Formatting interlinear text with inline tables in Microsoft Word

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1 Introduction

This template contains tools to format interlinear text in Microsoft Word (2003), using inline text boxes (optionally containing tables of morpheme level information) to hold the interlinear bundles of text and to control alignment. This approach has significant advantages over using spaces or tabs to align the interlinear text, since it provides much finer control over the results and can be maintained semi-automatically without a lot of fine-tuning by hand on each example. (The approach also has some limitations; see section 7.) It is even better than an approach simply using tables, because texts organized in this format automatically re-wrap when paragraph widths change.

It is not currently possible to create such a document manually (except by directly editing XML). This approach is mainly intended as a way of working with interlinear texts exported from FieldWorks Lexical and Text Tools (FLEx).

1.1 Contents

Included in this template (Interlinear Macros and Instructions.doc) are the following items:

- Instructions for installing the interlinear tools on your own system (see section 2).
- Instructions for using them.
- A toolbar that allows you easy access to the two macros.
- A macro to adjust the sizes of interlinear bundle text boxes (see section 5).
- A macro to overcome a bug in Word's automatic table formatting, allowing tables to adjust when style changes alter the size of text.

1.2 Support and updates

For help with this macro, check with the FLEx mailing lists. Details of this should have been installed with FLEx. FLEx should also come with instructions for downloading current versions.

1.3 Terms of use

- This template and its components (macros, styles, toolbars, instructions) may be freely distributed, under the same licence terms as FLEx.

1.4 Acknowledgments

The instructions are heavily based on the work of Albert Bickford, who has developed a set of macros for creating interlinear documents in Word by hand using a simpler form of table. His work in turn was based on macros originally developed by Brian Chapaitis in 1992 for Word 2.0.

2 Installation

(These instructions unfortunately presume greater familiarity with Word than many people have. A macro to do the installation automatically may be developed at some point. In the meantime, if you don't understand the instructions, find someone who does to help you install them.)

To make the FieldWorks interlinear macros and toolbar available to all documents, do the following:

- Open Interlinear Macros and Instructions.doc.
- If you encounter warning messages saying that the file contains macros or might contain viruses, see section 2.1 about how to adjust your macro security settings.
- Open the Organizer (accessible through "Tools, Macro, Macros…"). Use it to move all the FieldWorksInterlinearMacros from this template to Normal.dot. These are the macros "Adjust_box sizes" and "Adjust tables".
- Using the Toolbar tab of the Organizer, copy the "FieldWorks Interlinear" toolbar to Normal.dot.
- Close this file.
- Open a new interlinear document (generated from FLEx).
- Right-click in the toolbar area at the top of your screen, and activate the FieldWorks Interlinear toolbar. Position it wherever you want it. It can be docked in the toolbars area or floating separately.

2.1 Macro security

In Word 2003 and later, to allow the interlinear macros to run, you will get a warning asking you whether to install the macros. If you want to use the macros, you must tell Word to enable them. The message should indicate that the macros are signed by SIL International. If you get any other message, or macros signed in some other way, you have a corrupt version of these macros and should not install them. To go ahead, you will have to check the check box telling the system to always trust macros signed by SIL International.

If you make your own modifications to the macros, the SIL international signature will be removed. You should then sign the macro project yourself, using the Visual Basic Editor. In Microsoft Windows XP, on the Windows **Start** menu, point to **All Programs**, point to **Microsoft Office Tools**, and then click **Digital Certificate for VBA Projects**. Follow the directions to create a personal certificate. Then use Tools/Digital Signature to sign your project.

3 Interlinear texts

In a FieldWorks-generated interlinear text, the annotations for each word are placed in a separate text box. Within each text box, morpheme-level information is aligned using a table. Here is an example:

1.1.	*pus*	*yalola*		*nihimbilira*			
	pus	*yalo*	*-la*	*ni-*	*him-*	**bili*	*-ra*
	pus₁	*yalo*	*-la*	*ni-*	*hiN-*	**bili*	*-ra*
	green	mat	1SgPoss	1SgSubj	3SgObj	to.see	Pres
	adjective	noun (I)	noun:(Possessor)	verb:(Subject)	verb:Object	transitive verb (1)	stative:Tense
	green	my mat		I see			
	grun	mein platt		ich sehe			
	mod	N		V			

I see my green mat.

If you can't see the outlines of the table cells in this example, you can make them visible by choosing Table, Show Gridlines. These gridlines do not print, but it is often helpful to make them visible when editing a document.

If you can't see the example at all, try switching to Print Layout view (View/Print Layout). This approach to interlinear text does not display properly in 'Normal' mode.

Notice that the morphemes of each word form a table. The other components do not need to be in a table, because they are sufficiently aligned just by being in a separate text box.

You can freely edit the text in the interlinear document. Macros are provided to help adjust things if they get out of alignment.

4   Interlinear styles

Word's ability to define styles provides an easy way to automate the formatting of different parts of an interlinear example. When properly set up, styles are faster and easier to use than direct formatting. Further, they help you maintain consistency of formatting on all examples in a document and to make changes easily to all examples at the same time.

FieldWorks generates a fairly elaborate set of styles with each interlinear text. There is one for each row of information in the display, and if you are using multiple glossing languages, there is one for each type of gloss and each language being used for glossing. Many of these styles inherit from a few basic ones, so you can easily make a change to, say, all the vernacular fields at once. There are also a few special styles, such as one for the interlinear word paragraph as a whole, and one for the sentence number.

