## Bible Online Learner: Technical Documentation

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## Contents

Co	Contents									
1		oduction		4						
	1.1	How T	o Read This Document	4						
2	User Interface									
3	Viev	Viewing Text								
	3.1	_	ng a Hebrew Text	7						
		3.1.1	Viewing Hebrew Grammar Information	7						
		3.1.2	The "MyView" Selector	8						
		3.1.3	Viewing a Transliterated Hebrew text	11						
	3.2	Viewir	ng a Greek Text	11						
		3.2.1	Viewing Greek Grammar Information	12						
		3.2.2	The "MyView" Selector	12						
4	Logging In									
	4.1	Creatin	ng An Account	16						
	4.2	Advan	tages of Having An Account	16						
	4.3	Special	Account Privileges	16						
		4.3.1	Facilitator	17						
		4.3.2	Translator	17						
		4.3.3	Sysadmin	18						
5	Running Exercises 19									
	5.1	Hebrev	w Exercises	20						
		5.1.1	Example: First Hebrew Exercise	20						
		5.1.2	Example: Second Hebrew Exercise	24						
		5.1.3	Example: Third Hebrew Exercise	25						
	5.2	Greek	Exercises	26						
		5.2.1	Example: First Greek Exercise	26						
		5.2.2	Example: Second Greek Exercise	29						
		5.2.3	Example: Third Greek Exercise	30						
	5.3	ons to Exercises	31							
		5.3.1	Fixed Exercises	31						
		5.3.2	Sentence Context	32						
		5.3.3	Disabling "Locate"	32						
		5.3.4	Hints	32						
		5.3.5	Hidden Information	32						
		5.3.6	Typing Nothing	33						
6	Man	aging E	xercises	35						

CONTENTS 3

	6.1 Creating Exercises	35	
	6.2 Creating a Simple Hebrew Exercise	35	
	6.3 Creating a Simple Greek Exercise	36	
7	Viewing Statistics	38	
8	User and Class Management		
9	Creating Translations		
10	0 Exams		
11	1 User Preferences		
12	Variants	43	
13	Complementary Websites	44	
	13.1 The Resource Website	44	
	13.2 The SHEBANQ Website	44	
A	ETCBC4 Details	46	
В	Nestle1904 Details	47	
Inc	index		

# Chapter 1

## Introduction

You should read this chapter.

Bible Online Learner (or "Bible OL" for short) is a web-based computer program that supports reading and learning biblical Hebrew and Greek. Bible Online Learner provides these features:

- Users can read the Old Testament in Hebrew and the New Testament in Greek.
- Users can see grammatical information about the words and clauses in the text.
- Teachers of Hebrew and Greek can create exercises based on the biblical texts.
- Students can drill and test themselves using exercises created by teachers.
- Teachers can keep track of how well students do in the exercises.
- Teachers can generate exams for students.

## 1.1 How To Read This Document

This documents describes how to use Bible Online Learner (Bible OL). The document consists of three parts:

- General information for everyone who wants to use Bible OL.
- Information specifically for students who want to use the exercises provided in Bible OL.
- Information specifically for teachers who want to create exercises in Bible OL.

At the start of most chapters you will find a line indicating if that chapter is relevant for you. On page 48 you will find an index, which may help you find your way through this document.

# Chapter 2

## User Interface

## You should read this chapter.

You access Bible OL through a web browser using an appropriate URL<sup>1</sup>.

When you access the Bible OL main web site using a computer, you will see an introductory page, at the top of which there is a menu. If you are using a smartphone, you will see a small rectangle with three horizontal lines at the top right of the screen. Tap that rectangle to display the menu.

The menu has five items:

- *Home* Selecting this item, takes you to the main web page.
- *Text and Exercises* This allows you to view the Hebrew and Greek biblical texts and to run exercises.
- *User Access* Here you can log in to the system and view the privacy policy.
- *Language* This lets you select the language of the user interface.
- *Variant* Here you can select between different variants of the terms and translations used. (See Section XXX.)

If you have a user account (see Chapter 4), you can select Login from the User Access menu to access your personal features of the system. Once you have logged, in, a new menu item appears:

• *My Data* – This menu item lets you change your user profile, setup font preferences, enroll in classes, and view how you are doing on the exercises.

<sup>&</sup>lt;sup>1</sup>Most users will use https://bibleol.3bmoodle.dk.

# Viewing Text

## You should read this chapter.

The most basic operation of Bible OL is that of viewing the Hebrew or Greek text of the Bible. From the *Text and Exercises* menu select *Display text*. This will take you to a web page displaying the dialog of Figure 3.1. Under "Corpus" in that dialog, you select the text database you want to use. You have three options:

- *Hebrew (ETCBC4, OT):* This is the Hebrew text of the Old Testament as provided by the ETCBC4 database (see Appendix XXX).
- *Hebrew (ETCBC4, Transliterated, OT)*: This is the Hebrew text of the Old Testament as provided by the ETCBC4 database, but written with Latin letters.
- *Greek (Nestle 1904,NT):* This is the Greek text of the New Testament as provided by the Nestle 1904 database (see Appendix XXX).

Section 3.1 shows how to use Bible Online Learner to study a Hebrew text. Section 3.2 shows how to study a Greek text. (You only need to read one of these sections.)

# Make a selection: Corpus: Hebrew (ETCBC4, OT) Hebrew (ETCBC4, Transliterated, OT) Greek (Nestle 1904, NT) Book: Chapter: High (Valid chapters: 1-50) First verse: Last verse: Show link icons:

Figure 3.1: Selecting a text to display.

## 3.1 Viewing a Hebrew Text

To see Genesis 1:1-7, fill out the dialog in figure 3.1 thus:

• Corpus: Hebrew (ETCBC4, OT)

Book: GenesisChapter: 1First verse: 1Last verse: 7

• Show link icons: Don't mark this. (See Section 13.1.)

Finally, click the *Display* button. This will show you Genesis 1:1-7 in Hebrew. (See Figure 3.2.) The small icon to the right of the first verse is a link to the same text at the SHEBANQ website. (See Section 13.2.)

## 3.1.1 Viewing Hebrew Grammar Information

If you are viewing the text on a computer, you will have three ways to display grammar information; if you are using a tablet or a smartphone, you will have two ways to display grammar information. They are:

- 1. Hovering the mouse over a word or sentence part. (This is not available on tablets or smartphones.)
- 2. Clicking a word or sentence part.
- 3. Using the "MyView" selector.

On a computer, you can use your mouse to point to a word in the text.<sup>1</sup> You will then see a so-called *grammar information box*. to the right of the text as in Figure 3.3. In this box you will see detailed information about the word your mouse points to. When you move the mouse, the grammar information box disappears. You may find this inconvenient, so instead you can use the following method:

<sup>&</sup>lt;sup>1</sup>Known as letting your mouse "hover" over a word.

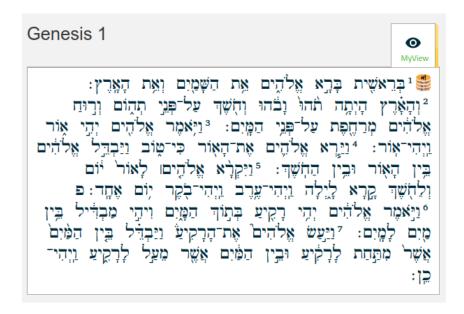


Figure 3.2: Displaying Genesis 1.

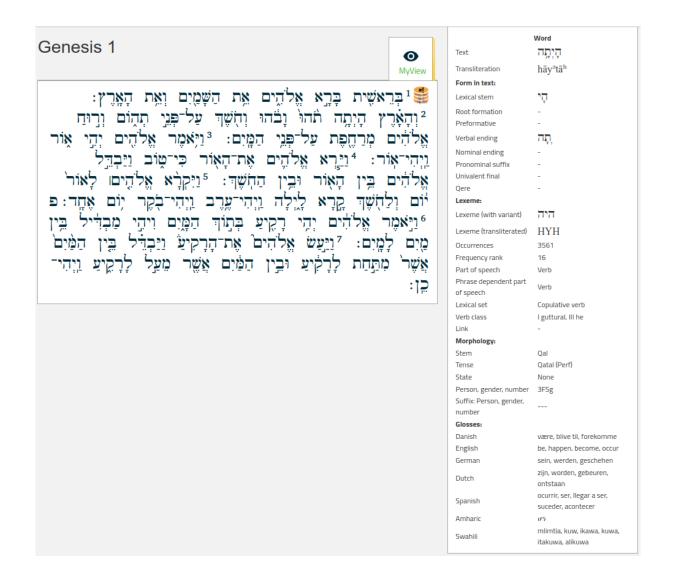


Figure 3.3: Displaying the grammar information box on a computer.

