

Documentation for the MACULA Greek Treebank for the Nestle 1904 Greek New Testament

Principal Authors: Randall Tan, Andi Wu

March 31, 2022

1 Introduction	2
2 Overview	2
2.1 Nodes and Attributes	2
2.2 Syntactic Categories at Word Level: Part of Speech Labels	3
2.3 Syntactic Categories at Phrase Level	4
2.4 Syntactic Categories at Clause Level	5
2.5 Sentence and Clause Type Terminology	6
3 Annotation Style	7
3.1 Verbs (V), Verbal Copulas (VC), and Non-Verbal Predicates (P)	7
3.2 Subject (S)	10
3.2.1 Nominative nouns	11
3.2.2 Accusative nouns	11
3.2.3 Genitive nouns	12
3.2.4 Infinitive clauses	12
3.2.5 Relative clauses	13
3.3 Objects (O)	13
3.3.1 Accusative nouns	14
3.3.2 Infinitival clauses (including accusative + infinitive constructions)	14
3.3.3 Relative clauses	15
3.3.4 Items that could be annotated as objects, but have not been	15
3.4 Phrase-level attributive modifiers	16
3.4.1 Adjectives	16
3.4.2 Determiners	17
3.4.3 Participles	17
3.4.4 Pronouns	17
3.4.5 Prepositional phrases	18
3.4.6 Agreeing nouns (apposition)	18
3.4.7 Non-agreeing nouns	18
3.4.8 Relative clauses	19
3.5 Adverbials (ADV)	19
3.5.1 Adverbs or adjectives functioning as adverbs	19
3.5.2 Prepositional phrases	20
3.5.3 Nouns in oblique cases	20
3.5.4 Participial clauses	20
3.5.5 Infinitival clauses	21
3.5.6 Items that could be annotated as adverbials, but have not been	21
3.5.7 Non-governed complements	22
3.6 Indirect Object (IO)	22
3.7 Predicate (P)	23
3.8 Second Object (O2)	24
3.9 “Bridge” Structures (so-called in the Perseus treebank)	25
3.9.1 Coordinating conjunctions (conj)	25
3.9.2 Prepositions (prep)	26
3.9.3 Subordinating conjunctions	27
3.10 Punctuation	27

3.11 Sentence Adverbials	28
3.12 Emphasizing Particles	28
4 How Specific Constructions Are Annotated	28
4.1 Ellipsis	28
4.2 Relative Clauses	29
4.3 Particles	30
4.4 Genitive and Accusative Absolutes	30
4.5 Accusative + Infinitive	31
4.6 Tmesis	31
4.7 Direct Speech	31
4.8 Direct Address	32

1 Introduction

Since the early 2000s, Clear Bible, Inc. (formerly known as Global Bible Initiative [2014-2020] and Asia Bible Society [before 2014]) has been richly annotating the original Greek and Hebrew texts of Scripture. An earlier version of this Nestle 1904 Greek New Testament MACULA Treebank was previously released under a Creative Commons Attribution-ShareAlike 3.0 (CC BY-SA 3.0) license in 2014. This new version is part of a larger project to release all of Clear’s MACULA Greek and Hebrew annotation datasets under a [Creative Commons Attribution 4.0 International \(CC BY 4.0\)](https://creativecommons.org/licenses/by/4.0/) license in 2022.

The MACULA Greek Treebank was generated initially by an automatic parser using a machine-readable Greek grammar and then manually checked and edited. The treebank is designed to be eclectic and flexible to maximize potential compatibility to different linguistic frameworks and allow possible extension to additional Hellenistic and Classical Greek texts. We purposely use structures that form the common grounds of linguistic theories rather than strictly adhere to any one approach. Despite extensive manual editing, continued work is needed to remove any remaining inconsistencies and errors. Where multiple interpretations are possible, alternative annotations still need to be added. We welcome user feedback and alternative analyses to improve the treebank further.

2 Overview

The Nestle 1904 version of the treebank is built on the 1904 edition of Eberhard Nestle’s Greek New Testament, often referred to as the Nestle 1904 or British Foreign Bible Society 1904. The Greek text was transcribed by Diego Renato dos Santos and is available at <https://sites.google.com/site/nestle1904/>.

This treebank leverages the morphological parsing and lemmatization provided by Dr. Ulrik Sandborg-Petersen of Emergence Consult and Aalborg University, Denmark, and released into the public domain (available at <https://github.com/biblicalhumanities/Nestle1904>). On the one hand, the categories for part of speech, lemma, and the eight standard morphological attributes (person, tense, voice, mood, case, number, gender, degree) are the same as those used in the SBLGNT version of the treebank. On the other hand, in contrast to the SBLGNT version, the terminal nodes also contain four additional attributes found in the Sandborg-Petersen morphology (StrongNumber, FunctionalTag, FormalTag, and NormalizedForm).

2.1 Nodes and Attributes

Each node in a tree has zero or more child nodes. Terminal nodes are nodes that have no child nodes. All nodes in a tree that have child nodes are non-terminal nodes. The following table describes attributes in all terminal and/or non-terminal nodes of the trees besides the morphological attributes mentioned above:

Attribute	Applies To	
Cat	Terminals Non-terminals	Syntactic category
Start	Terminals	The start position of a sub-tree (a zero-based integer)

	Non-terminals	representing the position in a single tree, not within the text as a whole)
End	Terminals Non-terminals	The end position of a sub-tree (zero-based)
Rule	Non-terminals	Label of the rule used to derive the non-terminal node
Head	Non-terminals	The zero-based index indicating the position of the “Head” node among its child nodes.
UnicodeLemma	Terminals	Lemma of the surface Greek form in Unicode
Unicode	Terminals	Surface Greek form in Unicode
Type	Terminals	Distinguishes different types of nouns and pronouns
CIType	Non-terminals	Explicitly marks Verbless Clauses, Verb Elided Clauses, and Minor Clauses
HasDet	Non-terminals	HasDet value is True when a sub-tree is modified by a determiner
morphId	Terminals	An 11-digit unique id in the format BBCCCVVVWWW where BB => zero-padded book, NT starts at 40 CCC => zero-padded chapter VVV => zero-padded verse WWW => zero-padded word index (for the word instance within the verse) Note: When phrase or clauses have intervening elements outside of the phrase or clause, words have to be moved in word order to enable the phrase or clause to be represented in the typical way. Post-positive conjunctions are a frequent example. The morphId keeps track of the original word order even in such circumstances.
nodeId	Terminals Non-terminals	A 15-digit unique id in the format BBCCCVVVWWWSSSL where BB => zero-padded book, NT starts at 40 CCC => zero-padded chapter VVV => zero-padded verse WWW represents the beginning position (the Nth word) of a node/sub-tree SSS represents the SPAN of a node (how many words it covers) L (Level) is used to distinguish nodes which have the same span (in cases of non-branching nodes)

A terminal node is the basic unit of syntactic analysis, usually corresponding to the type of speech analysis for each word as provided by MorphGNT. Eleven categories of parts of speech are distinguished, using the following labels: adj, adv, conj, det, intj, noun, num, prep, ptcl, pron, verb.

