Relative Clauses in Koine Greek

A Role and Reference Grammar Perspective

Ulrik Petersen

December 17, 2001

Vejleder: Torben Andersen
Studium: Humanistisk datalogi
7. Semester
Gruppenr: 7
Aalborg Universitet

Abstract

Koine græsk har, ligesom mange andre sprog, relativbisætninger. På græsk er der dog det specielle, at de relative sætningsled ikke behøver være bisætninger. Denne projektrapport tager udgangspunkt i to klassifikationssystemer for relativsætninger på græsk. Det ene klassifikationssystem har at gøre med hovedet for den relative sætning: Er det før, efter, eller inden i den relative sætning, eller er der slet ikke noget hoved? Det andet klassifikationssystem har at gøre med den pragmatiske funktion af den relative sætning: Afgrænser den de potentielle referenter til hovedet, eller gør den det ikke? Og hvis den ikke gør, er den så bare i apposition til hovedet, eller har den en fortsættende funktion?

Rapporten forsøger at kaste lys over relativsætninger på græsk. Det teoretiske grundlag er først og fremmest teorien Role and Reference Grammar (RRG), men der henvises også til arbejde af McCawley. Der opstilles seks hypoteser, hvoraf de fem vises at holde stik. Den sjette hypotese er ikke behandlet på grund af tidsmangel.

Et hovedresultat er, at den frase, hvori det relative pronomen ingår, kan analyseres ud fra, hvad Role and Reference Grammar kalder *pre-core slot*. Et andet hovedresultat er, at den relation, som ikke-afgrænsende relativsætninger indgår i med andre sætningsled, kan analyseres ud fra, hvad Role and Reference Grammar kalder koordination. Dette resultat er dels et teoretisk resultat, dels et empirisk velunderbygget resultat.

Af mindre resultater kan nævnes følgende. For det første, at Koine græsk udviser relativsætninger, der forekommer på en teoretisk set uafgrænset distance fra deres hoved. For det andet, at Koine græsk udviser relativsætninger, der forekommer før deres hoved. For det tredie, at Koine græsk udviser relativsætninger, der ikke har noget hoved. For det fjerde, at koine græsk udviser relativsætninger, hvis hoved er inden i dem. Således udviser Koine græsk alle fire typer relativsætning i det ene klassifikationssystem.

Rapporten forsøger som nævnt at kaste lys over relativsætninger på græsk ud fra Role and Reference Grammar. Vi håber, rapporten opnår dette mål.

Contents

1 Background

1.1 Typological characterizations

Relative clauses are found in a wide variety of languages. Comrie (1981) devotes a whole chapter to relative clauses and their typological characterizations. He notes that, cross-linguistically, there are three kinds of relative clause. The first kind is the postnominal type where the relative clause follows its head. The second kind is the prenominal type where the relative clause precedes its head. The third kind involves head incorporation, where the head occurs inside of the relative clause (p. 137). A fourth kind, not described by Comrie, but described in Van Valin and LaPolla (1997), is headless relative clauses.

Andrews (1985), writing from a transformational-generative perspective, finds the following two facts about the typology of relative clauses: First, that some relative clauses "do not have heads in the underlying structure," (p. 6). And second, that "others do not at any level of structure form constituents with their heads, but rather may be separated from them by an unbounded stretch of material." (ibid.). Both of these facts will be significant in our study.

1.2 Relative clauses in Greek

Relative clauses in Koine Greek are marked syntactically by the presence of an overt relative pronoun. In the following, we first describe the lexical items making up the set of relative pronouns, then we describe some well-known aspects of the syntax of relative pronouns. Finally, we treat a trichotomy of relative clauses at some length.

1.3 Lexical items

There are two main relative pronouns and a few other words which are sometimes used as relative pronouns. The two main relative pronouns are ὅς "hos,"[1] "who, which, whom" and ὅστις "hostis," "whoever, whomever, whatever". The former occurs some 1405 times in the Greek New Testament, while the latter occurs only 147 times, according to Friberg and Friberg (forthcoming).[2] The former is the definite form, while the latter is the indefinite (see Wallace (1996, p. 336))[3]. The other three lexical items sometimes used as relative pronouns are: ὅσος "hosos," "as much/many as," οἷος "hoios," "such as, as," and ὁποῖος "hopoios," "of whatever kind." We will not be taking them into account in this report, because they are marginal and are sometimes not used as relative pronouns.[4]

1.4 Syntax

The basic agreement-pattern for a relative pronoun is for it to agree with the antecedent in gender and number, and to have whatever case is required for it to function in its own clause (Goodwin (1903, p. 218, §1019)[5]).[6]

However, sometimes the case of the relative pronoun is attracted to the case of its antecedent (known as direct attraction), while on rare occasions, the case of the antecedent is attracted to the case of the relative pronoun (known as indirect attraction), see Wallace (1996, p. 337).

Sometimes, the gender of the relative pronoun does not match that of the antecedent, usually in cases of "constructio ad sensum" (Wallace (1996, p. 337)). Usually, it is a neuter relative pronoun referring to a

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[1] When citing Greek words or phrases, we will follow the practice of citing first the Greek, then a transliteration, then a translation, at least the first time a Greek word appears in a section. Subsequent uses of the same Greek word in the same section may not be transliterated or glossed.

The transliteration is an ad-hoc transliteration based on the sounds found in Danish phonology. Especially the choice of how to transliterate the vowels and vowel-combinations υ, "y", ου, "u", and υι, "hwi" have been influenced by the Danish vowel-system.

In addition, the transliteration does not distinguish between long e, "η" and short e, "ε" or long o, "ω" and short o, "o," nor does it enunciate iota subscriptum, "ͺ".

[2] Friberg and Friberg (forthcoming) is the second edition of the Analytical Greek New Testament (the first edition is Friberg and Friberg (1981)). As yet, the second edition is only available in electronic form, but is to be published by Baker in book form in the future.

Since these numbers have been obtained through computer searches on lemmas, they are quite accurate (assuming that the work of the Fribergs is accurate). The whole of the Greek New Testament has 138,019 words according to Friberg and Friberg (forthcoming), and slightly more if we count instances of crasis as two words.

[3] But Turner (1963, p. 47), notes that this distinction between indefinite and definite uses, so clearly distinguished in Attic Greek, has become almost completely blurred in Koine Greek.

[4] According to Friberg and Friberg (forthcoming), ὅσος occurs some 110 times, οἷος 14 times, and ὁποῖος 5 times, of which only two are tagged as relative, with the remaining three being interrogative.

[5] Goodwin (1903) is a grammar of classical Greek, but what is cited in this report is relevant for Koine Greek as well.

[6] An example of this pattern can be found in Matthew 7:9:

(i) ἢ τίς ἐστιν ἐξ ὑμῶν ἄνθρωπος, ὃν αἰτήσει ὁ υἱὸς αὐτοῦ ἄρτον, μὴ λίθον ἐπιδώσει
e tis estin ex hymon anthropos hon aitesei ho hwyios autu arton me lithon epidosei
or what is among 2pl man.NOM, whom.ACC will.ask the son of.him for.bread, surely.not stone will.give
αὐτῷ;
auto?
to.him?
"Or what man among you, if his son asks for bread, will give him a stone?"

Here, the head noun, ἄνθρωπος, "anthropos", "man", is nominative masculine singular. Thus the relative pronoun, ὃν, "hon", "whom", is also masculine and singular. But its case is accusative, because it functions as one of the objects of the verb αἰτήσει, "aitesei", "will ask." Thus it agrees with the antecedent in gender and number, but has the case it requires to fulfill its function in its own clause.

masculine or feminine thing (Goodwin (1903, p. 218, §1022)).

The antecedent may be omitted when it can easily be supplied from context (Goodwin (1903, p. 219, §1026)), and the antecedent may be incorporated into the relative clause, usually as a demonstrative (Goodwin (1903, p. 220, §1030), Wallace (1996, pp. 339-340)).

Levinsohn (2000) states that "If the referent is overtly stated, then the relative clause follows it" (p. 190). We shall have occasion to question the veracity of this statement.

1.5 Characterization of RCs

1.5.1 Introduction

Relative clauses can be characterized along a number of different axes. We have already described one such axis, namely the prenominal - postnominal - head incorporating - headless axis. Another axis which we will be looking at is that of "restrictive vs. appositional vs. continuative." The categories "appositional" and "continuative" are subcategories of the category "non-restrictive." Thus, we start by describing the restrictive vs. non-restrictive dichotomy.

1.5.2 Restrictive vs. non-restrictive

Linguists commonly divide relative clauses into restrictive and non-restrictive relative clauses. Comrie (1981) has the following to say about restrictive relative clauses (p. 131): A restrictive relative clause "serves to delimit the potential referents of" the antecedent NP. An example of a restrictive relative clause is given in (1). The relative clause is *emphasized*.

(1)   The hotel-guest *who arrived yesterday* has already left.

Conversely, a non-restrictive relative clause "serves merely to give the hearer an added piece of information about an already identified entity, but not to identify that entity" (ibid.). An example of a non-restrictive relative clause is given in (2).

(2)   Mr. Youngdale, *who arrived yesterday*, left this morning.

Greek has both restrictive and non-restrictive relative clauses (Levinsohn (2000, pp. 190-192)). In the next section, we discuss a further distinction within the non-restrictive category.

1.5.3 Appositional vs. continuative

Greek is somewhat special in that, in addition to making the restrictive vs. non-restrictive distinction, the language also makes a further distinction within the non-restrictive category, namely that between "appositional" and "continuative."

The appositional category is largely equivalent to what is normally called a non-restrictive relative clause, i.e., it gives added information without identifying the antecedent. They stand in apposition to the antecedent.

Continuative relative clauses, by contrast, serve to advance the storyline or argument, and need not stand in apposition to the antecedent. Winer (1882) notes that the relative pronoun in a continuative relative clause "can be resolved into καὶ οὗτος", "kai hutos", "and this" (p. 680).

Levinsohn (2000) gives a lengthy treatment of continuative relative clauses (pp. 190-196) from the perspective of discourse features of New Testament Greek. He has this to say:

> "Appositional relative clauses, as their name suggests, stand in apposition to the noun that they modify. Continuative relative clauses, in contrast, typically describe an event that involves the referent of the relative pronoun and occurs subsequent to the previous event or situation in which the referent featured." (p. 191)

Levinsohn is speaking mostly about narrative:

"Continuative relative clauses are most common in narrative, linking events in chronological sequence, though they are found in non-narrative. Characteristically, the information preceding the relative pronoun is backgrounded vis-à-vis what follows." (ibid.)

Thus a characteristic feature of continuative relative clauses is that they are in the foreground with respect to the preceding material.

Levinsohn notes that the verb-classes (or *Aktionsarten* of the verbs) involved often correlate with this backgrounding-foregrounding feature:

"The clause preceding the relative pronoun often contains a state or activity verb, which tends to correlate with background information in narrative, while the clause that follows the relative pronoun contains an achievement or accomplishment verb, which tends to correlate with foreground information (see sec. 10.2.1)." (ibid.)

