

Controller-controllee relations in purposive constructions:

A construction-based account

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This paper examines purpose and rationale clauses, two subtypes of purposive constructions. The study of these constructions has been mainly developed for English within formal syntax. A purpose clause is a VP-internal adjunct containing a gap bound to the matrix object, while a rationale clause is a VP-external adjunct lacking a gap bounded to the matrix object. A similar approach to controller-pivot relationships for purpose has been adopted in previous studies in Role and Reference Grammar. Based on cross-linguistic data, I argue that the lexical manifestation of the controlled element is a language-specific feature, i.e., it can be covert or overt. In some languages, the two lexical manifestations are possible, i.e., a construction-specific property.

Keywords: control phenomena, purpose clause, rationale clause, Role and Reference Grammar

1. Introduction¹

When analyzing the syntax and semantics of simple clauses, the significance of constructional schemas tends to be straightforward. In a constructional schema, aspects of the semantics of predicate as well as particular features of the construction as a whole both contribute to the argument structure expressed in that sentence. The final meaning is the result of the interaction between the verb meaning and the construction meaning (Goldberg 1995). Role and Reference Grammar (henceforth RRG) recognizes the relevance of constructional schemas when explaining ‘idiosyncratic, language-specific features’ of constructions (Van Valin 2005: 132). The form-function correspondence schemas are supposed to be stored as part of our linguistic knowledge, and applied in cases where the construction is not a direct consequence of the valence of the verb or when the general argument realization principles of the model do not apply.

Two subtypes of purposive constructions are examined in this paper: purpose clauses, as in (1), and rationale clauses, as in (2). The study of these constructions has mainly been developed for English within formal syntax. It has been argued that a purpose clause is a VP-internal adjunct containing a gap bound to the matrix object, while a rationale clause¹ is a VP-external adjunct lacking a gap bounded to the matrix object (Faraci 1974; William 1980; Jones 1991; Bach 1992).

¹ This paper is part of a larger project exploring purpose clauses and control relations in Yaqui and other languages (see Guerrero 2011, 2012, under review). I am grateful for the valuable discussion on this topic with the participants of the 2011 RRG Conference in Chile, and to the anonymous reviewers of this article for helpful suggestions.

Another formal difference is that purpose clauses are incompatible with ‘in order’ (2b).² The following examples come from Van Valin (2009).

- (1) a. *Pat brought the book_i for her sister to read ____i*
a'. **Pat brought the book for her sister to read it*
b. *Pat_j brought the book_i ____j to read ____i*
b'. **Pat_j brought the book ____j to read it*
- (2) a. *Pat brought the book in order (for her sister) to read it*
b. **Pat brought the book in order (for her sister) to read ___*

Cutrer (1993) and Van Valin (2009) also discuss the two clause types in English. Within RRG, a purpose clause exhibits an obligatory missing syntactic argument in the linked unit, whereas in a rationale clause there is no missing argument, but a pronoun. In the former, the obligatory missing argument, the pivot, is what would be the immediately post-nuclear element (i.e., the undergoer) in the infinitival core, since the pre-nuclear argument (i.e., the actor) may be different (1a, b). There is no obligatory controller-pivot relationship of any kind in rationale clauses (Van Valin 2009: 47-48).

The aim of this paper is to extend the study of purposive constructions outside of English. I follow Cutrer and Van Valin’s assumption that in purposive constructions there is an argument of the linked core controlled by an argument of the main unit, but I deviate in the definition of control relations. In order for the RRG analysis to be valid cross-linguistically, I argue that controller-controllee relations are

² In these examples, co-referential arguments are co-indexed; the ‘_’ is for illustrative purposes only and indicates a missing syntactic argument which is co-referential with an argument of the main unit.

better defined in semantic rather than structural properties, i.e. *referential dependency*.³ The lexical manifestation of the linked argument, i.e., the controllee, is subject to language-specific restrictions, i.e., it can be covert and show structural control (e.g., the gap in (1)) or it can be overt and yield inherent control (e.g., the pronoun in (2)). In some languages, the two lexical manifestations are possible, i.e., a construction-specific property. In order to support this, I show data from several languages where the lexical manifestation of the controllee vary, not only inside a purposive construction but also within complementation.

