

A Case Study in Greek Syntax: James 1.19-20

Logos Bible Software have commenced implementation of two different projects that encode levels of syntactic information in the Greek New Testament. One project, the *OpenText.org Syntactically Analyzed Greek New Testament*, provides information for the entire Greek New Testament. Another project, the *Lexham Syntactic Greek New Testament*, is being released in stages as it is completed. The first release will include the General Epistles (Hebrews-Jude) and likely Revelation. The first public release for both databases will likely be in the first quarter of 2006, with the next major release of Logos Bible Software.

This paper works through aspects of James 1.19-20 using both Greek syntactic databases and provides a comparison of the information contained in each database.¹

The Text: James 1.19-20

¹⁹Ιστε, ἀδελφοί μου ἀγαπητοί· ἔστω δὲ πᾶς
ἀνθρώπος ταχὺς εἰς τὸ ἀκούσαι, βραδὺς εἰς τὸ
λαλῆσαι, βραδὺς εἰς ὄργην.²⁰ ὄργὴ γὰρ ἀνδρὸς
δικαιοσύνην θεοῦ οὐκ ἐργάζεται. (NA27)

¹⁹ Know this, my beloved brothers: let every person be quick to hear, slow to speak, slow to anger; ²⁰ for the anger of man does not produce the righteousness that God requires. (ESV)

These verses were chosen because the structure of the verses is (relatively) clear with repetition. Additionally, the verses form one sentence in the NA/UBS text. Evaluating the encoding of these verses in each database will allow a basis of comparison to see the strengths of each encoding as well as the differences between them.

The Lexham Syntactic Greek New Testament

The *Lexham Syntactic Greek New Testament* (Lexham SGNT) represents the ongoing work of Dr. Albert L. Lukaszewski. The *Lexham SGNT* provides information regarding clausal structure and syntactic relations within the clausal structure of the Greek New Testament. Preliminary work on the General Epistles (Hebrews through Jude) is complete and has been implemented for Logos Bible Software. Work on the book of Revelation is near completion and is slated for inclusion in early 2006. Upon completion of preliminary work on Revelation, work on the Pauline epistles will commence.

The unit of structural analysis begins with the sentence, as punctuated in the NA27 Greek New Testament. Sentences are broken into clauses, phrases and frames. These “clausal units” can intermingle, there is no implied structure amongst them. Thus, a sentence contains clausal units and perhaps words. Clausal units contain words or other clausal units, or perhaps both. A clausal unit may contain discontiguous text.

Terminology and arrangement reflects a more traditional analysis and is compatible with Reed-Kellogg (stick-based) sentence diagramming. The *Lexham SGNT* need not be limited to informing one’s diagramming, however.

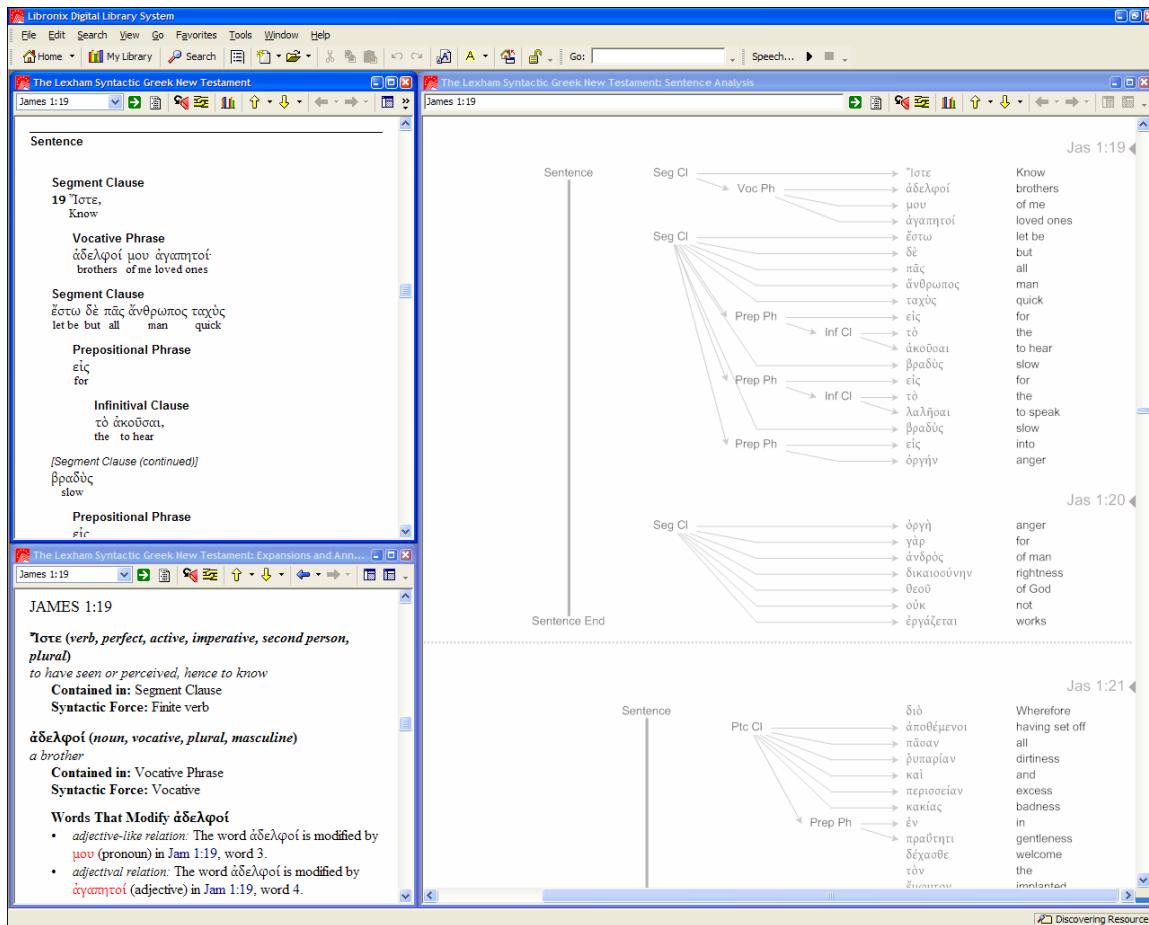
¹ All configurations and discussion of features is preliminary and may change prior to product release.

Lexham SGNT Text and Arrangement

The *Lexham SGNT* consists three primary components:

- The Lexham Syntactic Greek New Testament
- The Lexham Syntactic Greek New Testament: Sentence Analysis
- The Lexham Syntactic Greek New Testament: Expansions and Annotations

A screen capture displaying all three of these components is below. The nature of each component will be briefly discussed following the graphic.



Lexham SGNT Primary Text

The primary text of the *Lexham SGNT* is in the upper left corner. This resource includes the text of the Nestle-Aland 27th edition of the Greek New Testament, with NA27 casing and punctuation. The visual arrangement is indented, with clausal depth providing the cue for structure of the text. Each clause portion is labeled. Bold titles indicate the start of a new clausal unit; italic titles indicate the continuation of a previous unit.

