LDLS Syntax Crash Course

INTRODUCTION

This document is intended for beta-testers and reviewers who wish to quickly learn the basics of how to use the Libronix DLS 3.0 syntax features, including syntax-enabled running text resources, syntax visualization resources, and the Syntax Search dialog.

- Libronix DLS 3.0 beta — http://www.logos.com/beta/download

- 3.0 Beta syntax resources — http://www.logos.com/beta/download/BetaResources

SYNTAX RESOURCE GROUPS

A Libronix syntax database usually consists of three parts: 1) a running-text resource, which is very much like a morph-tagged Bible, 2) a graph visualization resource, which shows syntax information represented in a tree or graph view, and 3) a search index that is not seen by the user but is used by the SYNTAX SEARCH dialog for searching.

The following resources may be accessible from MY LIBRARY (depending on whether or not they have yet been released in beta):

Running Text Resources

- *The Andersen-Forbes Analyzed Text of the Hebrew Bible*

- *The Lexham Syntactic Greek New Testament* (Catholic Epistles only)

Graph Visualization Resources

- *The Andersen-Forbes Phrase Marker Analysis of the Hebrew Bible*

- *The Lexham Syntactic Greek New Testament: Sentence Analysis*

RUNNING TEXT

The running text resources behave just like current morphologically tagged original language Bibles. Hovering the mouse cursor over a word will show the morphology of the word (and possibly other information as well) in the application status bar. These resources can be searched using the usual HEBREW/GREEK MORPHOLOGICAL BIBLE SEARCH dialogs.

GRAPH RESOURCES

Graph visualization resources are also accessed from MY LIBRARY like any other Libronix DLS resource. They show the Bible text in a vertically scrolling continuous presentation with the text of the Bible running down the right hand margin. Syntactic structure is then built off the left, as this example from Genesis 1:8 shows:
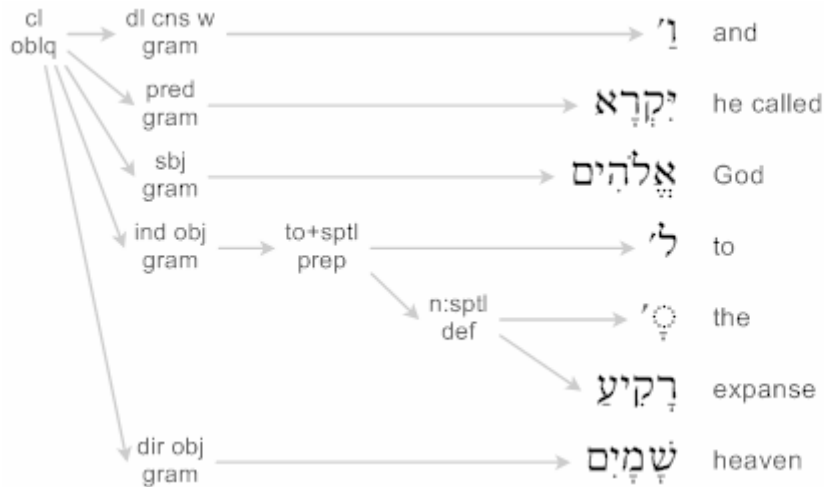

Each larger syntactic structure points directly to its constituent parts, that is, it points to the smaller grammatical units that is made up of. Reading the graph above from left to right, top to bottom, we have: A clause (**cl**) that points to its constituent parts: 1) first, a discourse-level consecutive *waw* (**dl cns w**); 2) then a verbal predicator (**pred**); 3) then a grammatical subject (**sbj**); 4) then an indirect object (**ind obj**); 5) finally, a direct object (**dir obj**). Moving back up to the indirect object, and again reading left to right, top to bottom, we see that it consists (entirely) of a prepositional phrase characterized by the preposition "to" coupled with spatial semantics (**to+sptl**). That prepositional phrase (**to+sptl**) points to its constituent parts: the preposition "to" and a noun phrase, again with spatial semantics (**n:sptl**). The noun phrase is a definite noun phrase, consisting first of a definite article ("the") and a spatial noun ("expanse").