Levinsohn notes that continuative relative clauses often carry the story forward:

"The rhetorical effect of using a continuative relative clause in narrative is apparently to move the story forward quickly by combining background and foreground information in a single sentence." (p. 192)

Levinsohn also notes that, in non-narrative, chains of continuative relative clauses occur, where a continuative relative clause, preceding a new continuative relative clause, itself becomes the ground for what follows:

"In continuative relative clauses in narrative, the material preceding the relative pronoun is often naturally background information. In non-narrrative discourses such as reasoned argument, however, it may itself have been the foreground assertion, which then becomes the "ground" for another foreground assertion." (pp. 192-193)

1.5.4   Conclusion

Relative clauses may be classified along a number of axes. One is the axis "prenominal – postnominal – head incorporating – headless." Another is the restrictive – non-restrictive axis.

Some relative clauses in some languages do not have any overt head, and relative clauses may occur at an unbounded distance from their heads.

Along the restrictive – non-restrictive axis, Koine Greek makes a further distincion within the non-restrictive kind. Thus, Koine Greek has three kinds of relative clauses: Restrictive, appositional, and continuative. Restrictive relative clauses serve to identify the antecedent of the relative pronoun. Appositional relative clauses are what is traditionally labelled "non-restrictive," and serve merely "to give an added piece of information" (Comrie (1981, p. 131)) about the antecedent.

Continuative relative clauses, by contrast, serve to carry the story or argument forward. They are most common in narrative, but are found in non-narrative discourse as well. Characteristically, the material preceding the relative clause is backgrounded with respect to the material in the relative clause. This is often seen in the verb-classes of the verbs involved: The material preceding the relative clause often contains a state or activity verb, while the material in the relative clause often contains an achievement or accomplishment verb.

2   Problem description

Relative clauses in Greek are fascinating. They can be classified along at least two axes, and they exhibit intriguing syntactic properties. Why is the relative pronoun almost always clause-initial? Does Greek exhibit headless relative clauses? What about prenominal relative clauses? And the continuative relative clauses – how can they be analyzed syntactically, given that they are neither restrictive nor appositional? What about non-restrictive relative clauses in general, both appositional and continuative – can anything

be said about their syntactic properties, especially as regards the way in which they relate to other clauses? Does Role and Reference Grammar (RRG) have anything to offer in analyzing and explaining them? Can RRG shed some light on their syntax?

The problem description then becomes: Try to use the theoretical framework of Role and Reference Grammar to shed some light on the syntax of relative clauses in Koine Greek, trying to answer all of the questions given above, and more if possible.

3   Hypotheses

The following hypotheses have come out of various sources. One such source has been my study of particular relative clauses in the Greek New Testament. Another source has been theoretical considerations. A third source has been inklings, hunches, feelings, etc. We shall see in later sections that most of these hypotheses are indeed justifiable in terms of the evidence.

The hypotheses are as follows:

1. The relationship of non-restrictive relative clauses to other clauses can be described in terms of what Role and Reference Grammar calls coordination, be it *core coordination, clausal coordination*, ore *sentential coordination*.

2. The fact that the relative pronoun NP (or the PP in which it is a constituent) is almost always clause-initial can be explained in terms of the theoretical construct of *pre-core slot*.

3. Koine Greek exhibits relative clauses which occur at a theoretically unbounded distance from their heads.

4. Koine Greek has both prenominal and postnominal relative clauses, contrary to what Levinsohn says on p. 190 about the relative clause following the head if the head is overtly stated.

5. Koine Greek has noun-incorporating relative clauses and headless relative clauses.

6. When applying the notion of *Aktionsart* found in Role and Reference Grammar, we may find that there is some validity to Levinsohn's claim that the material before a continuative relative clause typically has a state or activity verb, while the material in the relative clause typically has an achievement or accomplishment verb, at least in narrative.

4   Method

4.1   Choice of texts

In choosing texts, I have adhered to the following general principles:

1. Texts are chosen from the Greek New Testament. This is because it is a well-understood, well-researched corpus of text, and computerized helps are widely available. In particular, I had easy access to an electronic version of the text.

2. I have chosen texts both from narrative material and from non-narrative material. This is because some of the most interesting uses of continuative relative clauses occur in non-narrative passages of the Greek New Testament. It is sometimes argued that one must not assume that syntax employed in one genre necessarily works the same way in other genres. I will not ignore this piece advice; indeed, the very fact some of the most interesting uses of the continuative relative clauses occur in non-narrative is suggestive of the fact that even the syntax of continuative relative clauses might not work the same way in non-narrative as it does in narrative.

3. I have generally included in my analysis not only the relative clause itself, but also the preceding clause (if postnominal) or the following clause (if prenominal), and sometimes more context as well. This is because relative clauses are inherently not an isolated phenomenon; they always have a relationship with extraclausal material, be it anaphoric/cataphoric reference or structural dependency.

4.2 Analysis method

Once the texts are chosen, I load them into a computer program called TCC[7] for analysis. TCC is a program for assisting the analyst in making a syntactic analysis of a piece of text. The program does little or no parsing, and is merely a convenient way of drawing trees using a point-and-click interface.

TCC is good at immediate constituent-analysis, but RRG-style analyses are also supported. With TCC, the user can create a syntax-tree, either an RRG-style LSC-tree (for an explanation of which, see below), or an immediate constituent-tree, or a mixture of both.

I have chosen to do a mixture of RRG-analysis and immediate constituent-analysis. In particular, noun phrases, when not relevant for the anlaysis of the relative clause, are analyzed as though they had an immediate constituent-structure instead of an RRG-analysis. This is because of time-constraints. RRG-analysis of noun phrases is time-consuming, compared to immediate constituent-analysis. And since this is only done when the noun phrase is not relevant to the analysis of the relative clause, this is, in my opinion, not very bad methodology, although I concede that it would have been better to do pure RRG-analyses.

5 Theory

5.1 Introduction

Picking a theoretical framework in which to undertake a lingusitic investigation is not an endeavor which can be motivated from the recommendations of authorities alone. For any given linguistic theory, it is almost certainly the case that there exists at least one noted scholar who champions or at least recommends that particular theoretical framework. Thus, in order to justify a choice of theoretical framework, one would have to make reference to at least some of the following:

- The appliccability of the theory to the linguistic data and linguistic problems under investigation.

- The ability of the theory to accurately and adequately account for the language data under investigation, both in terms of descriptive adequacy and explanatory adequacy.

- The compatibility of the theory with other works to which one is going to refer.

- The general merits of the theory on criteria such as cross-linguistic descriptive adequacy, explanatory adequacy, and typological adequacy.

- The general merits of the theory on theory-internal criteria such as economy, independent motivation, and predictiveness.

The theoretical framework chosen is that of Role and Reference Grammar (Van Valin and LaPolla (1997)). This theory seems to be a good choice by any of the five standards just mentioned. In my study, I have found that the theory is both appliccable to and able to account for the linguistic data and linguistic problems under consideration. The theory is compatible with Levinsohn (2000), which seems to base his distinction of the verb-classes on this theory, albeit in an earlier form (Foley and Van Valin (1984)). Since Levinsohn was my point of departure for the continuative category of relative clauses, RRG seemed to be a natural choice from this perspective.

As to the various kinds of adequacy and the theory-internal criteria, I am in no position to judge in the matter myself. If we are to believe Van Valin and LaPolla (1997), the theory equals or exceeds the descriptive, explanatory, and typological adequacy of major theories like Principles and Parameters. As to the theory-internal criteria of economy, independent motivation, and predictiveness, the book is one long defense of the tacit claim that RRG is among the best theories in the field by the standard of these theory-internal criteria.

Finally, I have chosen RRG as my theoretical framework simply because the theory has been recommended to me by many people whose judgment I esteem. Thus I have chosen the theory because I wanted

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[7]I designed and wrote TCC as part of my assignment with SIL International in the years 1999-2000.

to look at it in more detail and to learn some aspects of the theory. Thus the initial, and, in the final analysis, perhaps also the most weighty, reason for choosing RRG has simply been my desire to study it.

In the following, I summarize the main points of the RRG theory, especially as it pertains to the present study.

5.2 Summary of Role and Reference Grammar

5.2.1 Introduction

RRG aims to be a universally valid theory of grammar. It grew out of the question "What would a theory of grammar look like if it were based, not on English, but on Lakhota, Dyirbal, and Tagalog?" Thus from the very start, RRG has had cross-linguistic validity as one of its aims. This would hopefully make the theory adequate for studying Koine Greek as well.

In this section, I first explain RRG's view of the syntax of simple clauses. I then explain what RRG calls 'operators,' which are things like illocutionary force, negation, and tense. I then explain how RRG treats noun phrases. After that comes a treatment of the various Aktionsarten or verb-classes recognized in RRG. I then describe two theoretical constructs present in RRG's view of the syntax of complex sentences, namely *juncture* and *nexus*. Finally, I touch briefly on RRG's treatment of relative clauses.

In the following, "VVLP" refers to Van Valin and LaPolla (1997).

5.2.2 Syntactic structure of simple clauses

Every syntactic theory must be able to represent both relational and non-relational structure [8] for it to be descriptively adequate (VVLP p. 17). In this section, we describe RRG's approach to non-relational structure.

RRG aims to be a theory of Universal Grammar. Since not all languages yield easily to an immediate constituent analysis, RRG does not assume an immediate constituent representation as the basic framework for describing non-relational structure (VVLP p. 25). Dyirbal and Lakhota are cited as two languages which do not yield easily to an immediate constituent analysis (VVLP p. 23-25).

Instead, RRG posits the *Layered Structure of the Clause* (LSC) as the framework for representing non-relational structure. The LSC has seven main units for dealing with non-relational structure, viz. the predicate (PRED), the nucleus (NUC), thar argument (ARG), the core (CORE), the periphery (PERIPH-ERY), the clause (CLAUSE), and the sentence (SENTENCE). All of these units are taken to be universal. Ancillary units, which are not taken to be universal, include the pre-core slot (PrCS), the post-core slot (PoCS), the Left-Detached Position (LDP), and the Right-Detached Position (RDP).

5.2.2.1 Universal aspects of the LSC   The predicate is typically a verb, but can also be, e.g., an adjective. RRG make a fundamental distinction between those NPs and PPs which are *arguments* of the predicate, and those which are *not*. The latter are called *non-arguments*. An argument is a phrase that must be present in the LSC for the semantic representation of the predicate to be complete. Consider the example in (3).

(3)   John ate the sandwich in the library.

Here, "John" and "the sandwich" are both arguments of the predicate "ate", because both are necessary in the semantic representation of "eat." By contrast, the PP "in the library" is a non-argument, since it is not obligatory to express the location of eating.

Now, the nucleus houses the predicate (but is not identical to the predicate); the core consists of the nucleus plus the arguments of the predicate; the periphery consists of the non-arguments; and the clause

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[8]VVLP define the two as follows (p. 17):

" relational structure deals with the *relations* that exist between one syntactic element and another, be they syntactic, semantic, or pragmatic in nature, whereas non-relational structure expresses the *hierarchical organization* of phrases, clauses, and sentences, however it may be conceptualized" (emphasis mine).

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                    SENTENCE
                        |
                     CLAUSE
                        |
                     CORE    ⟵————————  PERIPHERY
               _____/ |  _____                |
              /        |         \                |
           (ARG)     (ARG)       NUC              |
             |         |          |               |
             |         |         PRED             |
             |         |          |               |
             XP        XP        X(P)          XP/ADV
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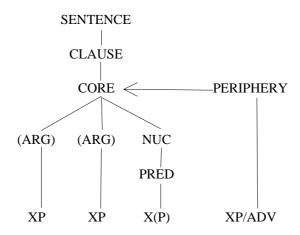
Figure 1: Formal representation of the Layered Structure of the Clause (VVLP p. 31)

consists of the core plus the periphery. This is a slightly simplified view which will be amended in 5.2.3 and in 5.2.6.