The Bible text is an interlinear text. In addition to the text of the NA27, lines for lexical forms (lemmas), morphology and a literal gloss in English are also available.

Lexham SGNT Expansions and Annotations

The *Expansions and Annotations* are visible in the lower left corner of the screen image. In addition to the higher-level clausal structure, Dr. Lukaszewski's work also encodes the syntactic role of a word in a given clausal structure as well as specific relationships of modification between words. Additionally, words implied by syntax but not included (e.g. an implied εστιν) are provided.

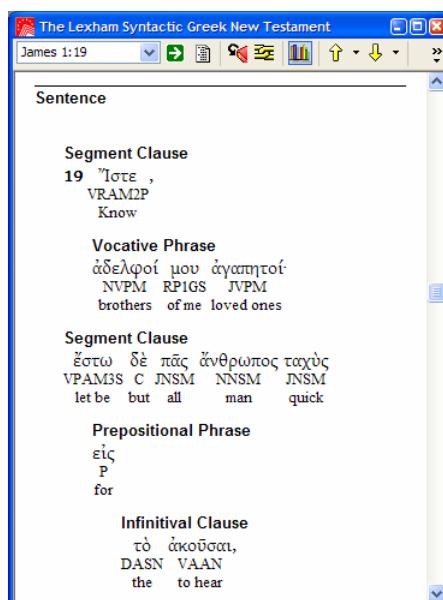
The *Expansions and Annotations* resource includes this information and is aligned with the Greek text at the word level. Thus for any word in the Greek New Testament, information detailing the role of the exact word in the clausal structure as well as other words that the current word directly modifies (or is modified by) is available.

Lexham SGNT Sentence Analysis

The *Sentence Analysis* provides another visual representation of the underlying sentence structure using a directed graph. Here, the extent of the sentence (as punctuated in the NA27 text) is displayed by the vertical bar on the left of the page. The underlying clausal components and their structure can be seen through the graph structure, pointing from label (e.g. Seg Cl, a “Segment Clause”) to contained item (e.g. Prep Ph or a Greek word). In this way, the structure can be visually represented and quickly examined for containing structures.

James 1.19-20 in the Lexham SGNT

Below is the primary text of the *Lexham SGNT* for James 1.19-20. Recall that bold headings indicate new clausal units, indentation reflects containment, and italic headings indicate a continuation of an existing clausal unit.

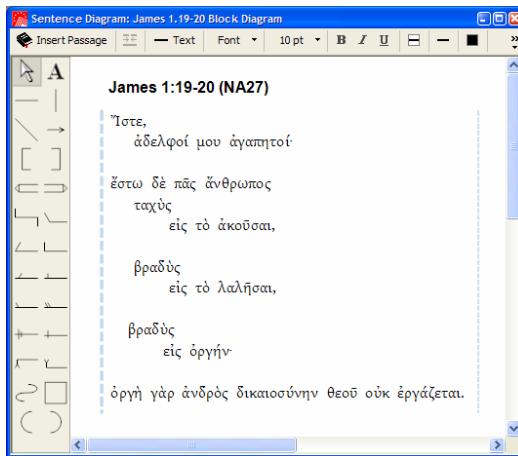


The screenshot shows the Lexham Syntactic Greek New Testament software interface. The main window displays the Greek text of James 1:19-20 with its corresponding syntactic analysis. The analysis is organized into several clausal components:

- Segment Clause**
19 Ἰστε ,
VRAM2P
Know
- Vocative Phrase**
ἀδελφοί μον ἀγαπητοί
NPMR RP1GS JVPM
brothers of me loved ones
- Segment Clause**
ἔστω δὲ πᾶς ἀνθρώπος ταχὺς
VPAMBS C JNSM NNSM JNSM
let be but all man quick
- Prepositional Phrase**
εἰς
P
for
- Infinitival Clause**
τὸ ἀκούσαι,
DASN VAAN
the to hear

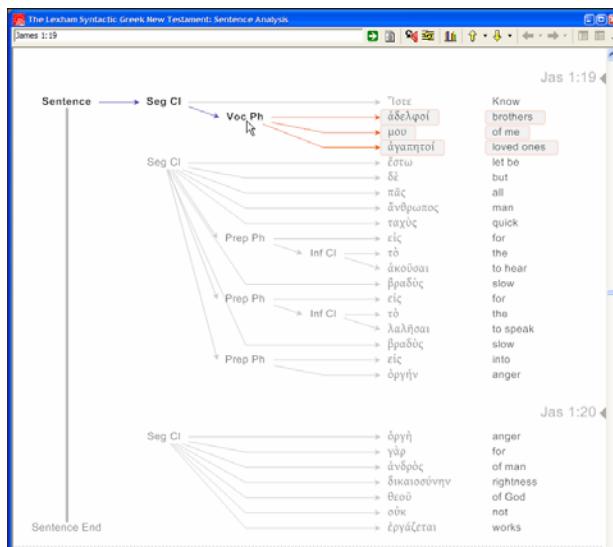
James 1.19-20 in the Lexham SGNT

The basic structure of the sentence can be seen with relatively little effort. The sentence consists of three Segment Clauses.² The first segment clause consists of the word “Ιστε” and the vocative phrase ἀδελφοί μου ἀγαπητοί. The second segment clause consists of three prepositional phrases (two of which include infinitival clauses). The third segment clause has no embedded structure. This information leads one to easily complete a rudimentary block diagram of the sentence.



A block diagram of James 1.19-20

Working from here, one may consult the *Sentence Analysis*. This is valuable to do because the *Sentence Analysis* provides a way to interact with the structure of the text, noting both the overlying and underlying syntactic structures. Using the mouse cursor, one may hover elements and evaluate these structures, as shown below:



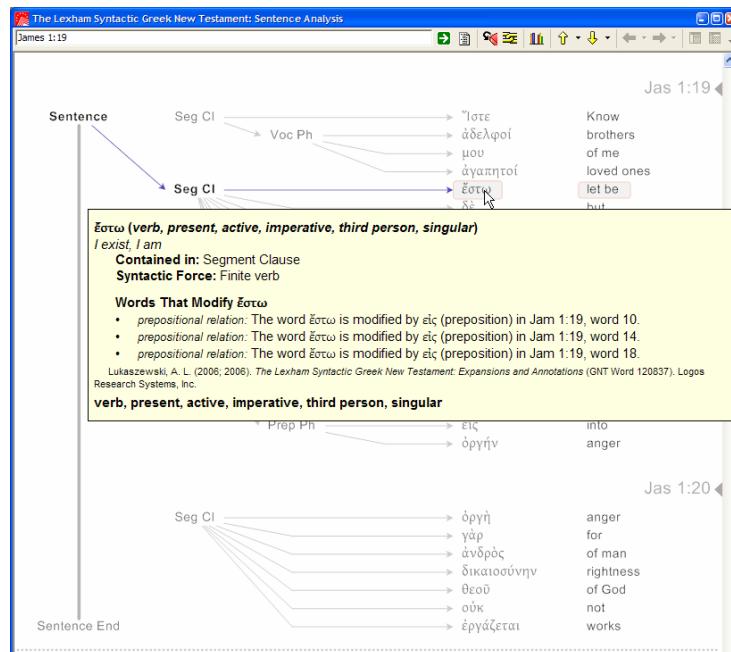
Sentence Analysis, with Vocative Phrase highlighted

² In the sentences as delineated by the NA27, at times disparate clauses combine to form a single sentence. In the case of James 1.19-20, three linguistically separate clauses are combined to form one sentence. In the *Lexham SGN*, these three primary clauses are seen as “segments” of the sentence, thus the term “Segment Clause” is used as label. Other terms could have been chosen, but several of the terms (e.g., “independent” or “section”) were deemed too ambiguous or were avoided because they conflicted with existing terminological usage in other contexts.