On a computer, table, or smartphone, you can click or tap on a word. In that case, a dialog box will appear containing the grammar information box. (You can click the  $\times$  at the top of the dialog box or the Close button at the bottom of the box to close the dialog. Alternatively, press the "Esc" key on your keyboard.)

A third way to display grammar information is to use the "MyView" selector as described in the following section.

## 3.1.2 The "MyView" Selector

Above the Hebrew text you see an "eye" labelled "MyView". If you click the eye icon labelled *grammar selection box*. At the same time the eye icon turns into a  $\times$  icon. The grammar selection box looks as shown in Figure 3.4.

The Hebrew grammar selection box contains four buttons, identifying the four levels of the grammar hierarchy used by the Hebrew text: The text contains *sentences*, which contain *clauses*, which contain *phrases*, which contain *words*. You can click on each of these to display relevant grammar information.

If, for example, you click the *Word* button and then the *Lexeme* button, the grammar selection box looks as shown in Figure 3.5. If you now click the *Part of speech* button, the Hebrew text changes to look



Figure 3.4: Hebrew grammar selection box.

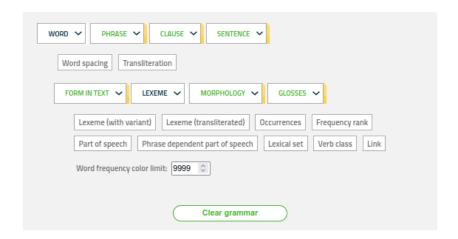


Figure 3.5: Hebrew grammar selection box after clicking Word and Lexeme.



Figure 3.6: Genesis 1 with part-of-speech information.

as in Figure 3.6, where you can see the part of speech of each word of the text. You can add additional information by clicking the relevant buttons in the grammar selection box.

You can use the *Clear grammar* all the selected grammar information, and you can use the  $\times$  icon to hide the grammar selection box.

The grammar selection box also allows you to see borders between phrases, clauses, or sentences, as well as grammatical information about each of these. If, for example, you click *Clause*, and then select *Show border*, you will see the borders of each clause.

By pointing your mouse to the word "Clause" on the border of a particular Clause (or, alternatively, clicking the word "Clause"), a grammar information box for the particular clause will be shown. (See Figure 3.7.)

Sometimes clauses (or other parts of a sentence) can contain other clauses inside them. An example of this is seen in Genesis 1 : 7 (Figure 3.8). Here, you can see how the clause וַיַּבְּיֵל בֵּין הַמַּיִם וּבִין הַמַּיִם וּבִין הַמַּיִם וּבִין הַמַּיִם וּבִין הַמַּיִם וּבִּין הַמַּיִּם וּבִּים וּבִּין הַמַּיִּם וּבִּין הַמַּיִּם וּבִּין הַמַּיִּם וּבִּים וּבִּים וּבִּין הַמַּיִּם וּבִּין הַמַּיִּם וּבִּין הַמַּיִּם וּבִּין הַמַּיִּים וּבִּין הַמַּיִּם וּבִּין הַמַּיִּם וּבִּין הַמַּיִּם וּבִּין הַמַּיִּים וּבִּין הַמַּיִּים וּבִּין הַמַּיִּים וּבִּין הַמַּיִּים וּבִּין הַמַּיִּים וּבִּין הַמַּיִּים וּבִּים הַמַּיִּים וּבְּבָּיִים הַמַּיִּים וּבְּבָּיוֹ בְּבִּיּים הַמַּיִּים וּבְּבָּיוֹם הַמַּיִּם וּבְּבָּיוֹ הַמַּיִּים וּבְּבָּיוֹ בְּעִּים הַבְּיִּים הַּבְּיִנְים הַבְּיִּים הַּמַּיִים וּבְּבָּיבְּיִים הַּמַּים וּבְּבָּים הַבּּיִּים הַּבְּיִים הַּבְּיִים הַבְּיִּים הַּבּיּים הַּבּיּים הַּבּיּים הַּבּיּים הַּבּיּים הַּבּיּים הַּבּיּים הַבּיּים הַּבּיּים הַּבּיּים הַּבּיּים הַּבּיּים הַּבּיּים הַּבּיּים הַבּיּים הַּבּיּים הַּיּים בּיּים הַבּיּים הַבּיּים הַּיּיִים הַּיּיִים הַּיּיִּים הַּיִּיּים הַּיִּים הַּבּיּים הַּיּיִים הַּיּיִים בּיּיִים הַּיּיִים הַיּיִים הּיִּיּיִים הַּיּיִים בּיּיִים הַּיּיִים הּיִיים הּיִּיִים הּיִייִים הַּיִיּיִים הַּיּיִים הַּיּיִים הַּיּיִים הַּיּיִים הַיּיִּיבְּיִים הַיִּיּיִים הַּיּיִים הַּיּיִים הַּיּיִים הַּיּיִים הַּיִּיּים הַיּיים הַּיּיִים הַּיּיִים הַּיִּיים הַיּיִּים הַּיּיִים הַיּיִיים הּיִּיים הַּיּיִים הַיּיִיים הַּיּיים הּיִיים הּיִּיים הּיִיים הַּיּיים הּיִיים הּיִיים הּייִּייִים הּיִּיים הְיּיִייִּייִים הּייִּים הּיִּיים הְיּיִיים הְיּיִּיּיִים הְיּיִיים הְיִייּים הְיי

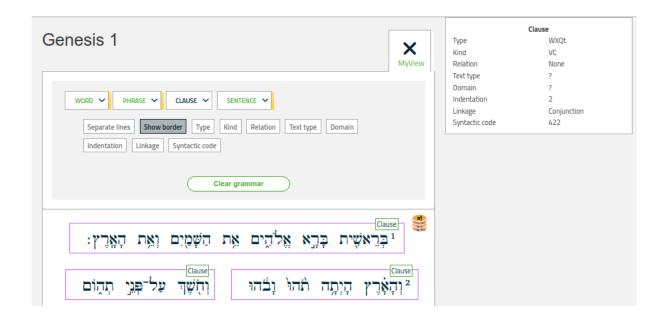


Figure 3.7: Showing grammar information for the second clause of Genesis 1.

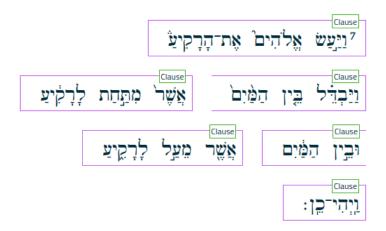


Figure 3.8: A split clause in Genesis 1:7.

is split in two and contains the clause לֶרֶלְיעַ inside it. The split clause is marked by its missing left and right borders.

The different items you can select in the grammar selection box are detailed in section XXX, but a few items are worth mentioning here:

In the grammar selection box, under *Word* and *Lexeme* you can enter a "Word frequency color limit". Setting this value to, for example, 50, means that the 50 most common Hebrew or Aramaic words in the Old Testament will be displayed in black, whereas rarer words will be display in blue. (See Figure 3.9.) If you are learning Hebrew, you may find this feature useful when deciding if a word is worth memorizing. When determining how common words are, different morphological forms of the same word are counted as one. For more information about word frequency, see section XXX.

In most cases, the information you find in the grammar information box will be the same as what is shown between the lines using the "MyView" selector; but for glosses this is not the case. For example, in the grammar information box of Figure 3.3 you can see that the lexeme היה is translated into English as "be, happen, become, occur". But if you open the "MyView" selector and choose *Word* and *Glosses* and *English*, only the first gloss, "be", will be shown between the lines of Hebrew text.