2.2 Syntactic Categories at Word Level: Part of Speech Labels

The following table spells out the labels used for the eleven parts of speech distinguished:

Label	Part of Speech Spelled Out
adj	adjective
adv	adverb
conj	conjunction
det	determiner
intj	interjection
noun	noun
num	numeral
prep	preposition
ptcl	particle

pron	pronoun
verb	verb

Adjective (adj): A word that belongs to a class whose members modify nouns. An adjective specifies the properties or attributes of a noun it modifies.

Adverb (adv): Narrowly defined, a word that belongs to a class of words whose members modify verbs for such categories as time, place, manner, direction, etc. Broadly defined, includes words that modify any constituent class of words, such as verbs, adjectives, adverbs, phrases, clauses, or sentences. Some examples of this broader class are degree words and negatives.

Conjunction (conj): A word that syntactically links words or larger constituents and expresses a semantic relationship between them.

Determiner (det): A word that belongs to a class whose members modify nouns, expressing their reference. For the Greek article, this typically indicates definite reference or given status in the discourse. When used with words other than nouns, often functions to make the resulting phrase a nominal phrase.

Interjection (intj): A syllable or word that expresses emotion or directly addresses the audience. It is most often an exclamation.

Noun (noun): A word that belongs to a class whose members most frequently act as the subjects, objects or indirect objects of the verb or the object of a preposition. Includes words that typically refer to concrete or abstract entities like people, places, things and concepts.

Numeral (num): A word that expresses a number or a relation to a number in terms of frequency, quantity, or sequence. It is typically functioning as an adjective or as a noun. Only indeclinable words are marked as numerals. Declinable numerals (e.g., the Greek numerals one and three) have been categorized as adjectives.

Preposition (prep): A word that occurs before a nominal phrase, forming a single unit with it (a prepositional phrase) to express the prepositional phrase's semantic relation to another unit within the clause (typically indicating when, where, how or why).

Particle (ptcl): A catchall term for words that do not belong to the main classes of words. It is typically invariable in form and partially overlaps with the broader definition of adverbs that modify at the clause or sentence level.

Pronoun (pron): A word substituting for a noun or nominal phrase whose referent is recoverable from the linguistic or extralinguistic context.

Verb (verb): A word that belongs to a class whose members typically indicate events or actions. It governs the number and types of other constituents that may occur in a clause.

2.3 Syntactic Categories at Phrase Level

The phrase level is the intermediate level between word level and clause level. Phrase level nodes are either non-terminal nodes that are the immediate parent nodes of the part-of-speech terminal nodes or parent nodes of other phrase level non-terminal nodes that together form multi-word phrases. From the perspective of the clause, single words or combinations of words form phrases, which are the minimal constituents with a specific function at the clause level. Only six categories of phrases are distinguished, using the following labels: adjp, advp, np, nump, pp, vp.

The following table spells out the labels used for the six categories of phrases distinguished:

Label	Phrase Category Spelled Out
adjp	adjectival phrase
advp	adverbial phrase
np	nominal phrase
nump	numeral phrase
pp	prepositional phrase
vp	verbal phrase

Adjectival Phrase (adjp): A phrase with an adjective as its head. Adjectival phrases typically function as dependent modifiers within a nominal phrase. In many cases, an adjectival phrase functions in place of an elided noun and thus functions as a nominal phrase (this is the reason why adjectival phrases are often promoted to nominal phrases in the tree). Some adjectives function as the Predicate in an attributive relational clause (whether with a Verbal Copula or in a Verbless clause). Some adjectives have an Adverbial function at the clause level.

Adverbial Phrase (advp): A phrase with an adverb as its head. Adverbial phrases typically have Adverbial function at the clause level, indicating the “when”, “where”, “why” and “how” of the verb or non-verbal predicate. Some adverbial phrases also modify nouns or adjectives.

Nominal Phrase (np): A phrase with a noun (or adjective or pronoun functioning as a noun) as its head. Nominal phrases typically have Subject, Object, or Indirect Object function at the clause level. Nominal phrases are also often modified by a preposition, forming a prepositional phrase.

Numeral Phrase (nump): A phrase with an indeclinable numeral as its head (including all single word numerals, which are automatically promoted to numeral phrase).

Prepositional Phrase (pp): A phrase with a preposition and the nominal phrase it governs, forming a single unit with the nominal phrase to express semantic relation to another unit within the clause (typically indicating when, where, how or why). Prepositional phrases typically have an Adverbial function at the clause level. Some prepositional phrases modify a noun or adjective instead of a verb (indicating a relationship of where, when, how, why for the object of the preposition to the head noun or adjective).

Verbal Phrase (vp): A phrase with a verb as its head.

2.4 Syntactic Categories at Clause Level

The clause level differs from the phrase level by using a dependency-like structure. The terminology used to describe the functions of clause level constituents is purposely conservative for ease of understanding (closer to traditional grammatical terminology in biblical Greek grammar) and to preserve a clearer link between clause level terminology and phrase and word level terminology. In general, different parts of speech have the following clause-level functions: Verbs have a Verbal Function, except for relational "to be" verbs, which function as Verbal Copula. Nominals (i.e., nouns and other parts of speech that can function as a noun) can have four basic functions in relation to the verb: Subject, Object, Indirect Object, or Adverbial. Nominals can also function as a Predicate to either the Subject (i.e., as Predicate in Verbal Clauses with a Verbal Copula or Predicate in Verbless Clauses) or the Object (i.e., as Object Complement, considered a Second Object). Adverbs and prepositional phrases at the clause constituent level function adverbially in relation to the verb. Eight categories of clause level function are distinguished, using the following labels: ADV, IO, O, O2, P, S, V, VC.

The following table spells out the labels used for the eight categories of clause functions distinguished:

Label	Part of Speech Spelled Out
ADV	Adverbial Function
IO	Indirect Object Function
O	Object Function
O2	Second Object Function
S	Subject Function
P	Predicate Function
V	Verbal Function
VC	Verbal Copula Function

Adverbial Function (ADV): A constituent that represents when, where, how, or why of a proposition.

Indirect Object Function (IO): A constituent that represents the intended recipient of the action of a proposition.

Object Function (O): A constituent that represents the patient or goal of the action of a proposition.

Second Object Function (O2): Some verbs take two objects. There are two main types. The first type involves two accusative objects in the Greek, an object of person (the first object) and an object of thing (the second object). For example, he will teach you (object of person) all things (object of thing). The second type also involves two accusative objects in the Greek, but the first is the direct object and the second is an object complement. The object complement predicates a description of the direct object (e.g., "king" is the object complement in "God appointed David as king").

Subject Function (S): A constituent that represents the agent of typically transitive verbs and the single argument of intransitive verbs.

Predicate Function (P): A constituent that makes an attribution or identification about the Subject of a verbless clause or a verbal clause with a verbal copula.

Verbal Function (V): A constituent that represents the action/event of a proposition. In verbal clauses, this is the head of the clause, on which all other clause constituents depend.

Verbal Copula Function (VC): A constituent that facilitates an attribution or identification about the Subject. Verbal copulas are commonly known as copula verbs or linking verbs. This typically corresponds to a "to be" verb in English, which indicates a relation between the Subject and the Predicate rather than any action/event.