The overlying structure is seen to the left of the mouse cursor: The current vocative phrase is contained in a segment clause and the segment clause is contained in a sentence. The words included in the selected structure are easily seen as well. Thus the user has a snapshot of the structure of the selected clausal unit.

In moving the mouse cursor down the clausal hierarchy, the structure highlighting adjusts for the currently selected element. This allows one to easily work through each clausal unit and see what text is contained in each unit.

Working through a clausal unit, it becomes apparent that in these directed graphs, structure is read from the left to the right. Text, on the other hand, is read from the top to the bottom. Each word in the text column also contains a reference to the *Expansions and Annotations* resource. Therefore one can access information about the word-level relationships simply by hovering over the word in question:³



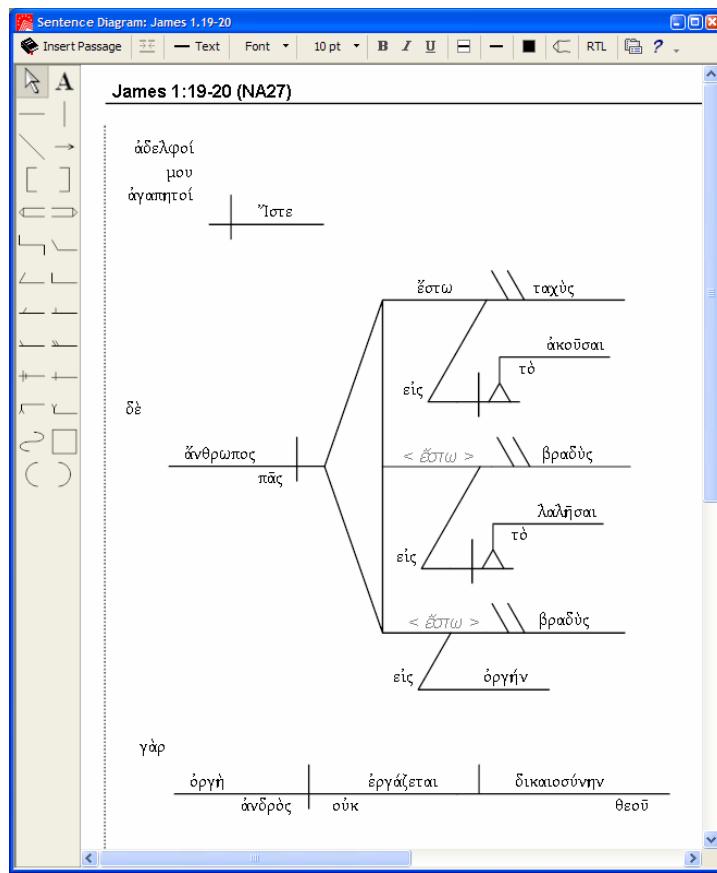
Sentence Analysis, with Expansion and Annotations displaying on hover

In reviewing the *Expansions and Annotations*, one sees (in the second segment clause) that Ἐστω is modified by the three prepositions. One will also see that ταχὺς and both instances of βραδὺς are tagged as predicate adjectives. Subjects and objects are noted at the word level. In short, the relationships necessary to create a Reed-Kellogg (stick-based) diagram are discernable through evaluation of the structure and containment displayed by the *Sentence Analysis* graph visualization and also by factoring in the syntactic roles and relationships of modification specified by the *Expansions and Annotations*.

This sort of information, combined with a basic knowledge of stick-based diagramming structures,⁴ leads one to be able to create diagrams with more confidence of analysis; particularly for those beginning to develop diagramming skills.

³ This information is also available via hover in the primary text of the *Lexham SGNT*.

⁴ Found in books that introduce the stick-diagramming method, such as Lee Kantenwein's *Diagrammatical Analysis* (available in LDLS format) or in Donald Hagner's *New Testament Exegesis and Research*.



Sentence Diagram of James 1:19-20

This information need not only be utilized in creating Reed-Kellogg diagrams, it could be used to inform whatever flavor of diagramming one uses: Semantic Structure Analysis, Sentence Flow Diagramming, Sentence Arcing, and the like.

The *Lexham SGNT* can also be used within exegetical frameworks such as that prescribed by Gordon Fee in his book *New Testament Exegesis: A Handbook for Students and Pastors*⁵ or that specified by Guthrie and Duvall in their *Biblical Greek Exegesis: A Graded Approach to Learning Intermediate and Advanced Greek*.⁶

Searching the Lexham SGNT

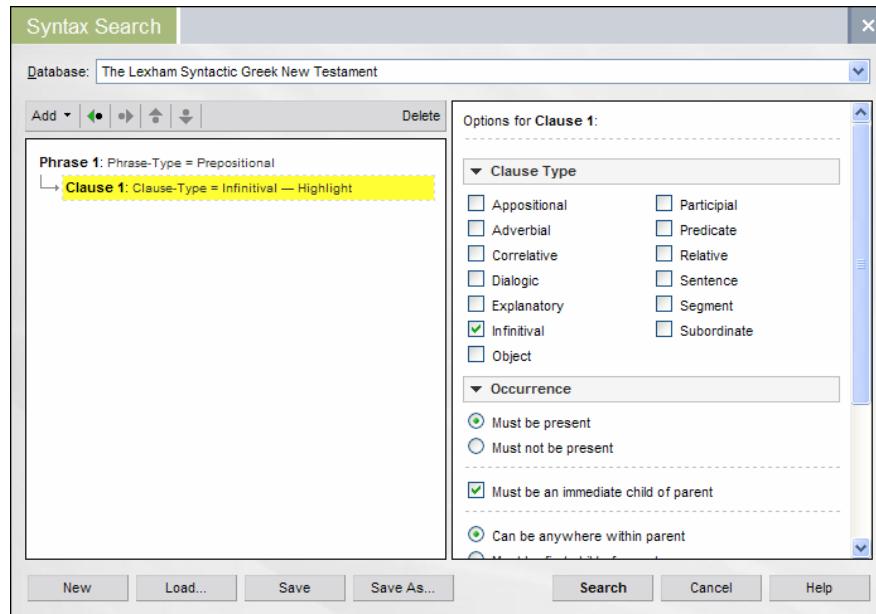
Each of the structures noted in the Lexham SGNT are searchable. One may search only on structure (e.g., find all infinitival clauses contained within a prepositional phrases irrespective of words used); plug in words or syntactic roles to make the search more specific (e.g., ταχὺς as a predicate nominative); or some combination (infinitival clause with λαλέω contained in a prepositional phrase headed by εἰς). The first of these searches is discussed below.