The same graph could be notated with brackets as follows (using the English for simplicity):

```
[clause :
    [discourse-level consecutive waw : and]
    [predicator : he called]
    [subject : God]
    [indirect object :
        [prepositional phrase :
            to
            [noun phrase : the, expanse]
        ]
    ]
    [direct object : heaven]
]
```
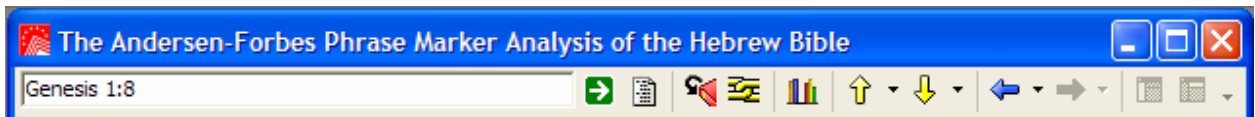
Highlighting

Hovering your mouse pointer over any of the syntactic labels will "highlight" that label. Again from Genesis 1:8:
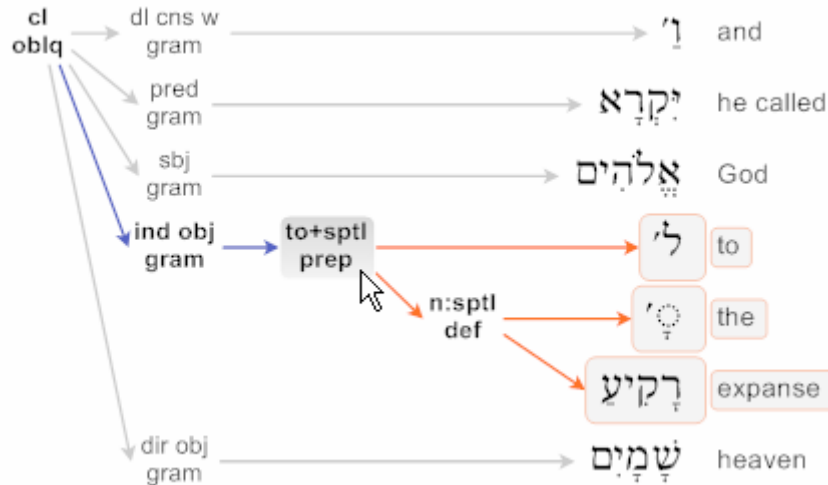
The mouse cursor has paused over the prepositional phrase (**to+sptl**), and it is shaded gray to indicate that this is the syntactic structure currently under consideration. All of the syntactic structures that are part of this highlighted phrase are shown to the right, colored in orange. Thus, the words that are boxed in orange are all the words that are part of this prepositional phrase: "to the expanse". Any structures that the currently highlighted structure is a part of are highlighted in blue to the left. Thus, we can see that this prepositional phrase is part of the indirect object (**ind obj**) which is in turn part of the clause (**cl**).

Navigation & Synchronization

Since the graph visualization resources are indexed by Bible reference, you can arbitrarily jump to any reference by typing it into the current reference box on the upper left-hand area of the resource toolbar. Additionally, the resource can be linked to any other canonically-ordered resource, such as an English translation or a Bible commentary, so that the graph resource scrolls along in sync.

Selection

Any syntactic structure can be selected by clicking on its label. In the following graph, we have left-clicked on the prepositional phrase (**to+sptl**) and it is highlighted in light blue to indicate that it has been selected:
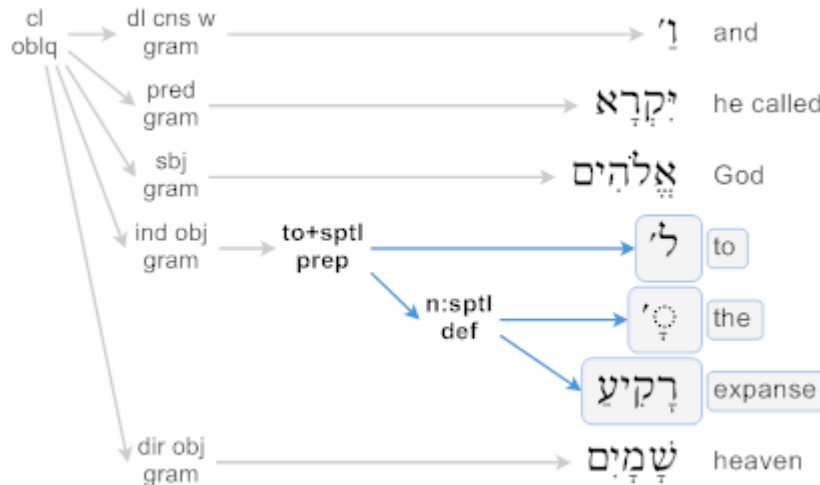
To select multiple syntactic structures, hold down the CTRL key on the keyboard and left click the structure you want to add to your selection. Using CTRL + click on a structure that is already selection will subtract that structure (and all of its parts) from the selection.