2.5 Sentence and Clause Type Terminology

This version of the trees focuses on sentence and clause structures, which will serve as the building blocks of higher levels of analysis. Clear groupings of clauses have been connected together into sentences, especially when subordination or ellipsis is involved. However, analysis of relations above the clause level are incomplete. The label "Sentence" itself has been used for the lack of a clearly preferable alternative term. At the clause level, four basic types of clauses have been distinguished: Verbal Clause, Verbless Clause, Verb Elided Clause, and Minor Clause. By default only Verbless Clauses, Verb Elided Clauses, and Minor Clauses are explicitly marked with a CType label. All clauses without an explicit CType label can be assumed to be Verbal Clauses.

Sentence: A sentence is composed of one or more clauses. It is the highest grammatical unit in the current version of the trees.

Verbal Clause: The clause represents a grammatical unit that expresses a proposition. Verbal clauses are the most typical form of the clause, with an explicit verbal element as the head of the clause (i.e., the constituent on which all other clause constituents are dependent).

Verbless Clause: Verbless clauses are relational clauses of identification or attribution without an explicit copula verb. Verbless clauses typically consist of a core of a Subject and a Predicate, with additional Adverbial clause constituents possible.

Verb Elided Clause: Verb elided clauses are clauses that imply the carrying over of Verbal Function (usually from the previous clause). They are clauses without Verbal Function that are not clauses of identification or attribution.

Minor Clause: Minor clauses are clauses without any predication (no Verbal Function or Predicate Function), i.e., contain no assertions or propositions. They function interpersonally (vocative direct address or interjection to gain attention/alert) or textually (left-dislocated focus noun phrases, e.g. as for the game, I did not get to watch it.).

3. Annotation Style

When this documentation was first prepared in 2014, it purposely addressed the same general areas in sequence as the guidelines for the Ancient Greek Dependency Treebank 1.0 (AGDT 1.0). However, Perseus's [current guidelines for Ancient Greek Dependency Treebank 2.0 \[AGDT 2.0\]](#) extend AGDT 1.0 and document in a different way. Therefore, it no longer provides as a useful a point of comparison. Accordingly, the following examples should be interpreted on their own merits. They are intentionally taken from Luke-Acts exclusively and are as short as possible and focused on the construction at hand.

3.1 Verbs (V), Verbal Copulas (VC), and Non-Verbal Predicates (P)

Every verb, finite or non-finite, with the exception of verbal copulas, is automatically promoted to a phrase (vp), clause constituent (V), and a clause (CL). Verbs are not labeled as predicates or predictors in the trees, but are seen as the head/core constituent of each clause of which it is a part.

Example 1 (from Luk1:67:1-1:75:10): 1 single finite verb (V) as vp, V, and then CL:

```
[CL]
  [V]
    [vp]
      [verb] ἐπεσκέψατο (he visited)
```

Example 2 (from Luk1:12:1-1:12:9): finite verb (V) in a V-S-ADV clause and of non-finite participial verb (V), functioning as ADV in relation to the main finite verb:

```
[CL]
  [V]
    [vp]
      [verb] ἐταράχθη (was terrified)
    [S]
      [np]
        [noun] Ζαχαρίας (Zechariah)
    [ADV]
      [CL]
        [V]
```

[vp]
[verb] ἰδών (seeing)

Verbal copulas, finite or non-finite, are automatically promoted to a phrase (vp) and clause constituent (VC). Unlike other verbs, verbal copulas are not promoted to a clause. Instead, another clause constituent, usually a predicate nominative noun/adjective or a prepositional phrase, serves as the predicate (P). This predicate is the head/core constituent of clauses with verbal copulas. However, clauses with verbal copulas (VC) are currently classed with clauses with other verbs (V) as verbal clauses by default.

Example 3 (from Luk1:18:11-1:18:23): Verbal copula (VC) in a S-VC-P clause, where the predicate (P) is the head of the clause:

[CL]
[S]
[np]
[pron] ἐγὼ (I)
[VC]
[vp]
[verb] εἰμι (am)
[P]
[np]
[noun] πρεσβύτης (an old man)

Every complete clause (i.e., non-elliptical) has a verb (V) or a non-verbal predicate (P). There are also clauses without any predication—no verb (V) or non-verbal predicate (P). This yields 4 types of clauses:

1. Complete clauses with a verb (V) or verbal copula (VC) are assumed to be Verbal Clauses (e.g., examples 1, 2, and 3 above)
2. Clauses with a non-verbal predicate (P) and no copula verb have the ClType attribute Verbless Clause. Example 4 (from Luk1:26:1-1:27:16): S-P verbless clause:

[CL]
[S]
[np]
[det] τὸ (the)
[np]
[np]
[noun] ὄνομα (name)
[np]
[det] τῆς (of the)
[np]
[noun] παρθένου (virgin)
[P]
[np]
[noun] Μαριάμ (Mary)

3. Clauses with the verb elided have the ClType attribute Verb Elided Clause. Example 5 (from Luk2:3:1-2:3:9): The second clause, a S-ADV verb elided clause, is interpreted as assuming a form of the verb “to travel” from the previous V-S-ADV clause:

[CL]
[conj] καὶ (and)
[CL]

[CL]
 [V]
 [vp]
 [verb] ἐπορεύοντο (was traveling)
 [S]
 [np]
 [adjp]
 [adj] πάντες (everyone)
 [ADV]
 [CL]
 [V]
 [vp]
 [verb] ἀπογράφεσθαι (to register)
 [CL]
 [S]
 [np]
 [adjp]
 [adj] ἕκαστος (each)
 [ADV]
 [pp]
 [prep] εἰς (to)
 [np]
 [det] τὴν
 [np]
 [noun] πόλιν (city)
 [pron] ἑαυτοῦ (his own)

4. Clauses with no verb (V) or non-verbal predicate (P), typically vocatives, interjections, and left-dislocated focus noun phrases, have the CType attribute Minor Clause. Example 6 (from Luk1:30:1-1:30:14): Vocative Minor Clause shown together with the main clause to which it is connected:

[CL]
 [CL]
 [ADV]
 [advp]
 [adv] Μὴ (Do not)
 [V]
 [vp]
 [verb] φοβοῦ (fear)
 [CL]
 [np]
 [noun] Μαριάμ (Mary)

Example 7 (from Luk4:33:1-4:34:18): Interjection functioning as Minor Clause (the morph tags it as a particle, but it is promoted to intj to indicate its function as an interjection) shown together with the main clause to which it is connected:

[CL]
 [CL]
 [intj]

[ptcl] Ἦα (ah)
 [CL]
 [S]
 [np]
 [pron] τί (what [is this]?)
 [P]
 [np]
 [np]
 [pron] ἡμῖν (to us)
 [conj]
 [conj] καὶ (and)
 [np]
 [pron] σοί (to you)

Example 8 (from Luk9:47:1-9:48:34): Left-dislocated focus noun phrase shown together with the main clause to which it is connected:

[CL]
 [CL]
 [np]
 [det] ὁ (the)
 [CL]
 [P]
 [adjp]
 [adj] μικρότερος (lesser)
 [ADV]
 [pp]
 [prep] ἐν (among)
 [np]
 [adjp]
 [adj] πᾶσιν (all)
 [np]
 [pron] ὑμῖν (of you)
 [VC]
 [vp]
 [verb] ὑπάρχων (being)
 [CL]
 [S]
 [np]
 [pron] οὗτός (this one)
 [VC]
 [vp]
 [verb] ἐστίν (is)
 [P]
 [adjp]
 [adj] μέγας (great)

3.2 Subject (S)

Explicit subjects of verbs and verbal copulas are labeled as S (whereas the subject of the majority of clauses is implied through the person and number of the verb/verbal copula and is not explicitly stated). Subjects come in a variety of parts of speech, phrases, and clauses.