In what follows, I briefly outline the traditional approach to purpose clauses within formal syntax and then within RRG (§2). Based on data from Yaqui and Spanish, I then examine some properties of controller-controllee relations in purposive constructions based on the notion of referential dependency, and the structural/inherent control patterns on the controllee (§3). In §4, I advance an analysis of purposive constructions following RRG's constructional schema.

2. Defining purpose and rationale clauses

The main task of any theoretical model applied to purposive constructions is to account for the control of the *non-lexical* elements in a regular way. Most commonly, control is determined in syntactic terms,

³ In RRG, the Privileged Syntactic Arguments are divided into controllers and pivots. In the sentence *Chris_i slapped Pat_j and then ____{i/*j} ran away*, *Chris* is the controller of the missing argument in the second clause, and the syntactically missing argument is the pivot (Van Valin 2009: 46). I use controllee, instead of pivot, in order to indicate the referentially dependent argument, which can be covert or overt in the linked unit.

i.e. subject, object (Faraci 1974; Bach 1982), but it can also refer to thematic roles, i.e. agent, theme, patient, instrument (Jackendoff 1972; Williams 1980; Jones 1991; Cutrer 1993). Consistently, the pivot or controllee is defined as a syntactic gap. A typical purpose clause is illustrated in (3).

(3) *Mary_i brought John_j along [PRO_i to talk to e_j]⁴*

From a sentence as in (3), Jones (1991) proposes three related purpose clauses (PC) in English based on the empty slot inside the dependent unit: object-gap, subject-gap, and *in order*-clauses. In all of these, the empty elements in the linked unit are, more or less, referentially dependent on overt NPs inside the matrix sentence (Jones 1991: 25).

(4) Obligatory control relations of empty slots in purpose clauses

a. Object-gap clause (OPC)

Mary_i brought John_j along [___{i/k} to talk to ___j]

b. Subject-gap clause (SPC)

Mary_i brought John_j along [___j to talk to her_i]

c. *In order*-clause (*in order*-PC)

Mary_i brought John_j along in order [to ___i talk to him_j]

Syntactically, OPCs have an obligatorily controlled gap in object position and an empty subject position, while SPCs have an obligatorily controlled gap in subject position (Jones 1991: 105). In a rationale clause,

⁴ In formal syntax, PRO and *e* are treated differently; the object-gap *e* cannot be PRO because it is in a governed and case-marked position, while the optional subject gap can be treated as a controlled element. That is, only the latter can be considered a case of control phenomena (Cutrer 1993: 168). Most of the examples in this section come from Jones (1991), where *e* is used for both subject- and object-gaps clauses.

there are no empty slots. The interpretation of PCs crucially depends on how their empty elements are construed as referentially dependent on other elements in the sentence, especially the matrix theme (Jones 1991; May 1994). Thus, in an OPC, the missing object argument is subject to obligatory control by the matrix theme (5a); control of the OPC's subject, on the other hand, is not obligatory (5b-c).

- (5) a. *We gave clothes_i to the Salvation Army_j [to use _i as they see fit]*
 b. *Bambi_i was brought [_k to read _i to the children]*
 c. *I brought this wine_i over [_k to enjoy _i with our dinner]*

In an SPC, the missing subject argument is also subject to obligatory control. Again, the controller is, preferably, the matrix theme (6a). A sentence like (6c') is disallowed because there is not a matrix NP as the controller.

- (6) a. *Mary_i brought John_j along [_j to talk to her_i]*
 b. *I brought this wine_i over for John_j [_j to enjoy _i with dinner]*
 c. *We've been hiring guards_i [_i to watch the children]*
 c'. * *We've been hiring \emptyset _i [_i to watch the children]*

In order-clauses do not involve obligatory control in object position. With respect to the subject, it may be controlled by the main subject (7a), it may be 'context' controlled, i.e., by someone else (7b), and it can have a lexical NP, i.e., no empty slot (7c).