Selected syntax structures can be copied out to the Windows clipboard as a BMP (bitmap) image and pasted into word processing or image software. Use either CTRL+C on the keyboard or EDIT | PASTE from the main application menu to copy, and CTRL+V or EDIT | PASTE to paste. A selection can also be pasted into a Sentence Diagram: Open a blank Sentence Diagram document by selecting FILE | NEW | SENTENCE DIAGRAM from the main application menu, then paste your selected graph portion into the document using CTRL+V or EDIT | PASTE. The graph can then be edited and saved like any other Libronix DLS sentence diagram.

Abbreviation Expansion

In order to conserve screen space, the syntactic labels are abbreviated. The full, unabbreviated name of each syntactic label is shown in the application status bar, just like with morphological Bibles. Additionally, users can set the KEYLINK OPTIONS for the syntax labels so that the expansion appears in a pop-up window.

Interlinear Display

The text of each verse runs down the right-hand margin. Additional "columns" of information can be shown or hidden using the VIEW | INTERLINEAR dialog. The following picture shows Genesis 1:8 again, this time with the English gloss, lexical form, semantic value, and morphological tag columns all turned on:


Additionally, levels of the syntax graph to the left can also be turned off. This often results in much simpler graphs. The following image shows the same graph, only with only the clause and clause-immediate constituents (i.e., one level below the clause) displayed. Notice that the indirect object (**ind obj**) that previously had a complex structure now has no structures below it; instead, it points directly to the words that it consists of. The lines are dotted to indicate that they are not original to the graph.