3.2.1 Nominative nouns

Nominative nouns, pronouns, and other parts of speech functioning as a noun typically serve as subjects of finite verbs. Example 9 (from Luk1:80:1-1:80:19):

[CL]
[S]
[np]
[det] Τὸ (the)
[np]
[noun] παιδίον (child)
[V]
[vp]
[verb] ἤϋξανε (was growing)

3.2.2 Accusative nouns

Cases of accusative nouns as subjects are typically found in indirect discourse and other accusative + infinitive constructions. Example 10 (from Act28:6:11-28:6:27): Within the infinitival clause, the accusative noun is the subject of the infinitival verb:

[CL]
[ADV]
[CL]
[V]
[vp]
[verb] μεταβαλόμενοι (having changed their minds)
[V]
[vp]
[verb] ἔλεγον (they were saying)
[O]
[CL]
[S]
[np]
[pron] αὐτὸν (him)
[VC]
[vp]
[verb] εἶναι (to be)
[P]
[np]
[noun] θεόν (a god)

Accusative absolutes are like the more common genitive absolutes below. Example 11 (from Act26:1:12-26:3:12): The accusative noun is the subject of the accusative participle:

[CL]
[ADV]
[advp]
[adv] μάλιστα (most of all)
[VC]
[vp]
[verb] ὄντα (being)
[S]
[np]
[pron] σε (you)
[P]

[np]
 [noun] γνώστην (an expert)
 [adjp]
 [adj] πάντων (of all)
 [det] τῶν (the)
 [pp]
 [prep] κατὰ (of)
 [adjp]
 [adj] Ἰουδαίους (the Jews)
 [conj] τε (both)
 [noun] ἐθῶν (customs)
 [conj] καὶ (and)
 [noun] ζητημάτων (issues)

3.2.3 Genitive nouns

Genitive nouns in genitive absolute constructions are annotated as the subject of the genitive absolute participle. Example 12 (from Luk11:14:6-11:14:13):

. [CL]
 [CL]
 [S]
 [det] τοῦ (the)
 [noun] δαιμονίου (demon)
 [V]
 [vp]
 [verb] ἐξελθόντος (having come out)
 [CL]
 [V]
 [vp]
 [verb] ἐλάλησεν (spoke)
 [S]
 [det] ὁ (the)
 [adjp]
 [adj] κωφός (mute)

3.2.4 Infinitive clauses

Example 13 (from Luk20:21:1-20:22:7): The infinitive clause as a whole is the subject of the main verb:

[CL]
 [V]
 [vp]
 [verb] ἔξεστιν (is it permissible)

[S]
 [np]
 [CL]
 [S]
 [np]
 [pron] ἡμᾶς (for us)
 [IO]
 [np]
 [noun] Καίσαρι (to Caesar)
 [O]
 [np]
 [noun] φόρον (a tax)
 [V]
 [vp]
 [verb] δοῦναι (to pay)

3.2.5 Relative clauses

Example 14 (from Luk7:23:1-7:23:9): The relative clause as a whole is the subject of the main verb:

[CL]
 [P]
 [adjp]
 [adj] μακάριός (blessed)
 [VC]
 [vp]
 [verb] ἐστίν (is)
 [S]
 [np]
 [CL]
 [ptcl] ἐάν (-ever)
 [CL]
 [S]
 [np]
 [pron] ὅς (who)
 [ADV]
 [advp]
 [adv] μὴ (does not)
 [V]
 [vp]
 [verb] σκανδαλισθῇ (take offense)
 [ADV]
 [pp]
 [prep] ἐν (at)
 [np]
 [pron] ἐμοί (me)

3.3 Objects (O)

Objects, like subjects, come in a variety of parts of speech, phrases, and clauses. Like subjects, objects may not be explicitly stated (i.e., they may be elided).

3.3.1 Accusative nouns

Accusative nouns, pronouns, and other parts of speech functioning as a noun typically serve as objects of finite verbs. Example 15 (from Luk1:31:1-1:31:14):

[CL]
[V]
[vp]
[verb] τέξει (you will bear)
[O]
[np]
[noun] υἱόν (a son)

3.3.2 Infinitival clauses (including accusative + infinitive constructions)

Example 16 (from Act28:6:11-28:6:27): The infinitival clause as a whole is the object of the main verb in indirect discourse:

[CL]
[ADV]
[CL]
[V]
[vp]
[verb] μεταβαλόμενοι (having changed their minds)
[V]
[vp]
[verb] ἔλεγον (they were saying)
[O]
[CL]
[S]
[np]
[pron] αὐτὸν (him)
[VC]
[vp]
[verb] εἶναι (to be)
[P]
[np]
[noun] θεόν (a god)

Besides indirect discourse, infinitival clauses are frequently used with “helper” verbs (including ἄρχομαι “to begin,” βούλομαι “to want,” δύναμαι “to be able,” θέλω “to be willing,” μέλλω “to be about to,” and ὀφείλω “to be obligate”) to complete their thought. Example 17 (from Act15:1:1-15:1:20):

[CL]
[ADV]
[advp]
[adv] οὐ (not)
[V]
[vp]
[verb] δύνασθε (you are able)
[O]
[CL]
[V]
[vp]
[verb] σωθῆναι (to be saved)

3.3.3 Relative clauses

Example 18 (from Luk11:5:1-11:6:14): The relative clause as a whole is the object of the main verb:

```

[CL]
  [ADV]
    [advp]
      [adv] οὐκ (do not)
    [V]
      [vp]
        [verb] ἔχω ( I have)
      [O]
        [np]
          [CL]
            [O]
              [np]
                [pron] ὅ (what)
              [V]
                [vp]
                  [verb] παραθήσω (I will set before)
                [IO]
                  [np]
                    [pron] αὐτῷ (him)

```

3.3.4 Items that could be annotated as objects, but have not been

Subordinate content clauses (including indirect discourse and direct discourse with finite verbs, whether introduced by a subordinate conjunction or not) could be considered objects like infinitival clauses. However, longer direct discourse proved to be problematic for inclusion as objects in trees. To remain consistent, these content clauses are left for now as their own CL and either connected by the CICI rule to the main clause to which they are linked (the main clause typically precedes and is head) or even left in separate sentences (in cases of really long direct discourse). Example 19 (from Luk1:28:1-1:28:11):

```

[CL]
  [CL]
    [ADV]
      [CL]
        [V]
          [vp]
            [verb] εἰσελθὼν (having approached)
          [ADV]
            [pp]
              [prep] πρὸς (toward)
              [np]
                [pron] αὐτήν (her)
            [V]
              [vp]
                [verb] εἶπεν (he said)
          [CL]
            [CL]
              [CL]
                [V]
                  [vp]
                    [verb] Χαῖρε (hail)
                [CL]

```

[V]
 [vp]
 [verb] κεχαριτωμένη ([one] having been favored)
 [CL]
 [S]
 [np]
 [det] ὁ (the)
 [np]
 [noun] κύριος (Lord)
 [P]
 [pp]
 [prep] μετὰ (with)
 [np]
 [pron] σοῦ (you)

Complements of a verb that are apparently required arguments, but yet cannot become subject if the verb is made passive, could be considered objects too. While we recognize that these are required arguments and not optional adjuncts, we chose to leave these as ADV and may distinguish these at a subsequent stage when specifically focusing on arguments of predicates (i.e., the frames of verbs). Agents in passive constructions are likewise left as ADV and may be distinguished at a subsequent stage when dealing with arguments of predicates (i.e., the frame of verbs).

