### Paratext-FLEx Integration Tutorial

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(Paratext 7.6) (Revision 2015/09/30)

### I Summary/Background

Having access to a well formed dictionary in the target language can be a great help in drafting and checking a translation. If the dictionary has thesaurus information with synonyms, antonyms, and related words linked through shared semantic domains, it could be used to help translators access the full richness of their language and make a more vivid translation. Further, if the dictionary could be in electronic form and be accessible while working in Paratext, it would be both fast and convenient for translators to use.

SIL has already developed software to make this type of electronic dictionary with semantic domains. It is called FLEx which is part of a bigger software program called FieldWorks. FLEx can also do complex morphological analysis and discourse analysis, but this document will focus mostly on its lexigraphic capabilities.

Paratext and FLEx have been modified to allow Paratext to access a dictionary in FLEx in some ways that can be very helpful to translators.

- Find the definition of words with a right-click
  - $\circ\,$  Matches based on glosses
  - $\circ\,$  Can separate affixes from inflected forms to find stems in dictionary (using word analysis from FLEx)
  - $\circ\,$  If no word is found, provides means to add the word to the dictionary
- Find words related to a word in a Paratext project with a right-click
  - Generates a list based on glosses, shared semantic domains, defined lexical relations

These **Find in Dictionary** and **Related Words** functions can be accessed from the main editing window, inside the **Wordlist Tool**, and while working with the **Biblical Terms Tool**.

While working on a translation in Paratext these functions depend on a dictionary of the target language being available. If you don't have one, maybe other linguists have one that they could make available. If the dictionary is in an older format such as ToolBox or LinguaLinks, contact a Language Technology Specialist to help you convert the data. If no dictionary can be found, consider starting a dictionary project to support your translation. One good method is the Rapid Word Collection method.

(http://www.sil.org/dictionaries-lexicography/rapid-word-collection-methodology<sup>[1]</sup>) There are other standardized wordlists that can used as a basis for building a lexicon. There is the Central Africa Wordlist (CAWL) which is about 1,700 words long, and the Multi-lingual Education (MLE) 4000 wordlist. (http://lingtran.net/resources?structure=Navmenu<sup>[2]</sup>) And as has been mentioned you can build a dictionary right from inside Paratext, but you would have to create a blank FLEx lexicon to copy the words into. How+to+associate+a+FLEx+project+with+a+Paratext+project<sup>[3]</sup>

Once a Paratext project is linked or "associated" with a FLEx project it is easy to import the Paratext data into FLEx for doing sophisticated linguistic analysis. Morphological analysis can be used to resolve grammatical and spelling issues in the translation. Discourse analysis can be done to increase naturalness and reading comprehension of the translation. This type of analysis will be most beneficial if other natural texts have already been analyzed in FLEx, and FLEx has already been taught the basics of the grammar of the target language.

### II Uninflected words

### A) Example of finding the definition of a word while editing a translation

#### Files needed:

"PTE2015" Paratext project (Vernacular translation)"Beginner's English" FLEx database (small lexicon with semantic domains and some Lexical relations)

<b>ID</b> <sup>[4]</sup>	Filename <sup>[5]</sup>	Name <sup>[6]</sup>	Description <sup>[7]</sup>	Size <sup>[8]</sup>	Last modified <sup>[9]</sup>	Last modified by <sup>[10]</sup>
898 <sup>[11]</sup>	Beginner's English 2015-09-04 1121 Start of Integratio Guide.fwbackup <sup>[12</sup>	English 2015 n 09 04 1121		2.02 MB	2015-11-03	
<b>ID</b> <sup>[14]</sup>	Filename <sup>[15]</sup>	Name <sup>[16]</sup>	Description <sup>[17]</sup>	Size <sup>[18]</sup>	Last modified <sup>[19]</sup>	Last modified by <sup>[20]</sup>
899 <sup>[21]</sup>	PTE2015	PTE2015		474.97 KB	2015-11-03	

899<sup>[21]</sup> PTE2015 PTE2015 2015-09-04.zip<sup>[22]</sup> 2015-09-04.zip<sup>[23]</sup>

### Procedure:

- Download files,
  - restore PTE2015 into Paratext (File > Restore Project > From File)
  - restore "Beginners English" into FLEx, (Choose Restore a project from a backup file from the project picker dialog, or File > Project Management > Restore a Project).
- Open the "PTE2015" Paratext project, and navigate to Matthew 5:22
- Click on the word "**angry**" then right-click. This will open a pop up window.
- Click on **Find in Dictionary**. (If **Find in Dictionary** fails after you've just restored the projects, try shutting down FLEx and Paratext and restarting them.

\s Teaching abo	bout Anger
$p^{1} \sim 21^*$ "You have heard that people were t	told in the past 'Do not commit murder
anyone who does will be brought to trial.'	Wordlist angry
<sup>b</sup> with your brother you will be brought to t	Cut Ctrl+X U
good-for-nothing!' you will be brought befo	Copy Ctrl+C pur
brother a worthless fool you will be in dang	Paste Ctrl+V <sup>13</sup> So if
you are about to offer your gift to God at th	
your brother has something against you, v 2	View Biblical Terms of the
altar, go at once and make peace with your	View History for Verse(s) Guess Translations d offer
	Insert Verse Number Ctrl+K
(A) ESV01 MAT 5:21	Insert Footnote Ctrl+T
∖s1 An	Insert Cross Reference Ctrl+Shift+T Insert End Note

► Another pop up window will open with the word and its gloss from the FLEx dictionary "Beginner's English".

🔏 (A) PTE2015 MAT 5:22 (Editable)	E
$p^{1} $ "You have heard that people were	told in the past, 'Do not commit murder;
anyone who does will be brought to trial."	<sup>v 22</sup> But now I tell you: if you are angry
<sup>b</sup> with your brot Dictionary Entry	ur brother 'You
good-for-nothin angry Adj mad	d if you call your
brother a worth	fire of hell. <sup>ve 23</sup> So if
you are about to Other Open	Lexicon Close you remember that
your brother has something against you, v	24 leave your gift there in front of the
altar, go at once and make peace with your	brother, and then come back and offer
your gift to God.	
. \v 25 «τ£ L: 1	· · · · · · · · · · · · · · · · · · ·

## B) Example of finding related words while editing a translation

#### Procedure:

- Highlight or click on the word "**angry**" then right-click. This will open a pop up window.
- Click on Find Related Words.

Another pop up window will open with a list of words with similar glosses and words that share semantic domains with "**angry**" from the FLEx dictionary **Beginner's English**. The translation team can evaluate if any of the words on the list would be better suited for the context of Matthew 5:22.

🞽 (A) PTE2	015 MAT 5:22 (Editable)				
\n \v 21	\p <sup>\v 21 *</sup> "You have heard that people were told in the past, 'Do not commit murder;				
	who does will be brought to trial.' <sup>w 22</sup> But now				
	C C				
with	Find Related Words	x l your brother 'You			
good-1	No words have the same gloss as angry	, and if you call your			
brothe		the fire of hell. $\vee$ <sup>23</sup> So if			
you ar		ere you remember that			
your t	Words related by semantic domain to angry:	gift there in front of the			
altar,	3.4.2.3 - Angry: cross <sub>1</sub> , rage	hen come back and offer			
		iten come back and oner			
your g	These words are lexically related to angry:				
\ 2	Synonyms: cross <sub>1</sub> , livid				
🞽 (A) ESV		<u></u>			
\p \v 21		shall not murder; and			
whoev		you that everyone who is			
angry		sults his brother will be			
liable		ble to the hell of fire. <sup>W 23</sup> So			
if you :		that your brother has			
someti		tar and go. First be			
reconc	Insert Lookup Copy Close	:. \v <sup>25</sup> Come to terms quickly			
	ur accuser while you are going with him to court, le				
over to the judge, and the judge to the guard, and you be put in prison. <sup>w 26</sup> Truly, I say to					

### III Inflected words A) Example of finding the definition of an inflected word

### Files needed:

"TKE\_GaA" Paratext project (Vernacular translation)"BT1" Paratext project (Back translation)Takwane Thematic Dictionary FLEx database (Partial lexicon with semantic domains and some Lexical relations)

ID <sup>[24]</sup>	Filename <sup>[25]</sup>	Name <sup>[26]</sup>	Description <sup>[27]</sup>	Size <sup>[28]</sup>	Last modified <sup>[29]</sup>	Last modified by <sup>[30]</sup>
958 <sup>[31]</sup>	TKE_GaA 2015-11-11.zip <sup>[32]</sup>	TKE_GaA 2015-11-11.zip <sup>[33]</sup>		385.39 KB	2015-11-11	

ID <sup>[34]</sup>	Filename <sup>[35]</sup>	Name <sup>[36]</sup>	Description <sup>[37]</sup>	Size <sup>[38]</sup>	Last modified <sup>[39]</sup>	Last modified by <sup>[40]</sup>
901 <sup>[41]</sup>	Takwane Thematic Dictionary 2015-09-04 1510 Paratext_Integration_DemoStart.fwbac <sup>[42]</sup>	Takwane Thematic Dictionary 2015 09 04 1510 Paratext Integration DemoStart <sup>[43]</sup>		12.36 MB	2015-11-03	

ID <sup>[44]</sup>	Filename <sup>[45]</sup>	Name <sup>[46]</sup>	Description <sup>[47]</sup>	Size <sup>[48]</sup>	Last modified <sup>[49]</sup>	Last modified by <sup>[50]</sup>
903 <sup>[51]</sup>	BT1 2015-11-03.zip <sup>[52]</sup>	BT1 2015-11-03.zip <sup>[53]</sup>		117.96 КВ	2015-11-03	

### Procedure:

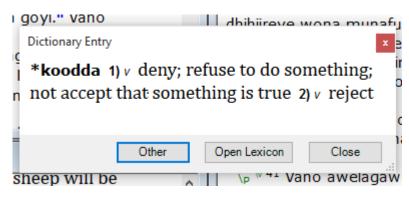
- Download files,
- restore **TKE\_GaA** and **BT1** into Paratext (File > Restore Project > From File)
- restore "Takwane Thematic Dictionary" into FLEx, (Choose Restore a project from a backup file from the project picker dialog, or File > Project Management > Restore a Project).
- In TKE\_GaA go to Mark 14:30
- Highlight "**ogikoodda**"
- Right-click and select **Find in Dictionary.** If **Find in Dictionary** fails right after restoring the projects, try restarting FLEx and Paratext.

