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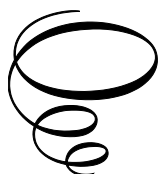
Challenges at the Syntax-Semantics- Pragmatics Interface:

*A Role and Reference Grammar
Perspective*

Edited by

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COSUBORDINATION

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Abstract

The theory of clause linkage in Role and Reference Grammar [RRG] is one of the most important and distinctive aspects of the theory. One of its significant features is the positing of a third syntactic linkage type, cosubordination, in addition to the two traditional linkage types, coordination and subordination, which has been widely adopted in the typological literature and used in many descriptive grammars. Nevertheless, its validity as a distinct linkage type has been questioned in Foley (2010) and Bickel (2010). The purpose of this paper is to evaluate their arguments and show that cosubordination is a valid concept, albeit more complex than originally supposed.

Keywords

Clause linkage, nexus, embedding, juncture, information structure

1. Introduction

The theory of clause linkage in Role and Reference Grammar [RRG] is one of the most important and distinctive aspects of the theory. One of its most significant features is the positing of a third syntactic linkage type, cosubordination, in addition to the two traditional linkage types, coordination and subordination. While this notion has been widely adopted in the typological literature and used in many descriptive grammars, it has been criticized in Foley (2010) and Bickel (2010), who questioned its validity as a distinct linkage type. The purpose of this paper is to evaluate their arguments and argue that cosubordination is a valid concept, albeit more complex than originally supposed.

The discussion will proceed as follows. In section 2 there will be a brief review of the theory of clause linkage in RRG, followed in section 3 by a summary of Foley and Bickel's criticisms of the notion of cosubordination. In section 4 their arguments will be subjected to critical evaluation, and it will be argued that they are not a problem for the contemporary theory of clause linkage in RRG. Section 5 gives a summary and conclusions.

2. The RRG theory of clause linkage: a review¹

The RRG theory of complex sentences has three main components: the layered structure of the clause [LSC], which supplies the units which are combined in complex sentences; the three syntactic linkage relations (coordination, subordination, cosubordination), which characterize the syntactic relationship between the units; and the interclausal semantic relations hierarchy, which deals with the semantic relationship between the units. Only the first two are relevant to this discussion. The units of clause structure (the nucleus, the core and the clause) define the levels of *juncture*: nuclear junctures involve the linking of nuclei, as in (1a,b), core junctures the linking of cores, as in (2a,b), and clausal junctures the linking of whole clauses, as in (3).²

- (1) a. *Tā* [_N*qiāo*] [_N*pò*] *le yī ge fānwǎn*. Mandarin Chinese
 3sg hit break PRFV one CL ricebowl (Hansell 1993)
 'He broke (by hitting) a ricebowl.'
- b. *Fu fase* [_N*fī*] [_N*isoe*]. Barai (Olson 1981)
 3sg letter sit write [Papua-New Guinea]
 'He sat writing a letter.'

¹ For detailed discussion of the RRG theory of juncture-nexus types, see Van Valin & LaPolla (1997), chapter 8, and Van Valin (2005), chapter 6.

² Abbreviations: AFD 'actual focus domain', ASP 'aspect', ASS 'assertion', C 'core', Cl 'clause', CL 'classifier', CLM 'clause-linkage marker', CMPL 'completive', CONT 'continuative', CUR.REL 'current relevance, dl 'dual', DS 'different subject', DIR 'directional', DUR 'durative', EVID 'evidential', FUT 'future', IF 'illocutionary force', IND 'indicative', IPFV 'imperfective', LOC 'locative', LSC 'layered structure of the clause', NEG 'negation', NPST 'non-past', ns 'non-singular', N, NUC 'nucleus', POSS 'possessor', PRED 'predicate', PRES 'present', PRFV 'perfective', PRO 'pronoun', Q 'question', RP 'reference phrase', SEQ 'sequential', SIM 'simultaneous', SS 'same subject', STA 'status', TNS 'tense', TPAST 'today's past', TRANS 'transitive', YPAST 'yesterday's past'.