SYNTAX SEARCHING

Sample Search

The SYNTAX SEARCH dialog is used to search a syntax database. It is accessible from the
SEARCH | SYNTAX SEARCH command on the main application menu.
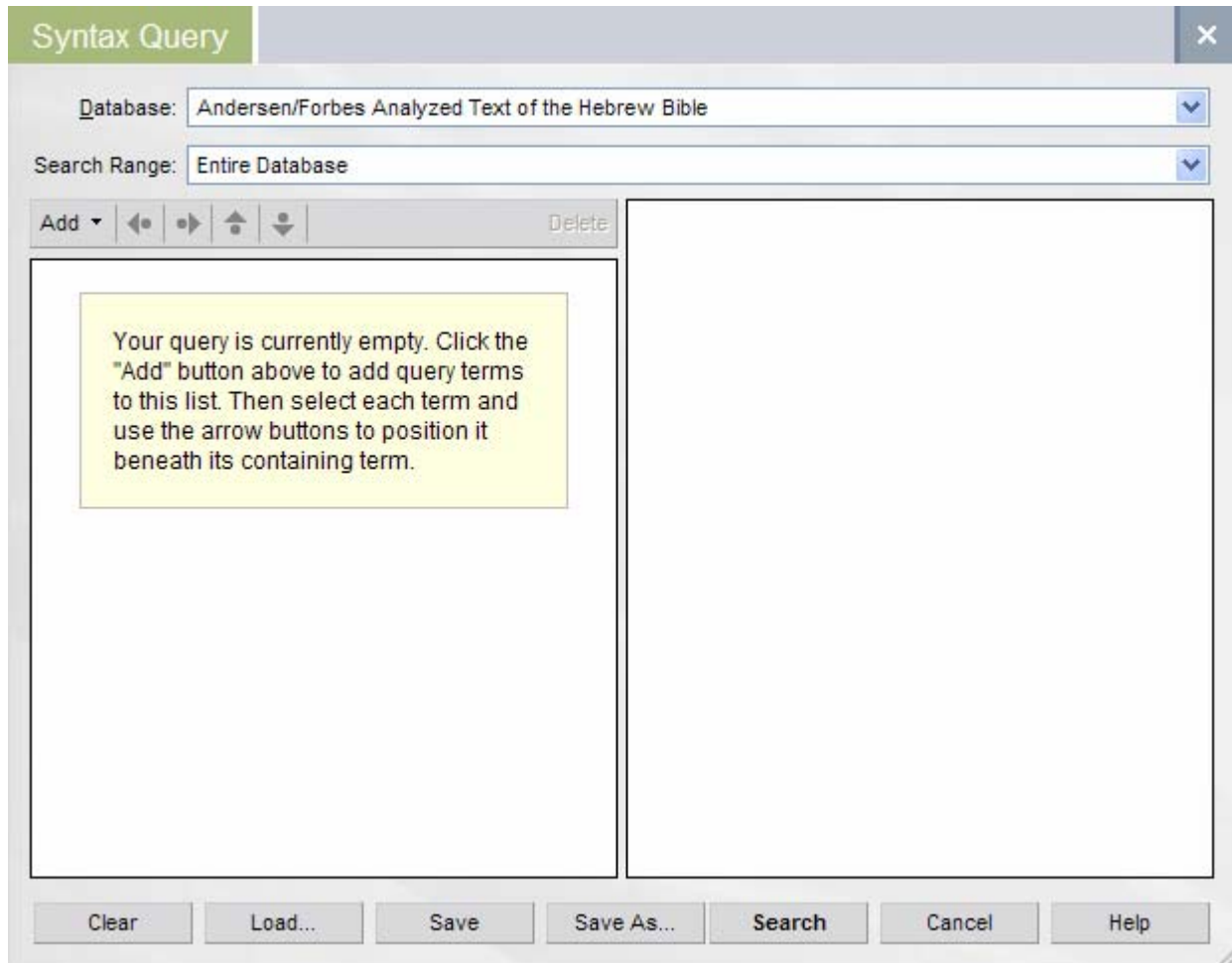
First, you must choose the database to search from the DATABASE drop-down list at the top
of the dialog. Next, you choose what portion of the database you wish to search from the
SEARCH RANGE list.

The main body of the Syntax Search dialog has two panels: On the left is the QUERY panel,
which contains a tree-like diagram or outline that represents the overall structure of what
you want to search for. You create your search query by adding search terms to this panel.
On the right of the dialog is the TERM OPTIONS panel, which lets you set further constraints
or qualifications on each individual term.

Let's say for example that we want to search Genesis for all clauses that have God as the subject of the clause; that is, we want to find all of the places where God is doing something and is explicitly named as the doer in the text.

1. Open the SYNTAX SEARCH dialog from the SEARCH | SYNTAX SEARCH menu.

2. Choose the "Andersen-Forbes Analyzed Text of the Hebrew Bible" from the DATABASE list.

3. Choose "Genesis" from the SEARCH RANGE drop-down list.

4. Add a CLAUSE to the left-hand panel by clicking the ADD button and choosing CLAUSE from the resulting menu:
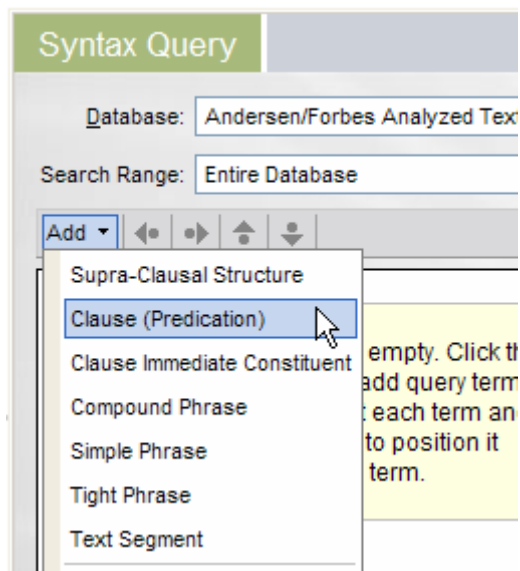

5. Add a CLAUSE IMMEDIATE CONSTITUENT in the same way, by choosing it from the ADD menu. If we didn't already know that all grammatical subjects are clause immediate constituents, we could discover this by looking at the expanded form of an example from the graph resource. If we hover over a subject in the graph resource, we see "Clause Immediate Constituent : Subject : Grammar" in the status bar. This tells us that the Subject is, for searching purposes, a clause immediate constituent (clause IC).