3.4 Phrase-level Attributive Modifiers

There are various phrase-level attributive modifiers. These attributively specify or delimit the meaning of their head. They include adjectives, determiners, participles, prepositional phrases, pronouns, nouns, and relative clauses. Initially, phrase level attributive modifiers were simply allowed to combine with the nominals they appeared to modify without worrying about how to represent the combinations. So, preliminary rule names were often just descriptive of what two elements were combined together. Incomplete work was done to refine the representations. In general, in these refinements constructions that seem most clearly similar to adjectival modification were represented by promoting the modifier to an adjectival phrase and forming a larger noun phrase in the same manner as when an adjective is the modifier. Other constructions that may function like adjectival modification, but may be closer to nominal apposition were represented as similar to two nouns in apposition, but often with distinctive, descriptively-named rules to allow for more differentiation at a subsequent stage. Further work on disambiguation and revision of phrase level attributive modifier representations remains desirable.

3.4.1 Adjectives

Adjectives that modify a noun are shown as forming a larger noun phrase with the noun (technically, the adjective is promoted to an adjectival phrase and the noun is promoted to a noun phrase before they combine to form a larger noun phrase). If the adjective precedes the noun, the larger np is formed by the AdjNP rule. If the adjective follows the noun, the larger np is formed by the NP-AdjP rule. Example 20 (from Act23:6:1-23:6:32):

[np]
 [adjp]
 [adj] ἐν (one)
 [np]
 [noun] μέρος (party)

3.4.2 Determiners

Determiners that modify a noun are shown as forming a larger noun phrase with the noun. Example 21 (from Act23:6:1-23:6:32): The adjp first modifies the np and the det modifies the resultant np to form the overall np that combines all three words by the descriptively-named DetNP rule:

3.4.3 Participles

Participles (technically participial clauses as even single participles are automatically promoted to a clause) that modify a noun are shown as forming a larger noun phrase with the noun. After the participial clause is promoted to an adjp, it combines with the np in the same ways as adjectives. Example 22 (from Luk1:1:1-1:4:8):

```
[np]
  [det] τῶν (the)
  [np]
    [adjp]
      [CL]
        [V]
          [vp]
            [verb] πεπληροφορημένων (having been fulfilled)
          [ADV]
            [pp]
              [prep] ἐν (among)
              [np]
                [pron] ἡμῖν (us)
            [np]
              [noun] πραγμάτων (things)
```

3.4.4 Pronouns

Indefinite and interrogative pronouns that modify a noun are shown as forming a larger noun phrase with the noun in the same manner as adjectives (technically, they are indicated as functioning adjectivally by promoting them to adj and then adjp). Example 23 (from Luk8:27:1-8:27:14):

```
[np]
  [np]
    [noun] ἀνὴρ (man)
  [adjp]
    [adj]
      [pron] τις (a certain)
```

Demonstrative pronouns are represented differently, with the demonstrative pronouns and the nominals they modify represented as noun phrases forming a larger noun phrase by the descriptively named DemoNP rule (when the demonstrative precedes) or NP-Demo rule (when the demonstrative follows). Example 24 (from Luk1:24:1-1:24:10):

```
[np]
  [np]
    [pron] ταύτας (these)
  [np]
    [det] τὰς
    [np]
      [noun] ἡμέρας (days)
```

3.4.5 Prepositional phrases

Prepositional phrases that modify a noun form a larger noun phrase by the descriptively-named NP-PP rule. Example 25 (from Luk8:27:1-8:27:14):

```
[np]
  [np]
    [np]
      [noun] ἄνθρωπος (man)
    [adjp]
      [adj]
        [pron] τις (a certain)
  [pp]
    [prep] ἐκ (from)
    [np]
      [det] τῆς (the)
      [np]
        [noun] πόλεως (city)
```

3.4.6 Agreeing nouns (apposition)

In these cases, the nominal in apposition functions similarly to an adjective, but the form is that of two nominals in apposition. So, the two nominals are represented as nominals forming a larger np by the NP-Appos rule. Example 26 (from Luk1:19:1-1:19:23): The substantival participial stands in apposition to the proper name Gabriel to further define it:

```
[np]
  [np]
    [noun] Γαβριήλ (Gabriel)
  [np]
    [det] ὁ (the one)
    [CL]
      [V]
        [vp]
          [verb] παρῃστικῶς (having stood)
    [ADV]
      [pp]
        [prep] ἐνώπιον (before)
      [np]
        [det] τοῦ
        [np]
          [noun] θεοῦ (God)
```

3.4.7 Non-agreeing nouns

The nouns that form the head of a noun phrase may be modified by other nouns that do not stand in the same syntactic relationship with the rest of the clause. This category includes various genitive and dative nominals that modify another nominal that is their noun phrase head. Example 27 (from Luk1:15:1-1:16:11): The overall noun phrase is formed by combining two successive genitive nominals to the nominals they modify by NPofNP rules:

```
[np]
  [np]
    [noun] κοιλίας (womb)
  [np]
    [np]
      [noun] μητρὸς (of mother)
```

[np]
[pron] αὐτοῦ (of him)

Example 28 (from Luk24:25:1-24:26:12): Dative nominal phrases that modify other nouns are typically represented as adverbial datives of reference modifying their head nouns:

[np]
[np]
[noun] Κύπριος (a Cypriot)
[advp]
[np]
[det] τῷ (by)
[np]
[noun] γένει (nationality)

3.4.8 Relative clauses

Relative clauses are represented as clauses modifying and forming larger noun phrases together with the noun phrases they modify by the descriptively-named rule NP-CL. Example 29 (from Luk2:50:1-2:50:9):

[np]
[det] τὸ (they)
[np]
[np]
[noun] ῥῆμα (word)
[CL]
[O]
[np]
[pron] ὃ (which)
[V]
[vp]
[verb] ἐλάλησεν (he spoke)
[IO]
[np]
[pron] αὐτοῖς (to them)

3.5 Adverbials (ADV)

Adverbials (ADV) further specify the circumstances under which a verb, adjective or adverb takes place. Adverbs or adjectives functioning as adverbs, prepositional phrases, nouns in oblique cases, participles, and certain types of infinitival clauses are included in this category.