⁴בְּרֵאשִׁית בְּרָא שֶלֹהִים אֵת הַשְּׁמֵים וְאָת הָאֵרֵץ:
 ⁴וְהָאָרֶץ הָיְתָה תֹהוּ וָבְּהוּ וְחְשֶׁךְ עַל־פְּנֵי תְהְוֹם יְנְתָה תַהוּ וָבְהוּ וְחְשֶׁךְ עַל־פְּנֵי תְהְוֹם יְנְתָה מָוֹה יְהִי אֲלֹהִים בִּין הָאִוֹר וּבִין הָאוֹר וּבִין הָאוֹר וּבִין הָאוֹר וּבִין הָאוֹר וּבִין הָאוֹר וּבִין הַחְשֶׁךְ: ⁴נִיִּקְרָא אֱלֹהִים לָאוֹר וּוֹם וְלַחְשֶׁךְ כַּכְּץ תְּלָהִים לְיָלָה וַיְהִי־עֶּרֶב וַיְהִי־לְּקֶר יִוֹם אֶחֶד: פּ ⁴נִיִּאמֶר בֵּין הָמִּיִם יְהִי רָקִיעַ בְּתְוֹךְ הַפְּּמִים וִיתִּי מַבְּהִיל בֵּין מֻלְּהִים לְמָיִם יְהִי רָקִיעַ בְּתְוֹךְ הַפְּּמִים וִיתִּי מַבְּהִיל בֵּין הַמַּיִם וְהִיּר בִּיְתְּ הַבְּיִל בֵּין הַמַּיִם וְיִהֵי מַבְּהִיל בֵּין הַמַּיִם אֲשֶׁר מִעְל בִּין הַמַּיִם אֲשֶׁר מִעְל לִבְיִי וְבִּין הַמַּיִם אֲשֶׁר מִעְל לִבְיִים וְנִיתְי מִנְּהַיֹּ מִנְּהַיֹּ בְּיִבְי בִּיִּבְיוֹ הַמַּיִם אֲשֶׁר מִעְל לִבְיִים וְנִיתְי מִנְּהִי בְּיִבְיּים בְּשִׁיר מִתְּחַת לְרָלִיע וּבִין הַמַּיִם אֲשֶׁר מִעְל לִבְיִים וְנִיתִי בְּיִיבְי בְּיִבְּיִים בְּיִים הְמִים אֲשֶׁר מִתְּחַת לְרָלִיע וּבִין הַמַּיִב בְּיִבְיּים בְּשָׁר מִעְל לִבְיִים וְנִיבְי בִּיִיבְים בְּיִבְּים בְּיִים בְּיִים בְּיִבְים בְּבִיים בְּיִבְים בְּיִבְיִים בְּיִבְים בְּיִבְים בְּיִבְים בְּיִבְים בְּיִבְים בְּיִים בְּיִבְים בְּיִבְים בְּיִבְים בְּיִבְים בְּיִבְים בְּיִבְים בְּיִבְּים בְּיִבְים בְּיִבְים בְּיִבְים בְּיִבְים בְּיִבְים בְּיִבְּים בְּיִבְּים בְּיִבְים בְּיִבְים בְּיִבְים בְיִבְּים בְּיִבְּים בְּיִבְים בְּיִבְים בְּיִבְים בְּיִים בְּיִבְיִים בְּיִבְּים בְּיִבְים בְּיִבְּים בְּיִים בְּיִים בְּיִבְים בְּיִבְים בְּיִים בְּיִים בְּיִבְיִים בְּיִים בְּיִים בְּיִבְּיִים בְּיִבְים בְּיִים בְּיִבְים בְּיִים בְּיִים בְּיִים בְּיִיבְים בְּיִבְים בְּיִים בְּיִבְים בְּיִבְים בְּיִבְּים בְּיִבְיוֹים בְּיִים בְּיִבְים בְּיִבְים בְּיִים בְּיִים בְּיִבְּים בְּיִים בְיִים בְּיִים בְּיבְים בְּיבְים בְּיבְים בְּיִים בְּיִים בְּיבְים בְּיִבְים בְּיבְים בְּיבְים בְּיִבְּים בְּיִים בְּיִים בְּיִים בְּיִים בְּיִים בְּיבְים בְּיבְים בְּיִים בְּיִים בְּיִים בְּיִּים בְּיִים בְּיִּים בְּיִים בְּיבְים בְּיִּים בְּיִיבְים בְּיבְּי

Figure 3.9: The 50 most common words are black, rarer words are blue.

¹ b³rē²šît bārā² ʔelōhîm ʔēt haššāmayim w³ʔēt hāʔāreṣ:
 ² w³hāʔāreṣ hāy³tāh tōhû wāvōhû w³hōšex ʕal-p³nê t³hôm w³rûah ʔelōhîm m³rahefet ʕal-p³nê hammāyim:

Figure 3.10: Genesis 1:1-2 in transliterated Hebrew.

## 3.1.3 Viewing a Transliterated Hebrew text

You can choose to view a Hebrew text in Latin letters rather Hebrew letters. You do this by specifying the corpus "Hebrew (ETCBC4, Transliterated, OT)" in the dialog in figure 3.1. The first two of Genesis 1 will look at show in Figure 3.10. You will notice that this text uses a number of variations of Latin letters plus the special characters? (not to be confused with a question mark) and  $\Gamma$ . These two characters correspond to the Hebrew characters  $\Gamma$  and  $\Gamma$ , respectively.

## 3.2 Viewing a Greek Text

To see Luke 2:1-5, fill out the dialog in figure 3.1 thus:

- Corpus: Greek (Nestle 1904, NT)
- Book: Luke
- Chapter: 2
- First verse: 1
- Last verse: 5
- Show link icons: Don't mark this. (See Section 13.1.)

Finally, click the *Display* button. This will show you Luke 2:1-5 in Greek. (See Figure 3.11.)

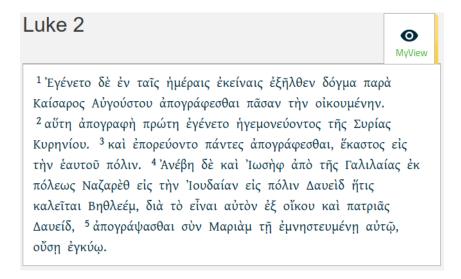


Figure 3.11: Displaying Luke 2.

## 3.2.1 Viewing Greek Grammar Information

If you are viewing the text on a computer, you will have three ways to display grammar information; if you are using a tablet or a smartphone, you will have two ways to display grammar information. They are:

- 1. Hovering the mouse over a word or sentence part. (This is not available on tablets or smartphones.)
- 2. Clicking a word or sentence part.
- 3. Using the "MyView" selector.

On a computer, you can use your mouse to point to a word in the text.<sup>2</sup> You will then see a so-called *grammar information box*. to the right of the text as in Figure 3.12. In this box you will see detailed information about the word your mouse points to. When you move the mouse, the grammar information box disappears. You may find this inconvenient, so instead you can use the following method:

On a computer, table, or smartphone, you can click or tap on a word. In that case, a dialog box will appear containing the grammar information box. (You can click the  $\times$  at the top of the dialog box or the Close button at the bottom of the box to close the dialog. Alternatively, press the "Esc" key on your keyboard.)

A third way to display grammar information is to use the "MyView" selector as described in the following section.

## 3.2.2 The "MyView" Selector

Above the Greek text you see an "eye" labelled "MyView". If you click the eye icon labelled *grammar selection box*. At the same time the eye icon turns into a  $\times$  icon. The grammar selection box looks as shown in Figure 3.13.

The Greek grammar selection box contains four buttons, identifying the four levels of the grammar hierarchy used by the Greek text: The text contains *sentences*, which contain *level 2 clauses*, which contain *level 1 clauses*, which contain *words*. You can click on each of these to display relevant grammar information.

If, for example, you click the *Word* button and then the *Lexeme* button, the grammar selection box looks as shown in Figure 3.14. If you now click the *Part of speech* button, the Hebrew text changes

<sup>&</sup>lt;sup>2</sup>Known as letting your mouse "hover" over a word.



Figure 3.12: Displaying the grammar information box on a computer.



Figure 3.13: Greek grammar selection box.

to look as in Figure 3.15, where you can see the part of speech of each word of the text. You can add additional information by clicking the relevant buttons in the grammar selection box.

You can use the *Clear grammar* all the selected grammar information, and you can use the  $\times$  icon to hide the grammar selection box.

The grammar selection box also allows you to see borders between clauses or sentences, as well as grammatical information about each of these. If, for example, you click *Clause level 1*, and then select *Show border*, you will see the borders of each clause.

By pointing your mouse to the word "Clause1" on the border of a particular Clause (or, alternatively, clicking the word "Clause1"), a grammar information box for the particular clause will be shown. (See Figure 3.16.)

Some words may not belong to a particular clause, and a clause may be split into parts. In Figure 3.16 the word  $\kappa\alpha$  at the start of verse 3 is not a member of a clause; and the clause in verse 1, the clause is split into two pars around the word  $\delta \hat{\epsilon}$ , which is not part of the clause. The split clause is marked by its missing left and right borders.