This is an inflected form and the search will not find it. If you know the morphology of the language deleting affixes manually can help **Find in Dictionary** function to find the stem in the FLEx lexicon.

Find in Dictionary			×g
<sup>Find:</sup> koodda		Takwane $\lor$	\ )r 36
Headword	Allomorphs	Glosses	
*koodda		deny, rej	ect n
			a o iv e
			h la
		Go To Ci	eate Cancel
dictionary. Then, you can ente	e dictionary, click Create to open the r information for the word.	e New Entry dialog and add the	e word to the
More help			le

- Delete the prefix "ogi" and the lookup will find the stem "koodda" which means "deny" or "reject".
- Click on the **Go to** button. This will show the full definition in all the languages in the database. In this case, you will see English and Portuguese, but you could build a lexicon with whatever other language of wider communication (LWC) that is used in your area.

If you wanted to see the full entry in FLEx or to see the words contiguous with "**koodda**" you could click on the **Open Lexicon** button and it would open FLEx.



• Click on **Close** and close the current lookup window.

### B) Example of Finding Related Words Procedure:

- In Paratext go to Mark 1:28.
- Right-click on "Bili" (which means fame).
- Click on Find Related Words.

It will return the **Related Words** pop up window that will show all words that have the same semantic domains as "**bili**" and any words that have been linked to "bili" as having a lexical relation with it. Lexical relations includes such things as antonym, synonym, part-whole and so forth. Notice that in this example the **Related Word** function found four synonyms for "**bili**".

				1 10 10 20	wiii nvii	na va ŋ
Find Relat	d Words					×
These w	ords have the same gloss as bili	i:				^
fame:	vuwa					ע ר
Words r	lated by semantic domain to bil	li:				(
3.2.3.3 4.2.6.2 4.3.1 - 0	Known, unknown: ovuwa Secret: ovuwa Sports: juga, mpila, ovuw ood, moral: dhego dhebar Imire someone: enomuriih	ibari, eno			thithim	ihey a ii
	ords are lexically related to bili: ns: enomuriiha, ovuwa, r	riih, thithir	nihey			2 L ) 2
						)/
						h v r
			Insert	Lookup	Сору	Close ji
lf you are ab	e to edit the current text, you can selec	t the best choi	ce for the current	t 🔨		

### IV Adding New Words to FLEx Dictionary

When you encounter a word that is not in the FLEx dictionary it can be added to FLEx. This is a way to grow a dictionary as you are translating. The method of adding words to the FLEx dictionary from within Paratext only enters the lexeme and the gloss in the primary analysis language. It does not allow for entering a full definition, part of speech or a gloss in other analysis language(s). If you wish to enter any additional information, you must either do that at a later time, or stop and open FLEx and fill in all the additional information that you wish to enter.

🔏 (A) TKE_GaA MRK 1:16	×
i 😭 🦊 💑 🖌 -	46 Not Finished
\r (Matewuzhi 4.18-22; Luka 5.1-11)	^
Vp ** 16 Yesu eeddaga seresere ya Nyaza ya oGalileya, ahawoonaga addibila ni Andire, evokedhaga mathavi munyaza, vowi yaali anamatota. ** 17 Vano Yahawaaddelaga, wiira: << Mudhe mugiharege, guwiireni anamatota a athu>>. Mowaaguva aliwa yahaahiyaga mathavi eewa eewuharega. ** 19 Ecceddile ya ahawoonaga addibila amohi abiili. Tiy mmwanddeyani ni babiiwa esasanye ahawiithanaga. Aliwa yahimwihiyaga omuharaga Yesu. Find: Vowi	Yesu
Headword Allomorphs Glos	ses
\sı Yesu onowiigara mune	
\p <sup>w 21</sup> Aliwa yahidhowaga oKafa ahivolowaga mu nyuba ya matugum dhosuuziha dhaaye, mwaha oosuuzi anamasuuziha a Malamulo. \p <sup>w 23</sup> Mu nyuba ya matuguman wootakala. Ahikuwaga ni ndhu noota muNazarethi? Mudheele onitolosa? N Mbwenye Yesu ahihiihaga muneba wa	¥ .
$f + fr 1.2 $ Malakiya 3.1. $f^*$ f + fr 1.3  ft Ezaya 40.3 (Bibiliya Set Go To C	Create Cancel
f + fr 1.6 (ft Namavuhulela Elivazi al	

Now we will find a word in our Paratext project that is not currently in our FLEx dictionary and we will enter that word and its gloss into FLEx. Start Paratext if it is not open already, and open the project TKE\_GaA. Navigate to Mark 1:16. Find the word "**vowi**" and highlight it. Right-click on "**vowi**" and select **Find in dictionary**. You should see a popup like this one:

We can see from the blank box under **Headword** that no match was found. Paratext will find a match if it finds the headword or any of its allomorphs that have been entered into FLEx for that headword--.-- Paratext will not find a match if this is new word or allomorph. As of right now Paratext does not search the variant fields in FLEx, so it will not match any spelling, dialect, or irregularly inflected variants that have been entered into FLEx.

To create a new entry in the FLEx dictionary, click on the "**create**" at the bottom of the popup window.

🔏 (A) TKE_GaA MRK 1:16			×
😭 🦆 🍓 🖌 -		46 Not Finish	hed
\r (Matew	vuzhi 4.18	22; Luka 5.1-11)	^
ni Andire, evokedhaga mathavi muny ahawaaddelaga, wiira: < <mudhe mug<br="">Mowaaguva aliwa yahaahiyaga matha ahawoonaga addibila amohi abiili. Tiya mmwanddeyani ni babiiwa esasanyed</mudhe>	aza, <mark>vowi</mark> y giharege, gu avi eewa, o ago ni ddibile	iwiireni anamatota a athu>>. <sup>w 18</sup> 🗌 muharaga. <sup>w 19</sup> 🔲 Egeeddile vang'ono, Yesu e Zhuwawu, ahima a Zebedeyo. Egali	×
∖₅1 Yesu onowiigara munel	Lexeneronn	vowi	
\ <sub>P</sub> <sup>₩ 21</sup> Aliwa yahidhowaga oKafar ahivolowaga mu nyuba ya matuguma dhosuuziha dhaaye, mwaha oosuuzih anamasuuziha a Malamulo. \ <sub>P</sub> <sup>₩ 23</sup> Mu nyuba ya matugumano		Create Cancel	]

Type the English gloss for the "**vowi**" which is "**for**". When you have finished typing in the gloss, click on the "**create**" button, an entry for "**vowi**" will be created in FLEx, and the pop up window will close.

New Entry	X
Lexeme Form vowi	English ~
Gloss for	Create Cancel

Now we can go back to Mark 1:16 and lookup the definition of "**vowi**" and it will be there. Navigate to Mark 1:16, highlight "**vowi**" and right-click on it. Select "**Find in dictionary**" and now we will see the gloss of "**vowi**".

ni	ddibile Zhuwawu, ahima a Zebedeyo. Egali	
ga iiw	Dictionary Entry	×
	vowi for	
wo		
(Li		
aw ,f t.	Other Open Lexicon Close	
a ni	othongi, oohiyanihaga ni masuuzihelo a	

We can open the FLEx dictionary and confirm that "**vowi**" has been added and do any editing that we want to do to that entry. Click on the "Open Lexicon" button. FLEx will open and display the entry for "**vowi**". We could add grammatical information, full definitions, an example sentence or anything else we would wish to have in our dictionary.

Intries			🕤 Entry	
adword	Lexeme Form	₽	vowi for	
how All	✓ Show All	~ ^		
volosiha	volosih		Lexeme Form	Tak <b>vowi</b>
volowa	volow		Morph Type	stem
/onya	vony		Citation Form Components	Tak
voreya	vorey		Note	Eng
-				Por
otibeya	votibeya		Singular Plural	
owi	vowi		Messages	
rudda	vudd		-	2.
			Sense 1	5
rugulela	vugulel		Gloss	Eng <b>for</b> . Por
ruguwa	vuguw		Definition	Eng
vula	vul			Por
/ula	vu		Grammatical Info.	<not sure=""></not>
vuma <sub>2</sub>	vum		Example	······································
uma <sub>1</sub>	vum		Semantic Domains	
-		> ~	Lexical Relations	

### V Finding a word in the dictionary when Spell Check is turned on

When spell check is turned on (there are red squiggle underlines), then you cannot use the **Find in Dictionary** or **Find related Words** function by using a right-click on any words that are underlined by the spell checker. When you right-click on a word underlined by the spell checker, the spell checker opens. To get around this problem there is a keyboard shortcut that allows you to use the **Find in Dictionary** function on underlined words. The short cut key is **ctrl+d**. You may want to look up a word in the FLEx dictionary even if Paratext does not know if the word is spelled correctly or not, because it may already be in the FLEx dictionary with an approved spelling from some other source such as traditional stories that have been collected or other methods of building a dictionary such as the "Rapid Word Collection" method.

We will demonstrate this in action. Open the Paratext project TKE\_GaA, and navigate once again to Mark 1:16. Click on the spell check tool on the toolbar. Some of the words in Mark should become underlined.