6. The left-hand query panel now contains a CLAUSE and a CLAUSE IC. The CLAUSE IC is indented beneath the CLAUSE, which indicates that in any matches we find, the clause IC must be contained within the clause, and not the other way around.

7. The right-hand panel contains further constraints or qualifications for the currently selected term. Since the CLAUSE IC is highlighted in yellow, it's the currently selected term. Scroll down in the right-hand panel and check SUBJECT under the CONSTITUENT heading. (Heading sections in the options panel can be expanded or collapsed by clicking on them.) This specifies that we are not looking for just any CLAUSE IC, but rather one is labeled as a SUBJECT. The term in the left-hand panel is updated to reflect this new constraint:
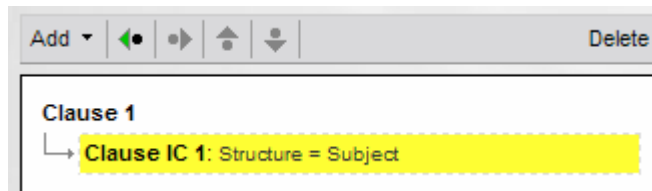

8. Add a TEXT SEGMENT underneath the CLAUSE IC. We want to constrain our search to subjects that contain a name of God, and to do that, we're going to use a semantic category. Semantic tagging is available to text segments (words and word parts), so we add that.

9. Scroll down in the right-hand panel, find the SEMANTICS heading, and choose DEITY from the list. (Note that the SEGMENT is marked as "Any Descendant" because there may be some intervening structures between the subject and the word we are looking for. "Any Descendant," which is an option that can be set under the OCCURRENCE section heading, allows the segment to match even if it isn't an immediate child of the CLAUSE IC. So long as it's somewhere, anywhere, inside the CLAUSE IC, we will make a match.)

10. Set the SEGMENT so that it will be highlighted within the search hits by checking the HIGHLIGHT THIS TERM IN SEARCH RESULTS check box under SEARCH PARAMETERS (at the top of the right-hand panel of the dialog). The query should now look like this:
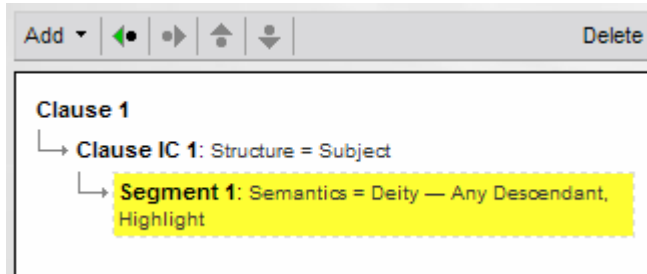
11. Press the SEARCH button on the lower right-hand corner of the dialog.