⁵ Fee, Gordon D. *New Testament Exegesis: A Handbook for Students and Pastors*. Louisville: Westminster John Knox Press, 2002.

⁶ Guthrie, George H., and J. Scott Duvall. *Biblical Greek Exegesis*. Grand Rapids: Zondervan, 1998.

Example Search: Infinitival Clause contained within a Prepositional Phrase

One possible example is a pure structural search. It may be specified in the Syntax Search dialog as shown below:



The Syntax Search dialog specifying the current search

This search returns 26 occurrences in the Catholic Epistles. Interestingly, this structure only occurs in Hebrews (18 times), James (five times, twice in 1.19) and 1 Peter (three times). Search results are available in a few different views, the view with the most information and context is shown below. The center column reflects the Greek text. The shaded background denotes the extent of the matched structure (in this case, the prepositional phrase), the red text denotes text marked for highlighting (in this case, the infinitival clause).

Syntax Search results for the current search

The column on the right is optional. If the Bible icon in the results toolbar is clicked, the contents of the preferred Bible for each verse will be displayed. These results can be exported to a verse list or graphed.

Because a preferred translation can be displayed beside the original language text, those with less facility in Greek can still work through the search hits, evaluating the translation of the queried structure.

The OpenText.org Syntactically Analyzed Greek New Testament

Logos Bible Software has partnered with OpenText.org to produce *The OpenText.org Syntactically Analyzed Greek New Testament* in Logos Bible Software format.

The *OpenText.org Syntactically Analyzed Greek New Testament* includes the text and formatting of the UBS4 Greek New Testament. The morphology and lexical form is encoded with each word. Available semantic domains from the Louw-Nida lexicon are also encoded.

The OpenText.org material analyzes the syntax of the text, noting relationships between words and higher-level textual structures. It is in this higher level analysis that OpenText.org material offers new possibilities for the exegete.⁷

While terminology and arrangement of the analysis has been informed by modern linguistics, the resultant information can also be used to inform traditional exegetical approaches such as Reed-Kellogg (stick-based) diagramming or block diagramming.

OpenText.org Text and Arrangement

The OpenText.org material consists of three levels of tagging. These are:

- **Word (or Base) Level:** This is reflective of what is in standard morphologies. It includes form-based morphological tagging and lexical forms for dictionary/lexicon lookup. The OpenText.org material includes potential semantic domains as well.
- **Word Group Level:** A word group is a group of one or more words. Frequently, word groups consist of only one word. Word groups are akin to phrases; they are units of meaning consisting of one or more words.
- **Clause Level:** In the OpenText.org clause model, clauses contain clause components. Clause components may contain embedded clauses or word groups.

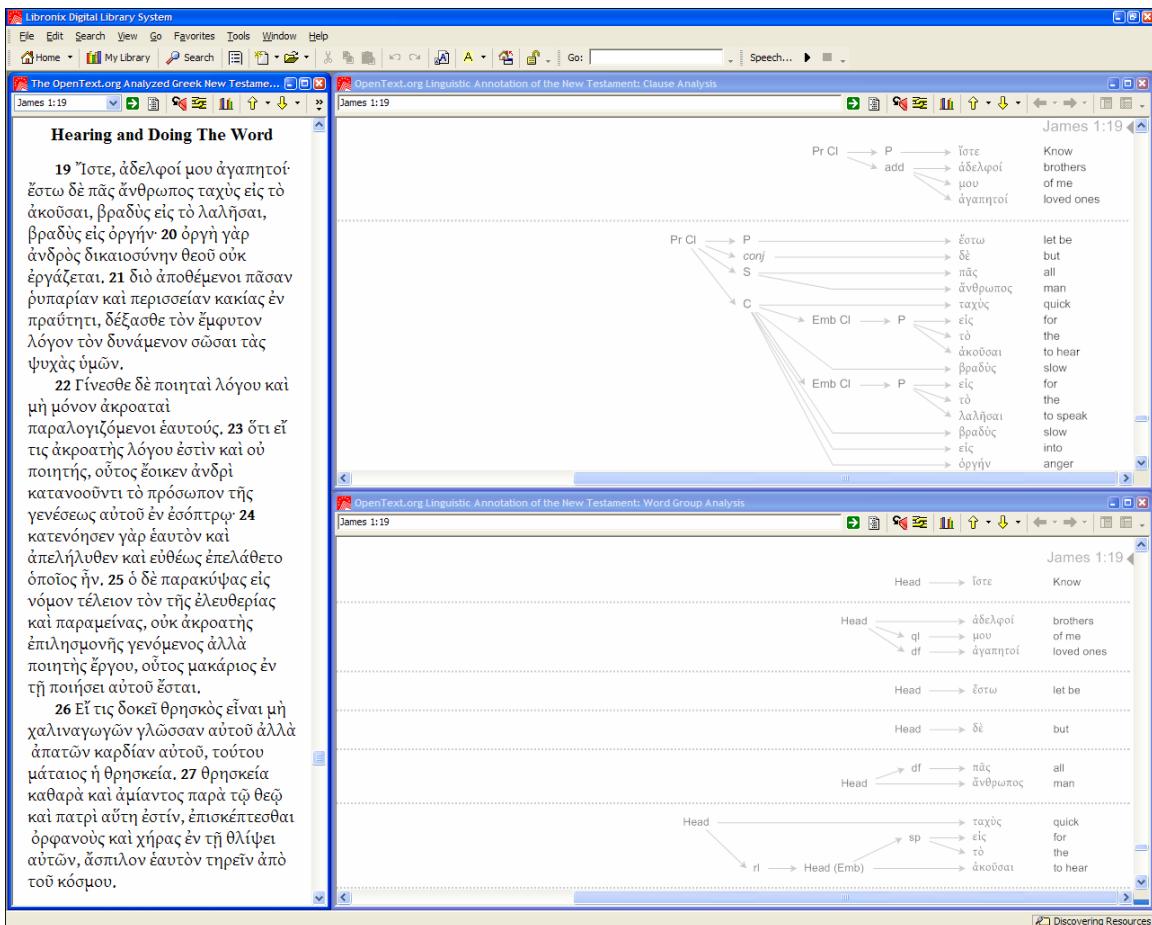
Levels of annotation are built upon the words of the text, allowing analysis of various relationships between words, word groups and clauses. The initial analyses for each of these levels has been completed and is being implemented for Logos Bible Software.