3.5.1 Adverbs or adjectives functioning as adverbs

Example 30 (from Luk6:21:1-6:21:6): The adverb “now” is functioning as an adverb of time within this participial clause:

[CL]
[V]
[vp]
[verb] πεινῶντες (hungering)
[ADV]
[advp]
[adv] νῦν (now)

Example 31 (from Luk7:47:1-7:47:13): The adjective “much” is functioning as an adverb of degree:

[CL]
 [V]
 [vp]
 [verb] ἠγάπησεν (she loved)
 [ADV]
 [adjp]
 [adj] πολύ (much)

3.5.2 Prepositional phrases

In the current trees prepositional phrases that do not modify a nominal are consistently labeled ADV at the clause level. At this stage, some prepositional phrases that function more like objects or indirect objects remain undistinguished from prepositional phrases that function adverbially. Agents of passive verbs are likewise left as ADV. Example 32 (from Luk24:29:1-24:29:16): The prepositional phrase “with us” functions relates the object of the preposition “us” as in accompaniment/association with the action of the verb:

[CL]
 [V]
 [vp]
 [verb] Μεῖνον (stay)
 [ADV]
 [pp]
 [prep] μεθ’ (with)
 [np]
 [pron] ἡμῶν (us)

3.5.3 Nouns in oblique cases

Example 33 (from Luk24:33:1-24:34:9): The dative oblique np “at this very hour” functions adverbially in the participial clause:

[CL]
 [V]
 [vp]
 [verb] ἀναστάντες (having arisen)
 [ADV]
 [np]
 [pron] αὐτῇ (this very)
 [np]
 [det] τῇ
 [np]
 [noun] ὥρᾳ (hour)

3.5.4 Participial clauses

When a participial clause further specifies the action of a verb, it modifies the verb as ADV. Even if a participle shares the same case, number and gender as another noun in the sentence, it is interpreted as ADV unless it further restricts the reference of the noun. (Absolute participial constructions are dealt with in 3.5.6 below.)

Example 34 (from Act9:37:1-9:37:9):

[CL]
 [ADV]
 [CL]
 [V]
 [vp]

[verb]
[verb] ἀσθενήσασαν (having become sick)

[S]
[np]
[pron]
[pron] αὐτήν (this one)

[V]
[vp]
[verb]
[verb] ἀποθανεῖν (died)

3.5.5 Infinitival clauses

Various type of infinitival clauses function adverbially, including those that indicate purpose, result, time, cause, and means in relation to the main verb. (Complementary infinitival clauses could be placed here, but were classified with objects instead; see 3.3.2.) Example 35 (from Luk4:16:1-4:16:24):

[CL]
[V]
[vp]
[verb]
[verb] ἀνέστη (he stood up)

[ADV]
[CL]
[V]
[vp]
[verb]
[verb] ἀναγνῶναι (to read)

3.5.6 Items that could be annotated as adverbials, but have not been

Subordinate clauses usually can be left out of a sentence without it becoming ungrammatical. So they can be considered as generally expressing optional information about the circumstances surrounding the main verbs of the main clauses to which they are related. To allow for greater differentiation of degrees of subordination/dependency, subordinate clauses with finite verbs and genitive absolutes (the rarer accusative absolutes likewise) are currently not annotated as ADV within the main clause. Instead, they are connected by the C1C1 rule (first clause is head—when the subordinate clause follows the main clause) or the C1C2 rule (second clause is head—when the subordinate clause precedes the main clause). Example 36 (from Luk1:30:1-1:30:14): The main clause “do not fear” is connected by C1C1 rule to both the minor vocative clause “Mary” and the subordinate clause introduced by γάρ (“for”):

[CL]
[CL]
[CL]
[ADV]
[advp]
[adv] Μὴ (do not)

[V]
[vp]
[verb] φοβοῦ (fear)

[CL]
[np]
[noun] Μαριάμ (Mary)

[CL]
[conj] γὰρ (for)

[CL]
 [V]
 [vp]
 [verb] εὑρες (you have found)
 [O]
 [np]
 [noun] χάριν (favor)
 [ADV]
 [pp]
 [prep] παρὰ (with)
 [np]
 [det] τῷ
 [np]
 [noun] θεῷ (God)

Example 37 (from Luk4:2:7-4:2:18):

[CL]
 [CL]
 [V]
 [vp]
 [verb] συντελεσθεισῶν (having been completed)
 [S]
 [np]
 [pron] αὐτῶν (they [i.e., the days])
 [CL]
 [V]
 [vp]
 [verb] ἐπείνασεν (he hungered)

3.5.7 Non-governed complements

Unlike the Ancient Greek Dependency Treebank 1.0 (AGDT 1.0), non-governed complements have not been distinguished in the current version of the trees. According to Bamman and Crane, “[t]hese are typically noun phrases and adjectives that agree with their head noun morphologically, but differ from typical attributes in that they also qualify the function of the verb (but not optionally, as ADVs do).” Any cases in the current Greek trees were left as ADV for now since adverbials have not yet been disambiguated.

3.6 Indirect Object (IO)

A traditional notion of indirect object is used. An indirect object (IO) is a noun, noun phrase, or substantival clause that indicates to or for whom the action of a ditransitive verb is performed, as well as who is receiving the direct object. A direct object needs to be explicitly present or be at least implied for there to be an indirect object. While we recognize that indirect objects can occur as dative nominals or prepositional phrases, prepositional phrases have not yet been disambiguated and so in effect only dative nominals show up as IO in the current trees. Prepositional phrases that function as IO may be distinguished at a subsequent stage when specifically focusing on arguments of predicates (i.e., verbal frames). Example 38 (Act7:47:1-7:47:5):

[CL]
 [conj] δὲ (and)
 [CL]
 [S]
 [np]

[noun] Σολομῶν (Solomon)
 [V]
 [vp]
 [verb] οἰκοδόμησεν (built)
 [IO]
 [np]
 [pron] αὐτῷ (for him)
 [O]
 [np]
 [noun] οἶκον (a house)

3.7 Predicate (P)

Predicate (P) usually marks predicate nominals. However, predicates are not limited to noun phrases and adjectives in the same case as the subject. They can also appear in a variety of other constructions, such as prepositional phrases and genitives. In the current trees, clauses with a verbal copula or clauses without a verb that cannot be seen as having an elided non-copula verb (V) will always have P as the core constituent. Example 39 (from Act23:6:1-23:6:32): With verbal copula in S-VC-P construction, the genitive predicate, “of the Sadducees,” indicates possessive/membership relation:

[CL]
 [CL]
 [S]
 [np]
 [det] τὸ
 [np]
 [adjp]
 [adj] ἓν (one)
 [np]
 [noun] μέρος (party)
 [VC]
 [vp]
 [verb] ἐστὶν (is)
 [P]
 [np]
 [noun] Σαδδουκαίων (of Sadducees)

Example 40 (from Act23:6:1-23:6:32): Without a verbal copula (it could be considered elided from the previous clause above), the S-P construction with genitive predicate, “of the Pharisees,” likewise indicates possessive/membership relation:

[CL]
 [S]
 [np]
 [det] τὸ (the)
 [np]
 [adjp]
 [adj] ἕτερον (other)
 [P]
 [np]
 [noun] Φαρισαίων (of Pharisees)

Example 41 (from Luk1:26:1-1:27:16): The head of the subject noun phrase, “the name of the virgin,” is in the same nominative case as the predicate nominal, “Mary”:

[CL]
 [S]
 [np]
 [det] τὸ (the)
 [np]
 [noun] ὄνομα (name)
 [np]
 [det] τῆς (of the)
 [np]
 [noun] παρθένου (virgin)
 [P]
 [np]
 [noun] Μαριάμ (Mary)