- (7) a. *Mary_i brought John_j along in order [_i to talk to him_j]*

- b. *The lights_i were turned off in order [_k to conserve electricity]*
- c. *The lights_i were turned off in order for John_j [_j to change the bulbs]*

Although the formal analysis may be slightly more complex (see Jones 1991; Landau 2000 and further work), in summary it is said that in a purpose clause there is an empty slot in the linked unit functioning as the ‘object’; if there is a lexical element in that syntactic slot, then there is a rationale clause. Moreover, the empty slot for the linked ‘object’ must be controlled by the main theme, while the empty slot for the ‘subject’ may be controlled also by an NP inside the main unit.⁵

When dealing with English purposive constructions, Cutrer (1993) follows Bach (1992) in distinguishing the two clause types and thus adopts the same formal assumptions behind control relations, i.e., the referential dependency between an overt matrix NP and an unexpressed argument in the dependent unit. When identifying the controller, syntactic, semantic, and pragmatic factors, as well as the type and tightness of clause linkage, may intervene; when identifying the controllee, only syntactic factors are taken into consideration. In Cutrer’s analysis (1993: 177), rationale clauses are considered as a type of clause juncture, and hence there are no obligatorily shared arguments between

⁵ Some semantic differences are occasionally purported to distinguish the two clauses, but they can be very fuzzy (May 1994), and native speakers sometimes disagree in such interpretations. One such potential distinction is in regards to intention (Balkanski 1992; Nissenbaum 2005): a rationale clause expresses the agent’s intention in acting as he does (i), while a purpose clause expresses only the participant’s intention (ii).

- i. *?Someone left these leaves here for me to rake them*
- ii. *Someone left these leaves here for me to rake*

the two clause units; instead, there is a post-nuclear pronoun when transitive, as in (9a-b). The subject gap has a non-obligatory control relation, since it may be filled or unfilled. If there is a subject gap, then the main actor is also the actor of the linked event, as in (9a-c). There are no other choices for the controller but the main actor. In (9d) the controller is a non-macrorole oblique core argument, i.e., the beneficiary. All the examples in this section come from Cutrer (1993).

- (9) a. *John_i bought Mary_j a book_k (in order) [___i to please her_j]*
 b. *John_i sang the children_j a lullaby (in order) [___i to calm them_j]*
 c. *John_i ran the race (in order) [___i to impress his friends]*
 d. *John bought the turkey_i (in order) for his wife_j [___j to cook it_i]*

In contrast, purpose clauses are a type of core juncture, and then, there must be an argument shared between the two cores. In fact, it is possible to have two control relations, but only one is obligatory: the object-gap. In (10), the post-verbal gap is obligatorily controlled by the main theme.

- (10) a. *John_i caught a fish_j [___i to eat ___j for dinner]*
 b. *John_i gave a tape_j to Mary_k [___k to listen to ___j]*
 c. *John_i built a chest_j for her sister_k [___k to put her clothes in ___j]*

The author cites Bach (1982)'s syntactic tests for further distinctions. Bach argues that in a rationale clause (11a), the controller of the missing argument is the subject *John*, while in a purpose clause (12a), the controller is the matrix object *Mary*. The former can be clause-initial (11b) but not the latter (12b). It is also claimed that purpose clauses exhibit a 'future orientation' with respect to the main clause (12c), but this is not always the case with rationale clauses (11c). The examples come from the original:

- (11) a. *John bought Mary a piano in order to play it*
- b. *(In order) to please her, John bought Mary a piano*
- c. *I bought it in order to use up my money*
- (12) a. *John bought Mary a piano to play*
- b. **To play, John bought Mary a piano*
- c. *I bought it to give to my sister*

Moving beyond previous analyses, Cutrer (1993:177-8) also offers some valuable semantic characterizations. At the clause level, a rationale clause encodes the rationale or reason of the action; the goal to be accomplished results from the action/event encoded in the matrix unit, while the second event is the motivation for doing the first event. A purpose clause encodes the choice, possession, or transfer of possession of an item and the use to which that item is put.⁶ Accordingly, purpose

⁶ The first part of this definition 'the rationale or reason of the action' closely resembles reason or causal adverbial constructions expressing 'the motivation or cause for an action or event', in a sentence like *the baby cried because she was hungry* (Van Valin 2005:206), one of the loosest linkage types. Additionally, the definition for purpose is extremely restrictive, since it only applies to certain transitive verbs in the main unit,

clauses entail more restrictions on the choice of a matrix verb than rationale clauses: because a purpose clause revolves around the item which is used, possessed, or transferred, that entity functions in both cores, usually as the theme. It is also assumed that the obligatorily controlled argument, i.e., the post-nuclear gap, is controlled by the lowest ranking argument in the Actor-Undergoer hierarchy (i.e., the undergoer); the control of the subject-gap, the pre-nuclear gap (i.e., the actor), can also be semantically determined, e.g., the possessor of possession and use verbs, the recipient of transfer verbs.