These differing levels of annotation are available in the following primary components:

- The OpenText.org Syntactically Analyzed Greek New Testament
- The OpenText.org Syntactically Analyzed Greek New Testament: Word Group Analysis
- The OpenText.org Syntactically Analyzed Greek New Testament: Clause Analysis

These components are visible in the screen capture below:

⁷ An introduction to the OpenText.org material and philosophy is available online at <http://divinity.mcmaster.ca/OpenText/resources/articles/a8>



James 1.19 in the OpenText.org Analyzed Greek New Testament

OpenText.org SAGNT Primary Text

The primary text of the *OpenText.org SAGNT* is the text of the UBS Greek New Testament, Fourth Edition (UBS4). This is displayed in the left column above. The text, casing, punctuation and formatting of the UBS4 text is included. This text is structured like other morphologically tagged editions of the Greek New Testament in Logos Bible Software.

The Bible text is also an interlinear, allowing morphology and other information to be viewed inline. The terminology used by the morphology is relatively standard, though the nature of the syntactic analysis requires the morphological tagging to, as much as possible, represent the strict morphological form of the word—not necessarily the form as used in a particular context.

The OpenText.org Syntactically Analyzed Greek New Testament: Word Group Analysis

The OpenText.org *Word Group Analysis* is a graph resource that provides visual structure for the word group level.⁸ The Word Group Analysis encodes relationships between words within particular groups, detailing relationships of modification.

⁸ It is anticipated that in the release version of the *OpenText.org SAGNT* the *Word Group Analysis* and *Clause Analysis* visualizations will be consolidated into one syntax graph resource that details both clause and word group relationships.

Word Group Analysis Vocabulary

It is necessary to establish some vocabulary before proceeding further.

- **Word Group:** A word group consists of a single head term and any and all of its modifiers, though it will frequently consist of just a single word.
- **Head Term:** Informally, a word that does not depend/modify any other word in its group.
- **Modifier:** Any word contained in a word group that is not a head term is considered to be a modifier. These modify the head term either directly or by modifying words that modify the head term. Modifier groups may be deeply nested (Ro 1.1-6 is an example of a long and heavily nested series of modifiers).

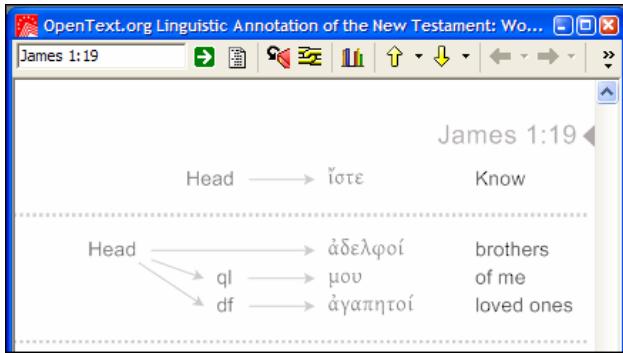
A phrase such as ὁ λόγος Παύλου is a single word group. The head term is λόγος to which the other words are in a subordinate relationship. The terms ὁ and Παύλου are referred to as modifiers.

In the *Word Group Analysis*, there are four different kinds of modification relationships that are accounted for. An additional relationship of connection is described as well. The below definitions are taken from the OpenText.org *Word Group Analysis* specification,⁹ and in some cases are slightly modified.

- **Specifier:** *Specification* occurs when a modifier classifies or identifies the word it modifies. Common examples of specifiers are articles, e.g. ἡ ἀδελφή, and prepositions, e.g. ἐν δόξῃ. In a prepositional phrase such as εἰς τὸν λόγον, both εἰς and τὸν are specifiers of λόγον.
- **Definer:** *Definition* occurs when a modifier attributes features to or further defines the word it modifies. Common examples of definers are adjectives (both attributive and predicative structure), appositional words or phrases, and adjectival clauses.
- **Qualifier:** *Qualification* occurs when a modifier in some way limits or constrains the scope of the word it modifies. Common examples of qualifiers are words in the genitive and dative case, and also negative particles functioning at the word group level.
- **Relator:** *Relation* occurs when a word specified by a preposition (i.e. the object of a preposition) modifies another element within the word group. For example, in the word group τὸ κατ’ ἐμὲ πρόθυμον, the term ἐμὲ is in a relator relationship with the head term πρόθυμον. This relationship only applies to prepositional phrases within word groups and not when the prepositional phrase functions as a clause component.
- **Connector:** *Connection* is a relationship between two word groups (e.g. Παῦλος καὶ Τιμόθεος) or two modifiers in a single word group (e.g. Φιλήμονι τῷ ἀγαπητῷ καὶ συνεργῷ ἡμῶν).

Therefore, the *Word Group Analysis* breaks the New Testament into word groups. Word groups further specify relationships of modification between the members of the word group. The second word group in James 1.19, ἀδελφοί μου ἀγαπητοί, provides an example:

⁹ <http://divinity.mcmaster.ca/OpenText/model/guidelines/wordgroup/0-2>



James 1.19 word groups

The head term in the second word group is the vocative ἀδελφοί. It has two modifiers. First, μου modifies ἀδελφοί as a qualifier. That is, in some way μου limits or constrains the scope of ἀδελφοί. These aren't just any brothers, they are *my* brothers. Second, ἀγαπητοί modifies ἀδελφοί as a definer. It further defines ἀδελφοί; they are the *beloved* brothers. Thus the whole word group could be translated as "my beloved brothers".

The OpenText.org Syntactically Analyzed Greek New Testament: Clause Analysis

The OpenText.org *Clause Analysis* provides similar graphic representation to the underlying clause structure using directed graphs.

Clause Analysis Vocabulary

Necessary vocabulary for the *Clause Analysis* is presented below.¹⁰

Clause: A clause is a unit of language that contains a single proposition about which the language user is making an assertion, negation, query or suggestion. A clause will usually consist of a verbal element (the predicate) and its related elements. However, a verbal element will not always be present (e.g. the opening of many letters) and is not required in a clause. A clause may consist of a single word group (e.g. a one-word phrase).

Clause component: A clause component is a functional unit made up of one or more word groups and can be classified as either core types (subject, predicate, complement, adjunct) or peripheral types (addressee, conjunction).

Core Clause Components

Subject: The subject of a clause is the word group or word groups providing greater specification regarding the grammatical subject of a finite verb form (the morphological indication of person and number). For finite verbs the head term of this group (or these groups) are in the nominative case. In infinitive clauses the subject may be indicated in the accusative case. In so-called *genitive absolute* constructions the subject component occurs in the genitive case. A clause will often have no subject component and can have at most one subject component.

Predicator: The predicator of a clause is its verbal element, which grammaticalizes the process of the clause.

Complement: A complement of a clause is a word group or the word groups that *completes* the predicator of the clause. The categories of direct and indirect object from traditional grammar are among those classified

¹⁰ <http://divinity.mcmaster.ca/OpenText/model/guidelines/clause/0-2>

as complements. A clause may have no complement or many complements. With relation to the process of the clause, the complement(s) are those components of the clause that answer the question “who?” or “what?” is affected by the process.