- (2) a. [_C Max tried][_C to fix his bicycle].
 b. [_C Max regrets [_C asking Bill about it]].
- (3) [_{CI} Mary bought fresh fish at the market] and [_{CI} John will cook it].

The second relevant component is the syntactic relationship between the units, or *nexus* relation. The example in (3) exemplifies (clausal) co-ordination, and the one in (2b) illustrates a type of (core) subordination, in which one core (*asking Bill about it*) functions as a core argument of another core (*Max regrets*). Cosubordination, as the name implies, has features of both coordination and subordination. It is like coordination and unlike subordination, in that it is a flat structure (no embedding), but it is like subordination and unlike coordination in that the linked unit is dependent on the matrix (or ‘licensing’) unit in some way. In cosubordination the dependence concerns operators at the level of juncture. The contrast among the three nexus types at the clause level can be seen clearly in the following examples from Amele (Roberts 1988).

- (4) a. *Fred cum ho-i-an qa Bill uqadec h-ugi-an.*
 yesterday come-3sg-YPAST but tomorrow come-3sg-FUT
 ‘Fred came yesterday, but Bill will come tomorrow.’
- b. *Ija ja hud-ig-a eu nu, uqa sab mane-i-a.*
 1sg fire open-1sg-TPAST that for 3sg food roast-3sg-TPAST
 ‘Because I lit the fire, she cooked the food.’
- c. *Ho busale-ce-b dana age qo-ig-a.*
 pig run.out-DS-3sg man 3pl hit-3pl-TPAST
 ‘The pig ran out and the men killed it.’

In (4a) classic coordination at the clause level is exemplified: each clause is fully inflected and could stand on its own as an independent utterance. In (4b) each clause is fully inflected, but the first clause is marked by a subordinating conjunction, which makes it structurally dependent on the main clause; it cannot stand on its own as an independent utterance. This is a clear example of (adverbial) subordination. In (4c) the first clause lacks tense marking and therefore is dependent on the second clause for the expression of tense. Accordingly, the first clause cannot stand on its own as an independent utterance. Moreover, it is neither an adverbial modifier of the second clause, nor is it an argument (complement) of the verb in the second clause, which rules out an analysis of it as subordination. However, it is clearly different from the coordination example in (4a) as well, and so it does not fit into either of the traditional categories; it

is, then, an instance of cosubordination at the clause level. It is important to note that while the first clause in (4c) is dependent on the second for the expression of tense, it is not embedded in it, unlike the adverbial subordinate clause in (4b) or the gerund in (2b). Thus, a crucial idea underlying the RRG theory of clause linkage is that dependent does not entail embedded; there can be formal dependencies between units in a flat structure.

The three nexus types can occur in nuclear, core and clausal junctures, generating nine possible juncture-nexus relations. Cosubordination at the nuclear level is illustrated in (1a), in which two nuclei, *qiāo* ‘hit’ and *pò* ‘break’, form a single complex nucleus under the scope of the *le* perfective aspect operator, aspect being a nuclear operator. Cosubordination at the core level is exemplified in (2a), which can be seen clearly when a deontic modal operator, a core operator, is added, as in (5a).

- (5) a. Max must try to fix his bicycle.
 b. Max must persuade Bill to fix his bicycle.

What Max is obliged to do in (5a) is not to try anything but rather to try to fix his bicycle, which means that the scope of *must* is over both cores. In contrast, in (5b) Max is obliged to persuade Bill of something, but Bill is not obliged to fix his bicycle, which means that *must* has scope over only the first core but not the second; hence (5b) is not an example of core cosubordination but rather of core coordination.³ Thus the structures in (5a, b) do not involve embedding, hence they are not examples of subordination, contra the conventional wisdom regarding these constructions (see Van Valin 2005:189-90 for evidence against an embedding analysis).

