or someone else will fix the problem. However, in certain cases font substitution should be prevented. If Word is the final publishing vehicle, or if Word documents are to be converted into PDF files using Adobe Acrobat, font substitution is less likely to be acceptable.

If you want to force a font substitution so that you can check out the options in the Font Substitution box, get a friend to e-mail you a document with some fonts in it that you don't have installed. Or e-mail me and I'll send you a document

containing a couple of Mac fonts.

Feedback on this article is welcome.

About The Author
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