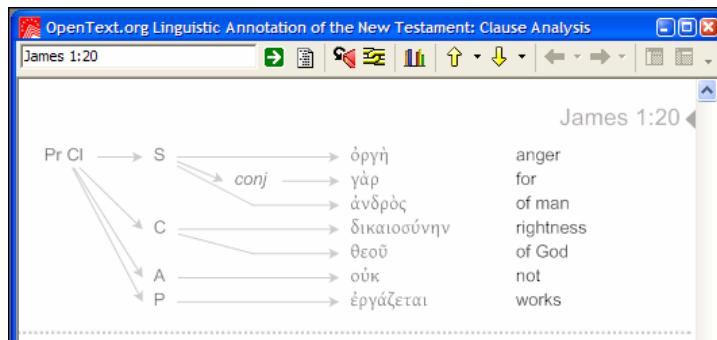
Adjunct: An adjunct of a clause is a word group or the word groups that modify the predicator, providing an indication of the circumstances associated with the process. Common adjuncts are prepositional and adverbial phrases (adverbs) and also embedded “adverbial clauses”. With relation to the process of the clause, adjuncts provide answers to questions of the type “where?”, “when?”, “why?” and “how?”.

Peripheral Clause Components

Addressee: The addressee component serves an interpersonal function and contains words used to call attention to one of the participants (either internal or external) in the discourse.

Conjunction: The conjunction component contains words that function to link the clause to preceding or following clauses in the discourse.

The clause that comprises James 1.20 is helpful to consider:



Clause analysis of James 1.20¹¹

The clause analysis shows four clause components comprise the primary clause of James 1.20, plus a conjunction that likely acts to conjoin this clause with the clause that comes before it. The four components (plus conjunction) are:

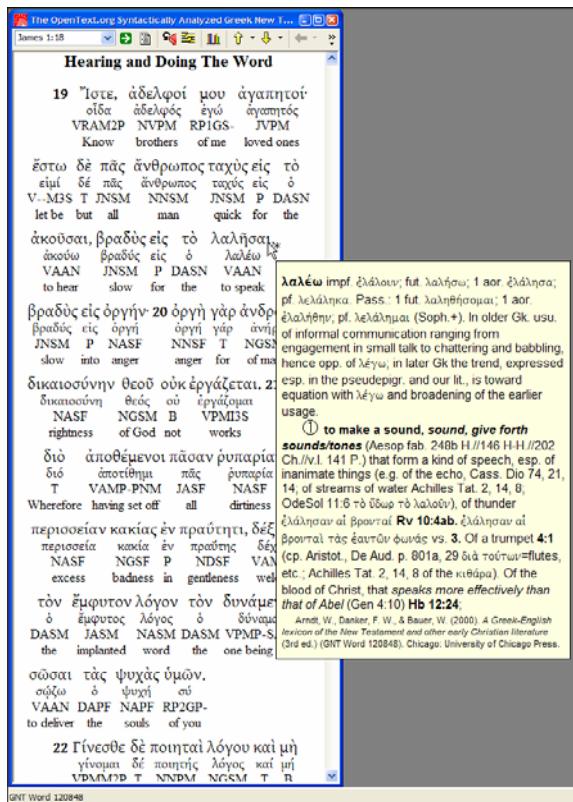
- **Subject:** ὀργὴ .. ἀνδρὸς
- **conjunction:** γάρ
- **Complement:** δικαιοσύνην θεοῦ
- **Adjunct:** οὐκ
- **Predicator:** ἔργάζεται

Therefore the basic structure is easily seen. When this is considered in conjunction with the *Word Group Analysis* for the clause, the flow of the text and the manner in which word groups modify each other within these components informs understanding of the structure of the text.

¹¹ In reviewing this paper prior to presentation, the OpenText.org team noted a problem with the conjunction contained as part of the subject component. It should instead be at the same level as the subject, as a top-level child of the primary clause. This problem will be addressed in the publication version of the *OpenText.org SAGNT*.

James 1.19-20 in the OpenText.org SAGNT

The form of the *OpenText.org SAGNT* is much the same as other morphologically annotated Greek New Testaments in Logos Bible Software, with similar features.¹² Much like the *Lexham SGNT*, each word in the *OpenText.org SAGNT* has a unique identifier, and these identifiers are aligned with several resources. This information is available through hovering over a word in the text.



λαλέω impr. ἀλάλουν; fut. λαλήσω; 1 aor. ἀλάλησα;
pf. λαλάσκα. Pass. 1 fut. λαλήσομαι; 1 aor.
λαλάθην; pf. λαλάλημα. (Soph. +). In older Gk. usu.
of informal communication ranging from
engagement in small talk to chattering and babbling,
hence opp. of λέγω, in later Gk. the trend, expressed
esp. in the pseudopigr. and our lit., is toward
equation with λέγω and broadening of the earlier
usage.

① to make a sound, sound, give forth
sounds/stones (Aesop fab. 24B H./146 H.H./202
Ch./V. 141 P.) that form a kind of speech, esp. of
inanimate things (e.g. of the echo, Cass. Dio 74, 21,
14, of streams of water Achilles Tat. 2, 14, 8,
OdeSol 11.6 → ὥσπερ τὸ λαλοῦν), of thunder
λαλησαν αἱ βρούσαι Rv 10:4ab. λαλησαν αἱ
βρούσαι τὸς ἐντὸν φωνᾶς vs. 3. Of a trumpet 4:1
(cp. Aristot. De Aud. p. 801a, 29 διὰ τούτων=flutes,
etc.; Achilles Tat. 2, 14, 8 of the κιθῆρα). Of the
blood of Christ, that speaks more effectively than
that of Abel (Gen 4:10) Hb 12:24.

Arndt, W., Danker, F. W., & Bauer, W. (2000). *A Greek-English lexicon of the New Testament and other early Christian literature* (3rd ed.) (GNT Word 120848). Chicago: University of Chicago Press.

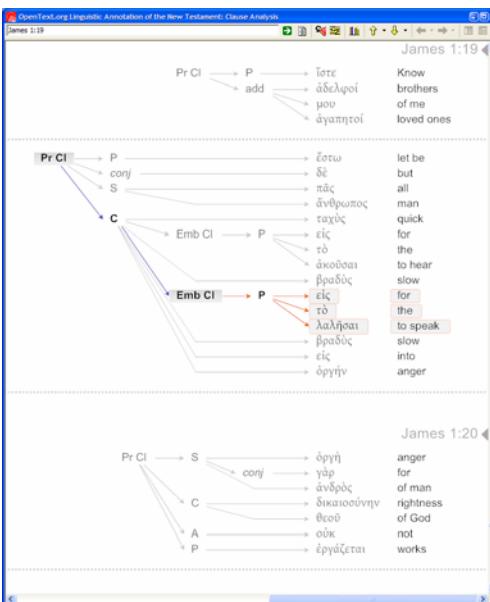
James 1.19 in the OpenText.org SAGNT, with linked lexical information from BDAG

Moving from the text as represented in the UBS4 to the syntax graphs of the *Clause Analysis*, the underlying clausal structure can be seen. James 1.19-20 in the OpenText.org annotation consist of three primary clauses.