All of this can be drawn as in Figure 1.

The universal aspects of the LSC do *not* depend on the linear order of the elements. The non-universal aspects of the LSC, on the other hand, *do* depend on the linear order.

5.2.2.2 Non-universal aspects of the LSC   The pre-core slot and post-core slot are needed for explaining such clauses as "*That book* you put on the table" and "*To Dana* Pat gave a new watch." (VVLP p. 36). These two emphasized phrases, an NP and a PP, are not set off from the rest of the sentence by a pause or intonation break. And they appear in an unusual position with respect to the default clause-pattern of English (Subject-Verb-Object). Thus they are explained in terms of being in the *pre-core slot* (PrCS). The PrCS is outside the core but inside the clause, and occurs before all core elements. The post-core slot is the same as the pre-core slot, except that it occurs after the core.

The left-detatched position, on the other hand, is used to explain such sentences as "*As for Felipe $_i$*, what did Maria give him$_i$ for his birthday?" (VVLP p. 36). Two features mark the initial emphasized phrase as being in the left-detached position (LDP). Firstly, there is both a pause and an intonation break after the phrase. Secondly, there is a pronoun referring to Felipe in the core of the following clause. This cannot occur with the PrCS, as the ungrammaticality of (4) shows.

(4)   *That book$_i$ you put it$_i$ on the table.

Thus the LDP is set off from the rest of the sentence by an intonation break or pause, and if the phrase in the LDP is an argument in the following clause, that clause must have a pronoun which refers to the LDP-phrase, at least in English.

The LDP is inside the sentence but outside the clause (VVLP p. 36).

The right-detached position (RDP) is the same as the LDP, except that it occurs after the clause.

We might augment the tree of Figure 1 to include the non-universal aspects as in Figure 2. The Periphery has not been drawn so as not to clutter the figure. However, it is important to say that the theory does not predict anything cross-linguistically about the placement of peripheral elements with respect to the CORE, the PrCS, or the PoCS, i.e., the elements within the clause. It does predict that the LDP and the RDP occur before and after the clause, and thus before and after any peripheral material. Within one language, of course, there may be restrictions on the placement of peripheral elements described in an RRG account of that language. English, for example, tends to have peripheral elements after core-elements. But the theory itself claims nothing cross-linguistically about the placement of peripheral elements.
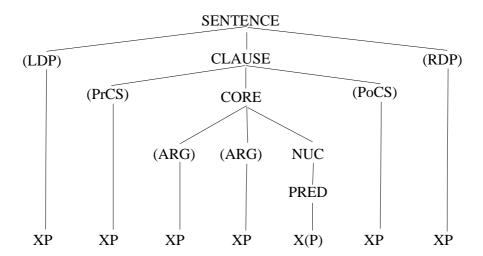
SENTENCE
(LDP)
CLAUSE
(RDP)
(PrCS)
CORE
(PoCS)
(ARG)
(ARG)
NUC
PRED
XP
XP
XP
XP
X(P)
XP
XP

Figure 2: Overview of the LSC with both universal and non-universal aspects

5.2.3 Operators

The LSC is only one theoretical construct used in RRG for describing and explaining the syntax of sentences. The other theoretical construct is that of *operators* (VVLP p. 40-52). RRG posits the following operators:

1. Tense (describing the relationship of the time of the event to some reference time)

2. Aspect (describing the internal temporal structure of the event)

3. Negation

4. Root (or deontic) modality (strong obligation (must), weak obligation (should), ability (can), and permission (may))

5. Status (external/clausal negation, epistemic modality[9], and realis/irrealis)

6. Illocutionary force (declarative, interrogative, imperative, or optative)

7. Directionals (indicating the direction of the action)

8. Evidentials (indicating the source of information)

RRG claims that *different operators modify different layers of the clause* (VVLP p. 45). Some only modify one layer, while others may modify several layers (though only one layer in any given instance). For example, aspect is a *nuclear* modifier; it only ever modifies the nucleus. On the other hand, illocutionary force is always a *clausal* modifier. Negation may be nuclear (as in "*un*happy"), or it may modify the core (as in "John did not read a book, he read a magazine") (VVLP p. 45). If it modifies the clause, it is regarded as a status operator (called "external negation"). This type of negation can be paraphrased as "It is not the case that . . . " (VVLP p. 46).

So different operators modify (or have scope over) different layers of the clause. RRG claims that there is a basic principle of scope-assignment among operators. The basic principle is:

clausal ⊃ core ⊃ nuclear

where "⊃" means "has scope over" (VVLP p. 46). Thus, *between the layers*, there is a rather rigid scope-assignment system, which seems to be valid across a wide range of languages.

In addition, there seems to be strong cross-linguistic evidence that, *within each layer*, there are scope-assignment principles which hold between the various operators. For example, among clausal operators,

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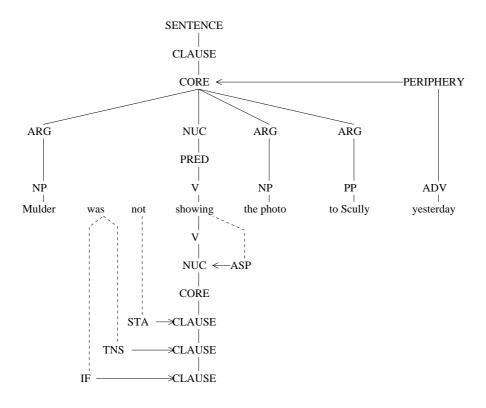[9]Necessity (must) and Possibility (can, may, should).

Figure 3: LSC-projection and Operator-projection

the scope relations are **illocutionary force ⊃ evidentials ⊃ tense/status**. However, the "/" between tense and status indicates that there is no definite scoping between the two cross-linguistically. We may find that in one language, tense has scope over status, while in another, status has scope over tense. In spite of this, both evidentials and illocutionary force almost always have scope over both tense and status. Among core operators the scope relations are **modality/directionals ⊃ core negation**, and among nuclear operators, the scope relations are **directionals/nuclear negation ⊃ aspect**.

One reason for positing the scheme of operators is that the *linear ordering* of operators is almost always the same with respect to the predicating element, even cross-linguistically (VVLP p. 49). Thus clausal operators tend to be farthest away from the predicating element, while nuclear operators tend to be closest to it. And the scope-assignment rules outlined above tend to dictate the linear ordering of operators within each layer. It must be rembered, however, that some operators do not have definite cross-linguistically valid scoping-assignments, and thus we may find cross-linguistic variation with respect to these operators.

While predicates, arguments, and non-arguments are part of the projection called the Layered Structure of the Clause, operators are part of a different projection, called the *operator projection* [10]. This projection is usually drawn underneath the LSC-projection. An example is given in Figure 3.

We said earlier that the clause consists of the core plus the periphery, and that the core consists of the arguments plus the nucleus. This view now has to be amended slightly: The utterance-string of a clause not only consists of the morphemes in the LSC-projection, but also of the morphemes in the operator-projection. The operators are usually not part of the LSC, though they can be on rare occasions. Therefore, since there are morphemes in the utterance string which are not accounted for by the LSC-projection alone, we must take the operator-projection into account as well in order to get a complete description of the utterance-string.

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[10]A *projection*, in RRG terms, is a tree-like analysis which stems from, or is a projection of, the predicate. Thus the LSC is one projection which is an integral part of the analysis of a sentence, and the operator-projection is another. There is a third projection in RRG, namely the focus-projection. We will not use this projection in this report.

Node name	Explanation
REF$_N$	A referring expression. Usually a noun.
NUC$_N$	The nucleus$_N$, housing the referring expression.
ARG$_N$	A syntactic argument of the referring expression (usually a PP or a CLAUSE).
CORE$_N$	The core$_N$, consisting of the nucleus$_N$ plus any arguments$_N$
PERIPHERY$_N$	Syntactic non-arguments of the referring expression (usually a PP, an adverb, or a restrictive relative clause).
NPIP	A position similar to, but distinct from, the LDP and the PrCS.
NP	The top-level node, containing the CORE$_N$ plus the NPIP.
N	A noun.
PRO	A pronoun.

Table 1: Nodes in the LSNP

Op.Abbrev.	Op. Name	LSNP Layer
ADJ/N	Adj./Nominal modification	NUC$_N$
NASP	Nominal aspect	NUC$_N$
NUM	Number	CORE$_N$
QNT	Quantifier	CORE$_N$
NEG	Negation	CORE$_N$
DEF	Definiteness	NP
DEIC	Deictics	NP

Table 2: Operators of the LSNP

5.2.4 Layered structure of noun phrases

RRG claims that NPs have a layered structure similar, but not identical to, the layered structure of the clause (VVLP pp. 52-67). Called the LSNP, this layered structure of the NP operates with the syntactic units summarized in Table 1. NPs with proper nouns are not treated as having a layered structure.

As for clauses, RRG posits an operator projection for NPs. In this, RRG mostly follows Rijkhoff (1992), who wrote from the perspective of Functional Grammar (FG). NP operators have scope over the different layers of the LSNP, just as with the LSC. This manifests itself in little cross-linguistic variation in the order of NP-operators having scope over different *layers*. However, we find cross-linguistic variation with respect to operator ordering *within* each layer, just as we did with the LSC (VVLP pp. 62-63). The operators are summarized in Table 2. Nominal aspect refers to "individuation", and has to do with the count/mass distinction, as well as the further distinction as to whether the referring expression refers to an individual or a collection of individuals (VVLP pp. 56-57).

5.2.5 Verb classes

5.2.5.1 Introduction From Vendler (1957[1967]), RRG takes over the theory of states of affairs and the associated *Aktionsart*-classes, modifying the theory slightly.

5.2.5.2 States of affairs Table 3 on the following page summarizes the four types of *states of affairs* which may occur in this world.

These four states of affairs are taken as the point of departure for the verb-classes.

5.2.5.3 Aktionsarten RRG posits an inventory of verb-classes (called 'Aktionsarten') which builds on these four types. The verb-classes can be summarized as in Table 4 on the next page. There are four verb-classes corresponding to the four types of states of affairs, plus an additional verb-class, called the *active accomplishment* class, being a conglomerate of activity and accomplishment. In addition, these five verb-classes have duplicates that are causative, i.e., induced.

State of affairs	Explanation
Situation	A static, non-dynamic state of affairs. E.g., the *location* of a participant, a state or condition of a participant (e.g., being tired), or an internal experience of a participant (e.g., John liking Mary).
Action	A dynamic state of affairs in which a participant does something.
Event	A dynamic state of affairs which seems to happen instantaneously.
Process	A dynamic state of affairs which involves change and which takes place over time.

Table 3: Types of states of affairs

Aktionsart	Explanation
State	Corresponds to Situation
Activity	Corresponds to Action
Achievement	Corresponds to Event
Accomplishment	Corresponds to Process
Active accomplishment	Conglomerate of activity and accomplishment
Causative state	Induced state
Causative activity	Induced activity
Causative achievement	Induced achievement
Causative accomplishment	Induced accomplishment
Causative active accomplishment	Induced active accomplishment

Table 4: Aktionsarten

5.2.5.4 Test-questions RRG posits some test-questions which can be used to distinguish the ten Aktionsarten from each other. They are given in table 5.

These questions can either be answered with a 'Yes' or a 'No'. Given the answers to these six questions, one can look up the Aktionsart in table 6.