Currently the styles for grammatical information do not explicitly set a font. You can easily do this manually if you need to.

5   Adding interlinear text to a document

Currently the only feasible way to create an interlinear document in this form is to export a file from FieldWorks, and then run the Adjust_Interlinear macro on it. (If it is a very small file or you want a very small piece of it, you might consider adjusting the text box sizes by hand.) Then copy and paste the parts you want into other documents.

Once you have a basic document, you can fine tune it within Word. You can adjust styles and edit text. Some alignment adjustments happen automatically; some require running one of the macros included here. You can add or remove table columns.

It is possible to manually add text boxes to a document, but they will not be recognized and adjusted by the macros.[1]

6   Controlling the appearance

You may not want to format your interlinear examples the way they are formatted by default with the tools in this template. There are a number of things that you can do to adjust the appearance to something more to your liking. Some of the changes will take effect immediately on all the interlinear tables in a document; with others, you will need to set some parameters first and then reformat or realign the existing interlinear tables to make the changes take effect. In either case, these tools allow you to maintain a consistent appearance throughout a document.

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[1] The XML generated by FieldWorks gives each <v:shape> element an id that starts with "interlinear". The macros look for this and adjust only those shapes which have such IDs. I do not know of any manual way to set the ID of a text box shape. If you save your document as XML, you may be able to find the right place to add it manually. Copying and pasting an existing text box is another way to get one that will adjust.

6.1 Customize the interlinear styles

There are several changes you may want to make in the definitions of the interlinear styles. Here are some ideas to consider. (If you don't know how to redefine styles in Word, you should read up on them before trying to change them.)

- Change line spacing, space before, font, style, size, color, etc.
- Change the languages that are specified in each style, so that spell-checking and other proofing tools treat them correctly. (As distributed, the vernacular text styles specify that proofing is disabled.)
- Create character styles for highlighting individual parts of the example, such as morphemes that you want to call the reader's attention to.
- If you want to use the automatic numbering features in Word, rather than the numbers that are generated in the exported document, then activate that feature in the `Interlin Phrase Number` style. That style is already applied in the phrase number cells; you will need to delete the existing numbering. If you use letters to distinguish two or more example sentences with the same sentence number, you'll need to define a separate style for the letters which doesn't have automatic numbering. (Otherwise, you'll get a second example number in the column with the letter.)

In many cases, these sorts of changes may require you to adjust the text boxes (see section 6.2) and tables (section 6.3) because changing the formatting often changes the length of each word.

6.2 Adjust text box sizes

When maintaining interlinear text in tables, there are times when you need to adjust the widths of the text boxes used for each word. Some of the boxes may be too narrow, causing part of the text to be clipped; others may be too wide, leaving too much white space between words. When a document is first created by FieldWorks, all the text boxes are a fixed size, usually far too small (this is a default size, we're not even trying to make it right.) There are also ways the boxes can come to be wrongly sized as you continue to work on the document:

- You redefine the interlinear styles to use a different font, fontsize, etc. that causes words to come out a different length.
- You change the text in a cell, so that it is longer or shorter than it was before.

In these cases, you will need to adjust things. The Adjust boxes macro does this for all interlinear text in your document. Just click the 'Adjust boxes' button in the toolbar (or, if you're not using the toolbar, run the Adjust_Interlinear macro).

- This will switch your document to Print Layout if it is not already in that mode. Print Layout mode is required for the macro to work properly. It is also generally the best mode for viewing these interlinear texts; the text box content is hidden in Normal view.
- The screen will flicker extensively while the macro is running. I have not been able to find a way to avoid this.[2]

6.3 Adjust table layout after style changes

When you make a style change that alters the width of text in morpheme-level annotations, table cell widths don't automatically adjust to conform. This appears to be a bug in Word 2003; any editing of any of the affected cells, even typing a letter followed by Undo, fixes things. This macro may not be necessary in future versions of Word. For now, if you notice that a style change has left table cells too wide or overlapping, just run the "Adjust tables" macro.

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[2] The one function I can find in Word…one of the Information functions on a Range or Selection…for actually measuring text width only works if the range is actually visible in the window.

7 Limitations

There are some limitations that are inherent to using text boxes and tables in Word to format interlinear text.

- When you make formatting changes that disrupt alignment, the text box widths do not update automatically. You have to choose "Adjust boxes" each time.[3]

8 Possible future improvements

These are notes to myself, but you may find them of interest. If there is a particular feature that you need but don't know how to add it yourself, contact me to see if I can add it for you. (I can't promise that I'd have the time to do it, but sometimes I do, and I won't mind you asking.)

- A macro that does installation.
- Generate a table style for the morpheme bundle tables
- Provide control over how much white space is put between words and at the bottom of each line of words.
- Separate morpheme bundles with some style-adjustable property rather than inserting a non-breaking space
- Handle multiple writing systems for the vernacular text
- Handle multiple writing systems for grammatical information, or at least generate a style that specifies the right font

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[3] Word 2003 does provide an "AutoFit to Contents" feature which is supposed to adjust column widths automatically as you type or reformat. However, it wraps cell contents (even though I have set an explicit property which is supposed to prevent this), which destroys the interlinear alignment. I have therefore not used it.