- **First Primary Clause:** Predictor, addressee
- **Second Primary Clause:** Predictor, (conjunction), Subject, Complement. The complement has additionally embedded components.
- **Third Primary Clause:** Subject, (conjunction), Complement, Adjunct, Predictor

These components can be seen in the graph. Note that ancestor and descendant highlighting of graph nodes is supported, just as it is in the *Lexham SGNT*.

¹² Note that this form may change; a format based on primary and secondary clauses (similar to that of the *Lexham SGNT*) may be introduced prior to initial release of the *OpenText.org AGNT*.

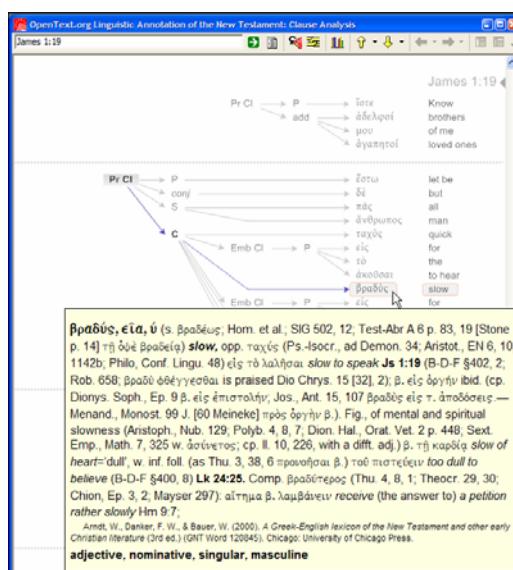


James 1.19-20 in the OpenText.org Clause Analysis

The basic structure of the text is visible and can (as with the *Lexham SGNT*) be used to inform both block diagramming and Reed-Kellogg (stick-based) diagramming.

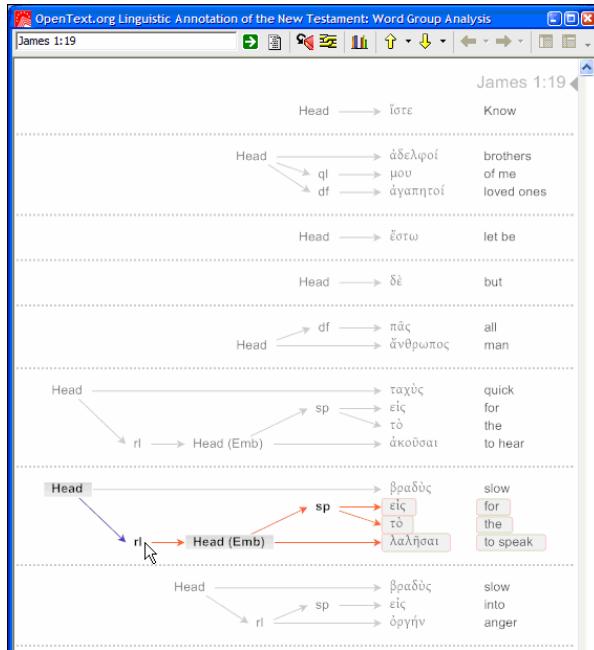
Additional clause level structures can be seen. The second primary clause has two embedded clauses. These were encoded in the *Lexham SGNT* as prepositional phrases that contain infinitival clauses. In the *Clause Analysis*, the infinitive verbs require a new clause as clauses typically have one verb. The word group analysis notes that these structures are relators (prepositional phrases) that modify the head term in each group. These word groups with infinitive verbs are embedded as clauses (prepositional phrases) within the primary clause that contains the word group head.

As with the *Lexham SGNT Sentence Analysis*, words in the *Clause Analysis* contain references to other information.



Linked information from BDAG in the OpenText.org Clause Analysis

The *Word Group Analysis* provides a further level of detail regarding how words modify other words within clausal components.



James 1.19 in the OpenText.org Word Group Analysis

The highlighted syntax graph element shows the underlying structure of the prepositional phrases as encoded in the *Word Group Analysis*. The group selected above may be described as follows:

1. The head term of the word group is *βραδὺς*, meaning that *βραδὺς* is modified by the other structures in the word group.
2. The word group *εἰς τὸ λαλῆσαι* is embedded within the primary word group. This whole structure modifies *βραδὺς* as a relator.
 - o The word *λαλῆσαι* is the head term of the embedded word group.
 - o Both *εἰς* and *τὸ* modify *λαλῆσαι* as specifiers. That is, they further *specify* or identify the head term.

The third prepositional phrase (in the group *βραδὺς εἰς ὄργην*) differs as it has no infinitive element, therefore it has no embedded clause. It is rather a word group without embedded group:

1. The head term of the word group is *βραδὺς*, meaning that *βραδὺς* is modified by the other structures in the word group.
2. The words *εἰς ὄργην* function as a relator, modifying *βραδὺς*.
3. The word *εἰς* further modifies *ὄργην* as a specifier.

When one walks through the relationships between words and word groups in this way, the structure becomes a bit more evident and one begins to consider querying the underlying relationships. For example:

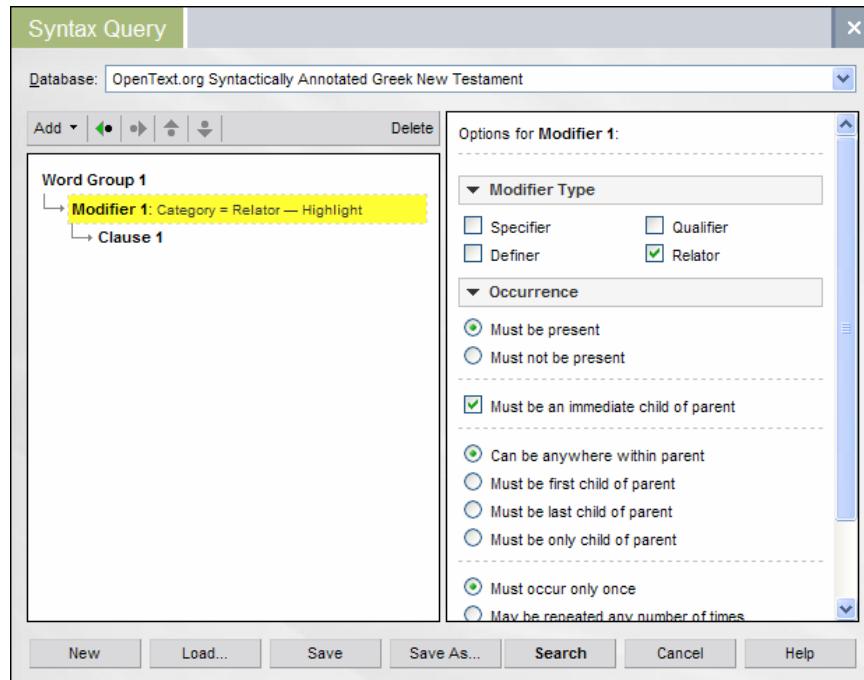
- Where else does an adjective in the nominative case the head term, and when does that head term have a relator that modifies it?
- Where else does a relator consist of an embedded clause?