✓ Paratext 7.6         File       Edit       View       Insert       Tools       Project       Checking       Window       Help         ← ~ ⇒ ~       😂       🛁       A ~       TKE_GaA       - Gospe ~       MRK ~       1       •       18       •       p - Paragraph - Normal ~       ↓        Image: Comparison of the second	L   #A 😻	× 🗄 🔮 1
(A) TKE_GaA MRK 1:18 (Jeff Shrum, Alan Yam) ★ ▲ ▲ ✓ ★ ▲ ▲ ✓ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★	^	(A) BT1 MR (net)fishe fishermen followed people. Ti were prep left their :
omuharaga Yesu. \s1 Yesu onowiigara muneba wootakala mwa mulobwana oKafaranawu \r (Luka 4.31-37) \p <sup>\v 21</sup> Aliwa yahidhowaga oKafaranawu. Vano nigafiyile nlabo na sabuddu, Yesu ahivolowaga mu nyuba ya matugumano, <sup>f</sup> wambeela osuuziha. <sup>\v 22</sup> Athu yootikinaga dhosuuziha dhaaye, mwaha oosuuzihaga ni othongi, oohiyanihaga ni masuuzihelo a	~	\p <sup>\v 21</sup> entered in his teachi

Place your cursor inside of the word "**anamatota**" in Mark 1:16. Press **Ctrl+d**. It will invoke the **Find in Dictionary** function and return the gloss from the FLEx dictionary.

🖌 (A) TKE_GaA MRK 1:16 (Jeff Shrum, Alan Yam)	83
👕 🕹 😼 🖌 👻 46 Not Finis	hed
\r (Matewuzhi 4.18-22; Luka 5.1-11)	^
🗤 🗤 🖬 🗌 Yesu eeddaga seresere ya Nyaza ya oGalileya, ahawoonaga addibila abiili, Simawu	
ni <u>Andire</u> , evokedhaga mathavi munyaza, vowi yaali <mark>anamatota</mark> . 🛚 <sup>17</sup> 🔲 Vano Yesu	
ahawaaddelaga, wiira: < <mudhe <u="" guwiireni="" mugiharege,="">anamatota a athu&gt;&gt;. 🛚 🗌</mudhe>	
Mowaaguva aliwa yahaahiyaga mathavi eewa, omuharaga. 🛛 19 🔲 Egeeddile vang'ono, Yesu	
ahawoonaga addibila amohi abiili. Tiyago ni ddibile Zhuwawu, ahima a Zebedevo. Foali	
mmwanddeyani ni babiiwa esasanyedha: Dictionary Entry	
ahawiithanaga. Aliwa yahimwihiyaga bab omuharaga Yesu. <b>anamatota</b> fishermen	
-	
∖sı Yesu <u>onowiigara</u> muneba v	
\ <sub>P</sub> <sup>™ 21</sup> Aliwa yahidhowaga oKafarana Other Open Lexicon Close	
ahivolowaga mu nyuba ya matugumano, wambeela osuuziha. 🕊 🖉 🛛 Athu yootikinaga	
dhosuuziha dhaaye, mwaha oosuuzihaga ni othongi, oohiyanihaga ni masuuzihelo a	~

(Note: There is no similar keyboard shortcut to invoke the **Related Words** function while the spell checker is activated.)

### VI Adding a word to the dictionary when Spell Check is turned on

It is also possible to add a new word to the FLEx dictionary while ParaTExt's spell checker is enabled. We will add the word "vang'ono" from Mark 1:19 to the FLEx dictionary. Navigate to Mark 1:19. Turn on spell check if it is not still on. Place the cursor in the middle of "vang'ono". Press **Crtl+d**.