Search Results

The SYNTAX SEARCH RESULTS window will now appear:
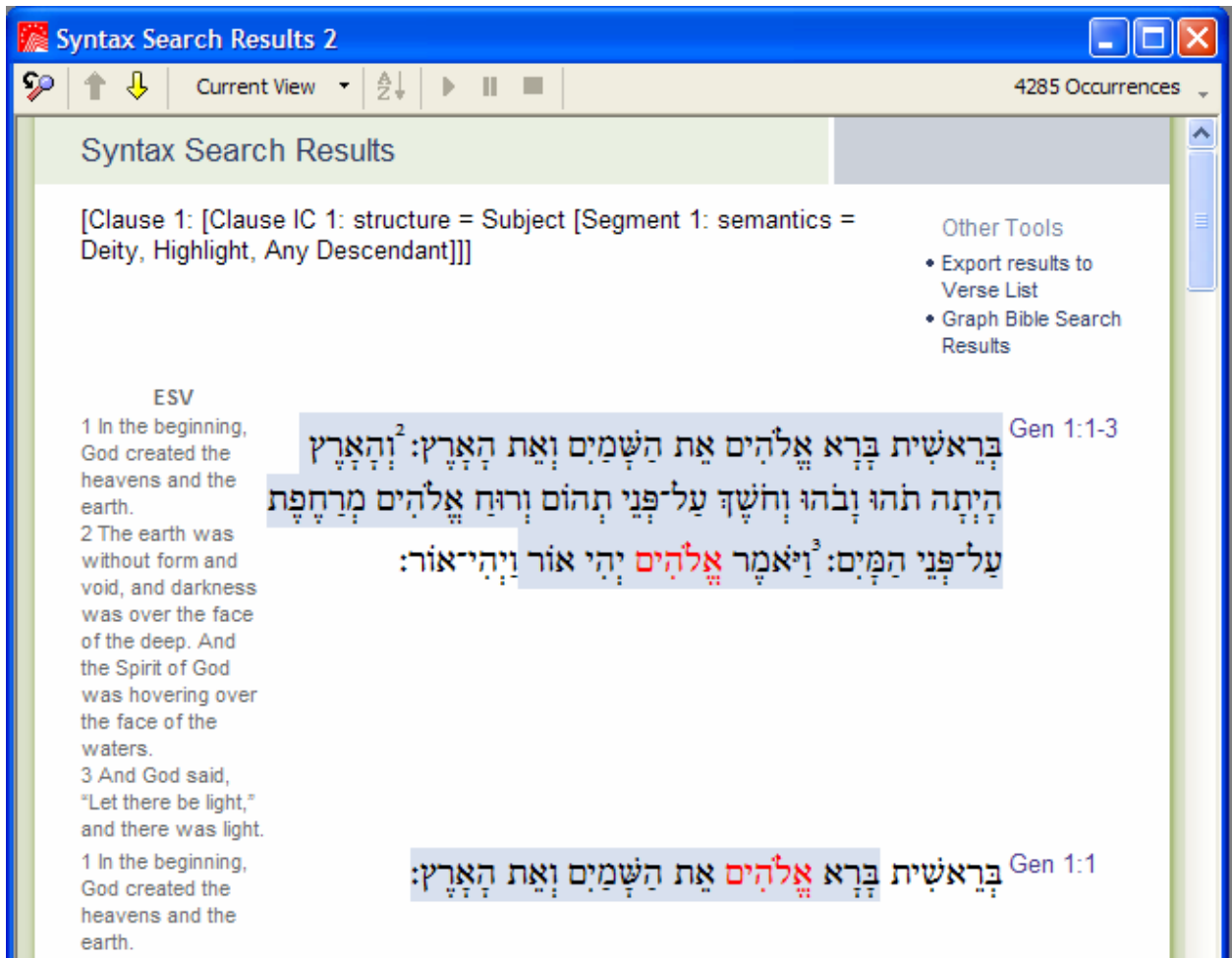
The CURRENT VIEW drop-down list shows various styles of presentation: Just references, just the text of the hits, and what you see here which is "References with Hits in Full Verse

Context." In the upper-right hand corner of the results window, we see that there are 4,285 occurrences of our query, which is described at the top of the window:

> [Clause 1: [Clause IC 1: structure = Subject [Segment 1: semantics = Deity, Highlight, Any Descendant]]]

You will see from the screenshot that in Genesis 1:1-3 we have matched (at least) two clauses. The first is Genesis 1:1-3, which begins "In the beginning [when] God created ..." and goes until God first says, "Let there be light." We see that the second occurrence of *elohim* ("God") is highlighted, so that's the one that made this match. The second hit is actually embedded within the first hit; it is the smaller clause "God created the heavens and the earth," which forms only part of the larger clause that spans Genesis 1:1-3. (Yes, clauses can indeed contain clauses, in case you were wondering.)