RRG has some caveats for some of the questions which I have not reproduced here.

5.2.6 Syntactic structure of complex sentences

Two questions which every theory must answer about the structure of complex sentences are given in (5) (VVLP p. 441):

(5) a. What are the units involved in complex sentence constructions?
     b. What are the relationships among the units in the constructions?

The answer that RRG gives to (5-a) is the following: The fundamental building-blocks involved in complex sentence constructions are those of the Layered Structure of the Clause, namely Clause, Core, and Nucleus.

The theory of the units will be referred to as the theory of *juncture*, whereas the theory of the relationships will be called the theory of *nexus*.

No.	Criterion
1	Occurs with progressive
2	Occurs with adverbs like vigorously, actively, etc.
3	Occurs with adverbs like quickly, slowly, etc.
4	Occurs with X for an hour, spend an hour Xing
5	Occurs with X in an hour (terminal point)
6	Can be paraphrased as a causative (e.g., The boy caused the ball to bounce.)

Table 5: Test-questions for distinguishing Aktionsarten

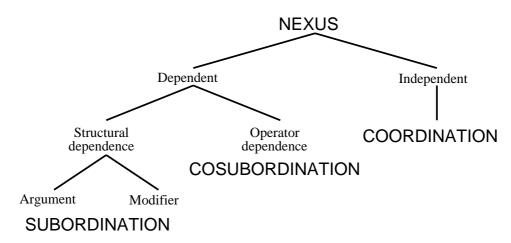| Aktionsart	Test-1	Test-2	Test-3	Test-4	Test-5	Test-6
State	No	No	No	Yes	No	No
Activity	Yes	Yes	Yes	Yes	No	No
Achievement	No	No	No	No	No	No
Accomplishment	Yes	No	Yes	Irrelevant	Yes	No
Active accomplishment	Yes	Yes	Yes	Irrelevant	Yes	No
Causative State	Yes	Yes	No	Yes	No	Yes
Causative Activity	Yes	Yes	Yes	Yes	No	Yes
Causetaive Achievement	No	Yes	No	No	No	Yes
Causative Accomplishment	Yes	Yes	Yes	Irrelevant	Yes	Yes
Causative Active Accomplishment	Yes	Yes	Yes	Irrelevant	Yes	Yes

Table 6: Aktionsarten based on tests

Figure 4: Nexus relations (VVLP p. 454)

5.2.6.1 Levels of juncture   RRG recognizes the following levels of juncture, with the following patterns (VVLP p. 442):

(6)   a. $[_{\text{CORE}} [_{\text{NUC}} \text{PRED}] + [_{\text{NUC}} \text{PRED}]]$ (Nuclear juncture)
      b. $[_{\text{CLAUSE}} [_{\text{CORE}} \text{PRED}] + [_{\text{CORE}} \text{PRED}]]$ (Core juncture)
      c. $[_{\text{SENTENCE}} [_{\text{CLAUSE}} \text{PRED}] + [_{\text{CLAUSE}} \text{PRED}]]$ (Clausal juncture)

These patterns may be combined, e.g., to form a clausal juncture within which one of the clauses has core juncture, within which one of the cores has nuclear juncture.

5.2.6.2 Nexus relations   There were two questions about complex sentence constructions which every theory must answer ((5)). The answer to (5-a) has already been indicated. The answer that RRG gives to (5-b) is the following: There are three nexus relations, and they can be summarized as in figure 4.

Coordination and subordination are traditional labels used for nexus relations. *Coordination* refers to nexus relations of no structural dependence, but of equal status. Coordinate elements can occur on their own. *Subordination*, by contrast, refers to a pattern of *structural depedence*. The units would not be able to stand on their own, but are structurally dependent on another unit, e.g., a matrix clause. But RRG has a third category of nexus besides coordination and subordination, namely that of *cosubordination*. This refers to units that are not structurally dependent, but which exhibit *operator dependence*. That is, cosubordinate unit share an obligatory grammatical category which is present in only one of the units, e.g., illocutionary force or tense.

For an example of core cosubordination, see figure 5. Here, the deontic modal operator (MOD) has scope over both cores: John is not just obliged to *try*, he is obliged to *try to wash the car*. This core operator
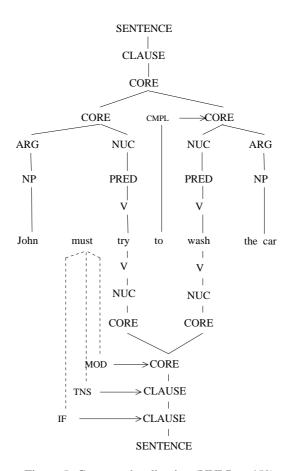
16

Figure 5: Core cosubordination (VVLP p. 459)

is present in only one of the two cores, but has scope over them both. Thus there is *operator dependence* between the two, and hence we call the juncture-nexus type of these two cores "*core cosubordination*." This is represented in the LSC by the fact that the two cores are dominated by a common CORE node. Had it been mere subordination, the two COREs would have been dominated by the CLAUSE node directly.

It is possible for all three nexus types to occur at all three levels of juncture. Thus there are a total of nine possible nexus-juncture types (e.g., nuclear coordination, nuclear cosubordination, nuclear subordination, core coordination, etc.). A language need not have all of them. For example, English exhibits seven of them (VVLP p. 455).

5.2.7 Syntactic templates

RRG provides a number of *syntactic templates* from which to construct LSC-trees. We will not present all of them, but only those that will be useful later. The useful ones are given in figure 6.

Figure 6-a shows the template for clausal subordination. The top-level clause has a CORE as usual, but it also directly dominates another CLAUSE, which again has an internal CORE and perhaps PERIPHERY. For example, the following sentence would be analyzed according to this template.

(7)   Fred says that Mary left the party early.

Figure 6-b shows the template for core-subordination. The idea is that the unit which is subordinate to the core would be one of its arguments, regardless of the kind of unit involved (clause or core). For example, the following two sentences would be analyzed according to this template (VVLP p. 463):

(8)   a.   Fred's winning the race surprised Mary. (a CORE is the argument)

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a. CLAUSE / CORE, CLAUSE — Clausal subordination

c. $UNIT_{L_i}$ / $UNIT_{L_i}$, $UNIT_{L_i}$, $UNIT_{L_i}$ — Cosubordination

b. CORE / ARG — UNIT — Core subordination

d. $UNIT_{L_{i+1}}$ / $UNIT_{L_i}$, $UNIT_{L_i}$, $UNIT_{L_i}$ — Coordination
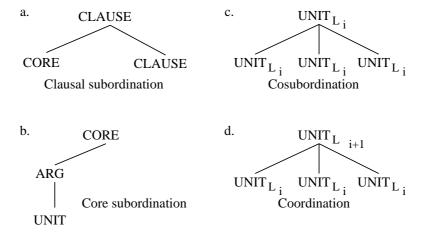
Figure 6: Syntactic templates

    b.   <u>That Fred won the race</u> surprised Mary. (a CLAUSE is the argument)

Figure 6-c shows the general template for cosubordination. The idea is that cosubordination is analyzed with two or more units of a given level (e.g., core) being directly dominated by a unit of the same level. Figure 6-d, in contrast, shows the general template for coordination. Here, two or more units of a given level (e.g., core) are directly dominated by a unit of the level one upwards (e.g., clause) from the coordinate units. These are the ways of signaling cosubordination and coordination in LSC-trees.

5.2.8 Restrictive and headless relative clauses in RRG

RRG has so far only undertaken to account for restrictive relative clauses and headless relative clauses. There is as yet no "official" RRG account of non-restrictive relative clauses.

Restrictive relative clauses are handled as clauses constituting the periphery$_N$ of the NP headed by the head noun. Where there is an overt relative pronoun, it is handled as being in the pre-core slot (VVLP p. 498).

Headless relative clauses are exemplified in the following examples (VVLP p. 503):

(9)   a.   I can't remember *who Jose saw*.
        b.   *What Mary bought* is a mystery to me.
        c.   Robin could not identify *who had talked to Kim at the party* to the police.

These italicized relative clauses do not have heads, but instead themselves constitute referring expressions. They are analyzed as being core arguments in the matrix clause. An example can be seen in the Appendix in the analysis of John 4:18.

5.3 McCawley's contribution

5.3.1 Introduction

It has already been mentioned that as yet, there exists no "official" RRG account of non-restrictive relative clauses. Therefore, I needed to look farther afield in order to obtain some guidance in how to undertake an analysis of non-restrictive relative clauses within an RRG framework. Someone pointed me in the direction of work by McCawley, and I shall present some of his findings in this section.

5.3.2 Discontiguous constituents

McCawley was a linguist within the transformational-generative framework. He had his own peculiar take at transformational-generative grammar, as explained in, e.g., McCawley (1988). Before McCawley

(1988), he had published an article in Linguistic Inquiry, McCawley (1982), which dealt with discontiguous constituents.

In the 1982 article, McCawley argued that the reasons that had been put forth for rejecting discontiguous constituents within a transformational-generative framework were all ill founded. He went on to set forth an axiomatized theory of trees, and constructed this theory in such a way that consituents need not be contiguous. He then explained that there were two kinds of transformations on these trees, where traditional transformational-generative grammar had previously only recognized one kind of transformation. McCawley called one kind "relation-changing," by which he meant transformations on constituent structure. The other kind he called "order-changing," by which he meant transformations on surface order. He explicitly said (p. 93), that he did not assume that a transformation of one of the kinds necessarily entailed a transformation of the other kind.

This paved the way for an argument that all of the different kinds of transformations then known to affect order (e.g., Parenthetical Placement, Right Node Raising, Relative Clause Extraposition, Scrambling, etc.) did not necessarily entail a transformation of constituent structure. In particular, nonrestrictive relative clauses, he argued, could be seen as not necessarily being a constituent in the clause in which they were heard, e.g.:

(10)   a.   John sold Mary, who had offered him $600 an ounce, a pound of gold, but Arthur refused to.
       b.   *John sold Mary, who had offered him $600 an ounce, a pound of gold, but Arthur refused to,
            who had asked him for a quantity discount, ten pounds of silver. (by deletion of *sell Mary)*

These examples from McCawley (1982, p. 96), attempt to show that the non-restrictive relative clause, "who had offered him $600 an ounce" is not a constituent of the clause "John sold Mary ... a pound of gold." The argument for (10-a) is that Arthur must have refused to do one of the following things:

1. Sell Mary a pound of gold.

2. Sell Mary, who had offered him (i.e., Arthur) $600 an ounce, a pound of gold

3. Sell Mary.

Of these three possibilities, the first makes best sense. Option 2. might be a possibility, but the most natural interpretation is the first. Thus the non-restrictive relative clause does not seem to be part of the clause in which it is heard, and therefore, from a transformational-generative point of view, where the semantics are ideally to be inferred from the constituent structure, not a constituent of that clause either.

The argument in (10-b) is that it is not possible to understand a deleted "sell Mary", as in:

(11)   John sold Mary, who had offered him $600 an ounce, a pound of gold, but Arthur refused to *sell Mary*, who had asked him for a quantity discount, ten pounds of silver.

This argument shows that "John sold Mary ... a pound of gold" is really one clause, and should (in McCawley's view) be taken as one S element, in spite of the fact that the non-restrictive relative clause intervenes and makes it discontiguous.