The different items you can select in the grammar selection box are detailed in section XXX, but one item is worth mentioning here:

In the grammar selection box, under *Word* and *Lexeme* you can enter a "Word frequency color limit". Setting this value to, for example, 50, means that the 50 most common Greek words in the New Testament will be displayed in black, whereas rarer words will be display in blue. (See Figure



Figure 3.14: Greek grammar selection box after clicking Word and Lexeme.

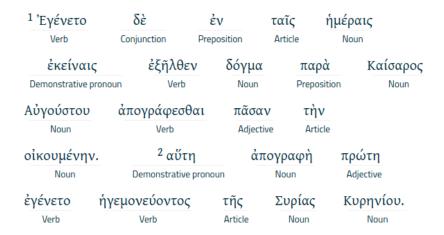


Figure 3.15: Luke 2 with part-of-speech information.

3.17.) If you are learning Greek, you may find this feature useful when deciding if a word is worth memorizing. When determining how common words are, different morphological forms of the same word are counted as one. For more information about word frequency, see section XXX.

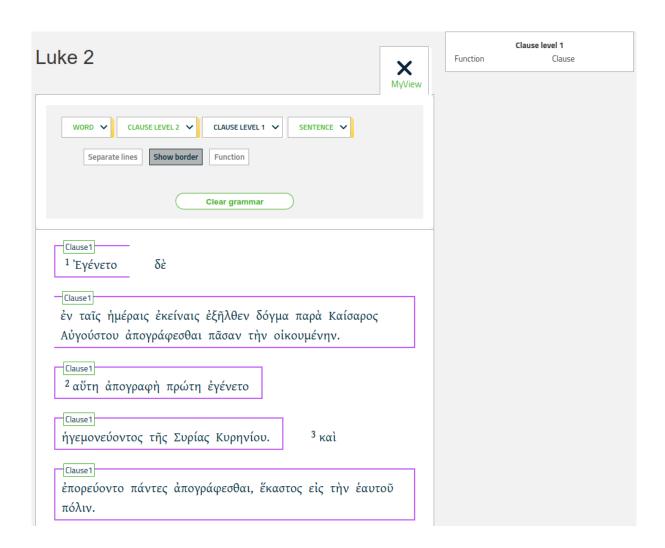


Figure 3.16: Showing grammar information for the second clause of Luke 2.

1 Έγένετο δὲ ἐν ταῖς ἡμέραις ἐκείναις ἐξῆλθεν δόγμα παρὰ Καίσαρος Αὐγούστου ἀπογράφεσθαι πᾶσαν τὴν οἰκουμένην.
2 αὕτη ἀπογραφὴ πρώτη ἐγένετο ἡγεμονεύοντος τῆς Συρίας Κυρηνίου. 3 καὶ ἐπορεύοντο πάντες ἀπογράφεσθαι, ἕκαστος εἰς τὴν ἑαυτοῦ πόλιν. 4 ἀνέβη δὲ καὶ Ἰωσὴφ ἀπὸ τῆς Γαλιλαίας ἐκ πόλεως Ναζαρὲθ εἰς τὴν Ἰουδαίαν εἰς πόλιν Δαυεὶδ ἥτις καλεῖται Βηθλεέμ, διὰ τὸ εἶναι αὐτὸν ἐξ οἴκου καὶ πατριᾶς Δαυείδ, 5 ἀπογράψασθαι σὺν Μαριὰμ τῆ ἐμνηστευμένη αὐτῷ, οὔσῃ ἐγκύῳ.

Figure 3.17: The 50 most common words are black, rarer words are blue.

# Logging In

You should read this chapter.

You can use Bible OL to display biblical text and run some exercises without logging in to the system. But if you want to customize the way text is displayed and if you want to take full advantage of the system, you should have an account and log in when you use Bible OL.

## 4.1 Creating An Account

You can create an account yourself, or you can have your teacher create an account for you.

To create an account yourself, select *Login* from the *User Access* menu. This brings up the login page, where you can select *Create a new account*, or – if allowed by your installation – you can use an existing Google or Facebook account to log in.

## 4.2 Advantages of Having An Account

When you are logged in using an account, you get a number of extra possibilities:

- You can customize the fonts used for displaying text.
- You can join classes set up by your teacher and access exercises that anonymous users cannot
  access.
- When you take an exercise, your progress can be recorded and you and your teacher can monitor and grade your progress.

When you are logged in, an extra menu item appears on the Bible OL website: "My Data". This menu has these items:

- Font preferences Use this to change the fonts used to display Hebrew or Greek.
- *Profile* Here you can change your name, e-mail address, preferred interface language, and password. (If you are logged in via Google or Facebook, you can only change your preferred interface language.)
- *Enroll/unenroll in class* Use this to join or leave a class. Classes are described in detail in Chapter XXX
- *My performance* See how you are doing solving the exercises.

To log out, select *Logout* from the *User Access* menu.

## 4.3 Special Account Privileges

A system administrator may assign special privileges to your account. The special privileges are:

- Facilitator
- Translator
- Sysadmin

The facilitator and translator privileges are independent of each other. A user may have either or both sets of privileges.

A sysadmin has all the privileges of both facilitators and translators plus additional privileges.

#### 4.3.1 Facilitator

As a facilitator (or teacher) you have the following additional rights on the system:

- Add, modify, or delete user accounts (except for facilitator, translator, or sysadmin accounts).
- Create and manage exercises.
- Create and manage exams.
- Create and manage classes.
- Monitor how the students in your classes are doing in the exercises.
- Assign or remove facilitator privileges to other accounts.

When you are logged in with facilitator privileges, additional items appears in the "My Data" menu:

- Students' performance See how your students are doing solving the exercises.
- Grade Quizzes Grade students' quizzes.
- Grade Exams Grade students' quizzes.

Additionally, you will see a new menu item "Administration" with these items:

- Users Manage user accounts.
- Classes Manage classes.
- Manage exercises.
- · Manage exams.

## 4.3.2 Translator

As a translator you have the right to modify the translation of

- The user interface.
- The names for Hebrew and Greek grammatical terms.
- The Hebrew and Greek lexicons.
- Add new languages to the set of available languages.

When you are logged in with translator privileges, you will see a new menu item "Administration" with these items:

- *Translate interface* Translate the user interface.
- *Translate grammar items* Translate the names for Hebrew and Greek grammatical terms.
- *Translate lexicon* Translate the Hebrew and Greek lexicons.
- *Download lexicon* Download a translation of a Hebrew or Greek lexicon.
- Available translations View the available translations and add new languages.

## 4.3.3 Sysadmin

As a sysadmin (or system administrator) you have all the privileges of facilitators and translators plus these additional rights:

- Add, modify, or delete user accounts (including facilitator, translator, or sysadmin accounts).
- Manage gloss links (see Section XXX).
- Change ownership of exercises.
- Manage exercises created by other facilitators.
- Manage exams created by other facilitators.
- Manage classes created by other facilitators.

The "Administration" menu will have one additional item:

• Gloss links - See Section XXX.

# Chapter 5

## Running Exercises

Read this chapter if you want to run or create exercises.

In this section we will look at how you run an exercise. We will go through a couple of examples that you can try out on the system.

NOTE: You need not be logged in to try the code in this example, but you may see some warnings if you are not logged in.

Exercises are located in folders in much the same way files on a computer are located in folders. You can access the exercises by selecting *Exercises* from the *Text and exercises* menu. You will then see a list of folders that are found within the top level folder (Figure 5.1). The contents of some folders are available to all students, but you will see that some of the folders here are marked "Restricted". These are folders that are only available to students that are enrolled in certain classes. Students' access to folders is controlled by teachers as described in section XXX.

Section 5.1 gives examples of how to run a Hewbrew exercise. Section 5.2 gives examples of how to run a Greek exercise. (You only need to read one of these sections.)



Figure 5.1: The top level exercise folder.

## 5.1 Hebrew Exercises

## 5.1.1 Example: First Hebrew Exercise

(For a corresponding Greek exercise, see Section 5.2.1.)

Find the folder named "ETCBC4" and click on that. Within that folder, you will find another folder called "demo". If you click on that, you will see a list of all the exercises found within that folder (Figure 5.2).