3. Critiques of cosubordination

Foley (2010) and Bickel (2010) attempt to call into question the validity of the notion of cosubordination. They restrict their arguments to clausal cosubordination only, and Foley assumes the original version of the LSC presented in Foley & Van Valin (1984), which differs in certain crucial respects from the version developed in Van Valin (1993b) and subsequent work. The notion of the LSC at that time was rather different from the

³ It's important to emphasize here that ‘coordination’ is an abstract linkage relation and not a grammatical construction; it should be distinguished from ‘conjunction’, which is a formal construction type. Coordination may be instantiated by conjunction, as in (3), but it is not restricted to cases of formal conjunction.

$$\begin{array}{c} \text{(IF(EVID(TNS(STA[Loc,...(MOD[NP (NP) (DIR(ASP[Predicate]))])])))) \\ \text{PERIPHERY} \quad \text{CORE} \qquad \text{NUCLEUS} \end{array}$$

As can be clearly seen, there is no ‘clause’ or ‘sentence’ level, and the periphery surrounds the core and nucleus. The shift to the current conception of the LSC began with Van Valin (1987) and was first published in Van Valin (1990, 1993b). There was no formal representation of the LSC, and in particular the projection grammar formalism had not yet been developed; it was proposed in Johnson (1987) and ushered in the representation of constituents, operators and information structure in distinct projections, also first published in Van Valin (1993b). Furthermore, in the 1984 book there was no representation of complex sentences beyond labeled bracketings, which did not include any representation of operators.

(6) *Tepau-fe-pa yate fitau-a-nae?* Tauya (MacDonald 1990)
 break-TRANS-SS go throw-2-Q
 a. 'Did you break it and go away?', or
 b. 'You broke it and did you go away?', or
 c. 'Did you break it before going away?'

- The problem that both Foley and Bickel see in (6) is the apparently variable scope of the illocutionary force operator: it seems to have scope over

both clauses, yielding the reading in (6a), or only over the second clause, yielding the interpretation in (6b), or only over the first clause, yielding (6c). They interpret this as evidence against the notion of cosubordination, because it involves obligatory sharing of operators at the level of juncture, and here the operator sharing is variable and optional. The structure would be cosubordination on the (6a) reading but not on the (6b) or (6c) interpretations. Foley argues further that the examples in (7) are problematic, because not all clausal operators are shared across the two clauses: in (7a) there is one illocutionary force operator on the second clause, but the tense operator in the first clause has scope only over it, and the second clause gets a non-past interpretation; in (7b) there is again a single illocutionary force operator, but the first clause is interpreted as past tense, due to the sequential-realis affix, while the second clause is marked for present tense.

As noted above, Foley assumes the model of clause structure and the notion of cosubordination presented in Foley & Van Valin (1984), ignoring all subsequent work. In the 1984 version of the theory, no formalism of any kind had been developed, and in the informal representations used at that time, operator sharing was all or nothing. His proposed solution exploits an idiosyncratic feature of Lexical-Functional Grammar [LFG], namely the distinction between IP and S, where 'IP' contains grammatical categories like tense and illocutionary force and 'S' is a 'small clause' containing the predicate and its arguments. He claims that the contrast between coordination in e.g. (4a) and cosubordination in e.g. (4c) is a function of what is linked, not a difference in linkage relations. Hence there is coordination in (4a) between IPs but in (4c) between Ss. According to this analysis, what RRG calls 'cosubordination' is just coordination of Ss under one or more IP nodes, each reflecting a different grammatical category, and therefore cosubordination is not a distinct linkage type.