5.3.3   Non-restrictive relative clauses

In his two-volume grammar of English (McCawley (1988)), McCawley took the analysis from the 1982-article and carried it further for non-restrictive relative clauses. He proposed (pp. 420-428) that non-restrictive relative clauses have a constituent structure such as that in Figure 7.

What this figure attempts to show is that the non-restrictive relative clause is not a constituent of the structure which it "modifies." For example, McCawley argued for the analysis of (12) as shown in Figure 8.

(12)   Fred, who you met at the party, is a lawyer.

The non-restrictive relative clause, "who you met at the party," is not a constituent of the clause "Fred ... is a lawyer." Rather, in McCawley's view, it is a sister of that clause. I shall not try to argue further
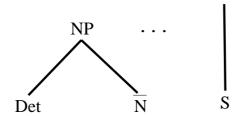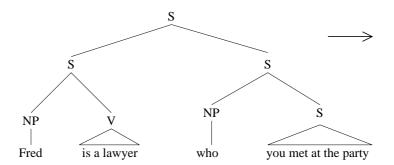
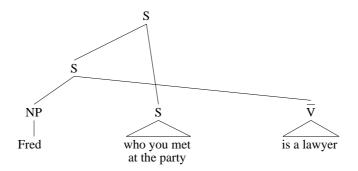Figure 7: Non-restrictive relative clause constituent structure in McCawley (1988)

Figure 8: Non-restrictive clause in McCawley's analysis

for this view, but simply say that I will use McCawley's findings later when I attempt to construct a way of analyzing non-restrictive relative clauses within an RRG framework.

McCawley calls the item that a non-restrictive relative clause "modifies" the *target* of the relative clause (p. 421). In my opinion, this is a better term than "head," for two reasons. First, what a non-restrictive relative clause modifies need not be a noun at all, as the examples in (13) show (from McCawley (1988, p. 421)). Second, as McCawley argues, non-restrictive relative clauses are not part of the constituent which makes up the "referent" of the relative pronoun. For these two reasons, there is nothing that dictates a head-dependent relationship in a non-restrictive relative clause. We shall thus use the same terminology, and call that which a non-restrictive relative clause "modifies" its *target*.

(13)   a.   John is <u>afraid of snakes,</u> which I'm sure Mary is too. (an adjectival phrase is the target.)
          b.   Senator Snerd is <u>in Bermuda,</u> where most of his colleagues are too. (a prepositional phrase is the target.)
          c.   It has been reported <u>that Senator Snerd is in Kuwait,</u> which can't be right. (a clause is the target.)

6   Analysis

6.1   Introduction

6.2   RRG Analyses with TCC

6.2.1   Principles in RRG analyses

In the appendix, I have included print-outs of some of the RRG analyses I have made. In making these analyses, I have adhered to the following general principles:

1. Normally, RRG displays of the LSC would not have the PERIPHERY be a constituent beneath the CORE. Instead, the PERIPERHY would have an arrow pointing to the CORE, thereby showing a link but not indicating constituency. TCC is limited in that this type of link is not available. Instead, I have chosen to place the PERIPHERY as a constituent beneath the CORE with which it belongs. This is better than placing it at the same level as the CORE to which it belongs, i.e., as a constituent beneath the CLAUSE. This is better because you sometimes get more than one CORE in a single CLAUSE, and it is important to show to which CORE a certain PERIPHERY belongs.

2. TCC is not capable of displaying the operator-projection. This means that some analyses will look a bit odd from the point of view of a "real" RRG LSC-analysis. I have chosen to incorporate the operators into the layer which they modify, which seems to me to be a good choice; they had to go somewhere, so incorporating them into the layer which they modify is not a bad choice. This means, for example, that a negative particle modifying the CORE layer would be part of the CORE which it modifies.

6.2.2   TCC's display

Some general words about TCC's display are in order.

1. TCC displays the syntax tree in a top-to-bottom fashion, much as the folder tree in certain file managers on computers. Thus the trees supercially do not resemble ordinary trees in the linguistics literature, although conceptually they are more or less the same.

2. TCC is able to have discontiguous constituents. The part that intervenes is then pulled out and placed in front of (i.e., above) the discontiguous constituent in the tree. If the discontiguous constituent is shown as one node in the tree, the part that intervenes is shown within the node in grey letters.

6.3 Examples of relative clauses

6.3.1 Introduction

Before we begin our analysis, it is well to give examples of each of the kinds of relative clause under investigation. The first example will be of a restrictive relative clause; the second of an appositional relative clause; and the final of a continuative relative clause.

6.3.2 Restrictive relative clause

This example is from Matthew 12:11:

(14) Τίς ἔσται ἐξ ὑμῶν ἄνθρωπος ὃς ἕξει πρόβατον ἕν ...
      Tis estai ex hymon anthropos hos hexei probaton hen ...
      What will.there.be among 2pl man who will.have sheep one ...
      'What man among you who has one sheep...'
      (and if the sheep falls into a pit on the Sabbath, would not pull it out.)

Here, the relative clause 'ὃς ἕξει πρόβατον ἕν', 'hos hexei probaton hen', 'who has one sheep', serves to delimit the potential referents of ἄνθρωπος, 'anthropos', 'man.' It is not any kind of man; it is those men who have one sheep.

6.3.3 Appositional relative clause

This example is from Acts 9:36:

(15) Ἐν Ἰόππῃ δέ τις ἦν μαθήτρια ὀνόματι Ταβιθά ἣ διερμηνευομένη
      En Ioppe de tis en mathetria onomati Tabitha he diermeneuomene
      In Joppe now a.certain was disciple.FEM by.name Tabitha, which being.translated
      λέγεται Δορκάς .
      legetai Dorkas.
      means Dorcas.
      'Now, in Joppe there was a certain disciple whose name was Tabitha, which, being translated, means Dorcas (i.e., gazelle).'

This example is certainly a non-strictive relative clause, since it does not serve to delimit the potential referents of the head noun, Ταβιθά, 'Tabitha', but merely to give an added piece of information. But is it appositional rather than continuative? It is not continuative, because the relative clause is not foregrounded vis-à-vis the preceding material. So it must be appositional.

6.3.4 Continuative relative clause

This example is from Acts 11:29-30:

(16) τῶν δὲ μαθητῶν, καθὼς εὐπορεῖτό τις ὥρισαν ἕκαστος αὐτῶν εἰς διακονίαν
      ton de matheton kathos euporeito tis horisan hekastos auton eis diakonian
      Of.the now disciples, as having.means any determined each of.them for support
      πέμψαι τοῖς κατοικοῦσιν ἐν τῇ Ἰουδαίᾳ ἀδελφοῖς· ὃ καὶ ἐποίησαν
      pempsai tois katoikusin en te Iudaia adelfois; ho kai epoiesan
      to.send to.the dwelling in - Judea brothers; Which also they.did
      ἀποστείλαντες πρὸς τοὺς πρεσβυτέρους διὰ χειρὸς Βαρναβᾶ καὶ Σαύλου.
      aposteilantes pros tus presbyterus dia cheiros Barnaba kai Saulu.
      having.sent to the elders by (the).hand of.Barnabas and Saul.
      'The disciples determined that according to their ability, each would send relief to the believers living in Judea; this they did, sending it to the elders by Barnabas and Saul.' (NRSV)

This is clearly a case of a continuative relative clause. The preceding material becomes the background for the next event, namely the sending of the gift by the hand of Barnabas and Saul. So this is a clear example of a continuative relative clause.

6.4 The relative pronoun in the pre-core slot?

6.4.1 Introduction

The relative pronoun is almost always either clause-initial, or else the object of a preposition which is clause-initial. Either way, the phrase in which the relative pronoun is a constituent is almost always clause-initial. An example where the relative pronoun is the object of a preposition is Ephesians 1:7:

(17) ἐν ᾧ   ἔχομεν τὴν ἀπολύτρωσιν ...
      In whom have.1pl the redemption   ...
      En ho   echomen ten apolytrosin   ...
      'In whom we have the redemption ...

In this report, we shall call the largest phrase of which the relative pronoun is a constituent the 'relative phrase.'

The fact that the relative phrase is almost always clause-initial would seem to suggest that there is some ordering constraint on the occurrence of the relative phrase. In Role and Reference Grammar, the two most natural ways of describing ordering constraints are the Pre/Post-core slots and the Left/Right-Detached Positions. There are other ways, such as stipulating the rule that peripheral material comes after core material, and such as stipulating the rule that certain elements are always core-initial.

However, as indicated, the PrCS and the LDP are the two most natural ways of describing ordering constraints to the left of the core within Role and Reference Grammar. So we shall choose one of these.

The PrCS is outside the core, but inside the clause. The LDP is outside the clause, but inside the sentence. The only viable choice for analyzing the relative phrase, if one is to choose between the PrCS and the LDP, is to choose the PrCS. This is because it rarely (if ever) makes sense to read the relative phrase as being set off from the rest of the sentence by a pause or intonation break. The relative phrase always has some function in the clause of which it is a part, which it would not have (at least not directly) if it were in the LDP. Thus, if we are to choose one of these two theoretical constructs for analyzing the relative phrase, we must choose the PrCS.

There are, however, a few places in which there is some doubt as to whether the relative pronoun is really in the pre-core slot. They are:

- 1 Corinthians 15:36
- 2 Corinthians 2:10
- John 4:18
- John 8:26
- 1 John 2:24
- Revelation 3:19

These are the only examples in the Greek New Testament where:

1. There is an adverb before the relative phrase which seems to modify the verb in the relative clause, or

2. There is a pronoun before the relative phrase which seems to be an argument in the relative clause.

These examples have been turned up by scrutiny of the search hits from a number of searches in the computer-program "BART[11]." The searches looked for adverbs and pronouns before relative pronouns and relative pronouns as objects of prepositions.

There are two additional instances of fronted material, namely:

- John 10:29

- 1 John 2:27

The example from 1 John 2:27, however, poses no problem for the PrCS analysis, so we shall not treat it here.

We shall look at each of these examples below.

6.4.2 1 Corinthians 15:36

The text reads:

(18) ἄφρων σὺ ὃ   σπείρεις, οὐ ζῳοποιεῖται ἐὰν μὴ ἀποθάνῃ.
     Afron sy ho speireis u zoopoieitai ean me apothane.
     Fool   2sg what sow.2sg, not is.made.alive if   not die.3sg.
     'Fool! What you sow does not come to life unless it (first) dies.'
     Or: 'You fool, what you sow does not come to life unless it (first) dies.'
     Or: 'You are a fool! What you sow does not come to life unless it (first) dies.'
     Or: 'Foolish man, you, what you sow does not come to life unless it (first) dies.'

Here we have a case where there is a pronoun, σὺ, 'sy', 'you (sg.)', just before the relative pronoun. There are three ways this could be analyzed:

1. The pronoun σὺ could be the subject of the second-person singular verb σπείρεις, 'speireis', 'you (sg). sow.'

2. The pronoun σὺ could be part of a vocative phrase, ἄφρων σὺ, 'afron sy', 'you fool.' In this case, the vocative phrase would be in the LDP.

3. We could understand an elided copula between the words ἄφρων and σὺ, so that we have an initial nominal clause meaning 'You (are) a fool!'

4. We could understand ἄφρων as a vocative, and σὺ as a separate LDP.

In the first interpretation, the relative pronoun cannot be in the PrCS. The reason is that σὺ, in this interpretation, is an argument of the verb in the relative clause. Thus it would need to be part of the core, but it can't if the relative pronoun is in the PrCS. This is because, firstly, you can't have more than one phrase in the PrCS, and secondly, you can't have phrases belonging to the core to the *left* of the *pre*-core slot. Thus this interpretation would not allow the relative pronoun to be in the PrCS.