In Van Valin (2009), the defining feature of English purpose clauses is again the obligatory control relationship between the post-nuclear arguments in each core. Thus, the obligatory missing argument is what would be the undergoer in the infinitival clause in *Pat brought the book to read* (1b) where the controller in the initial core is also the immediately post-nuclear argument, the main undergoer. In rationale clauses, the controller-pivot relationship involving pre-nuclear arguments is optional, e.g., *Pat brought the book for her sister to read* (1a) and so this is not the defining relationship for the construction. In fact, rationale clauses do not involve obligatory controller-pivot relationship of any kind, e.g., *Pat brought the book in order (for her sister) to read it* (2). So despite the semantic similarities of the two constructions, their syntactic properties are different, particularly with respect to controller-pivot relationships (Van Valin 2009: 48).

i.e., utility purpose clauses. See Guerrero (submitted) for a comparison between reason and purpose clauses in Yaqui.

3. Purposive constructions within RRG revisited

The current RRG approach to purposive constructions requires some adjustments when one tries to extend the analysis cross-linguistically. Firstly, purpose and rationale are still distinguished in configurational grounds, i.e., in a verb-final language, there would not be a post-nuclear argument; see the example in (13a) from Yaqui. Secondly, obligatory vs. non-obligatory control are determined in terms of post-nuclear and pre-nuclear elements, respectively, which closely resemble VP constituents in formal syntax. Thirdly, and most notably, the two clause types are distinguished in terms of the formal expression of the controlled element inside the linked unit: if there is a gap, then it is purpose; if there is not a gap, then it is rationale. Although there is an obligatory referential dependency among the undergoers in each core in the examples in Yaqui (Uto-Aztecan) and Spanish below, strictly speaking, only the example in (13b) satisfies the requirement of a post-nuclear argument gap in the dependent unit.⁷

- (13) a. *Empo_i tractor-ta_j jinu-k*
 1SG.NOM tractor-ACC buy-PFV

⁷ Abbreviations: A/ERG: ergative, ABL: ablative, ABS/B: absolutive, ACC: accusative, AOR: oristic, ASP: aspect, BEN: benefactive, CLM: clause linkage marker, DAT: dative, DESID: desiderative, FUT: future, GEN: genitive, NCOMP: no-completive, INAN: inanimate, INF: infinitive, INTR: intransitive, INTEN: intensifier, IMPF: imperfective, IRR: irrealis, L: low tone, LOC: locative, NEG: negation, NF: non-finite, NOM: nominative, NON.HUM: non human, OBJ/O: object, PAS: past, POT: potential, PERS: person, PFV: perfective, PL: plural, PRE: present, PURP: purpose, PRIT: partitive, REAL: realis, SBJV: subjunctive, SEQ: sequential, SG: singular, SUB/S: subject, TNS: tense, TR: transitive.

[_i a_j u'ute-bae-kai]

3SG.ACC fix-DESID-CLM

'I bought the tractor to fix it.'

b. *Compré el tractor [_i para arreglar _j]*

'I bought the tractor to fix.'

b'. *Compré el tractor [_i para arreglarlo_j]*

'I bought the tractor to fix it.'

A major difficulty for the study of purposive constructions is, perhaps, the fact that there is quite a range of possible forms expressing a purpose relation. To go one step further to our understanding of purposive constructions, in what follows, I first comment on some tendencies found in two on-going corpus-based studies of Spanish and Yaqui, and then I examine the lexical manifestations of the controllee based on a variety of linguistic data.

3.1. Tendencies for the controller-controllee relations

All previous studies (Bach 1972; Jones 1991; Cutrer 1993; Van Valin 2009) analyze constructions where the matrix unit takes a two-place predicate, and the dependent unit also involves a two-place predicate. However, extensive language data have shown that purpose relations are commonly about the purpose of motion (Cristofaro 2003: 157; Schmidtke Bode 2009: 41).