Example 42 (from Act13:11:1-13:11:16): The prepositional phrase, “on you,” is a predicate indicating locative relation:

[CL]
 [CL]
 [S]
 [np]
 [noun] χεῖρ (the hand)
 [np]
 [noun] κυρίου (of the Lord)
 [P]
 [pp]
 [prep] ἐπὶ (on)
 [np]
 [pron] σέ (you)

3.8 Second Object (O2)

Some verbs take two objects. There are two main types. The first type involves two accusative objects in the Greek, an object of person (the first object) and an object of thing (the second object). The second type also involves two accusative objects in the Greek, but the first is the direct object and the second is an object complement. In the current version of the trees, these two types are not yet distinguished. At a later point, the first type of double object constructions with the object of person as O may be marked as functioning like IO and the object of thing will be marked as functioning like O. Example 43 (from Luk20:40:1-20:40:6): The object of person, “him,” is O and the object of thing, “anything,” is O2:

[CL]
 [V]
 [vp]
 [verb]
 [verb] ἐπερωτᾶν (to question)
 [O]
 [np]
 [pron]
 [pron] αὐτὸν (him)
 [O2]
 [np]

[adjp]
 [adj]
 [adj] οὐδέν (anything)

At a later point, the second type of double object constructions with the O2 as object complement may have the O2 explicitly distinguished as object complement. Example 44 (from Luk1:31:1-1:31:14): “his name” is O and “Jesus” is the O2 (OC):

[CL]
 [V]
 [vp]
 [verb] καλέσεις (you will call)
 [O]
 [np]
 [det] τὸ (the)
 [np]
 [np]
 [noun] ὄνομα (name)
 [np]
 [pron] αὐτοῦ (of him)
 [O2]
 [np]
 [noun] Ἰησοῦν (Jesus)

3.9 “Bridge” Structures

Conjunctions (both coordinating and subordinating) and prepositions function as “bridges” between their children and their own heads. Words in apposition are covered under 3.4.6 Phrase-level attributive modifiers.

3.9.1 Coordinating conjunctions (conj)

Coordinating conjunctions simply connect other structures together (the first item is usually arbitrarily assigned as the head of the resultant overall coordinated structure). Coordinators may connect two or more single words, phrases, or clauses. (Some coordinators appear to operate above the sentence level, but this level is not yet dealt with in the current version of the trees. Such conjunctions are currently simply left connected only to the sentences that follow them using the Conj-CL rule.) Example 45 (from Luk2:52:1-2:52:12): Three noun phrases are coordinated by two coordinating conjunctions:

[np]
 [np]
 [noun] σοφία (in wisdom)
 [conj] καὶ (and)
 [np]
 [noun] ἡλικία (stature)
 [conj] καὶ (and)
 [np]
 [np]
 [noun] χάριτι (favor)
 [pp]
 [prep] παρὰ (with)
 [np]
 [np]
 [noun] θεῷ (God)
 [conj] καὶ (and)

[np]
[noun] ἄνθρωποις (people)

Example 46 (from Luk1:31:1-1:31:14): Three clauses are coordinated by two coordinating conjunctions. The first two clauses seem to be more closely related and so they were coordinated together first before being coordinated with the third clause.

[CL]
[CL]
[CL]
[V]
[vp]
[verb] συλλήμνη (you will conceive)
[ADV]
[pp]
[prep] ἐν (in [your])
[np]
[noun] γαστρὶ (womb)
[conj] καὶ (and)
[CL]
[V]
[vp]
[verb] τέξῃ (will bear)
[O]
[np]
[noun] υἱόν (a son)
[conj] καὶ (and)
[CL]
[V]
[vp]
[verb] καλέσεις (you will call)
[O]
[np]
[det] τὸ (the)
[np]
[np]
[noun] ὄνομα (name)
[np]
[pron] αὐτοῦ (of him)
[O2]
[np]
[noun] Ἰησοῦν (Jesus)

3.9.2 Prepositions (prep)

Technically the preposition governs the nominal that is its object. However, prepositions are regarded as function words and the more salient relationship is between object of the preposition and the verb. So, the object of the preposition is the head of prepositional phrases formed by the PrepNP rule (even though the preposition could have been marked as the head instead). Example 47 (from Luk1:8:1-1:9:14):

[CL]
[V]
[vp]
[verb] εἰσελθὼν (having entered)

[ADV]
 [pp]
 [prep] εἰς (into)
 [np]
 [det] τὸν (the)
 [np]
 [noun] ναὸν (temple)
 [np]
 [det] τοῦ (of the)
 [np]
 [noun] κυρίου (Lord)

3.9.3. Subordinating conjunctions

Like with prepositions, while subordinating conjunctions could be seen as the heads of subordinate clauses, they are viewed as “bridges” since they are function words and the actual relationship is between the subordinate clause and the main clause. Unlike coordinating conjunctions and like prepositions, subordinating conjunctions are connected to their heads, in this case by the sub-CL rule, which forms a larger clause that includes the subordinating conjunction. Example 48 (from Luk1:34:1-1:34:13):

[CL]
 [CL]
 [ADV]
 [advp]
 [adv] Πῶς (how?)
 [V]
 [vp]
 [verb] ἔσται (will be)
 [S]
 [np]
 [pron] τοῦτο (this)
 [CL]
 [conj] ἐπεὶ (since)
 [CL]
 [O]
 [np]
 [noun] ἄνδρα (a man)
 [ADV]
 [advp]
 [adv] οὐ (do not)
 [V]
 [vp]
 [verb] γινώσκω (I know)

3.10 Punctuation

Unlike the Perseus guidelines, punctuation has not been included in the analysis in the current version of the trees.

3.11 Sentence Adverbials

Sentence adverbials have not been distinguished from conjunctions yet in the current version of the trees. Like subordinating conjunctions, most often they have been left connected to the sentence that immediately follows, with the clause as head and the sentence adverbial as a bridging function word. However, the Conj-CL rule is used instead of sub-CL (indicating a distinction from subordinating conjunctions). Some sentence adverbials that can also function as ADV are usually left as ADV. Sentence adverbials may be disambiguated at a subsequent stage. One exception that has already been treated consistently is the particle of contingency ἄν, which is treated as a particle modifying the entire clause using the PtcCL rule. Example 49 (from Luk2:26:1-2:26:19):

```
[CL]
  [ptcl]
    [ptcl] ἄν
  [CL]
    [V]
      [vp]
        [verb]
          [verb] ἴδῃ (he might see)
    [O]
      [np]
        [det]
          [det] τὸν (the)
        [np]
          [np]
            [noun]
              [noun] χριστὸν (Christ)
          [np]
            [noun]
              [noun] κυρίου (of [the] Lord)
```

3.12 Emphasizing Particles

Unlike the Perseus guidelines, emphasizing particles (consisting mostly of negative particles) have not been distinguished from adverbials in the trees. Most often they will be found to be ADV in the current trees. Example 50 (from Luk1:13:1-1:13:28):

```
[CL]
  [ADV]
    [advp]
      [adv] Μὴ (not )
  [V]
    [vp]
      [verb] φοβοῦ (do be afraid)
```