In the second and fourth interpretation, the relative pronoun can be in the PrCS, since σὺ is in the LDP, and thus outside the clause.

In the third interpretation, the relative pronoun can also be interpreted as being in the PrCS, since we have two clauses, not one, and σὺ belongs to the first clause.

In defense of the second, third, and fourth interpretation, Greek is what Chomsky would call a (strongly) *pro-drop language*, meaning it does not need an overt subject if the verb is finite; it is always present in the person-number suffix on the finite verb (Mounce (1993, p. 117)). Thus the σὺ is strictly not necessary as the subject of σπείρεις, and would probably have to be construed as emphatic, especially since it is fronted before the relative phrase. It is a matter of interpretation whether the σὺ could legitimately be construed as being emphatic.

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[11]"Biblical Analysis and Research Tool." Available from iExalt Publishing (www.iexalt.com).

In defense of the second interpretation, Greek grammarians would call this a *nominative-for-vocative* construction if it were to be construed as vocative. Both ἄφρων and σὺ are morphologically nominative, but Greek uses the nominative case when there is no separate vocative form.

In defense of the third interpretation, Greek routinely leaves out the copula, forming nominal clauses. So this reading is a possibility.

In defense of the first possibility, the editors of the standard editions of the Greek New Testament appear to understand the σὺ as the subject of σπείρεις, since they punctuate the sentence as "ἄφρων, σὺ ὃ σπείρεις,. . . ." The original manuscripts did not have punctuation, since this was not invented until much later (Mounce (1993, p. 13)). The editors may be wrong, of course, but they are all eminent scholars with much expertise in Greek[12]. And perhaps the σὺ need not be analyzed as being emphatic, but may rather make the linkage explicit between ἄφρων and σπείρεις.

Thus we see that there are at least four possible readings of this example, three of which (2, 3, and 4) see the relative pronoun as being in the pre-core slot, and one which does not allow the relative pronoun to be in the pre-core slot. In this case, there are no really strong arguments for or against any one of the four possibilities, so it is at least a possibility that the relative phrase need not always be in the pre-core slot.

6.4.3   John 4:18

The text reads:

(19) πέντε γὰρ ἄνδρας ἔσχες   καὶ νῦν ὃν   ἔχεις οὐκ ἔστιν σου   ἀνήρ
      pente gar andras esches   kai nyn hon   echeis uk estin su   aner
      Five   for husbands have.had.2sg and now the.one have.2sg not is   2pl.GEN husband.
      'For you have had five husbands, and now, the one you have is not your husband.'
      Or: 'For you have had five husbands, and the one you have now is not your husband.'

First a word of general introduction to fronted elements in Greek. Greek routinely fronts whatever needs to be emphasized. Levinsohn (1981), for example, says:

> "It is generally accepted that emphasis influences the order of elements in Greek, and that one way to emphasize a phrase is to place it early in its clause in violation of the natural order of constituents." (Section 2.)

In this passage, the adverb νῦν, 'nyn', 'now', is fronted for emphasis. From the point of view of whether the relative phrase is in the PrCS or not, it does not really matter whether νῦν modifies only ἔχεις, 'echeis', 'you have (now)', or whether it modifies both ἔχεις and ἔστιν, 'estin', 'is'. The reason is that νῦν would, in any case, be analyzed as being in the periphery, and we have not demonstrated that there can't be peripheral material before the PrCS.

Thus this example does tell us anything about whether the relative phrase is always in the PrCS.

6.4.4   John 8:26

The text reads:

(20) κἀγὼ,   ἃ   ἤκουσα παρ' αὐτοῦ ταῦτα   λαλῶ   εἰς τὸν κόσμον.
      Kago,   ha   ekusa   par autu tauta   lalo   eis ton kosmon.
      And.1sg.NOM, what heard.1sg from him,   these.things speak.1sg in   the world.
      'And I, what I heard from him, these things I speak in the world.'

The initial word, κἀγὼ, 'kago', 'and I', is an instance of what Greek grammarians call *crasis*. Crasis is the contraction of two words for phonological reasons so that they become a single phonological word, even though there are two lexemes underneath. In English, we have an analogous phenomenon with words like "can't", "won't", "shan't", etc., where two distinct words are contracted into a single phonological word. Thus κἀγὼ stands for καὶ, 'kai', which can mean 'and' or 'also' or 'indeed' [13], and ἐγώ, 'ego',

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[12]I realize that this is a weak argument.

[13]More generally, καί has an additive function. The additive function can be adjectival, adverbial, or conjunctive.

which is the first person nominative singular personal pronoun.

The problem becomes, is the ἐγώ underneath κἀγὼ part of the relative clause, being the subject of ἤκουσα, 'ekusa', 'I heard', or is it something else? I would argue that the relative clause is parenthetical, and that ἐγώ could either be in the LDP, or be the subject of λαλῶ 'lalo'.

McCawley (1982) argued that parentheticals, such as 'accoding to John' in the sentence 'His father, according to John, is the richest man in Scarsdale', are not part of the utterance in which they are heard, but are rather direct constituents of the higher unit, in this case the sentence. The reason I see this relative clause as a parenthetical is that there is a demonstrative pronoun, ταῦτα, 'tauta', 'these things', in the following clause which refers to the (implicit) referent of the relative pronoun ἃ 'ha'. The referent is thus stated twice, once in the relative pronoun in the relative clause and once in the demonstrative pronoun in the matrix clause. Normally, the relative clause would have been an argument in the main clause, but not here. Therefore, the most natural reading is to read the relative clause as a parenthetical.

The ἐγώ could be in the LDP, since it appears to be set off from the rest of the sentence by an intonation break or pause. However, if the relative clause is a parenthetical, the ἐγώ personal pronoun need not necessarily be in the LDP. It could also be a plain argument of the predicate λαλῶ, given that McCawley is right, and the parenthetical is not part of the utterance in which it is heard. In order to find out, one would have to make a study of demonstratives to see whether they always occur in the pre-core slot. If they did, it would be a strong indication that ἐγώ is in the LDP. If one couldn't prove that demonstratives were always in the PrCS, then the case for ἐγώ being in the LDP would be weaker, although it would still be a legitimate analysis. One argument in favor of it being in the LDP would be that, as already indicated, it would probably be set off from the relative clause by an intonation break or pause, but then, this might also be because the relative clause was a parenthetical. Thus there is no clear-cut answer as to whether ἐγώ is in the LDP.

What matters, however, is that ἐγώ is not a part of the relative clause, and thus this example also does not say anything about whether the relative phrase is in the PrCS or not.

6.4.5   2 Corinthians 2:10

The text reads:

(21) ᾧ   δέ τι   χαρίζεσθε, κἀγώ· καὶ   γὰρ ἐγὼ ὃ   κεχάρισμαι,   εἴ
      ho   de ti   charizesthe kago; kai   gar ego ho kecharismai,   ei
      to.whom now anything forgive.2pl, also.I; indeed for I   what have.forgiven.1sg, if

      τι   κεχάρισμαι,   δι'   ὑμᾶς ἐν προσώπῳ   Χριστοῦ, . . .
      ti   kecharismai,   di   hymas en prosopo   Chrtistu, . . .
      anything have.forgiven.1sg, because.of 2pl   in (the).presence/face of.Christ, . . .
      'Whom you forgive anything, I also forgive. For indeed I, what I have forgiven, if I have forgiven anything, I have forgiven for your sake in the presence of Christ.'

The reader is reminded that the initial word, κἀγὼ, 'kago', 'also I', is an instance of crasis, and that it is a phonological contraction of the words καὶ, 'kai', 'also', and ἐγώ, 'ego', 'I.'

The words δέ 'de' and γάρ 'gar' are two members of a well-known set of particles which are always *postpositive*. That is, they always take the second, third, fourth or fifth position, but never the first position[14].

The problem is whether the ἐγώ after καὶ γὰρ is a fronted subject of the κεχάρισμαι 'kecharismai' of the relative clause, or whether it is an LDP. If it is a fronted subject, then the relative pronoun cannot be in the PrCS. If it is a case of LDP, then the relative pronoun is allowed to be in the PrCS. I will adduce the following arguments for the LDP reading:

1. The clause εἴ τι κεχάρισμαι 'ei ti kecharismai' is clearly parenthetical. That means, if McCawley is right, that we are allowed in some cases to construe the material before the parenthetical and after it to constitute a unit. The verb κεχάρισμαι, 'have.forgiven.1sg', is repeated twice, so it is activated in

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[14]The postpositive particles in Koine Greek include ἄν (and its allomorph, ἐάν), γάρ, γέ, δέ, δή, μέν, μέντοι, οὖν, and τέ.

the hearer's mind. Therefore, we may understand it to be the elided verb of the clause "For indeed I, what I have forgiven, I have forgiven (it) for your sake in the presence of Christ." In this case, the relative clause may legitimately be analyzed as functioning as an argument of the elided verb, and the ἐγώ as the logical subject of the elided verb. Then ἐγώ would be in the LDP.

2. The ἐγώ picks up on the ἐγώ beneath the κἀγὼ. Indeed, the last two lexemes of the preceding clause are the same as the first two words of the following sentence (κἀγὼ in the preceding clause, and καὶ ἐγώ in the following sentence), given that the γὰρ only intervenes because it is postpositive. In fact, we have a chiasm in which we have relative clause καὶ ἐγώ καὶ ἐγώ relative clause. The κἀγὼ is clearly emphasized; that it is repeated would seem to suggest that the focus on ἐγώ is kept active. Since LDP is sometimes used for emphasis, analyzing ἐγώ as LDP here would be a legitimate analysis.

However, it is also possible that the ἐγώ could be the subject of the verb in the relative clause. Thus this example is, along with 1 Corinthians 15:36, an ambiguous case where it is difficult to say whether the "rule" is violated that the relative phrase is in the PrCS.

6.4.6   John 10:29

The text reads:

(22) ὁ   πατήρ μου   ὁ   δέδωκέν   μοι   πάντων μεῖζόν   ἐστιν
      ho   pater mu   ho   dedoken   moi   panton meizon   estin
      The father 1sg.GEN, what.sg.NEUT. has.given.3sg 1sg.DAT than.all greater.sg.NEUT. is
      …
      …
      …
      'My father, what he has given me is greater than all…'

It is disputed what the original words were in this particular piece of text. There is manuscriptual evidence for a range of different readings, but this reading is the one chosen by the editors of the standard edition of the Greek New Testament, so we shall analyze this rather than the textual variants, and see where it takes us.

Again, there is no doubt that ὁ πατήρ μου 'ho pater mu' is fronted for emphasis. The phrase is the logical subject of the relative clause, but we shall analyze it as LDP, since this is a legitimate analysis, which makes good sense. Especially in the context, since the Father is also a prominent figure in the clause that follows, "and no-one is able to snatch [them/it/anything] out of my father's hand."

Since the fronted phrase can legitimately be explained in terms of the LDP, this example also leaves open the possibility that the relative phrase is always in the PrCS.

6.4.7   1 John 2:24

The text reads:

(23) ὑμεῖς   ὃ   ἠκούσατε ἀπ᾽   ἀρχῆς,   ἐν ὑμῖν μενέτω .
      hymeis   ho   ekusate ap   arches,   en hymin meneto.
      2pl.NOM, what heard.2pl   from beginning, in 2pl   let.it.remain.IMP.
      'As for you, what you heard from the beginning, let it remain in you.'