We will now focus on the exercise called "demo1". The person who created this exercise will have configured it with a set of Bible passages that should be used for this exercises. If you click on one of the numbers 5, 10, or 25 under the heading "Select number of questions using preset passages", you will start an exercise with 5, 10, or 25 questions take from the pre-configured Bible passages. If instead you click on one of the numbers 5, 10, or 25 under the heading "Select number of questions and specify your own passages", you will be allowed to specify the Bible passages yourself.

Click on the number 5 under "...preset passages" and the exercise will start. The system will show you a random sentence from the specified Bible passages, for example, the one you see in Figure 5.3. At the top of the exercise you see a short description – in this case "Please indicate the gender and number of these nouns and pronouns." If you click the button labelled "Locate", you will learn that this sentence is found in Genesis 1:6. As described in Section 3.1.1, you can see more information about each word by pointing to it with your mouse (if you are using an ordinary computer), by clicking on it, or by using the "MyView" selector.

In this example, the system has highlighted three nouns or pronouns in purple. Your task is to identify the grammatical gender and number of each of these words.

Below the text you see a green bar. This will show your progress through the five sentences of this exercise. Below the bar is a box in which you should provide your answers. This answer box provides some information about the noun: In this case it its the actual text and the English translation of the word. These items are known as the "Display features" (see Figure 5.4). Below the display features is the information that you are expected to provide: In this case it is the gender and number of the word. These items are known as the "Request features".

The first noun, רָּקִישֵׁ, is shown in the top line of the answer box, and you must identify its gender by clicking either "Masculine", "Feminine", or "Other value", and its number by clicking either "Singular", "Plural", "Dual", or "Other value".

<sup>&</sup>lt;sup>1</sup>"Other value" is not relevant in this exercise.

This Is the Folder 'ETCBC4/demo'  Select a folder  ↑Parent  Select an Exercise								
Quiz name	Select number of questions using preset passages	Select number of questions and specify your own passages						
demo1	5 10 25	5 10 25						
demo2	5 10 25	5 10 25						
demo3	5 10 25	5 10 25						
gender	5 10 25	5 10 25						
gender-translit	5 10 25	5 10 25						

Figure 5.2: The ETCBC4/demo exercise folder.

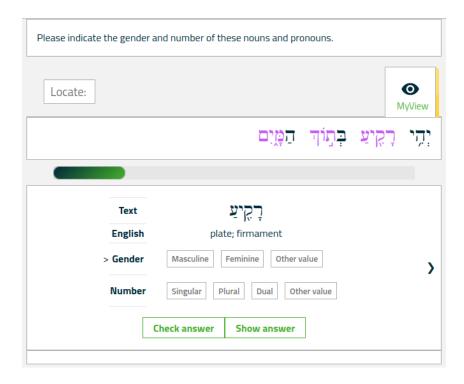


Figure 5.3: The first sentence of a Hebrew exercise.

After making your choices, you may then check your answer by clicking "Check answer". Figure 5.5 shows you what a correct and a wrong answer looks like. If you don't know the answer, clicking the "Show answer" button will display the correct answer.

In this sentence there are three nouns. We can move on to the next noun, \(\frac{1}{3}\), by clicking the \(\rangle\) symbol at the right side of the answer box. A \(\rangle\) symbol will then appear at the left side of the answer box, allowing you to move back to the previous word.

When the last word in the sentence, []; is shown (Figure 5.6), three buttons appear below the answer box. Use the "Next" button to move to the next sentence. When there are no more sentences, or if you want to terminate the exercise prematurely, you can click either "GRADE task" or "SAVE outcome". Both of these terminate the exercise. If you are not logged in, no further action is taken, regardless of which of the two buttons you press. But if you are logged in, "GRADE task" causes the system to stores your result internally and indicates to the teacher that your result may be used for grading your progress. "SAVE outcome" also stores your result internally, but indicates that you do not want your result to be used for grading.

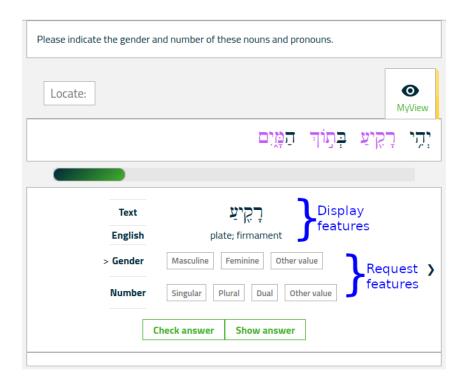


Figure 5.4: Display features and request features.

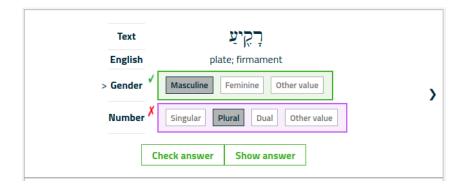


Figure 5.5: A correct and a wrong answer to a Hebrew exercise.

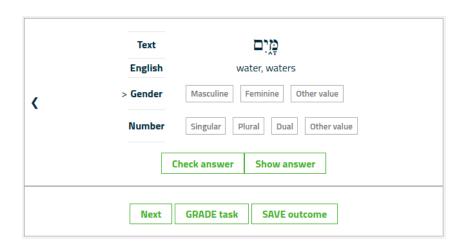


Figure 5.6: Showing the last word of the exercise question.

## 5.1.2 Example: Second Hebrew Exercise

(For a corresponding Greek exercise, see Section 5.2.2.)

We will now look at the exercise called "demo2" in the "ETCBC4/demo" folder. Click on the number 5 under "...preset passages" for that exercise. The system will show you a random sentence from the specified Bible passages, for example, the one you see in Figure 5.7.

Here, we have a sentence from Genesis 3:14. You will immediately notice an important difference from the previous example: Some of the words have been replaced by a number in parentheses. The reason is that in this case Bible Online Learner asks the user to provide a word that is actually part of the text; therefore the word must not be shown in the window. The system has therefore replaced the interesting words with numbers.

In this example, the answer box contains five lines labelled "Item number", "Lexeme (with variant)", "Gender", "Number", and "State". The item number refers to the number in parentheses in the sentence. In this case we have moved through the words to the third word. The lexeme is the dictionary form of the word in question, and the number, gender, and state should help you create the word form that is actually in the text.

Your task is to type the word form that is found in the text, but without the Hebrew cantillation marks (which you rarely need to know in detail). Below the empty field for the text, you will see a few buttons labelled with Hebrew characters. You can use these buttons to spell the correct word form, which in this case is ":". The key marked  $\rightarrow$  is a backspace key that deletes the last character you entered. The small characters in the upper right corner can be used to type the Hebrew character on you computer keyboard, if you prefer to do so rather than to click with your mouse. (More about this in Section XXX.)

When you have entered your answer, you can use the "Check answer" button to verify that your answer is correct.

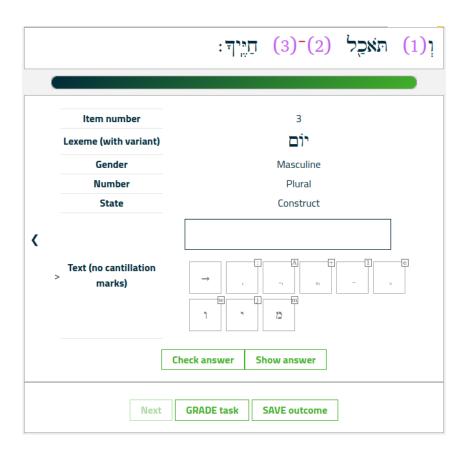


Figure 5.7: A sentence from the exercise "ETCBC4/demo2".

## 5.1.3 Example: Third Hebrew Exercise

(For a corresponding Greek exercise, see Section 5.2.3.)

We will now look at the exercise called "demo3" in the "ETCBC4/demo" folder. Click on the number 5 under "...preset passages" for that exercise. The system will show you a random sentence from the specified Bible passages, for example, the one you see in Figure 5.8.

In this exercise the object of the exercise is not words but clauses. Each subquestion presents a clause, and your task is to identify the type of the clause. Figure 5.8 shows a sentence from Genesis 20:3. If you click the "MyView" icon and select *Clause* and *Show border*, the limits of each clause are obvious. (See Figure 5.9.)

In this example you are asked to consider the type of the indicated clause. The first clause is אָלֵי בְּלְּהְאָּשֵׁה, and you must decide if the type of this clause is either AjCl (adjectival clause), NmCl (nominal clause), or Ptcp (participle clause). Once you have made your choice and checked if it is correct, you can press the > symbol to move on to the next clause in the sentence, which is בְּעֵלֵלְּהַתְּ. (The middle clause in the sentence (אֲשֶׁרְ־לְּלְחְתָּ) has a type that is not covered by this exercise, and for that reason it is not shown in purple and is omitted from the exercise.)