General Search Information

- The SEARCH PARAMETERS and OCCURRENCE sections are available to every term:
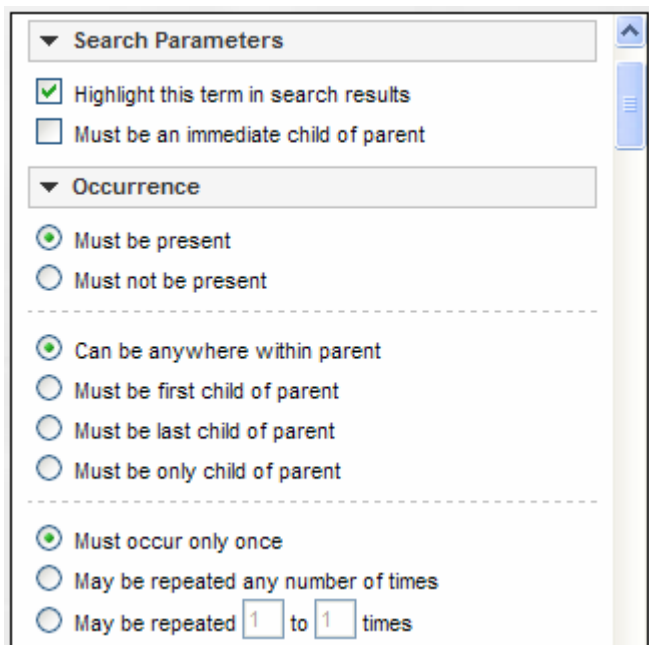
Marking a term MUST NOT BE PRESENT means to match only if that term does *not* exist. To constrain a term to the first position within its containing structures, choose MUST BE FIRST CHILD OF PARENT. Terms can also be repeated. For example, if you wanted to search for a definite article that might or might not be there, you would set MAY BE REPEATED [0] TO [1] TIMES.

- Any term can be highlighted, and several terms can be highlighted within the same search. All highlighted terms will appear as red text in the results.

- The form of the query will exactly match the same form(s) within the database. That means that if you are looking for a Clause IC inside of a Clause, you will only match that and not something else.

- The order of terms in a syntax query is significant. That means that if you put the subject before the verb, you will not match any similar clauses where the verb comes before the subject. To do that, you must run another search.

- Generally, the containment of one term within another is irrespective of position within the container. That means that if you have [Clause [Segment]] the segment is allowed to be anywhere inside the Clause. It's position within the clause is not important, only that it is contained within.

- Different databases will have different search terms available, and each search term may have different options. For example, the *Andersen-Forbes* Hebrew database has "text segment" terms, whereas the Greek databases generally have "word" terms.

- The *anything* search term in the ADD menu will allow a span of any intervening words/segments. Use this with caution; if you construct a query with a segment, *anything*, then another segment, the two segments may attempt to match across the entire Bible! This will take a long time to execute, and it will yield strange results. It is better to bound the two terms with a containing structure, such as a clause:

Don't do this:
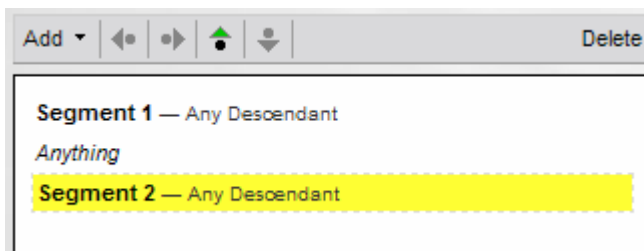
Do this instead:
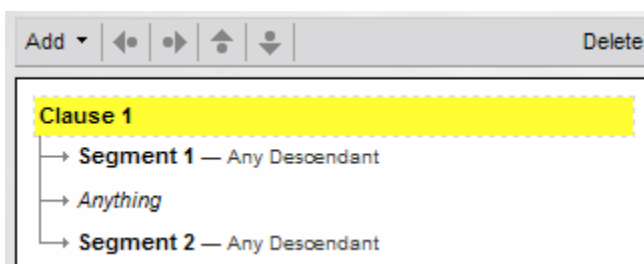
DISCLAIMER & CONTACT INFORMATION

This document is provisional and describes beta resources. Anything and everything is subject to change. Do not install beta software or resources on mission-critical computer systems, or if you are not willing to endure some broken functionality or changing specifications. Back everything up first.

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