There are three ways of analyzing this sentence within an RRG framework. In my analysis in the appendix, I have favored the third:

1. Either, the relative clause is an embedded argument of the greater clause ὑμεῖς … ἐν ὑμῖν μενέτω, "hymeis … en hymin meneto", with the ὑμεῖς being the subject of the imperative μενέτω. This is not really an option, since imperatives normally don't have an overt subject.

2. The pronoun ὑμεῖς is the subject of the second-person-plural verb ἠκούσατε 'ekusate'.

3. Or, ὑμεῖς is in the Left-Detached Position, meaning 'As for you.' The relative clause is still an embedded argument of the clause headed by the predicate μενέτω.

There are two reasons to choose the third option over the second:

1. If we go with the second option, then the pronoun is there for emphasis, and it does not make sense to read it as 'what *you* heard from the beginning. . . '.

2. If we go with the second option, it would be a very unusual case in which the relative pronoun was not clause-initial.

Since there is a straightforward analysis (no. 3) which avoids both of these difficulties, it seems best to go with this analysis.

Thus this example also leaves open the possibility that the relative phrase is always in the PrCS.

6.4.8   Revelation 3:19

The text reads:

(24) ἐγὼ   ὅσους   ἐὰν φιλῶ   ἐλέγχω   καὶ παιδεύω·
      ego   hosus   ean filo   elengcho   kai paideuo
      1.sg.NOM as.many.as - am.fond.of.1sg reprove.1sg and discipline.1sg;
      'I, those of whom I am fond, I reprove (them) and discipline (them)'

The problem is, is ἐγὼ the subject of φιλῶ 'filo', or is it the subject of either or both of the verbs ἐλέγχω 'elengcho' and παιδεύω 'paideuo'? If it is the subject of φιλῶ, then the relative pronoun ὅσους [15] 'hosus' cannot be in the PrCS. So is there an alternative analysis?

The relative clause, ὅσους ἐὰν φιλῶ, 'hosus ean filo', 'those of whom I am fond', is best analyzed as an embedded argument in the whole sentence. The two nuclei ἐλέγχω and παιδεύω function as a single complex predicate. ἐγὼ then becomes the subject of this nuclear juncture with the relative clause functioning as the object of the complex predicate.

Thus this example, too, can be analyzed in such a way that we retain our analysis that the relative phrase is in the PrCS.

6.4.9   Conclusion

We have looked at seven instances of relative clauses in the Greek New Testament in which there could be doubt as to whether the phrase of which the relative pronoun was a constituent was in the pre-core slot. In all but two of the instances (viz. 1 Corinthians 15:36 and 2 Corinthians 2:10), we concluded that there were legitimate analyses which allowed the relative phrase to be in the pre-core slot. In the two places of exception, there was evidence that it was possible to analyze it as PrCS. Thus it seems safe to conclude that the relative phrase can best be analyzed as being in the PrCS.

6.5   Relative clauses at an unbounded distance from their heads

We said (Hypothesis 3) that Koine Greek exhibits relative clauses that occur at a theoretically unbounded distance from their heads. As evidence for this claim, we will cite Acts 7:44-45 (available in the appendix). Here, verse 44 starts with a head NP, Ἡ σκηνὴ τοῦ ματυρίου, 'He skene tu martyriu', 'The tent of witness.' Then follows a number of clauses that make up the rest of the verse. Then in verse 45, no less than 23 words apart from the head noun, σκηνὴ, "skene", "tent," comes a relative clause which refers back to this head

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[15]This is an exception to the self-imposed restriction that we only treat the relative pronouns ὅς and ὅστις in this report. The relative pronoun here is ὅσος, and so outside the general scope of this report, but since this was one of the very few examples in which there was any doubt at all as to the PrCS analysis, I thought it best to include it.

noun. The relative clause is continuative, so it is not expected to form a constituent with the head noun, as restrictive relative clause often do. But nevertheless, 23 words is a long stretch of material. So we conclude that Koine Greek exhibits relative clauses that occur at a theoretically unbounded distance from their heads, not forming any constituent with their head (or "target"), as Andrews (1985, p. 6) discovered for other languages.

6.6 Prenominal relative clauses

6.6.1 Argumentation

Levinsohn (2000) stated (p. 190) that "if the referent is overtly stated, then the relative clause follows it." We said that we would have occasion to question the veracity of this statement, which endeavor we attempt in this section.

Consider the following example from John 5:38:

(25) καὶ τὸν λόγον αὐτοῦ οὐκ ἔχετε ἐν ὑμῖν μένοντα ὅτι ὃν
kai ton logon autu uk echete en hymin menonta hoti hon
and the word of.him not have.2pl in 2pl abiding because whom.MASC.sg.ACC
ἀπέστειλεν ἐκεῖνος, τούτῳ ὑμεῖς οὐ πιστεύετε.
apesteilen ekeinos tuto hymeis u pisteuete.
sent that.one.MASC.sg.NOM, in.this.MASC.sg.DAT 2pl.NOM not believe.2pl.
"And his$_j$ word you do not have abiding within you because him$_i$ whom$_i$ he$_j$ sent, in him$_i$ you do not believe."

Here the relative pronoun ὃν, "hon", "whom" refers to the referent of the demonstrative pronoun "τούτῳ", "tuto", "this one". Since this demonstrative occurs after the relative pronoun, the relative pronoun is prenominal.

This type of relative clause-usage is not uncommon in the Greek New Testament. Friberg and Friberg (forthcoming) tags 129 relative pronouns as having an overt referent which comes after the relative pronoun. Some of these will be prenominal, as in the example above, and some will be noun-incorporating, as in the next section. It is true, however, that most, if not all, of the prenominal examples have either demonstrative pronouns or personal pronouns as their heads.

One could argue that this example does not exhibit an overt referent, since the referent is not mentioned explicitly, only by a demonstrative pronoun. To this I counter that it is true that demonstratives can be less referential than overt nouns, but that both demonstratives and personal pronouns, exhibit referential qualities. They both have a referent, although their referent often has to be inferred rather than being explicitly referred to. In both cases, however, there is a referent, and it is overt because there is an overt pronoun or demonstrative. Therefore, if Levinsohn had intended to exclude these instances of overt referents, he should have been more explicit.

6.6.2 Conclusion

Thus Koine Greek exhibits relative clauses which are prenominal, and which have overt heads. And we have already noted that post-nominal relative clauses are the most common kind. This verifies hypothesis 4.

6.7 Noun-incorporating relative clauses

6.7.1 Argumentation

In addition to post-nominal and pre-nominal relative clauses, Greek also exhibits noun-incorporating relative clauses, in which the head noun is incorporated into the relative clause. Consider the following example from Luke 17:27:

(26) ἤσθιον,   ἔπινον,   ἐγάμουν,   ἐγαμίζοντο,   ἄχρι ἧς   ἡμέρας
      esthion,   epinon,   egamun,   egamizonto,   achri hes hemeras
      Eat.IMFP.3P drink.IMPF.3P marry.IMPF.3P given.in.marriage.IMPF.3P until which day
      εἰσῆλθεν Νῶε εἰς τὴν κιβωτόν καὶ ἧλθεν ὁ κατακλυσμὸς καὶ ἀπώλεσεν πάντας.
      eiselthen Noe eis ten kiboton kai elthen ho kataklysmos kai apolesen pantas.
      went.into Noa into the ark   and came the flood   and destroyed everything.
      "They were eating, drinking, marrying, and being given in marriage, until the day when Noa went
      into the ark and the flood came and destroyed everything."

Here, the relative phrase consists of three words, not the usual one or two. The noun phrase ἧς ἡμέρας,
"hes hemeras", "which day" consists of a relative pronoun in the genitive plus the head noun ἡμέρας,
"hemeras", "day." The relative pronoun ἧς, "hes", "which" is in the genitive because it is (part of) the
object of the preposition ἄχρι, "achri", "until", which takes (or selects) the genitive. Thus we here have a
clear case of head-noun incorporation.

6.7.2 Conclusion

Thus Koine Greek does exhibit noun-incorporating relative clauses. This verifies the first part of hypothesis
5.

6.8   Headless relative clauses

6.8.1 Argumentation

In addition to pre-nominal, post-nominal, and noun-incorporating relative clauses, Greek also exhibits
headless relative clauses. Friberg and Friberg (forthcoming) tags 385 relative pronouns as having no an-
tecedent, two of which we will show in the following example from Matthew 13:17.

(27) ἀμὴν γὰρ λέγω ὑμῖν   ὅτι πολλοὶ προφῆται καὶ δίκαιοι   ἐπεθύμησαν ἰδεῖν
      amen gar lego   hymin   hoti polloi profetai kai dikaioi   epethymesan idein
      Truly for say.1sg 2pl.DAT that many   profets   and righteous.ones longed   see.INF
      ἃ   βλέπετε καὶ οὐκ εἶδαν, καὶ ἀκοῦσαι ἃ   ἀκούετε καὶ οὐκ ἤκουσαν.
      ha   blepete kai uk eidan, kai akusai   ha   akuete kai uk ekusan.
      what see.2pl and not did.see, and hear   what hear.2pl and not did.hear.
      "For truly I tell you that many profets and righteous people longed to see what you see and did not
      see it, and hear what you hear, but did not hear it."

Here, the neuter relative pronoun ἃ, "ha", "what" does not have an antecedent, either anaphorically or
cataphorically, not even in the wider context. Thus this is a clear example of two headless relative clauses.
    John 4:18 and 1 Corinthians 15:36, shown in the Appendix, are also examples of headless relative
clauses.

6.8.2 Conclusion

Thus we have the following inventory of types of relative clause in Koine Greek:

1. Pre-nominal,

2. Post-nominal,

3. Noun-incorporating,

4. Headless.

This verifies both hypothesis 4 and hypothesis 5.

6.9 Aktionsart

We shall not attempt to verify the claims of hypothesis 6 in this report. Instead, we may say something about it at the exam.

6.10 Continuative relative clauses as coordination

6.10.1 Introduction

There is as yet no "official" account of non-restrictive relative clauses within the Role and Reference Grammar framework. This means I have had to come up with an account myself. I do not claim to have found the ultimate answer, or even a complete answer. I simply offer an analysis of a selection of non-restrictive relative clauses in Koine Greek, first from a theoretical perspective, then from a more practical perspective.

6.10.2 An RRG approach to non-restrictive relative clauses

McCawley has shown that a non-restrictive relative clause is not a constituent either of the target or of the concomitant clause. If we are to translate this non-constituency into Role and Reference Grammar-terms, it means at least two things:

1. First, it means that the non-restrictive relative clause is not part of the PERIPHERY$_N$ of the target NP, nor of the PERIPHERY of a CORE, be it a target CORE or simply the CORE of the concomitant clause. Being part of the periphery is one way constituency, as embodied in a transformational-generative framework, could be embodied in a Role and Reference Grammar framework. But since the non-restrictive relative clause is not a constituent of its target or concomitant clause, this is not an option.

2. Second, it means that the non-restrictive relative clause does not embody subordination-patterns at any level of juncture with the target or concomitant clause. As we saw in section 5.2.7, subordination patterns, whether they be clausal subordination or core subordination, always involve constituency of some kind. But since the non-restrictive relative clause is not a constituent of its target or concomitant clause, this is not an option.