<sup>&</sup>lt;sup>2</sup>The answer *Other value* is not relevant in this exercise.

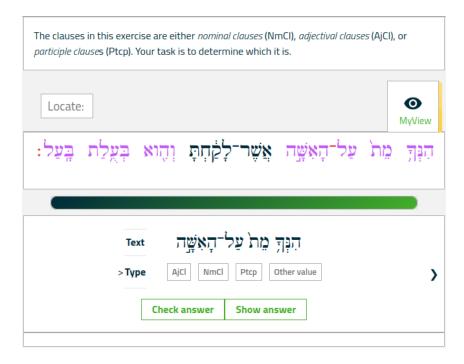


Figure 5.8: An exercise about clauses.



Figure 5.9: Showing the limits of each clause.

## 5.2 Greek Exercises

## 5.2.1 Example: First Greek Exercise

(For a corresponding Hebrew exercise, see Section 5.1.1.)

Find the folder named "Nestle 1904" and click on that. Within that folder, you will find another folder called "demo". If you click on that, you will see a list of all the exercises found within that folder (Figure 5.10).

We will now focus on the exercise called "demo1". The person who created this exercise will have configured it with a set of Bible passages that should be used for this exercises. If you click on one of the numbers 5, 10, or 25 under the heading "Select number of questions using preset passages", you will start an exercise with 5, 10, or 25 questions take from the pre-configured Bible passages. If instead

This Is the Folder 'Nestle 1904/demo'  Select a folder  ↑Parent  Select an Exercise								
Quiz name	Select number of questions using preset passages	Select number of questions and specify your own passages						
case	5 10 25	5 10 25						
conjugate_verb	5 10 25	5 10 25						
demo1	5 10 25	5 10 25						
demo2	5 10 25	5 10 25						
demo3	5 10 25	5 10 25						

Figure 5.10: The Nestle 1904/demo exercise folder.

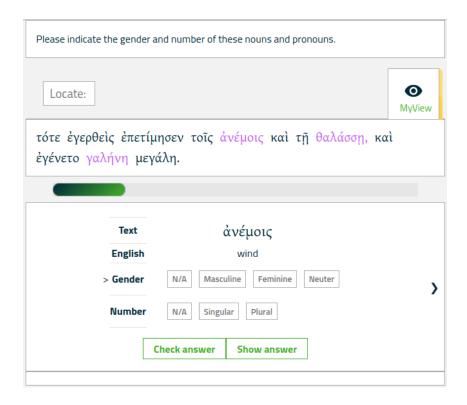


Figure 5.11: The first sentence of a Greek exercise.

you click on one of the numbers 5, 10, or 25 under the heading "Select number of questions and specify your own passages", you will be allowed to specify the Bible passages yourself.

Click on the number 5 under "...preset passages" and the exercise will start. The system will show you a random sentence from the specified Bible passages, for example, the one you see in Figure 5.11. At the top of the exercise you see a short description – in this case "Please indicate the gender and number of these nouns and pronouns." If you click the button labelled "Locate", you will learn that this sentence is found in Matthew 8:26. As described in Section 3.2.1, you can see more information about each word by pointing to it with your mouse (if you are using an ordinary computer), by clicking on it, or by using the "MyView" selector.

In this example, the system has highlighted three nouns or pronouns in purple. Your task is to identify the grammatical gender and number of each of these words.

Below the text you see a green bar. This will show your progress through the five sentences of this exercise. Below the bar is a box in which you should provide your answers. This answer box provides some information about the noun: In this case it its the actual text and the English translation of the word. These items are known as the "Display features" (see Figure 5.12). Below the display features is the information that you are expected to provide: In this case it is the gender and number of the word. These items are known as the "Request features".

The first noun, ἀνέμοις, is shown in the top line of the answer box, and you must identify its gender by clicking either "N/A", "Masculine", "Feminine", or "Neuter". and its number by clicking either "N/A", "Singular", or "Plural".

After making your choices, you may then check your answer by clicking "Check answer". Figure 5.13 shows you what a correct and a wrong answer looks like. If you don't know the answer, clicking the "Show answer" button will display the correct answer.

In this sentence there are three nouns. We can move on to the next noun,  $\theta\alpha\lambda\dot{\alpha}\sigma\sigma\eta$ , by clicking the  $\rangle$  symbol at the right side of the answer box. A  $\langle$  symbol will then appear at the left side of the answer

<sup>&</sup>lt;sup>3</sup>That is, "Not applicable". This means that the word has no gender, which is the case for pronouns such as "I" and "you".

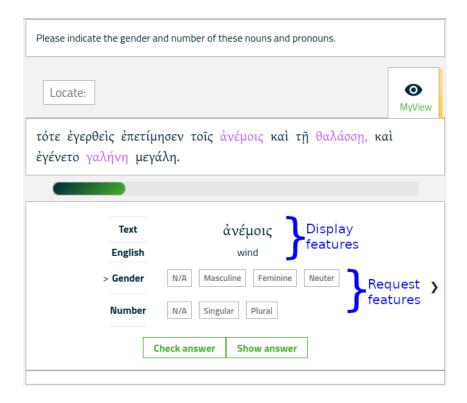


Figure 5.12: Display features and request features.

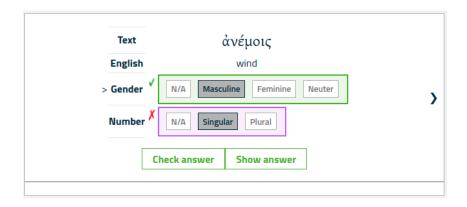


Figure 5.13: A correct and a wrong answer to a Greek exercise.

box, allowing you to move back to the previous word.

When the last word in the sentence,  $\gamma\alpha\lambda\dot{\eta}\nu\eta$ , is shown (Figure 5.14), three buttons appear below the answer box. Use the "Next" button to move to the next sentence. When there are no more sentences, or if you want to terminate the exercise prematurely, you can click either "GRADE task" or "SAVE outcome". Both of these terminate the exercise. If you are not logged in, no further action is taken, regardless of which of the two buttons you press. But if you *are* logged in, "GRADE task" causes the system to stores your result internally and indicates to the teacher that your result may be used for grading your progress. "SAVE outcome" also stores your result internally, but indicates that you do not want your result to be used for grading.



Figure 5.14: Showing the last word of the exercise question.

## 5.2.2 Example: Second Greek Exercise

(For a corresponding Hebrew exercise, see Section 5.1.2.)

We will now look at the exercise called "demo2" in the "Nestle 1904/demo" folder. Click on the number 5 under "...preset passages" for that exercise. The system will show you a random sentence from the specified Bible passages, for example, the one you see in Figure 5.15.

Here, we have a sentence from Luke 8:17. You will immediately notice an important difference from the previous example: Some of the words have been replaced by a number in parentheses. The reason is that in this case Bible Online Learner asks the user to provide a word that is actually part of the text; therefore the word must not be shown in the window. The system has therefore replaced the interesting words with numbers.

In this example, the answer box contains five lines labelled "Item number", "Lexeme", "Tense", "Mood", "Voice", "Person", and "Number". The item number refers to the number in parentheses in the sentence. The lexeme is the dictionary form of the word in question, and the voice, mood, person, number, and tense should help you create the word form that is actually in the text.

Your task is to type the word form that is found in the text in lower case without accents.<sup>4</sup> Below the empty field for the text, you will see a few buttons labelled with Greek characters. You can use these buttons to spell the correct word form, which in this case is  $\varepsilon \sigma \tau v$ . The key marked  $\leftarrow$  is a backspace key that deletes the last character you entered. The small characters in the upper left corner can be used to type the Greek character on you computer keyboard, if you prefer to do so rather than to click with your mouse. (More about this in Section XXX.)

When you have entered your answer, you can use the "Check answer" button to verify that your answer is correct.

<sup>&</sup>lt;sup>4</sup>The label "Normalized" refers to a version of the text without punctuation and certain accents.