This alternative analysis of the phenomena which motivate the postulation of cosubordination does not call the notion of cosubordination into question. To begin with, it is limited to clause-level linkages; it does not apply to cosubordination at the core level, as in (2a), or at the nuclear level, as in (1a,b).⁴ One would have to postulate something like a VP-level IP and a V-level IP in order to deal with these examples, and that is not an option in LFG. The result is a situation in which cosubordination is a linkage relation at sub-clausal levels but the analogous phenomena at the clause-level are handled in terms of a special type of coordination involv-

⁴ See Bohnemeyer & Van Valin (2017) for discussion of the importance of cosubordination in core junctures in relation to the Macro-Event Property.

ing Ss instead of IPs. It is difficult to see why this is an improvement over an analysis in which operator-sharing constructions are given a unified treatment at the clause level as well as sub-clausal levels.

Bickel (2010) starts out by saying that categories like ‘coordination’, ‘subordination’ and ‘cosubordination’ are too broad and not fine-grained enough to capture the diversity found in clause-linkage constructions. He decomposes the different constructions into a set of 11 features, each with a range of values. For example, ‘T[ense]-mark[ing]’ in dependent clauses has the values: OK (allowed), Banned (not allowed), Harmonic (allowed but subject to constraints based on the tense or status choice in the main clause). He then performs a statistical analysis to see if the features cluster into well-defined categories like coordination, subordination and cosubordination. He argues that this is not the case: there is tentative evidence for a specific prototype of subordination, but none for coordination and cosubordination, which seem to form a continuum. Given that coordination and cosubordination share the crucial feature of being a flat, i.e. non-embedded, structure, it appears that Bickel’s results reflect the salience of embedding as a feature of complex sentences. This is an interesting result, as there has been some debate within RRG as to which of the two defining features of nexus, $[\pm \text{ dependent}]$ and $[\pm \text{ embedded}]$, is more basic. Van Valin (1993b) proposed that $[\pm \text{ embedded}]$ is the more basic feature, setting subordination off from coordination and cosubordination, which are then distinguished by $[\pm \text{ dependent}]$. In Van Valin & LaPolla (1997), on the other hand, $[\pm \text{ dependent}]$ was taken as the basic distinction, with coordination being $[- \text{ dependent}]$ and the other two bring $[+ \text{ dependent}]$; subordination and cosubordination were then differentiated by $[\pm \text{ embedded}]$. Bickel’s results support the 1993 analysis, not the 1997 one. This is summarized in Figure 2.

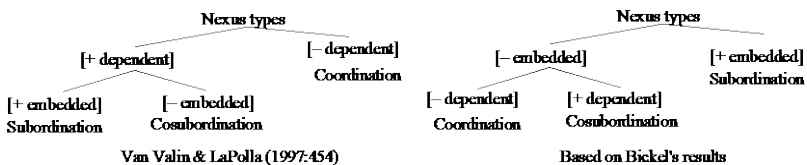


Figure 2: Nexus types

Bickel’s results can, thus, be seen as evidence of the significance of embedding in the structure of complex sentences and not as evidence against the validity of the notion of cosubordination.

4. Re-examining cosubordination

Cosubordination was first proposed as a linkage type in Olson (1981), and it was further developed in Foley & Van Valin (1984). As noted above, it was assumed at that time that all of the operators at a given level of the clause must be shared in cosubordination, and that is the case in all of the examples presented in Foley & Van Valin (1984). Foley (2010:29) explicitly states that all operators must be shared.

In the decade after the publication of Foley & Van Valin (1984), however, work on complex sentences in a variety of languages, e.g. Mandarin Chinese (Tao 1986, Hansell 1993), Nootka (Jacobsen 1993), Japanese (Hasegawa 1992, 1996), and Turkish (Watters 1993), made clear that not all operators must be shared at the level of juncture. Rather, at least one must be shared, and the more that are shared, the tighter the link between the units. “[I]n a cosubordinate linkage at a given level of juncture, the linked units are dependent upon the matrix unit for expression of one or more of the operators for that level.” (Van Valin 1993b:112; see also Van Valin & LaPolla 1997:455, Van Valin 2005:201) In clausal junctures, illocutionary force, the outermost operator, must be shared; other clausal operators such as status and tense may or may not be shared. This can be seen clearly in the contrast between the Korafe example in (7b) and the Amele example in (8). The Amele example has the structure in Figure 3a; the Korafe sentence has the structure in Figure 3b.