4 How Specific Constructions Are Annotated

4.1 Ellipsis

While the phenomenon of verb ellipsis is recognized, its presence is currently marked only by the assignment of Verb Elided Clause as the CType. (Shared objects are also often elided from one clause to the next and they are likewise not marked in the current trees.) Other constituents of the clause, such as O, would receive their normal labels as if the V were present (even though it is not). Where possible, the clause with ellipsis is connected to the clause from which the elided element is assumed. Example 51 (from Luk7:40:17-7:42:12): The verb “was owing” is elided in the second clause and assumed as carried over from the first clause:

```
[CL]
```

[CL]
 [S]
 [np]
 [det] ὁ (the)
 [adjp]
 [adj] εἷς (one)
 [V]
 [vp]
 [verb] ὤφειλεν (was owing)
 [O]
 [np]
 [np]
 [noun] δηνάρια (denarii)
 [adjp]
 [adj] πεντακόσια (five hundred)
 [conj] δὲ (and)
 [CL]
 [S]
 [np]
 [det] ὁ (the)
 [adjp]
 [adj] ἕτερος (other)
 [O]
 [np]
 [nump]
 [num] πεντήκοντα (fifty)

4.2 Relative Clauses

Relative clauses are treated differently, depending on their syntactic function. Relative clauses with antecedents are generally attributive and are connected to their antecedents by the NP-CL rule. Example 52 (from Luk1:26:1-1:27:16):

[np]
 [np]
 [np]
 [noun] πόλιν (a city)
 [np]
 [det] τῆς
 [np]
 [noun] Γαλιλαίας (of Galilee)
 [CL]
 [ADV]
 [np]
 [pron] ἣ (to which)
 [S]
 [np]
 [noun] ὄνομα (name)
 [P]
 [np]
 [noun] Ναζαρέθ (Nazareth)

As previously noted in 3.2.5 and 3.3.3, relative clauses can function as nominals and serve as subject and object respectively. Example 53 (from Luk4:6:1-4:6:24): The relative clause can also function as IO:

```

[CL]
  [IO]
    [np]
      [CL]
        [ptcl] ἄν (-ever)
          [CL]
            [O]
              [np]
                [pron] ᾧ (to whom)
                  [V]
                    [vp]
                      [verb] θέλω (I desire)
[CL]
  [V]
    [vp]
      [verb] δίδωμι (I give)
    [O]
      [np]
        [pron] αὐτήν (it)

```

4.3 Particles

Particles belong under a morphological category of uninflected function words. Because the Nestle 1904 trees are built on the existing MorphGNT for the Nestle 1904, the trees reflect the decisions of MorphGNT on what to mark as particles, what to mark as conjunctions, and what to mark as adverbs. Certain words mentioned as particles in the Perseus guidelines are marked as conjunctions or adverbs in MorphGNT. In general, most particles are treated as conjunctions or adverbs (see further 3.11 Sentence Adverbials and 3.12 Emphasizing Particles).

4.4 Genitive and Accusative Absolutes

The genitive and accusative absolute are grammatical constructions where a noun and a participle form a phrase that is disjoint from the grammar of the rest of the sentence, with both the noun and the participle in the genitive case and in the accusative case respectively. As previously noted in 3.5.6, to allow for greater differentiation of degrees of subordination/dependency, genitive absolutes (see also 3.2.3) and accusative absolutes (see also 3.2.2) are currently not annotated as ADV within the main clause. Instead, they connect as separate clauses to their main clauses, typically by the ClCl2 rule (the absolute clause typically precedes the main clause). Example 54 (from Luk4:2:7-4:2:18):

```

[CL]
  [CL]
    [V]
      [vp]
        [verb] συντελεσθεισῶν (having been completed)
    [S]
      [np]
        [pron] αὐτῶν (they [i.e., the days])
  [CL]
    [V]
      [vp]
        [verb] ἐπείνασεν (he hungered)

```

4.5 Accusative + Infinitive

In indirect discourse and other accusative + infinitive constructions, the accusative noun is the subject of the infinitival verb. The infinitival clause as a whole could be subject (as in 3.2.4), object (as in 3.3.2), or adverbial (as in 3.5.5). In indirect discourse, the infinitival clause as a whole is the object of the main verb (unless the main verb is in passive voice). Example 55 (from Act28:6:11-28:6:27):

```
[CL]
  [ADV]
    [CL]
      [V]
        [vp]
          [verb] μεταβαλόμενοι (having changed their minds)
[V]
  [vp]
    [verb] ἔλεγον (they were saying)
[O]
  [CL]
    [S]
      [np]
        [pron] αὐτὸν (him)
      [VC]
        [vp]
          [verb] εἶναι (to be)
      [P]
        [np]
          [noun] θεόν (a god)
```

4.6 Tmesis

Unlike in the Perseus guidelines, no attempt has yet been made to deal with tmesis (a phenomenon where a verb is separated into two parts, usually involving a prefix that can function as a preposition or adverb on its own).

4.7 Direct Speech

Direct speech is treated the same way as indirect speech. As noted in 3.3.4, subordinate content clauses (including indirect discourse and direct discourse with finite verbs, whether introduced by a subordinate conjunction or not) could be considered objects like infinitival clauses. However, longer direct discourse proved to be problematic for inclusion as objects in trees. To remain consistent, clauses of direct speech are left for now as their own CL and either connected by ClCl rule to the main clause to which they are linked (with the main clause as head in the ClCl rule) or left in separate sentences (in the case of really long direct discourse). Example 56 (from Act23:5:1-23:5:20):

```
[CL]
  [CL]
    [V]
      [vp]
        [verb] ἔφη (said)
    [S]
      [np]
        [det] ὁ
        [np]
          [noun] Παῦλος (Paul)
  [CL]
    [CL]
```

```

[CL]
  [CL]
    [ADV]
      [advp]
        [adv] Οὐκ (not)
      [V]
        [vp]
          [verb] ᾔδειν (I had known)
        [CL]
          [np]
            [noun] ἀδελφοί (brothers)
        [CL]
          [conj] ὅτι (that)
        [CL]
          [VC]
            [vp]
              [verb] ἐστὶν (he is)
            [P]
              [np]
                [noun] ἀρχιερεύς (high priest)

```

4.8 Direct Address

As previously noted in Example 6 of 3.1, vocatives are treated as minor clauses (with the CType attribute Minor Clause). The vocative minor clause is connected to the main clause by the ClCl rule (if the vocative clause follows the main clause) or ClCl2 rule (if the vocative clause precedes the main clause). Example 57 (from Luk1:30:1-1:30:14): Vocative Minor Clause connected to the preceding main clause by the ClCl rule:

```

[CL]
  [CL]
    [ADV]
      [advp]
        [adv] Μὴ (Do not)
      [V]
        [vp]
          [verb] φοβοῦ (fear)
        [CL]
          [np]
            [noun] Μαριάμ (Mary)

```

Example 58 (from Luk7:40:1-7:40:12): Vocative Minor Clause connected to the following main clause by the ClCl2 rule:

```

[CL]
  [CL]
    [np]
      [noun] Σίμων (Simon)
    [CL]
      [V]
        [vp]
          [verb] ἔχω (I have)
      [O]
        [np]

```


[CL]
 [IO]
 [np]
 [pron] σοί (to you)
 [O]
 [np]
 [pron] τι (something)
 [V]
 [vp]
 [verb] εἰπεῖν (to say)