Andire, evokedhaga mathavi munyaza, vowi yaali anamatota. <sup>17</sup> Vano Yesu ahawaaddelaga, wiira: < <mudhe a="" anamatota="" athu="" guwiireni="" mugiharege,="">&gt;. <sup>18</sup> Mowaaguva aliwa yahaahiyaga mathavi eewa, omuharaga. <sup>19</sup> Egeeddile vang'ono, Yesu ahawoonaga addibila amohi abiili. Tiyago ni ddibile Zhuwawu, ahima a Zebedeyo. Egali mmwanddeyani ni babiiwa ahawiithanaga. Aliwa yahim omuharaga Yesu. Yesu onowiigar: <sup>21</sup> Aliwa yahidhowaga mu nyuba ya matugumano mwaha oosuuzihaga ni oth <sup>23</sup> Mu nyuba ya matugumano mwaha oosuuzihaga ni oth <sup>23</sup> Mu nyuba ya matugumano mwaha oosuuzihaga ni oth <sup>23</sup> Mu nyuba ya matugumano mwaha oosuuzihaga ni oth <sup>23</sup> Mu nyuba ya matugumano mwaha oosuuzihaga ni oth <sup>23</sup> Mu nyuba ya matugumano mwaha oosuuzihaga ni oth <sup>23</sup> Mu nyuba ya matugumano mwaha oosuuzihaga ni oth <sup>24</sup> Mu nyuba ya matugumano mwaha oosuuzihaga ni oth <sup>23</sup> Mu nyuba ya matugumano mwaha oosuuzihaga ni oth <sup>24</sup> Mu nyuba ya matugumano mwaha oosuuzihaga ni oth <sup>23</sup> Mu nyuba ya matugumano matugu oo ona avulumu 1.2 Malakiya 3.1. 1.3 Ezaya 40.3 (Bibiliya S 1.6 Namavuhulela Eliyazi dhinatoonya wi Zhuwawu a 1.11 Moone Wambeela 2: 1.2 Nyuba dha matugu oo oosuuzamo Malamulo, mbwenye teto yowaathongamo at yahaahanhamo Malamulo a aZhudewu.</mudhe>	(A) TKE_GaA MRK 1:19		
ahawaaddelaga, wiira: < <mudhe a="" anamatota="" athu="" guwiireni="" mugiharege,="">&gt;. <sup>18</sup> Mowaaguva aliwa yahaahiyaga mathavi eewa, omuharaga. <sup>19</sup> <u>Egeeddile vangono</u>, Yesu ahawoonaga addibila amohi abiili. Tiyago ni ddibile Zhuwawu, ahima a Zebedevo. Egali mmwanddeyani ni babiiwa ahawiithanaga. Aliwa yahim omuharaga Yesu. Yesu onowiigar: <sup>21</sup> Aliwa yahidhowaga mu nyuba ya matugumano mwaha oosuuzihaga ni oth <sup>23</sup> Mu nyuba ya matug wootakala. Ahikuwaca ni nc 1.1 Kirixtu mu ewogelo y Mulugu, oyene onaavulumu 1.2 Malakiya 3.1. 1.3 Ezaya 40.3 (Bibiliya S 1.6 Namavuhulela Eliyazi dhinatoonya wi Zhuwawu a 1.11 Moone Wambeela 2: <b>Coro Create Cancel</b> <b>a</b>sa eewa kayaali oolobelamoove, naari osuuzamo Malamulo, mbwenye teto yowaathongamo at</mudhe>	🕆 🦆 🍓 🗸 •		46 Not Fi
Yesu onowiigar:       Vang'ono       Takwane         21       Aliwa yahidhowaga mu nyuba ya matugumano mwaha oosuuzihaga ni oth 23       Mu nyuba ya matug wootakala. Ahikuwaga ni nc       Iakwane       Vaga aaye, lo.         23       Mu nyuba ya matug wootakala. Ahikuwaga ni nc       Iakwane       Vaga aaye, lo.         1.1 Kirixtu mu ewogelo y Mulugu, oyene onaavulumu 1.2 Malakiya 3.1.       Iakwane       Iakwane         1.3 Ezaya 40.3 (Bibiliya S 1.6 Namavuhulela Eliyazi dhinatoonya wi Zhuwawu a 1.11 Moone Wambeela 2.       Iakwane       Iakwane         1.21 Nyuba dha matugu eewa kayaali oolobelamoove, naari osuuzamo Malamulo, mbwenye teto yowaathongamo at       Jasa	ahawaaddelaga, wiira: < <n Mowaaguva aliwa yahaahiy ahawoonaga addibila amoh mmwanddeyani ni <u>babiiwa</u> ahawiithanaga. Aliwa yahim</n 	udhe mugiharege, guwiireni anamatota a ath aga mathavi eewa, omuharaga. <sup>19</sup> Egeed abiili. Tiyago ni ddibile Zhuwawu, ahima a Ze Find in Dictionary	nu>>. <sup>18</sup> dile vang'ono, Yesu bedeyo. Egali ×
21       Aliwa yahidhowaga mu nyuba ya matugumano mwaha oosuuzihaga ni oth 23       Headword       Allomorphs       Glosses       vaga aaye, lo.         23       Mu nyuba ya matug wootakala. Ahikuwaga ni nc 1.1 Kirixtu mu ewogelo y Mulugu, oyene onaavulumu 1.2 Malakiya 3.1. 1.3 Ezaya 40.3 (Bibiliya S 1.6 Namavuhulela Eliyazi dhinatoonya wi Zhuwawu a 1.11 Moone Wambeela 2. 1.21 Nyuba dha matugu eewa kayaali oolobelamoove, naari osuuzamo Malamulo, mbwenye teto yowaathongamo at       nda	-	Find: vang'ono	kwane 🗸
<ul> <li><sup>21</sup> Aliwa yahidhowaga mu nyuba ya matugumano mwaha oosuuzihaga ni oth</li> <li><sup>23</sup> Mu nyuba ya matug wootakala. Ahikuwaga ni ng</li> <li><sup>21</sup> Aliwa yahidhowaga mu gu wootakala. Ahikuwaga ni ng</li> <li><sup>23</sup> Mu nyuba ya matug wootakala. Ahikuwaga ni ng</li> <li><sup>23</sup> Alikuwaga ni ng</li> <li><sup>24</sup> Alikuwaga ni ng</li> <li><sup>25</sup> Alikuwaga ni ng</li> <li><sup>25</sup> Alikuwaga ni ng</li> <li><sup>25</sup> Alikuwaga ni ng</li> <li><sup>26</sup> Alikuwaga ni ng</li> <li><sup>27</sup> Alikuwaga ni ng</li> <li><sup>28</sup> Alikuwaga ni ng</li> <li><sup>28</sup> Alikuwaga ni ng</li> <li><sup>28</sup> Alikuwaga ni ng</li> <li><sup>29</sup> Alikuwaga ni ng</li> <li><sup>29</sup> Alikuwaga ni ng</li> <li><sup>29</sup> Alikuwaga ni ng</li> <li><sup>29</sup> Alikuwaga ni ng</li> <li><sup>20</sup> Alikuwaga ni ng</li> <li><sup>20</sup></li></ul>	Yesu onowiigara		
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mu nyuba ya matugumano mwaha oosuuzihaga ni oth <sup>23</sup> Mu nyuba ya matug wootakala. Ahikuwada ni nd <b>1.1</b> <i>Kirixtu</i> mu ewogelo y <i>Mulugu</i> , oyene onaavulumu <b>1.2</b> Malakiya 3.1. <b>1.3</b> Ezaya 40.3 (Bibiliya S <b>1.6</b> Namavuhulela Eliyazi dhinatoonya wi Zhuwawu a <b>1.11</b> Moone Wambeela 2: <b>1.21</b> <i>Nyuba dha matugu</i> eewa kayaali oolobelamoove, naari osuuzamo Malamulo, mbwenye teto yowaathongamo at	<sup>21</sup> Aliwa vahidhowaga		vaga
<ul> <li>mwaha oosuuzihaga ni oth</li> <li><sup>23</sup> Mu nyuba ya matug</li> <li>wootakala. Ahikuwada ni nd</li> <li><b>1.1</b> <i>Kirixtu</i> mu ewogelo y</li> <li><i>Mulugu</i>, oyene onaavulumu</li> <li><b>1.2</b> Malakiya 3.1.</li> <li><b>1.3</b> Ezaya 40.3 (Bibiliya S</li> <li><b>1.6</b> Namavuhulela Eliyazi</li> <li><i>I.6</i> Namavuhulela Eliyazi</li> <li><i>I.71 Nyuba dha matugu</i></li> <li><i>Go To</i> Create Cancel</li> <li><i>Jasa</i></li> <li><i>Lat Nyuba dha matugu</i></li> <li><i>Jasa</i></li> </ul>			-
<ul> <li><sup>23</sup> Mu nyuba ya matug wootakala. Ahikuwada ni no</li> <li><b>1.1</b> <i>Kirixtu</i> mu ewogelo y <i>Mulugu</i>, oyene onaavulumu</li> <li><b>1.2</b> Malakiya 3.1.</li> <li><b>1.3</b> Ezaya 40.3 (Bibiliya S</li> <li><b>1.6</b> Namavuhulela Eliyazi i hinatoonya wi Zhuwawu a</li> <li><b>1.11</b> Moone Wambeela 2:</li> <li><b>1.21</b> <i>Nyuba dha matugu</i></li> <li>Jasa</li> <li>Bewa kayaali oolobelamoove, naari osuuzamo Malamulo, mbwenye teto yowaathongamo at</li> </ul>			
wootakala. Ahikuwada ni no         1.1 Kirixtu mu ewogelo y         Mulugu, oyene onaavulumu         1.2 Malakiya 3.1.         1.3 Ezaya 40.3 (Bibiliya S         1.6 Namavuhulela Eliyazi ;         thinatoonya wi Zhuwawu a         1.11 Moone Wambeela 2:         Go To       Create         Cancel         Jasa         eewa kayaali oolobelamoove, naari osuuzamo Malamulo, mbwenye teto yowaathongamo at			10.
1.1 Kirixtu mu ewogelo y       ruliwa         Mulugu, oyene onaavulumu       1.2 Malakiya 3.1.         1.3 Ezaya 40.3 (Bibiliya S       nda         1.6 Namavuhulela Eliyazi       nda         dhinatoonya wi Zhuwawu a       GoTo Create Cancel         1.21 Nyuba dha matugu       asa         eewa kayaali oolobelamoove, naari osuuzamo Malamulo, mbwenye teto yowaathongamo at			
Mulugu, oyene onaavulumu         1.2 Malakiya 3.1.         1.3 Ezaya 40.3 (Bibiliya S         1.6 Namavuhulela Eliyazi         dhinatoonya wi Zhuwawu a         1.11 Moone Wambeela 2.         1.21 Nyuba dha matugu         asa         eewa kayaali oolobelamoove, naari osuuzamo Malamulo, mbwenye teto yowaathongamo at	wootakala. Allikuwada lii lit		
Mulugu, oyene onaavulumu         1.2 Malakiya 3.1.         1.3 Ezaya 40.3 (Bibiliya S         1.6 Namavuhulela Eliyazi         Ihinatoonya wi Zhuwawu a         1.11 Moone Wambeela 2.         1.21 Nyuba dha matugu         asa         aewa kayaali oolobelamoove, naari osuuzamo Malamulo, mbwenye teto yowaathongamo at	<b>1.1 <i>Kirixtu</i> mu ewogelo v</b>		uliwa
1.2 Malakiya 3.1.         1.3 Ezaya 40.3 (Bibiliya S         1.6 Namavuhulela Eliyazi         dhinatoonya wi Zhuwawu a         1.11 Moone Wambeela 2.         GoTo       Create         Cancel         Jasa         eewa kayaali oolobelamoove, naari osuuzamo Malamulo, mbwenye teto yowaathongamo at			
1.3 Ezaya 40.3 (Bibiliya S         1.6 Namavuhulela Eliyazi         1.6 Namavuhulela Eliyazi         1.6 Namavuhulela Eliyazi         1.11 Moone Wambeela 2:         1.21 Nyuba dha matugu         asa         eewa kayaali oolobelamoove, naari osuuzamo Malamulo, mbwenye teto yowaathongamo at			
