

Justified Alignment of Lao Text in MS Word

Justification of Latin alphabet texts is most often accomplished by proportionally increasing each space in each line until the right edge of the text is aligned with the column edge. However, with Lao text this process does not work very well, since Lao sentences are typically written with few or no visible spaces, so that either a line of text cannot be justified at all by this method, or else, if only one or two spaces exist in the line, the spaces become very large and break the flow of the text unacceptably. For this reason, when Lao text is written in a single column, it is usually best left unjustified, with uneven "ragged-right" alignment.

For newspaper-style columns, however, justified alignment is usually considered necessary, since when such material is formatted with "ragged-right" alignment, the column boundaries are not well defined, as depicted in the following comparison:

Windows 95 Thai Version and applications which depend on that version (such as Word 98, Thai Version) can be used with the Lao-only fonts, but cannot be safely used with <i>Lao Script for Windows</i> since the keyboard manager and coding for <i>Lao Script for Windows</i> fonts conflict with the Thai codepage conventions. Lao fonts can be installed, and documents using	Saysettha Lao or other Lao fonts can be safely viewed, but editing with the Thai versions may be unreliable. The Thai additions to <i>Lao Script for Windows</i> provide a limited capability for entering and editing Thai text, but they do not support use of the Thai fonts provided with Windows 95, Thai version, for which the Thai codepage is required.	The ThaiMaster application for using Thai language with international versions of Windows also conflicts with the keyboard manager in <i>Lao Script for Windows</i> and cannot be used simultaneously, although it can of course be installed for use after exiting from the <i>Lao Script for Windows</i> keyboard manager application.
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Figure 1a: Newspaper-style column material formatted with "ragged-right" alignment.

Windows 95 Thai Version and applications which depend on that version (such as Word 98, Thai Version) can be used with the Lao-only fonts, but cannot be safely used with <i>Lao Script for Windows</i> since the keyboard manager and coding for <i>Lao Script for Windows</i> fonts conflict with the Thai codepage conventions. Lao fonts can be installed, and documents using	Saysettha Lao or other Lao fonts can be safely viewed, but editing with the Thai versions may be unreliable. The Thai additions to <i>Lao Script for Windows</i> provide a limited capability for entering and editing Thai text, but they do not support use of the Thai fonts provided with Windows 95, Thai version, for which the Thai codepage is required.	The ThaiMaster application for using Thai language with international versions of Windows also conflicts with the keyboard manager in <i>Lao Script for Windows</i> and cannot be used simultaneously, although it can of course be installed for use after exiting from the <i>Lao Script for Windows</i> keyboard manager application.
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Figure 1b: Newspaper-style column material formatted with justified alignment.

But justified alignment of the short lines of text in newspaper-style columns is particularly problematic with Lao, since there will frequently be lines with no spaces at all.

The traditional way to justify short lines (in newspaper-style columns) is to expand the text by inserting small spaces uniformly between each pair of letters. This is the approach used, for example, by MS Publisher to justify short lines of text which contain no actual spaces, as shown in the following example:

D e s k t o p -	long segments
p u b l i s h i n g	of text by ex-
p r o g r a m s ,	for expanding the
e x a m p l e ,	example, Mi-
M i c r o s o f t	intercharacter
P u b l i s h e r	spacing, as in
justify	this example.

Figure 2: Justification by expanding text strings.

Justification is also helped, in this example, by use of hyphenation, to reduce the amount of inserted space required.

Unfortunately, justification by expanding the inter-character spacing doesn't work very well with Lao, since it makes the text difficult to read if there are any diacritic characters, as shown in the following example. To use this method with languages such as Lao and Thai, it is necessary to identify diacritic characters and treat them differently - and although this has been done (for high-quality typesetting applications) in Thai, operating systems, fonts and available applications do not yet provide this functionality in Lao.

ໃນ ມີ ຫນ້າງ ,	ລະວັນ, ປະໄວ້
ພວກຜູ້ໃຫຍ່ໄປ	ຍັງເຫຼືອແຕ່ເດັກ
ທຳມາຫາກິນຢູ່	ນ້ອຍຢູ່ບ້ານ.
ໄຮ່ສວນໃນແຕ່	ພວກຜີກໍ່ຊອກ

Figure 3: Justification of Lao by expanding text strings.

This article describes an alternative approach which can be used to produce acceptably justified text in Lao. The method is to insert very small point-size space characters between each word, which can then be expanded automatically to achieve justification. Although this may still leave spaces that are larger than desirable, the text is far more easily read than if justified by simply increasing the inter-character spacing.

ໃນ ມີ ຫນ້າງ,	ລະ ວັນ, ປະ ໄວ້
ພວກ ຜູ້ໃຫຍ່ ໄປ	ຍັງເຫຼືອແຕ່ເດັກ-
ທຳ ມາ ຫາ ກິນ ຢູ່	ນ້ອຍ ຢູ່ ບ້ານ.
ໄຮ່ ສວນ ໃນ ແຕ່	ພວກ ຜີ ກໍ່ ຊອກ

Figure 4: Justification of Lao by expanding word spacing.

Fortunately, it is quite simple to implement justification in this way with available applications. *Lao Script for Windows* provides a **Check** function (available from the Lao

menu in MS Word) that inserts an invisible break character between each word and/or syllable (according to user-selected options) while checking for spelling errors.

To justify a text selection after calling **Lao - Check**, it is simply necessary to use Word's **Find and replace** to replace each (invisible) break character (code 45 for Saysettha Lao, or code 150 for newer font codes such as Saysettha 95 or Saysettha 2000) by a visible space, but with a point size of 1 point.

As with English text, justification is much more effective if hyphenation is used. This is also possible for Lao (at least with the newer font codes), but takes more steps, as follows:

- (1) Make sure that the wanted dictionaries are enabled (i.e. usually both main and user).
- (2) Set the Lao options to insert both **word-level** and **syllable-level** breaks.
- (3) Use **Lao - Check** to insert the breaks in the selected text (just press **Cancel** to ignore any spelling errors).
- (4) Use **Find and replace** to replace each break character by some other suitable place-holder character, such as #.
- (5) Set the Lao options to insert **syllable-level** breaks only.
- (6) Use **Lao - Check** again, to insert syllable breaks in all words of more than one syllable (you can again just press **Cancel** to ignore any spelling errors that may be detected).
- (7) Use **Find and replace** to replace each **syllable-level** break by an **optional hyphen** (code 31).
- (8) Use **Find and replace** to replace each place-holder characters by a **single space**, formatted to a size of **1 point**.
- (9) Change the text alignment of the selection from **Left-aligned** to **Justified**.

A Word macro can easily be written to simplify this process, and an additional function called **Break Lao** is being added to the Lao menu for *Lao Script for Windows* Version 5.30 to insert both normal breaks and optional hyphens in Lao text in a single call.

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19 September 2000