- (8) *Ho busale-ce-b dana age qo-ig-a fo?* Amele (Roberts 1988)
 pig run.out-DS-3sg man 3pl hit-3pl-TPAST Q [Papua New Guinea]
 ‘Did the pig run out and did the men kill it?’
 (*‘The pig ran out and did the men kill it?’)

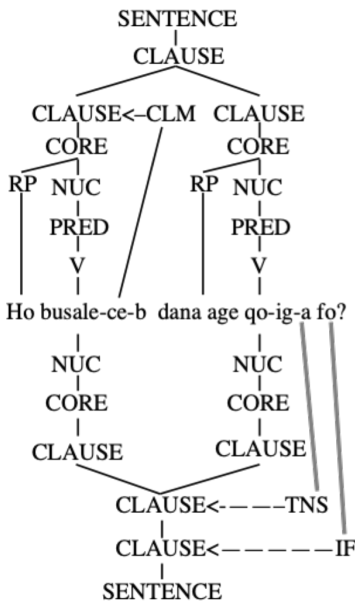


Figure 3a: Structure of (8)

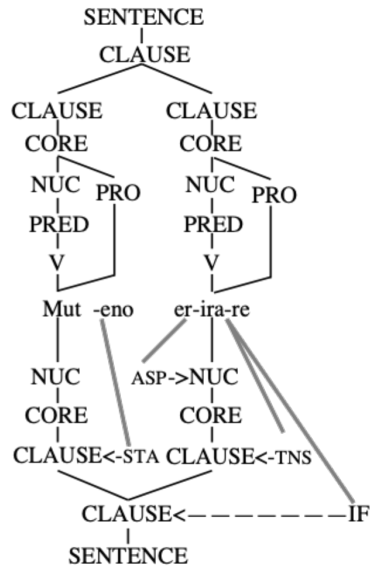


Figure 3b: Structure of (7b)

In Amele, both tense and illocutionary force must be shared in clausal cosubordination, and this is explicitly represented by having the operators modify the superordinate clause nodes. The motivation for having ‘duplicate’ clause nodes is that it is necessary to represent the scope of each operator separately, since they may or may not be shared. Korafe is just such an example: there are three clausal operators (status, tense and illocutionary force), and only illocutionary force is shared, with each clause having independent tense and status marking. Such a situation could not be captured in terms of the 1984 version of the LSC in Figure 1, but it can be readily expressed in terms of the RRG multiple projection representation. In sub-clausal junctures, at least one operator at the level of juncture must be shared; which operator that will be depends on the inventory of core and nuclear operators in the language.

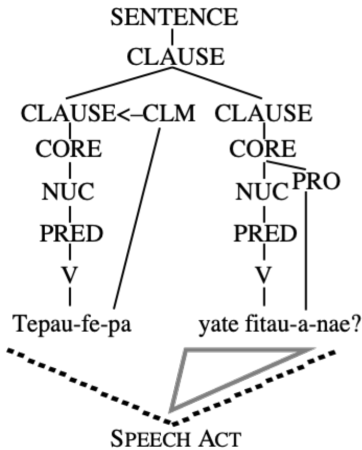


Figure 5b: AFD for (6b)

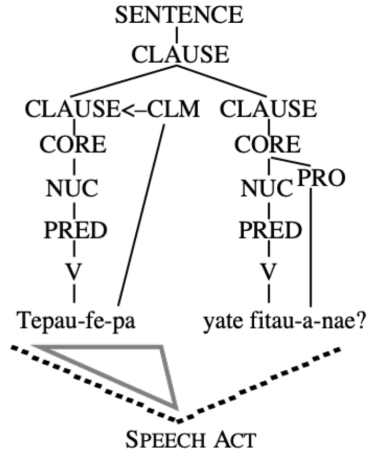


Figure 5c: AFD for (6c)