1.6 Namavuhulela Eliyazi       , nda         hinatoonya wi Zhuwawu a       GoTo       Create       Cancel         1.11 Moone Wambeela 2:       GoTo       Create       Cancel         1.21 Nyuba dha matugu       ,			
hinatoonya wi Zhuwawu a <b>1.11</b> Moone Wambeela 2: <b>1.21 Nyuba dha matugu</b> eewa kayaali oolobelamoove, naari osuuzamo Malamulo, mbwenye teto yowaathongamo at			nda
1.11 Moone Wambeela 2:       Go To       Create       Cancel         1.21 Nyuba dha matugu       Jasa         Beewa kayaali oolobelamoove, naari osuuzamo       Malamulo, mbwenye teto yowaathongamo at			v Ilda
<b>1.21 <i>Nyuba dha matugu</i></b> asa sewa <u>kayaali oolobelamoove</u> , naari <u>osuuzamo</u> Malamulo, mbwenye teto <u>yowaathongamo</u> at		Go To Creat	Cancel
eewa <u>kayaali oolobelamoove</u> , naari <u>osuuzamo</u> Malamulo, mbwenye teto <u>yowaathongamo</u> at			
			~~~
<u>/ahaaharihamo</u> Malamulo a a∠hudewu.	***************************************		o yowaathongamo at
	<u>yahaaharihamo</u> Malamulo a	aZhudewu.	

- Click on the **Create** button on the bottom of the pop up window.
- Type in the gloss "**small**". Then click on **Create** button. The pop up window will close and there will now be an entry in FLEx dictionary for "**vang'ono**".

ahawaaddelaga, wiira: < Mowaaguva aliwa yahaa ahawoonaga addibila am mmwanddeyani ni babiiw	Mudhe n hiyaga ma nohi abiili. T ya esasany	vaza, vowi yaali anamatota. <sup>17</sup> Vano Yesu nugiharege, guwiireni anamatota a athu>>. <sup>18</sup> thavi eewa, omuharaga. <sup>19</sup> Egeeddile vang'ono Tyago ni ddibile Zhuwawu, ahima a Zebedeyo. Ega vedhaga mathavi eewa. <sup>20</sup> Mowaaguva Yesu a <u>babiiwa Zebedeyo</u> ni anamalaba aaye mmwand	ali
Yesu <u>onowi</u>	🖉 New Entry	×	1
<ul> <li><sup>21</sup> Aliwa yahidhowa mu nyuba ya matugum mwaha oosuuzihaga ni</li> <li><sup>23</sup> Mu nyuba ya mawootakala. Ahikuwada</li> <li><sup>3</sup> 1.1 Kirixtu mu ewoga Mulugu, oyene onaavulu</li> <li>1.2 Malakiya 3.1.</li> </ul>	Lexeme Form Gloss muse athu	small English ~	olowag dhaay mulo. esu sakuli

# VII Using Find in Dictionary and Related Words from within the Wordlist tool.

The **Find in Dictionary** and **Related words** functions are accessible from within the wordlist tool. Sometimes you may be working in the wordlist tool and you want to know what a word means, or add a word to the FLEx dictionary. It is not necessary to close the wordlist tool to work with the FLEx dictionary.

In the following example we will be using a word that has a spelling status of "correct" in Paratext.

- Open the TKE\_GaA project navigate to Mark 1:16.
- Place the cursor inside of the word "seresere" and right-click. Select Word List....

⊨ - ⇒ -   📂 🛃   A - TKE_GaA - Gos	ject Checking Window Help spe ▼ MRK ∨ 1 ↓ 16	🔸 😻 🛍 📾 🕹 ا
🎽 (A) TKE_GaA MRK 1:16		
😭 🦊 🍓 🗸 -		
	(Matewuzhi 4.18-22; Lu	
<sup>16</sup> Yesu eeddaga seresere evokedhaga mathavi muny	<u>va Nvaza va oGalileva aba</u> Insert Note Ctrl+Shift+N	woonaga addibila abiili, Sin ]] Vano Yesu ahawaaddela
< <mudhe guv<="" mugiharege,="" td=""><td>Wordlist</td><td>Mowaaguva aliwa yaha</td></mudhe>	Wordlist	Mowaaguva aliwa yaha
eewa, omuharaga. 19 🗌 🗮	Spelling	naga addibila amohi abiili.
Zhuwawu, ahima a Zebede	Cut Ctrl+X	wa esasanyedhaga math
dhinatoonya wi Zhuwawu a	Copy Ctrl+C	u 11.22; Zakariya 13.4.
<b>1.11</b> Moone Wambeela 2	Paste Ctrl+V	7.
1.21 Nyuba dha matugi 👝	Find in Dictionary	-rego <u>dheeriwa</u> <i>sinagoga</i> .
kayaali oolobelamoove, na 💝 yahaaharihamo Malamulo a	Find Related Words	ye teto <u>yowaathongamo</u>
<b>1.24</b> Mu ewogelo ya eGe	View Biblical Terms	ye mmurenddeleni.
<b>1.40</b> <i>Maredda</i> mu ewog	View History for Verse(s)	Idave mbwenye teto dhir
hiyana dha nikupa na muth	Guess Translations	,
1.40 Oaeeliha Naari wi: /		
	Mark Selected Verse As Finished	

After opening the wordlist tool "**seresere**" should be displayed in the middle of the wordlist.

ll v	vords 👻 All Books	- Find Word	<ul> <li>Filter Text</li> </ul>				
?	Word #	Hy	yphenation	Spe	lling		Count
	Semeyini	≪ S	e=meyi=ni	2		×	1
	Semu	≪ S	e=mu	2		×	1
	sentaavu	≪ s	en=taa=vu	2		×	2
?	Seputuwazhinta	≪ S	e=pu=tu=waz=hin=ta	2		×	3
2	seresere	≪ s	e=re=se=re	2		×	35
?	Serizhiyu	√s	e=riz=hiyu	2		×	1
?	Serugi	≪ S	e=ru=gi	2		×	2
?	Seti	≪ S	e=ti	?		×	1
?	Seva	≪ S	e=va	2		×	1
?	sevada	≪ s	e=va=da	2		×	2
2	Sezareya	√s	e=za=reya	2		×	2
2	Sezari		e=za=ri	2		×	32
	d						
MA MA MA MA MA MR MR MR MR	<ul> <li>4:18 \v 18 Yesu eeddaga seresere y</li> <li>13:1 ahivenyaga vaade, okaraati ser</li> <li>13:1 ahivenyaga vaade, okaraati ser</li> <li>13:4 bewu dhimohi dhahimorelaga si</li> <li>13:19 eli wona bewu yamorelege sere</li> <li>15:29 agamaruwe vevale, agelege sere</li> <li>20:30 abiili oohoona yakaraatilege sere</li> <li>21:3 dila emohiwa odhowa seresere</li> <li>21:3 dila emohiwa odhowa seresere</li> <li>21:4 waaligi mwinko waaddamela sere</li> <li>22:4 anamwinji yahitugumanaga sere</li> <li>23:4 wordlist tool to review spelling, hyphenation and morphologica</li> </ul>	resere ya nyaza. eresere ya dila, ba esere ya dila. Nam resere ya Nyaza y resere ya rampa, ya Nyaza ya oGalil e ya nyaza. Athu a ya Nyaza ya oGalile eresere ya nyaza ya resere ya nyaza ya	alame dhahidhaaga nbure\f + \fr ya oGalileya, ogwela egeewile wi Yesu eya, jinjeene eya. waaligi athu aatene.				
<u>lor</u>	4 of 12674 Words (0 valid, 2 invalid, 12672 unknown)						

### A) Example of Finding in Dictionary in Biblical Terms Tool

The **Find in Dictionary** and **Related Word** functions can be found in the **Edit** menu or you can use the shortcut key **Crtl+d** for **Find in Dictionary**.

Procedure:

- Click on **Edit**
- Click on Find in Dictionary.

🖉 w	- Nord list: TKE_GaA			-	-
File	Edit View Tools				
All wo	Set Spelling Status - Correct Ctrl+Y	Find Word     Filter Text			
	Set Spelling Status - Incorrect Ctrl+N				
? V	Set Spelling Status - Undecided Ctrl+U	Hyphenation Se=ta=si	Spelli	ng IV	X
	Approve Word Hyphenation Ctrl+A	✓ Se=ku=ndu	2		¥
	Edit Word Hyphenation Ctri+Shirt+A	√ Se=la	2		
	S Copy Ctrl+C	√ se=lu	2	$\checkmark$	×
?	S Copy References to Clipboard	Se=meyi=ni	2	$\checkmark$	×
?	S Copy References to List Window	√ Se=mu	2	$\checkmark$	×
2	S Find Ctrl+F	✓ sen=taa=vu	2		×
	Replace Ctrl+H	✓ Se=pu=tu=waz=hin=ta	2		<b>X</b>
	Find in Dictionary Ctrl+D			H	
	S Find Related Words	se=re=se=re	2		×
?	Serizhiyu	≪ Se=riz=hiyu	2	$\checkmark$	×
?	Serugi	≪ Se=ru=gi	2	$\checkmark$	×
?	Seti	≪ Se=ti	2		×
MAT	4:13 oKafaranawu, oli waaddame	la <b>seresere</b> ya nyaza, mmigaano dha			
MAT					

A pop up will give the glosses for all senses of "**seresere**". In this case, we can see that "**seresere**" has two senses.

Z	Word list: TKE_GaA			-	-
Fil	e Edit View Tools				
All w	vords   All Books	Find Word     Filter Text			
?	Word #	Hyphenation	Spelli	ng	
?	seenyu	≪ seen=yu	2	$\checkmark$	×
?	seerile	≪ see=ri=le	2	$\checkmark$	×
?	Sefasi	≪ Se=fa=si	2	$\checkmark$	×
?	Sekundu	≪ Se=ku=ndu	2	$\checkmark$	×
?	Sela	≪ Se=la	2	$\checkmark$	×
?	selu	≪ se=lu	2	$\checkmark$	×
?	Semeyini	≪ Se=meyi=ni	2	$\checkmark$	×
?	Semu	√Se=mu	2	$\checkmark$	×
?	sentaavu	Dictionary Entry	2	$\checkmark$	×
?	Seputuwazhinta	<b>seresere</b> 1) <i>n</i> shore of lake, ocean or other	2	$\checkmark$	×
2	seresere	large body of water 2) n river bank	2	$\checkmark$	×
?	Serizhiyu		2	$\checkmark$	×
MAT	1 4:13 oKafaranawu, oli waaddamela	Other Open Lexicon Close			
MAT	4:18 \v 18 Yesu eeddaga seresere	ya Nyaza ya oGalileya			
MAT	۲ 13:1 ahivenyaga vaade, okaraati <b>se</b>	eresere ya nyaza.			

### B) Example of finding Related Words in Biblical Terms Tool

Now let's try the **Related Word** function. There is no keyboard shortcut for this function.

#### **Procedure:**

• Click on the Edit menu, then choose Related Word.

A pop up will appear with any words with the same gloss as "**seresere**" which in this case is none, and it will list any words that share a semantic domain with "**seresere**".

<u>//</u> v	Vord list:	TKE_GaA		
File	Edit	View Tools		
All w	ords	✓ All Books	Find Word     Filter Text	
?	Word #	u	Hyphenation Been-yer	
?	seeril	e	≪ see=ri=le	
?	Sefas	i	Se=fa=si	
?	Seku	ndu	Find Related Words	
?	Sela		No words have the same gloss as seresere	
?	selu		1	
?	Seme	vini		
?	Semu	-	Words related by semantic domain to seresere:	