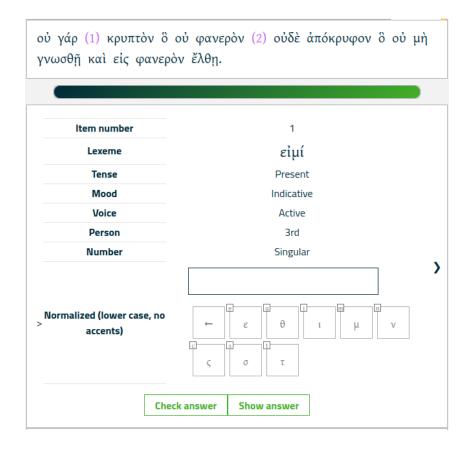


Figure 5.15: A sentence from the exercise "Nestle 1904/demo2".

## 5.2.3 Example: Third Greek Exercise

(For a corresponding Hebrew exercise, see Section 5.1.3.)

We will now look at the exercise called "demo3" in the "Nestle 1904/demo" folder. Click on the number 5 under "...preset passages" for that exercise. The system will show you a random sentence from the specified Bible passages, for example, the one you see in Figure 5.16.

In this exercise the object of the exercise is not words but clauses. Each subquestion presents a level 1 clause, and your task is to identify the function of the clause. Figure 5.16 shows a sentence from Matthew 6:11. If you click the "MyView" icon and select *Clause level 1* and *Show border*, the limits of each clause are obvious. (See Figure 5.17.)

In this example you are asked to consider the function of the indicated clause. The first clause is Tòν ἄρτον ἡμῶν τὸν ἐπιούσιον, and you must decide if the function of this clause is either *object*, indirect object, or second object. Once you have made your choice and checked if it is correct, you can press the  $\mathbf{\hat{j}}$  symbol to move on to the next clause in the sentence, which is simply the word ἡμῖν. (The middle clause in the sentence (δὸς) and the last one (σήμερον) have functions that are not covered by this exercise, and for that reason they are not shown in purple and are omitted from the exercise.)

<sup>&</sup>lt;sup>5</sup>The answer *Other value* is not relevant in this exercise.

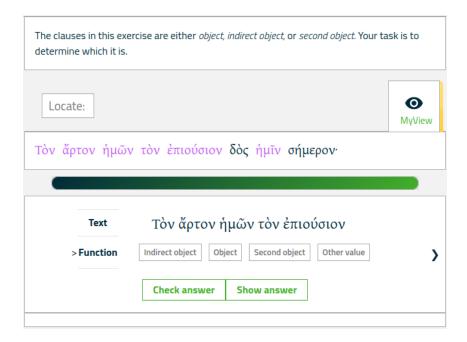


Figure 5.16: An exercise about clauses.

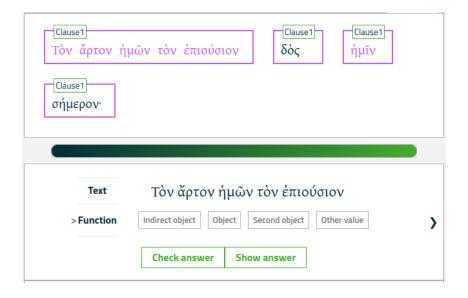


Figure 5.17: Showing the limits of each clause.

## 5.3 Variations to Exercises

The exercises presented in the previous sections illustrate how most exercises work. However, a teacher can vary certain details about the way exercises look to the student. These details are listed in the following sections.

## 5.3.1 Fixed Exercises

Normally, the sentences for exercises are chosen at random from a set of Bible passages. This means that every time you run an exercise, you may see new sentences.

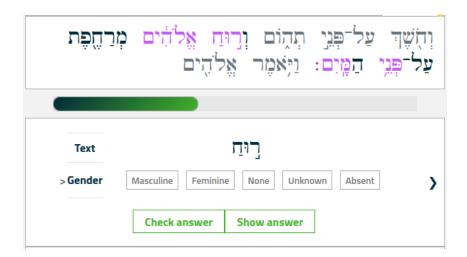


Figure 5.18: Context around the sentence being considered is shown in grey. The sentence in question in shown in black and purple.

However, an exercise may be constructed to display a fixed set of questions in a fixed order. If that is the case, you will always see the same sentences every time you run the exercise.

Furthermore, the student can normally choose between seeing 5, 10, or 25 questions in an exercise; but a teach may restrict this number so that only a fixed number of questions can be shown.

If either the order of questions or the number of questions is fixed, the students cannot themselves choose the Bible passages for the exercise.

## 5.3.2 Sentence Context

Normally, an exercise will show you one sentence at a time. However, an exercise may be constructed to display a few sentences surrounding the sentence in question. For example, Figure 5.18 shows one sentence in grey before and after the sentence that the exercise is concerned with.

## 5.3.3 Disabling "Locate"

A teacher may disable the "Locate" button in an exercise.

## 5.3.4 Hints

Sometimes a Hebrew word form, taken on its own, may have multiple interpretations. For example, the word form קְּהָהֶה can be both 2nd person masculine and 3rd person feminine. A teacher may configure an exercise to provide hints to the correct interpretation. Figure 5.19 shows a sentence where the student is asked to provide the gender for this particular word. A hint tells the student that we are dealing with a 2nd person form, which aids the student in selecting the correct gender, masculine.

#### 5.3.5 Hidden Information

When viewing text outside an exercise, you have access to a considerable amount of grammatical information. When doing an exercise, some of that information may be inaccessible, either because the information would give away the correct answer, or because the teacher has deliberately hidden some information.

As an example, consider the Hebrew exercise *demo1* presented in section 5.1.1, in which you are required to provide the gender of a Hebrew noun. Gender information in normally available via the

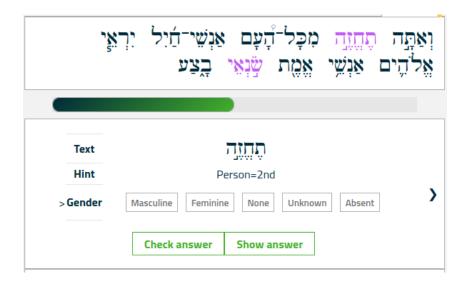


Figure 5.19: An ambiguous word form with a hint.

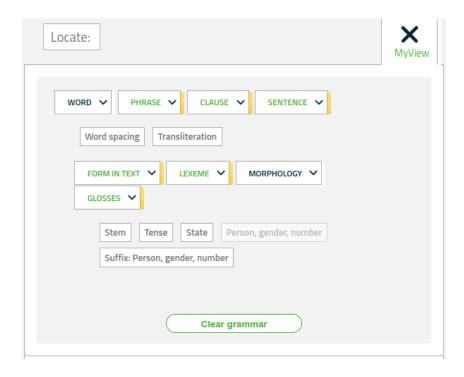


Figure 5.20: "Person, gender, number" disabled.

"MyView" selector, but as Figure 5.20 shows, the "person, gender, number" button has been disabled. Also, hovering the mouse over a word or clicking a word, will not display gender information.

## 5.3.6 Typing Nothing

Occasionally you come across a question whose answer is *nothing*.

Imagine, for example, a quiz about the English language in which you are required to type the plural ending of various words. What is the plural ending of the word "cow"? It is, of course, "s" since the plural of "cow" is "cows". But what is the plural ending of the word "sheep"? Since the plural of "sheep" is "sheep", the plural ending is " – nothing!

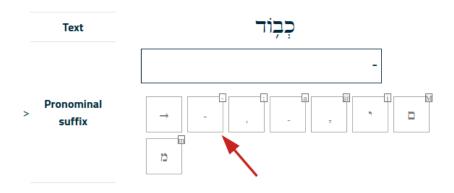


Figure 5.21: When the answer to a question is an empty text, type a dash.

How do you type nothing? If you leave an input field empty, Bible OL will think that you have not yet answered the question. The correct way to indicate that an answer is an empty text is to type a single dash (hyphen, minus) "-" in the answer field.

As an example, consider question in Figure 5.21. Here, Bible Ol asks for the pronominal suffix of the word לְבְּלֵּוֹך; but that word has no pronominal suffix, so the correct answer is an empty text, which you indicate by typing a dash by pressing the character button indicated by the red arrow in the illustration.

## Managing Exercises

Read this chapter if you are a teacher who needs to create and manage exercises for students.

Note: In order to manage exercises, you must be logged in with a username that has "facilitator" privileges.

## 6.1 Creating Exercises

Before we get into the details of how to create exercises, we need to discuss two important concepts used by Bible OL:

Sentence units A sentence can be seen as consisting of a set of *sentence units*. By far the most common thing is to see a sentence as a set of words, but you could also see the sentence as comprised of clauses or phrases. Thus a sentence unit can be a *word*, a *clause*, a *phrase*, or perhaps something else. As you read on, you will rarely go wrong if you assume that "sentence unit" means "word".