Thus, if we are to choose among the nexus-types available, we must choose either cosubordination or coordination.

Which nexus-type should we choose? Cosubordination, it will be recalled, entails operator dependence, whereas coordination does not. We shall see in later sections that there is no instance among the analyzed clauses that exhibit operator dependence. So the best choice from this perspective would be coordination.

Should we choose a level of juncture as well as a nexus-type? The answer is, it depends on what we are trying to describe. Internally to the relative clause, we shall find that we often see core coordination. But clause-externally, it is always either clausal coordination or sentential coordination (i.e., coordination between sentences).

6.10.3 Matthew 1:16

In the following sections, reference will be made liberally to the Appendix. Reference will be made to a certain Bible-passage, with indication of, e.g., "page 2/3." This will mean page 2 out of 3 in the TCC-printout of that passage. To find the passage, first look it up in the table of contents for the appendix; then find the given page. Page number references were made this way because it was impossible while writing this report to determine the exact page number.

Matthew 1:16 is part of Jesus' genealogy. What we have before us is the last part of a long list of fathers, mothers, and descendants. It ends with a reference to Joseph, the husband of Mary, and then the words "out of whom was born Jesus, the one called Christ."

The relative clause is clearly continuative; it is not restrictive, because we are dealing with a named person; Mary. Everything preceding this clause has been leading up to this statement, so it is safe to say

that everything before it is backgrounded vis-à-vis this relative clause. We have the relative phrase, then a nucleus ("was born"), and then the object of the verb. The object is internally complex with a head noun ("Jesus"), followed by a nominalized participial clause.[16]

We see here an example of clausal coordination. There is no shared operator that could make it clausal cosubordination. It is clausal because we have two fully inflected predicates, two main verbs with their arguments. Thus this is an example of clausal coordination.

6.10.4   Luke 19:30

This is a sentence made up of a series of four clauses, two of which are relative. In the first relative clause on page 1/2 of this printout (starting with ἐν ᾗ, "en he", "in which"), we have a very common clause-linkage pattern: A participle making up one core, followed by a finite (i.e., main) verb making up another core.

Greek uses participles liberally. One way to analyze them is to say that they each make up a core, which combines in some nexus-relation with the core of the main verb, usually core coordination, sometimes core cosubordination, sometimes core subordination. In fact, the argument of the main verb of this clause, εὑρήσετε, "heuresete", "you will find" is an embedded participial clause, which RRG would analyze as core subordination.

This relative clause is continuative because it carries the story forward; it is certainly not restrictive, and it is not appositional either, because we are not just given additional information. The village is introduced as a setting, which becomes the background for the promise of finding the colt.

The next relative clause, still on p. 1/2, is also a full clause with a finite (i.e., main) verb. There is no operator dependence, so it is not clausal coordination. Thus the clause-linkage between the preceding relative clause, this relative clause, and the next clause, is that of clausal coordination.

6.10.5   Luke 6:48

There is only one relative clause in this example, but it is internally complex with no less than three cores in a row. We have chosen to analyze these as core coordination, in spite of the fact that all three predicates are finite verbs. This would normally make them clausal coordination. We have chosen to analyze them as core coordination because they all share an argument, namely the relative pronoun in the pre-core slot.

The relative clause itself is not structurally dependent on anything, but is added to the preceding clause on an equal basis. Nor is there any operator dependence.

Thus, clause-internally, this relative clause exhibits core coordination, while clause-externally, it is clausal coordination.

6.10.6   Acts 11:29-30

In this example, we find a complex sentence which starts with an LDP followed by a fully inflected clause with a finite (i.e., main) verb. Then follows a clause, which completes the sentence, and which consists of a finite verb plus two arguments. The second argument is an infinitive core, thus making this an instance of core subordination. One of the arguments of this infinitive is again an NP consisting of an embedded participial clause modifying a noun. The clause is nominalized by the article both to show the case-number-gender agreement with the head noun, ἀδελφοῖς, "adelfois", "brothers," and to enable it to modify the noun adjectivally even though it is a clause.

And then the sentence ends. The editors of the Greek New Testament on which this text is based have placed a semicolon at the end of the sentence to indicate the boundary. What follows is a sentence beginning with a relative pronoun. The target of this relative pronoun is the infinitival core, "to send support to the brothers living in Judea." The relative clause is clearly non-restrictive, and it is also continuative, because it does not merely give an added piece of information; it carries the story forward, and the "doing so" and the "sending" become the foreground events.

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[16]According to Wallace (1996), the article nominalizes whatever it stands in front of. So also participial and infinitival clauses.

Thus we here have an interesting example of a sentence actually starting with a relative pronoun. Clause-internally to the relative clause, we have core coordination, with a finite core followed by a participial core. But clause-externally, we have sentential coordination.

6.10.7   Acts 17:10

In this example, we find again a relative clause with the pattern of a participial core followed by a finite core. The relative clause is continuative because it is not restrictive, nor does it merely add information. It serves to carry the story forward.

Clause-internally, we have core coordination, while clause-externally, we have clausal coordination.

6.10.8   Acts 23:13-14

On page 1/2 of this example, we again find a relative clause with the familiar pattern of a participial core followed by a finite core. In the preceding clause, fourty plotters are introduced, which then form the background for what happens next, namely that they approach the leaders and say whatever follows after the example in the context. Thus it is clearly continuative.

Again, internally in the relative clause, we see core coordination, but clause-externally, we see clausal coordination.

6.10.9   Acts 28:23

In this example, the first clause again exhibits the familiar pattern of participial core – finite core making up a full clause. Then follows (p. 1/2) a relative clause with an interesting linkage pattern. First there is a finite verb, then follows two participial cores, each with arguments and the second one even with a periphery. The sentence ends with a Right Detached Position (RDP) giving the duration of the event.

The relative clause is continuative because the preceding clause provides the background for the relative clause, which carries the story forward. Internally in the relative clause, we have core coordination, while clause-externally, we have clausal coordination.

6.10.10   Ephesians 1:3-14

This is a very complex piece of text, spanning eight printed pages. It consists of several sentences, all of which are internally quite complex. We shall not concern ourselves with every detail of their analysis, but note some highlights.

All of the relative clauses in this example are continuative, each becoming the ground for what precedes it. On page 4/8, the first relative clause, near the top, consists of only one fully inflected core with a finite nucleus. Thus clause-internally, there is no linkage. But clause-externally, it is clausal coordination because there is no dependency, either structural dependence or operator-dependence.

On the same page, we see another instance of the by now familiar linkage-pattern of finite core – participial core. Clause-internally, it is a case of core coordination, while clause-externally, it is clausal coordination.

On p. 5/8, we find a relative clause made up of first a finite core, then a case of core cosubordination. Within the core made up of two cores, we find first an infinitival core, then a core with an elided verb. The verb seems to be the same as in the infinitival core, "to sum up," the repeated core merely being an elaboration of the argumnent of the infinitival core. We treat it as core cosubordination because the second core has both an argument and a periphery, yet it lacks the crucial operators of tense and aspect. These are carried by the infinitive.

The relative clause on p. 6/8 starts a whole new sentence. Clause-internally, we find core coordination, while clause-externally, we find sentential coordination.

The next sentence (on p. 7/8) also starts with a relative pronoun. The relative clause containing this relative pronoun contains a participial core. The subject of the participle, χαὶ ὑμεῖς, "kai hymeis," "also you," is also the logical subject of the finite verb in the next relative clause, ἐσφραγίσθητε, "esfragisthete," "you were sealed." Thus the participial core may be interruptive. This is supported by the fact that the next

relative clause starts with exactly the same relative phrase, ἐν ᾧ, "en ho," "in whom," thus picking up the thread again from the previous relative phrase. This relative clause, in turn, has the familiar participal core – finite core linkage-pattern. The last clause of the sentence is a copular relative clause. Thus we have a sentence with three consecutive relative clauses, among which the linkage-pattern is clausal coordination. Within the first and third relative clause, there is no linkage-pattern, as they are simple clauses, but the second clause exhibits core coordination.

6.10.11   Conclusion

We have looked at non-restrictive relative clauses, and especially the continuative kind, both from a theoretical perspective and from a practical perspective. We have found that the nexus-type that best describes the continuative relative clauses is that of coordination. Clause-internally, we have found that core coordination often asserts itself, whereas the interclausal linkage pattern can be either clausal coordination or sentential coordination.

7   Conclusion

In this report, we have looked at relative clauses in Koine Greek from the perspective of Role and Reference Grammar. We have looked at various axes along which relative clauses can be classified. One such axis has been the prenominal – postnominal – noun-incorporating – headless axis. Another axis has been the restrictive – appositional – continuative axis. We have investigated five hypotheses, and found that they were all justifiable in terms of the evidence. The evidence has come from analyses of a good number of relative clauses from the Greek New Testament, which have been analyzed using a computer-program for drawing syntactic trees.

In section 6.4, we saw that the phrase containing the relative phrase can be analyzed in terms of the pre-core slot, thus verifying hypothesis 2.

In section 6.5, we saw that Koine Greek exhibits relative clauses which occur at a theoretically unbounded distance from their heads, and which do not form any constituent with their heads. This verified hypothesis 3.

In section 6.6, we saw that Koine Greek exhibits pre-nominal relative clauses with an overt head. This finding was contrary to what Levinsohn said on p. 190 in Levinsohn (2000), and verified hypothesis 4.

In sections 6.7 and 6.8, we saw that Koine Greek exhibits both noun-incorporating and headless relative clauses, thus verifying hypothesis 5.

In section 6.10, we looked at non-restrictive relative clauses and how they could be analyzed within a Role and Reference Grammar framework. We first looked at this problem from a theoretical perspective, finding that non-restrictive relative clauses in Koine Greek were best analyzed in terms of the *coordinating* nexus-type. We found that we could not say anything about the extra-clausal level of juncture, beyond that it would sometimes be clausal and sometimes sentential. The intra-clausal level of juncture would sometimes be the core level. Having determined this from a theoretical perspective, we investigated quite a few instances of continuative relative clauses, and found that the theoretical considerations were supported by the empirical evidence: Continuative relative clauses are best described extra-clausally by the coordinating nexus-type, be it clausal or sentential coordination, while clause-internally, we found core coordination to be the most common linkage-pattern. This verified hypothesis 1.

Thus five of our six hypotheses were verified by empirical means with reference to the theoretical framework of Role and Reference Grammar. The sixth hypothesis was not verified due to lack of time.

The problem-description was to shed light on relative clauses in Koine Greek. We believe we have achieved this goal during the course of this report.

8   Further research

Pointers for further research include the following.

First, it would be interesting to see whether Levinsohn's claim about the Aktionsarten is true across a wide range of continuative relative clauses.

Second, it would be interesting to investigate restrictive relative clauses in Koine Greek more closely. For example, is it always the case that the target NP is the last element in the preceding clause? If not, what kinds of elements can intervene, and what consequences does this have for the analysis of putting the restrictive relative clause in the periphery$_N$?

Third, it would be interesting to see whether our analysis of non-restrictive relative clauses as being of the coordinating nexus-type would also be true for *appositional* relative clauses, given that we have only investigated the empirical evidence for continuative relative clauses.

Fourth, it would be interesting to attempt a full-scale account of Koine Greek within a Role and Reference Grammar framework. My work with specific texts using this framework has revealed that the theory has potential for coming up with interesting, accurate, and revealing descriptions of many different problems in the analysis of Greek texts.

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