	senta		1.2.1 - Land: muva, Takwani	
			1.3.1 - Bodies of water: ihinje, mahinje, rugw, wiiko	-
2		tuwazhinta	1.3.1.1 - Ocean, lake: nthiya, nyaza 1.3.1.3 - River: ihinje, kolopa, mahinje, njiji, wiiko	
2	seres		1.3.1.5 - Island, shore: ihinje, mahinje, njiji, wiiko	
?	Seriz	niyu		
MAT	4:13	oKafaranawu, oli waaddam	n	
MAT	4:18	\v 18 Yesu eeddaga seres	51	
MAT	13:1	ahivenyaga vaade, okaraat		
MAT	13:4	bewu dhimohi dhahimorela	а	
MAT	13:19	eli wona bewu yamorelege	2	L
	15:29	agamaruwe vevale, ageleg	-	
	20:30	abiili oohoona yakaraatilege	-	L
	1:16	\v 16 Yesu eeddaga seres		
	2:13	dila emohiwa odhowa sere		
MRK	4:1	osuuziha dila emohi serese	sere ya Nyaza ya oGalileya.	

# VIII Power from added Prefixes and Suffixes in FLEx dictionary.

If you have a word form analysis of a word in FLEX then the **Find in Dictionary** function will be able to find the stem and affixes of an inflected word form. For example in project **TKE\_GaA** in Mark 1:16 the word "**mathavi**" is plural and means "nets". If we try and find "**mathavi**" in the dictionary it cannot find it.

👔 🦊 🏙 🗸 🗉						46 N
	(Mat	ewuzhi 4.1	8-22; Luka	5.1-11)		
<sup>16</sup> Yesu eeddaga seresere Andire, evokedhaga mathavi r ahawaaddelaga, wiira: < <mu Mowaaguva aliwa yahaahiyag</mu 	nuny Ihe r	/aza, vowi	yaali anam	atota. 17 🗌	Vano Yesu	
ahawoonaga addibila amohi a mmwanddeyani ni <u>babiiwa</u> es ahawiithanaga. Aliwa yahimw	Find:	mathavi	-		Takwane	~
omuharada Yesu	Head	word	Allomor	hs (	Glosses	^
dhinatoonya wi Zhuwawu aal 1.11 Moone Wambeela 22. 1.21 Nyuba dha matugun eewa kayaali oolobelamoove yowaathongamo athu yahaal 1.24 Mu ewogelo ya eGere (A) BT1 MRK 1:16 (Jeff Shrum)						~
$p^{w^{16}}$ Jesus was walkin and Andrew were throwing				Go To	Create	Cancel

This problem stems from the standard practice of using the singular form as the entry in the FLEx dictionary, so the **Find in Dictionary** function will not find a match. If we parse the word into morphemes in **Analyze** tab of FLEx's interlinearizer, or approve an analysis of the word in **Word Analyses** area, then the **Find in Dictionary** function can identify the plural prefix "**ma-**" and the stem "**thavi**" and return a match.

### A) Example of parsing "mathavi":

exts & Words	Texts	Text													
Interlinear Texts     Concordance     Complex Concordance     Word List Concordance	Title 🛤	Title	Eng Mark 1:16-20		Print View	Text Chart									
Word Analyses	Fishing		Word		aga sere		Neuro		-Cel	leva , ahawo	onaga addil	oila abiili	. Simaw		
Bulk Edit Wordforms Statistics	Maruku (Title)	1:10	Morphemes	1esu eeuu		esere ya	Nyaza nyaza	ya ***	oGai ***	teya, anawoo	maga auun	***	, 51maw	1	
	Maruku 1:12-13		Lex. Entries	*** ***		sere ***	nyaza	***	***	***	***	***	***		
	Maruku 1:12-13 (Heac		Lex. Gloss	*** ***	sho		ocean; large lal			***	***	***	***		
	Maruku 1:14-15		Lex. Gram. Info. Word Gloss	*** ***	n sho	***	n ocean: large lal	*** ke ***	***	***	***	***	***		
	Maruku 1:14-15 (Head		Word Cat.		n		n	***	***	***	***	***	***		
	Maruku 1:16-20	ni	Andire ,	evokedhaga	mathavi	mu	nyaza	, vowi	yaali	anamatota					
	Maruku 1:16-20 (Heac	ni	***	***	ma-	thavi 💌 au	nyaza	***	***	anamatota					
	Maruku 1:1-8	ni and: v	***	***	ma-	thavi		***	***	anamatota fishemen					
	Maruku 1:1-8 (Headin	<not< td=""><td>Sure&gt; ***</td><td>***</td><td>5/6.pl n:(NCl)</td><td>net **** n 5/6 ****</td><td></td><td>***</td><td>***</td><td><not sure=""></not></td><td></td><td></td><td></td><td></td><td></td></not<>	Sure> ***	***	5/6.pl n:(NCl)	net **** n 5/6 ****		***	***	<not sure=""></not>					
	Maruku 1:1-8 Footnot	and; v ***	vith *** ***	***	nets. n			***	***	fishermen ***					
Lexicon	Maruku 1:1-8 Footnot														
Texts & Words	Maruku 1:1-8 Footnot	Free	I.												
,	Maruku 1:1-8 Footnot	1.17	Word	Vano	Ver	ahawaaddelaga	, wiira		Mudhe	mugiharege ,			_	athu	
Grammar	Maruku 1:21-28	1:17	Morphemes	vano	Yesu ***	***	, wiira	: <<	***	***	guwiireni ***	anamatota anamatota	a ***	auiu ***	
Notebook	Maruku 1:21-28 (Head		Lex. Entries	vano	***	***	wiira		***	***	***	anamatota	***	***	
Lists	Maruku 1.21-28 Foot		Lex. Gloss	then; now	***	***	do; say		***	***	***	fishermen	***	***	
<b>.</b>	< >> V		Lex. Gram. Info.	<not sure=""></not>	***	***	v		***	***	***	<not sure=""></not>	***	***	
Sep/2015 Queue: (-/-/	-) No Parser Loaded											Sorted	by Title	8/6	i79

### B) Example using Find in Dictionary function on a word with a FLEx word analysis:

Once we have successfully analyzed the morphemes of "mathavi" and entered a word analysis into FLEx, the Find in Dictionary function can identify the stem and prefixes and returns matches on them from the FLEx lexicon.

🖉 (A) TKE_GaA MRK 1:16	
👔 🦊 🎂 🗸 -	46 No
(Matew	vuzhi 4.18-22; Luka 5.1-11)
Andire, evokedhaga mathavi munyaz ahawaaddelaga, wiira: < <mudhe mu<br="">Mowaaguva aliwa yahaahiyaga math</mudhe>	vaza ya oGalileya, ahawoonaga addibila abiili, Simawu n za, vowi yaali anamatota. <sup>17</sup> Vano Yesu giharege, guwiireni anamatota a athu>>. <sup>18</sup> avi eewa, omuharaga. <sup>19</sup> Egeeddile vang'ono, Yesu ago ni ddibile Zhuwawu, ahima a Zebedeyo. Egali Dictionary Entry nthavi n fishing net ma- n 5/6.pl
<b>1.6</b> Namavuhulela Eliyazi <u>ahiwara m</u>	
dhinatoonya wi Zhuwawu aali namav	
	Other Open Lexicon Close

It is beyond the scope of this module to teach how to parse/analyze words in FLEx. That is a very complicated topic and is a whole other skill that needs adequate time to study and master, but may well be worth your while to learn. There is information in Help, and the resource "Introduction to Parsing" found at HelpàRecourses.

### IX Translation Suggestions taken from FLEx dictionary

Translation suggestions - FieldWorks looks through the lexicon to recommend words

- PT Tools->Biblical Terms
- You must then make sure you are using Major Biblical Terms (SIL Semantic Domains)
  - Do this by selecting (in the Biblical terms tool) File->Select Biblical Terms->Select Major Biblical Terms (SIL Semantic Domains) and press OK in the dialog box
- You then select a Greek term
- You can then click the "Translation suggestions" button (at the top of ParaTExt's Biblical term tool) and FLEx will look up any words with:
  - $\circ$  the selected domain or
  - $\circ\,$  gloss in an entry

_	-	or Biblical Ter		. Semantic Domair	is): TKE_	GaA	
				rative Texts 🛛 📑			
<b>*</b>	⇒ •	All terms			Current V		•   F
	*	Tem adelphē	<b></b>	Counts 0/1	Found	Category	si
	☆	adelphos		0/1			br
	☆	ouranos		0/1			G

That might lead you to alternate renderings. You can then add the "suggestion" as one of the renderings for that key term.

### A) Example of searching for possible renderings for a Greek word

Our example will be  $\dot{\alpha}\delta\epsilon\lambda\phi\dot{\eta}$  --- sister; sister.believer in Matthew 12:50.

#### Procedure:

- Open project TKE\_AaG and navigate to Matthew 12:50.
- Right-click on any word in the verse.
- Click on View **Biblical Terms**à **Current verse(s).** Biblical terms tool will open to Mat 12:50.
- Click on FileàSelect Biblical Terms List, and select Major Biblical Terms List (SIL Semantic Domains) if it is not the current Biblical terms list.
- Single click on  $\dot{\alpha}\delta\epsilon\lambda\phi\dot{\eta}$ , then click on the **Translation Suggestion** button on the tool bar. It will return a window with words related by semantic domains, or similar glosses.

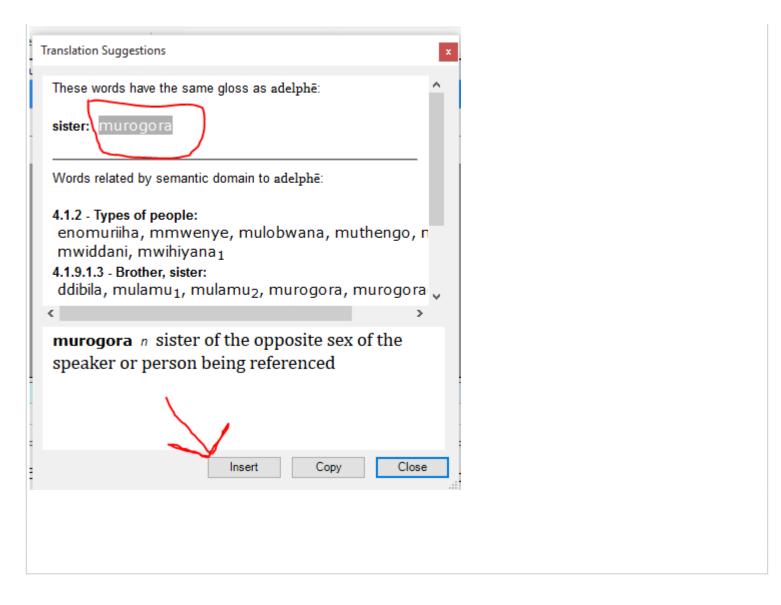
⇐ ⇒	All terms		- Curre	Translation Suggestions	
?・ (ञ) ↓	Tem adelphē	Counts	Fou 0/1	These words have the same gloss as adelphē:	^
			0/1	sister: murogora	
⊠ ☆	ouranos		0/1		
	GaA			<ul> <li>Words related by semantic domain to adelphē:</li> <li>4.1.2 - Types of people: enomuriiha, mmwenye, mulobwana, muthengo, mwaana, mwiddani, mwihiyana1</li> <li>4.1.9.1.3 - Brother, sister: ddibila, mulamu1, mulamu2, murogora, murogoraga, murogoraga a pogo, mweneva</li> <li>4.9.7.1 - Religious person: ddibila, mukumbuzi, muTakwani, namasuuza</li> </ul>	*
<mark>X</mark> MA Mwah a odh	T <u>12:50</u> <u>Edit</u> a wi ole on ulu, oyene o goraga ni ar	dili ddibilaag		Insert Copy Close	
AlL	<i>t</i>	:4L LI.		- <b>A</b>	