These sorts of questions are answerable through use of the *OpenText.org AGNT*.

Searching the **OpenText.org AGNT**

The structural query mentioned above will be considered below. The intent is to locate where the *OpenText.org AGNT* notes a relator that contains a clause.

The search may be specified in the Syntax Query dialog as follows:



The Syntax Query dialog specifying a structural search

The search returns 13 hits spanning the New Testament. The two instances in James are located with this search, as are eleven other instances. They are reported using the standard Syntax Search Results dialog:

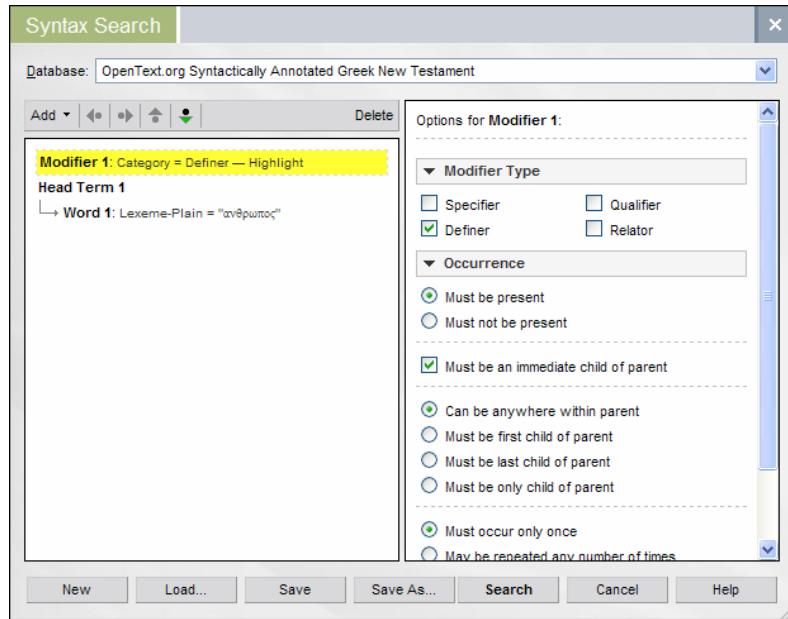
Syntax Search Results dialog with results from search

Other Types of Searching with OpenText.org SAGNT

The structure of the OpenText.org database lends itself to unique searches. The primary level of analysis is the word group, and each word group has a head term. Therefore interesting searches can be done by simply limiting one's search to where a particular noun or adjective occurs as a head term.

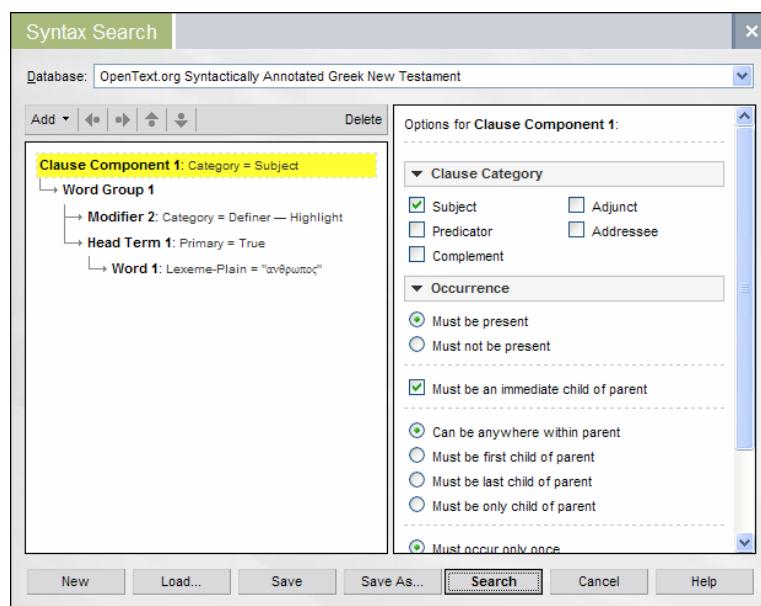
In James 1.19, ἄνθρωπος is a head term and it is modified by a definer. The word occurs 550 times in the New Testament. However, only 365 of those instances are as head terms. One may further winnow down potential hits by searching for where ἄνθρωπος is modified by a definer, as it is in James 1.19. Following the structure in James 1.19, searching for where a definer precedes and modifies ἄνθρωπος, 46 instances are located.

This search is specified as follows:



Syntax search for a definer that modifies the head term ἀνθρωπος

Using the *Word Group Analysis*, searches are tailored to the present instance, using the modifier to specify particular usage. If looking at the usage of a common term in a particular verse, similarly structured instances can be located by not only searching for the term generically or the term with a particular part of speech or morphological encoding, but looking for the word in certain modification relationships or clausal structures. Examining the *Clause Analysis* for the same verse, one sees that ἀνθρωπος occurs in the subject of the clause. Using this information, the search can be tailored even further to find items like the instance in James 1.19. Recall that clause components (e.g. subjects) contain either word groups or other clause components. Word groups contain head terms and modifiers. Therefore the search is structured as follows:



Syntax search for a definer that modifies the head term ἀνθρωπος within a subject

This search narrows the potential hits down even further, to 26 (from an original 550 instances). The *OpenText.org* SAGNT allows one to narrow down hits of given terms to instances of syntactic similarity. This has benefit for evaluating common or theologically significant terms in the process of exegesis as it offers the ability to minimize, based on grammatical and syntactic similarity, the instances one must examine to thoroughly work through a text.

Syntax Search Results for a definer that modifies the head term ἄνθρωπος within a subject

Conclusions

This paper has discussed two different syntactically encoded Greek New Testaments and their respective contents:

The Lexham Syntactic Greek New Testament

- The Lexham Syntactic Greek New Testament
- The Lexham Syntactic Greek New Testament: Expansions and Annotations
- The Lexham Syntactic Greek New Testament: Sentence Analysis

The OpenText.org Syntactically Analyzed Greek New Testament

- The OpenText.org Syntactically Analyzed Greek New Testament

- The OpenText.org Syntactically Analyzed Greek New Testament: Word Group Analysis
- The OpenText.org Syntactically Analyzed Greek New Testament: Clause Analysis

As implemented for Logos Bible Software, these project components have three aims:

1. Display the relationships of syntax encountered in the Greek New Testament as encoded by the syntax database in question.
2. Allow for searching the Greek New Testament for major or minor syntactic structures.
3. Provide a platform on which to build the user's knowledge of Greek syntax and stimulate use of that knowledge as it applies to doing exegesis of the text.

These projects are close to release. At present, Logos anticipates release of both of these databases¹³ in the first quarter of 2006, with the next major release of Logos Bible Software. Thus they should be ready for classroom use when the 2006-2007 school year commences.

¹³ The *Lexham SGNT* will include data for the General Epistles and Revelation; the *OpenText.org SAGNT* will include data in basic conformance for the base (word), word group and clause levels of annotation for the whole of the New Testament.