**Features** A sentence unit has various *features*. A feature has a name and a value. For example, a word can have a feature called *part of speech* with the value *noun* and a feature called *gender* with the value *masculine*. An important feature is called *text*, which simply refers to the actual characters making up the word; for example, the *text* feature may have the value *"elephant"*.

You should also realise that in the context of Bible OL, an exercise is actually a description of how the program should generate questions. Internally, an exercise is stored in a file whose filename ends with ".3et".

An exercise specifies:

- The database that is to be used (typically, the Old or the New Testament).
- The Bible passages from which the program chooses the exercise sentences (for example, the minor prophets).
- The criteria that the program should use when choosing sentences.
- The criteria that the program should use when choosing the sentence units (typically, words) that form the actual questions.
- The sentence unit features whose values are shown to the user.
- The sentence unit features whose values are requested from the user.

In the following examples, we shall create a few exercises. In order to do this, you must be logged in with a username that has "facilitator" privileges.

## 6.2 Creating a Simple Hebrew Exercise

We shall create an exercise in the conjugation of Hebrew verbs in the qal perfect forms. We shall ask the user to identify the person, gender, and number of the perfect forms of various qal verbs.

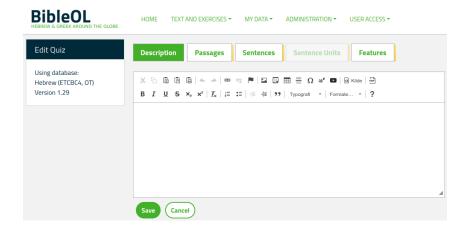


Figure 6.1: Initial window when creating an exercise.

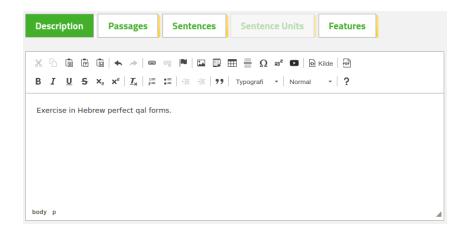


Figure 6.2: Filling out the "Description" field.

From the *Administration* menu select *Manage exercises* then navigate to a folder where you want to create your exercises. This should preferably be a folder used only by you and your team. At the bottom of the page, click the *Create exercise* button. A dialog will appear in which you select the text database on which you want to base your exercise. Here, you should select "Hebrew (ETCBC4, OT)" and press the *OK* button.

You will now se a web page that looks like Figure 6.1. At the top you'll see five tabs, labelled "Description", "Passages", "Sentences", "Sentence Units", and "Features". On the left, you can see the name of the text database you are using.

The "Description" tab is currently displayed, and below it you see a text editing field in which you can write information and instructions to the students who will be running this exercise. You may, for example, write something like what you see in Figure 6.2.

## 6.3 Creating a Simple Greek Exercise

We shall create an exercise in the conjugation of Greek verbs in the present tense. We shall ask the user to identify the person and number of various present tense verb forms.

From the *Administration* menu select *Manage exercises* then navigate to a folder where you want to create your exercises. This should preferably be a folder used only by you and your team. At the bottom of the page, click the *Create exercise* button. A dialog will appear in which you select the text

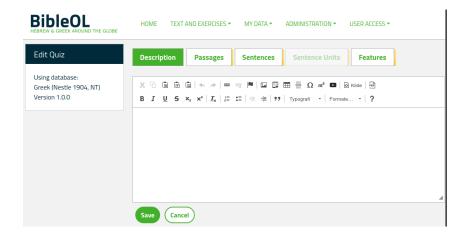


Figure 6.3: Initial window when creating an exercise.

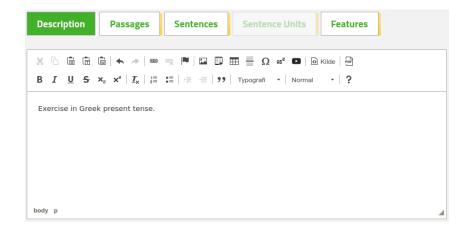


Figure 6.4: Filling out the "Description" field.

database on which you want to base your exercise. Here, you should select "Greek (Nestle 1904, NT)" and press the *OK* button.

You will now se a web page that looks like Figure 6.3. At the top you'll see five tabs, labelled "Description", "Passages", "Sentences", "Sentence Units", and "Features". On the left, you can see the name of the text database you are using.

The "Description" tab is currently displayed, and below it you see a text editing field in which you can write information and instructions to the students who will be running this exercise. You may, for example, write something like what you see in Figure 6.4.

Viewing Statistics

User and Class Management

### Creating Translations

Exams

### User Preferences

### Variants

### Complementary Websites

Read this chapter if you want to.

A few additional websites complement the function of Bible OL: The resource website and the SHE-BANQ website.

#### 13.1 The Resource Website

The resource web site is a collection of photos from the Middle East. Many of them relate to events and places described in the Bible. The photos have descriptive texts that contain Bible references. The URL of the resource website is https://resources.3bmoodle.dk.

Bible OL can use information from the resource website to add picture links to Bible passages. If a photo in the resource website refers to, for example, Exodus 3:2, and a user ticks the "Show link icons" checkbox when displaying Exodus chapter 3, a green "P" icon will appear in the text next to verse 2 (see Figure 13.1). Clicking on the icon will cause the web browser to display the relevant photo. If there are more than one photo, the icon will be blue rather than green.

#### 13.2 The SHEBANQ Website

SHEBANQ (System for HEBrew text: ANnotations for Queries and markup) is a website that uses the ETCBC4 database for displaying text and grammar information for the Hebrew Bible. The URL is https://shebang.ancient-data.org.



Figure 13.1: The green P icon is a hyperlink to a photo that is relevant to Exodus 3:2.

When Bible OL displays a text from the Old Testament, an icon in the upper right corner of the text area provides a link to the same chapter at the SHEBANQ website. A similar link to Bible OL is found on the SHEBANQ website. Also, when a teacher is creating an exercise in Bible OL, they can import MQL queries from the SHEBANQ website (see Section XXX \ref{sec-shebanq-import}).

### Appendix A

### ETCBC4 Details

The ETCBC4 Emdros database contains the Hebrew and Aramaic text for the Old Testament.

The database comes from the *Eep Talstra Center for Bible and Computer* and is made available under a Creative Commons Attribution-NonCommercial 4.0 International License.<sup>1</sup> When describing the database, a text similar to this one should be used: "The database itself can be found through this persistent identifier: urn:nbn:nl:ui:13-048i-71." The identifier should be a hyperlink pointing to https://www.persistent-identifier.nl/?identifier=urn:nbn:nl:ui:13-048i-71.

Prior to using this database in Bible OL, I have added additional features to the information from its original creators. More details about this is given in Section XXX \ref{etcbc-origin}.

<sup>&</sup>lt;sup>1</sup>https://creativecommons.org/licenses/by-nc/4.0.

## Appendix B

### Nestle1904 Details

The *nestle1904* database is in the public domain and derives from the 1904 version of Nestle's Greek New Testament text.

#### Index

Page numbers in italics are used to indicate the main references for an entry. A page number may appear both in italics and in upright letters if a term is used twice on a page.

```
account
                                                        New Testament, 47
    creating, 16
                                                        Old Testament, 46
    privileges, 16
                                                        order of exercises, 31
administrator, 18
                                                        privileges, see account, privileges
context, 32
creating an account, see account, creating
                                                        request feature, 20, 27
creating exercises, see exercises, creating
                                                        resource website, 44
                                                        running exercises, 19
disabling locate, 32
display feature, 20, 27
                                                        sentence context, 32
                                                        SHEBANQ, 44
Eep Talstra Center for Bible and Computer, 46
                                                        sysadmin, 18
ETCBC4, 46
                                                        system administrator, 18
exercises
    creating, 35
                                                        teacher, 17
    fixed, 31
                                                        translator, 17
    managing, 35
                                                        transliterated Hebrew, see Hebrew, transliter-
    order, 31
                                                                 ated
    running, 19
    variations, 31
                                                        variations to exercises, 31
facilitator, 17
grammar information box, 7, 12
grammar selection box, 8, 12
Hebrew
    transliterated, 11
hints, 32
license, 46, 47
locate, 20, 27, 32
managing exercises, see exercises, managing
"MyView" selector, 8, 12
nestle1904, 47
```