### B) Example of adding a Translation Suggestion as an approved rendering of a Greek word

To insert a result of a **Translation Suggestion** look up, click on the desired rendering, and a new menu will appear at the bottom of the pop up box, click on the **Insert** option and it will be inserted into the Biblical terms list as an approved rendering for that Greek word.

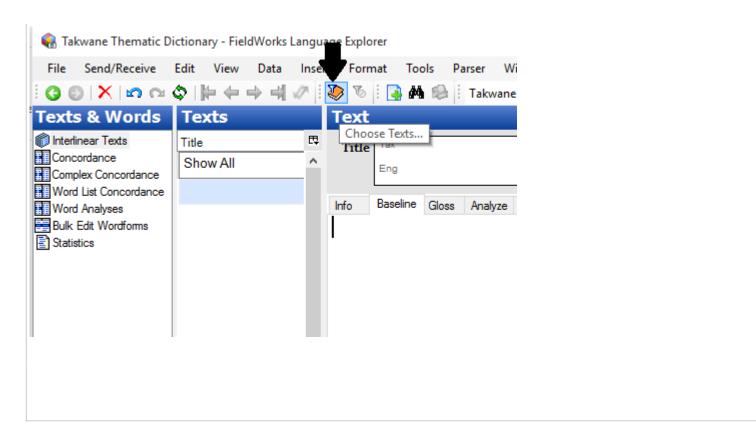
#### Procedure:

- Single click on "**murogora**" in the pop up window. Additional buttons will become active at the bottom.
- Click the Insert button. The pop up window will close, and "murogora" will appear as an approved rendering for ἀδελφή.
- Close the Biblical terms tool.



### X Using FLEx Interlinearizer on Paratext data

Bible books from Paratext can easily be imported into FLEx. After associating a Paratext project to a Fieldworks lexicon, you can go to the **Text & Words** area of FLEx and select the Bible books you want to import.



Click on the **Choose Texts** button and you will get a list of the Bible books that are available in Paratext.

Thoose Texts	×
Select texts to display and use in the Texts & Words area	views:
Dialogue          Metrical Category          Monologue          Word List          Word List	
HIT MRK HIT LUK HIT JHN HIT ACT	
OK Cancel	Help

Check off the Bible books that you want to import and then click the **OK** button. The books will be imported into FLEx in sections like these below. You can now begin analyzing your translation in FLEx.

### Example of Gospel of Mark (Maruku) after it was imported into FLEx

Texts & Words	Texts Title A E Show All	nue	_										
Complex Concordance Word List Concordance Word Analyses	Maruku (Title)	Info	Eng Mark 1:12-1: Baseline Gloss Anal	3 yze Tagging	Print Vie	w Text Chart							
Bulk Edit Wordforms Statistics	Maruku 1:12-13	1:12	Word	Okuma	G	vevale		nowaaguva			a mwiiddeddereni		
	Maruku 1:12-13 (Heading)		Morphemes	💌 okuma		vevale		**	***	***	***	ni	
	Maruku 1:14-15		Lex. Entries Lex. Gloss	<b>▼</b> ***		vevale		***	***	***	***	ni anda antib	
	Maruku 1:14-15 Maruku 1:14-15 (Heading)		Lex. Gloss Lex. Gram. Info. Word Gloss	***		there yonder <not sure=""></not>		**	***	***	***	and; with <not sure=""></not>	
	Maruku 1:14-15 (Fleading)					there yonder		**	***	***	***	and; with	
	Maruku 1:16-20 (Heading)		Word Cat.	***		***		**	***	***	***	***	
	Maruku 1:1-8			•	4 1								
	Maruku 1:1-8 Maruku 1:1-8 (Heading)		a wa Mulugu										
	Maruku 1:1-8 Footnote(1:1)	***	*** Mulugu										
	Maruku 1:1-8 Footnote(1:1) Maruku 1:1-8 Footnote(1:2)	***	*** Mulugu *** God										
	Maruku 1:1-8 Footnote(1:2)	***	*** n										
Lexicon	Maruku 1:1-8 Footnote(1:3)	***	*** God										
Texts & Words	Maruku 1:1-8 Footnote(1:0) Maruku 1:21-28	***	*** n										
Grammar		Free											
Notebook	Maruku 1:21-28 (Heading)	1.10-	Word	Manala	V	ahikalagamo					C-th	ana .	
	Maruku 1:21-28 Footnote(1:21)	1:13a	Morphemes	Mwemule	1 esu ***	anikalagamo	malabo	makumi ***	mannayi ***	eehiwaga ni *** ni	5atn:	ana .	
Lists	Maruku 1:21-28 Footnote(1:24)		Lex. Entries	***	***	***	***	***	***	*** ni	***		
*	< >	-											
	/-) No Parser Loaded										So	rted by Title	3/26

Flex will only import from Paratext if it does not already have a current version of the text. We calculate a checksum on the PT book and store that when we load it into Flex. The next time you choose anything in this book, it sees the checksum hasn't changed, so it doesn't reload it. But as soon as you make a change to the book in PT and save it, it will load it when you go to the Flex chooser, or if it's already checked in the chooser.

### XI Tips and Warnings

- 1. Does not seem to search variant fields.
- If you attempt to change writing systems or other configuration settings in FLEx after you have launched it from within Paratext, you are given stern warnings of possible bad things that will happen. It is recommended that you close Paratext before making any configuration changes to FLEx.
- 3. The Related Words function does not currently work on inflected words in the same way as the Find in Dictionary functions does, which is to say that manually deleting affixes will not help the software to find the stem and return any related words.
- 4. When using the "Translation Suggestion" function in the "Biblical Terms" Tool be aware that your Biblical terms list will revert to the default Biblical terms lists as specified in "Project Properties" every time you open the Biblical Terms Tool. It is recommended that you make "Major Biblical Terms (SIL Semantic Domains)" your default Biblical terms list if you plan to use

the "Translation Suggestions" function frequently.

- 5. Both Paratext and Fieldworks have Send and Receive capabilities but they are separate from each other. Anyone using S/R with both programs should read section 3.5 in Help...Resources...Technical Notes on FieldWorks Send-Receive, or check the equivalent http://fieldworks.sil.org/wp-content/TechnicalDocs/Technical%20Notes%20on%20FieldWorks% 20Send-Receive.pdf<sup>(54)</sup>.Failure to heed these instructions may result in corrupted scripture inside of Flex that requires technical help to try to unravel.
- 6. If you look up information about FLEx in ParaTExt's help you may find references to exporting interlinearized texts from Paratext and importing it into FLEx using a "FlexText" format. Currently FLEx cannot correctly import such files from Paratext.
- 7. If you have problems getting the association between Paratext and FLEx to work, try restarting one or both programs.

### XII Paratext Help File for Reference

How do I find a word in the dictionary for a project?<sup>[55]</sup>

In a Paratext project for which you have associated a FieldWorks lexical pr...<sup>[56]</sup>

In a Paratext project for which you have associated a FieldWorks lexical project, you can display information about a word or display words related by semantic domain.

Display information about a word

If Display Spelling is not selected (on the Checking menu, the icon to the left of the Display Spelling menu item does not have a box around it), do one of the following:

- Right-click a word, and then click Find in Dictionary....
- Click a word. Then, from the Edit menu, select Find in Dictionary....

If Display Spelling is selected (on the Checking menu, the icon to the left of the Display Spelling menu item has a box around it), do the following:

• Click a word and then press Ctrl + D.

A dialog box appears. If FieldWorks Language Explorer is open, you might have to minimize the Paratext window to see the dialog box.

If the word exists in the dictionary, the Dictionary Entry dialog appears with information about it. If the word does not exist in the dictionary, the Find in Dictionary dialog appears. Click Create to open the New Entry dialog and add that word to the dictionary. Then, you can enter information for that word.

A dictionary generally has a mix of whole words and morphemes which make up the words. In contrast, the Wordlist command on the Tools menu makes a list of whole words found in the text of the project.

To display information about a word, you must have FieldWorks 7.1 (or later) installed on your

computer.

Display words related by semantic domain

- Right-click a word, and then click Find Related Words....
- Click a word. Then, from the Edit menu, select Find Related Words....

A dialog box appears. If FieldWorks Language Explorer is open, you might have to minimize the Paratext window to see the dialog box.

If the word is in the dictionary and shares semantic domains with other words, the dialog box will display the related words.

Click a word to see its dictionary definition and words related to it.

To display words related by semantic domain, you must have FieldWorks 7.2 (or later) installed on your computer.

In Paratext 7.6 (and later), the "Find in Dictionary..." and "Find Related Words..." commands are also on the Edit menu of the Wordlist.

Other Paratext help topics (search for them in Paratext help)

- How do I associate a lexical project with a Paratext project?
- What is FieldWorks Language Explorer?

# XIII Harvesting words from Paratext for a Fieldworks Dictionary

If you want to harvest words from Paratext to add words or morphemes to a new or existing Fieldworks database you can use the utility **ParatextLexicon** to convert data from the Paratext interlinearizer into an SFM (Standard Format Marker) file that can then be imported into a Fieldworks database. The basic steps are listed below.