In Figure 4 the constituent and operator projections are given, showing that the illocutionary force operator *nae* ‘interrogative’ has scope over both clauses. This establishes that the potential focus domain is the entire sentence; it is represented by the dotted black line in the focus structure projection in Figures 5a-c. What varies is the actual focus domain [AFD], where the focus of the question lies. The reading in (6a), represented in Figure 5a, has both clauses within the AFD, as represented by the grey triangle. The one in (6b), on the other hand, reflects the AFD being limited to the second clause, the first one being presupposed; this is shown in Figure 5b. The most revealing interpretation is the one in (6c), in which the AFD includes the first clause but not the second, as given in Figure 5c. This reading is crucial evidence in favor of a cosubordination analysis, because if this were a typical coordinate construction, it would be impossible for an illocutionary force marker in the second clause to skip over the clause it occurs in and have just the first clause in its scope.⁵ Rather, the AFD includes only the first clause, the second one being presupposed, and the scope of the question operator is the entire sentence. A complete analysis of the Tauya construction involves all three projections of the LSC. Thus, the Tauya example in (6) turns out to be strong evidence in favor of

⁵ As Foley (2010:47) notes, it would be impossible to represent such a situation using the conjoined Ss under IP analysis.

a cosubordinate analysis and against a coordinate analysis.

Another example of variation in operator scope cited by Bickel (2010:61) is given in (9) from Belhare.

- (9) *Kimm-e n-ta-ch-u ki mun n-dhup-chi.* Belhare
 house-LOC 3ns-reach-dl-3sg SEQ 3dl 3ns-chat.NPST-dl [Tibeto-
 a. ‘They will reach home and chat,’ or Burman, Nepal]
 b. ‘When they reach home, they’ll chat,’ or
 c. ‘They reached home and now they will chat.’

Bickel notes “the scope [of the main clause tense marker-RVV] is primarily limited to the main clause, but can optionally be extended into the dependent clause” (2010:61). This seems to be a case of optional rather than obligatory operator sharing, but it is less of a problem than it appears. As mentioned earlier, in clausal cosubordination illocutionary force, the outermost operator at the clause level, must be shared across the units, and that is the case in (9), which is a statement. Tense may, as in (8), or may not, as in (7b), be shared, but the construction is still clausal cosubordination, due to the shared illocutionary force. The variation in the interpretation of the tense in (9) parallels the variation in the interpretation of the AFD in (6), and it is tempting to offer a similar analysis. It is, however, difficult to see why the interpretation of tense should be tied to variation in the AFD, since tense and focus are rather different notions and belong to distinct projections of the clause. What would be problematic would be variation like this in sub-clausal operators, e.g. variability in the interpretation of the scope of aspect marking in a nuclear juncture like (1a). I am aware of no such examples; this kind of variability seems to be found in clausal junctures only and only with operators other than illocutionary force. Accordingly, the revision proposed in Van Valin (2005:205), that in some languages cosubordination is characterized in terms of possible rather than obligatory operator sharing, is unnecessary.

5. Conclusion

Foley (2010) and Bickel (2010) raise important questions about the validity of the notion of cosubordination as a nexus relation in complex sentences. It has been argued that these questions can be answered satisfactorily within the contemporary version of RRG, based on the LSC and the projection grammar representation of it, on the post-1984 conception of cosubordination, and including the information structure component. Cosubordination has been an integral part of the description of clause link-

age in numerous languages; in addition to those mentioned earlier, they include Yaqui (Guerrero-Valenzuela 2006), Q'eqchi' Mayan (Kochelman 2003), Chechen (Good 2003), Kwaza (van der Voort 2004), and Kikuyu (Kihara 2017). It remains a valid and valuable concept in the analysis of complex sentences.⁶

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