• Step 1: Interlinearize text in Paratext project.

(If you want morphemes in the dictionary, then break the surface forms into morphemes and gloss them as well as the surface/inflected forms. If you have not been breaking words into morphemes in the interlinearizer prior to this, breaking words into morphemes in the Word List tool may be faster.

- Step 2: Download and install ParatextLexiconSetup.exe<sup>[57]</sup>
- Step 3: Create a new Fieldworks project (if one does not exist).

It should have writing systems for the vernacular and one for all the glossing languages used. If you have interlinearized the vernacular in more than one language (for Example, French and English), you will need to already have writing systems for French and English configured as analysis languages in the Fleldworks project. See Help in Fieldworks for more information. If you don't want all the glossing languages from Paratext in your Fieldworks project, you can exclude those fields when importing.

• Step 4: Convert Lexicon.xml to a SFM file

Paralant Lastron			۵	2
	Convert Paratext Lexicon to SFM			
Paralest Lesioon				
SFM File				
		Convert		
		De.		

Click on the button on the end of the "Paratext Lexicon" line.

Navigate to the lexicon.xml file for the Paratext project you wish to convert. Typically "c:\my Paratext projects\xyz\lexicon.xml".

Click on the button on the end of the "SFM File" line. Navigate to the folder where you want to store the SFM that will be created, enter a meaningful name for that file and click Open. Click convert

A pop-up will report a "count of analysis", click "OK"

A pop-up will report a "count of entries", click "OK"

A pop-up will report "conversion complete", click "OK".

• Step 5: Import the SFM file into the desired Fieldworks database.

(An existing one or the one you created in step 3.

File-->Import Standard Format data file

Map data to the appropriate writing systems. To exclude a gloss language from the import, click on the marker in the Content mapping list, click Modify and choose Exclude from Import.

Assign converters if necessary, and import the SFM file into Fieldworks.

See Help or the document under the help menu, "Technical notes on SFM Database import" for more detailed information.

• Your words and morphemes and their glosses are now in your Fleldworks project. Add word categories and other desired information.

<sup>[1]</sup> http://www.sil.org/dictionaries-lexicography/rapid-word-collection-methodology

<sup>[2]</sup> http://lingtran.net/resources?structure=Navmenu

<sup>[3]</sup> https://lingtran.net/How+to+associate+a+FLEx+project+with+a+Paratext+project

<sup>[4]</sup> https://lingtran.net//tiki-print.php?page=Paratext-FLEx+Integration+Tutorial&wp\_files\_sort\_mode1=id\_asc

<sup>(5)</sup> https://lingtran.net//tiki-print.php?page=Paratext-FLEx+Integration+Tutorial&wp\_files\_sort\_mode1=filename \_asc

<sup>[6]</sup> https://lingtran.net//tiki-print.php?page=Paratext-FLEx+Integration+Tutorial&wp\_files\_sort\_mode1=name\_as c

<sup>[7]</sup> https://lingtran.net//tiki-print.php?page=Paratext-FLEx+Integration+Tutorial&wp\_files\_sort\_mode1=descripti on\_asc

<sup>[8]</sup> https://lingtran.net//tiki-print.php?page=Paratext-FLEx+Integration+Tutorial&wp\_files\_sort\_mode1=size\_asc

<sup>[9]</sup> https://lingtran.net//tiki-print.php?page=Paratext-FLEx+Integration+Tutorial&wp\_files\_sort\_mode1=lastModif \_asc

<sup>[10]</sup> https://lingtran.net//tiki-print.php?page=Paratext-FLEx+Integration+Tutorial&wp\_files\_sort\_mode1=last\_use r\_asc

<sup>[11]</sup>https://lingtran.net/display898

<sup>[12]</sup> https://lingtran.net/display898

<sup>[13]</sup> https://lingtran.net/display898

<sup>[14]</sup> https://lingtran.net//tiki-print.php?page=Paratext-FLEx+Integration+Tutorial&wp\_files\_sort\_mode2=id\_asc
<sup>[15]</sup> https://lingtran.net//tiki-print.php?page=Paratext-FLEx+Integration+Tutorial&wp\_files\_sort\_mode2=filenam
e\_asc

<sup>[16]</sup> https://lingtran.net//tiki-print.php?page=Paratext-FLEx+Integration+Tutorial&wp\_files\_sort\_mode2=name\_a

sc

<sup>[17]</sup> https://lingtran.net//tiki-print.php?page=Paratext-FLEx+Integration+Tutorial&wp\_files\_sort\_mode2=descripti on\_asc

<sup>[18]</sup> https://lingtran.net//tiki-print.php?page=Paratext-FLEx+Integration+Tutorial&wp\_files\_sort\_mode2=size\_asc <sup>[19]</sup> https://lingtran.net//tiki-print.php?page=Paratext-FLEx+Integration+Tutorial&wp\_files\_sort\_mode2=lastModi f asc

<sup>[20]</sup> https://lingtran.net//tiki-print.php?page=Paratext-FLEx+Integration+Tutorial&wp\_files\_sort\_mode2=last\_use r\_asc

<sup>[21]</sup> https://lingtran.net/display899

<sup>[22]</sup> https://lingtran.net/display899

<sup>[23]</sup> https://lingtran.net/display899

<sup>[24]</sup> https://lingtran.net//tiki-print.php?page=Paratext-FLEx+Integration+Tutorial&wp\_files\_sort\_mode3=id\_asc <sup>[25]</sup> https://lingtran.net//tiki-print.php?page=Paratext-FLEx+Integration+Tutorial&wp\_files\_sort\_mode3=filenam e\_asc

<sup>[26]</sup> https://lingtran.net//tiki-print.php?page=Paratext-FLEx+Integration+Tutorial&wp\_files\_sort\_mode3=name\_a sc

<sup>[27]</sup> https://lingtran.net//tiki-print.php?page=Paratext-FLEx+Integration+Tutorial&wp\_files\_sort\_mode3=descripti on\_asc

<sup>[28]</sup> https://lingtran.net//tiki-print.php?page=Paratext-FLEx+Integration+Tutorial&wp\_files\_sort\_mode3=size\_asc <sup>[29]</sup> https://lingtran.net//tiki-print.php?page=Paratext-FLEx+Integration+Tutorial&wp\_files\_sort\_mode3=lastModi f\_asc

<sup>[30]</sup> https://lingtran.net//tiki-print.php?page=Paratext-FLEx+Integration+Tutorial&wp\_files\_sort\_mode3=last\_use r\_asc

<sup>[31]</sup> https://lingtran.net/display958

<sup>[32]</sup> https://lingtran.net/display958

<sup>[33]</sup> https://lingtran.net/display958

<sup>[34]</sup>https://lingtran.net//tiki-print.php?page=Paratext-FLEx+Integration+Tutorial&wp\_files\_sort\_mode4=id\_asc

<sup>[35]</sup> https://lingtran.net//tiki-print.php?page=Paratext-FLEx+Integration+Tutorial&wp\_files\_sort\_mode4=filenam e\_asc

<sup>[36]</sup> https://lingtran.net//tiki-print.php?page=Paratext-FLEx+Integration+Tutorial&wp\_files\_sort\_mode4=name\_a sc

<sup>[37]</sup>https://lingtran.net//tiki-print.php?page=Paratext-FLEx+Integration+Tutorial&wp\_files\_sort\_mode4=descripti on\_asc

<sup>[38]</sup> https://lingtran.net//tiki-print.php?page=Paratext-FLEx+Integration+Tutorial&wp\_files\_sort\_mode4=size\_asc <sup>[39]</sup> https://lingtran.net//tiki-print.php?page=Paratext-FLEx+Integration+Tutorial&wp\_files\_sort\_mode4=lastModi f\_asc

<sup>[40]</sup> https://lingtran.net//tiki-print.php?page=Paratext-FLEx+Integration+Tutorial&wp\_files\_sort\_mode4=last\_use r\_asc

[41] https://lingtran.net/display901

[42] https://lingtran.net/display901

[43] https://lingtran.net/display901

<sup>[44]</sup> https://lingtran.net//tiki-print.php?page=Paratext-FLEx+Integration+Tutorial&wp\_files\_sort\_mode5=id\_asc

<sup>[45]</sup> https://lingtran.net//tiki-print.php?page=Paratext-FLEx+Integration+Tutorial&wp\_files\_sort\_mode5=filenam e\_asc

<sup>[46]</sup> https://lingtran.net//tiki-print.php?page=Paratext-FLEx+Integration+Tutorial&wp\_files\_sort\_mode5=name\_a sc

<sup>[47]</sup> https://lingtran.net//tiki-print.php?page=Paratext-FLEx+Integration+Tutorial&wp\_files\_sort\_mode5=descripti on\_asc

<sup>[48]</sup> https://lingtran.net//tiki-print.php?page=Paratext-FLEx+Integration+Tutorial&wp\_files\_sort\_mode5=size\_asc
<sup>[49]</sup> https://lingtran.net//tiki-print.php?page=Paratext-FLEx+Integration+Tutorial&wp\_files\_sort\_mode5=lastModi
f\_asc

<sup>[50]</sup> https://lingtran.net//tiki-print.php?page=Paratext-FLEx+Integration+Tutorial&wp\_files\_sort\_mode5=last\_use r\_asc

<sup>[51]</sup> https://lingtran.net/display903

<sup>[52]</sup> https://lingtran.net/display903

<sup>[53]</sup> https://lingtran.net/display903

<sup>[54]</sup> http://fieldworks.sil.org/wp-content/TechnicalDocs/Technical%20Notes%20on%20FieldWorks%20Send-Receive.pdf

<sup>[55]</sup> https://lingtran.net/showhide:73bd5558-f125-4741-9557-787a1befcdbe

<sup>[56]</sup> https://lingtran.net/showhide:73bd5558-f125-4741-9557-787a1befcdbe

<sup>[57]</sup> https://lingtran.net/dl1193