From a corpus of 303 Spanish purpose clauses (Guerrero 2012), I found that 66% (201/303) involve active events coding motion (*come, go/walk, run, enter, exit*, and so on), and change of position (*stand up, sit*

down, among others), but only 25% (76/303) take a transitive verb coding possession, transfer or use-verb types. Motion predicates take only one core argument, and the construction encodes a situation where the main actor goes somewhere in order to obtain the realization of the intended event, i.e., motion-*cum*-purpose (Aissen 1984: 559). Accounting for control phenomena where there is only one possible controller is easy: the main actor obligatorily controls the identity of the linked actor. Some examples are shown in (14); notice that, though the linked actor tends to be unfilled, there are still some languages where it is filled (14c).

(14) a. Nupe (Kwa; Nigeria; George 1975)

Musa_i bé [___i lá èbi]

Musa came took knife

‘Musa came to take the knife.’

b. Jamsay (Dogon; Niger-Congo; Heat 2008:625)

[kó sùmò ___i lé] yà:-rà-m_i

NON.HUM.O wash.L in go-habit-L-1SGS

‘I am going (there) in order to wash it.’

c. South Efate (Southern Oceanic; Thieberger 2006: 317)

ku=totan [na ku=fam]

2SGS.REAL=sit PURP 2SG.S.REAL=eat

‘You sit to eat.’

Without doubt, the interesting cases for control relations are found in sentences involving more than one core argument in the main and the dependent unit; very often, two control relations may take place in the

very same construction. See the examples in (15) from Spanish and English equivalents.

(15) Thematic control relations in purpose clauses (Guerrero 2012)

	Controller	Controllee
a. <i>Juan_i fue al río [___i a descansar]</i>	actor	actor
a'. <i>John_i went to the river [___i to rest]</i>	actor	actor
b. <i>Juan_i compró un libro_j para [___i leer (lo)_j]</i>	actor undergoer	actor undergoer
b'. <i>John_i bought a book_j [___i to read ___j]</i>	actor undergoer	actor undergoer
c. <i>Le di un libro_i a María_j para que [___j (lo)_i leyera]</i>	undergoer beneficiary	undergoer actor
c'. <i>I_i gave my sister_j a book_k [___j to read ___k]⁸</i>	undergoer theme	actor undergoer
d. <i>Yo_i convencí a María_j para [___{i+j} ir al cine]</i>	actor undergoer	actor
d'. <i>I_i convinced Mary_j [___{i+j} to go to the theater]</i>	actor undergoer	actor
e. <i>Compré una rasuradora eléctrica_j para [cortarme_i el pelo (con ella_j)]</i>	actor undergoer	actor instrument
e'. <i>I_i bought an electric razor_j [___i to cut my hair (with it_j)]</i>	actor undergoer	actor instrument
f. <i>*Yo_i compré una rasuradora_j para [cortarme_i el pelo con las tijeras]</i>	actor	actor
f'. <i>*I_i bought an electric razor [___i to cut my hair with scissors]</i>	actor	actor

The tendencies for the controller-controllee relations in Spanish are shown in Table 1 below. In the current Spanish corpus, there is a strong tendency for the linked actor to be controlled by the matrix actor (15a, e, f) or by the matrix actor and undergoer together (15d); this is indicated

⁸ A better English equivalent would be *I gave my sister a book so that she would read it.*

Controller	Controllee					total
	ACTOR	UNDERGOER	ACTOR+	Obl _{ique} /adj _{unct}	none	
ACTOR	251		24	6		281
UNDERGOER	29	13	6	8		46
Obl _{ique} (nonMR)	14					14
none					4	4

Table 1. Controller-controllee relationships in Spanish purposive constructions (N=351)

controller controllee	A _{ctor}	A _{ctor}	U _{ndergoer}	U _{ndergoer}	U _{ndergoer}	U _{ndergoer}	none
	A _{ctor}	A _{ctor}	U _{ndergoer}	U _{ndergoer}	A _{ctor}	Obl _{ique}	
Main action							
intransitive	103		4				
(di)transitive	28		2	14	19	9	

Table 2. Controller-controllee relationships in Yaqui purposive constructions (N=179)

by ACTOR+ in the table; clauses where the actor and the undergoer are controlled by a matrix NP (15b) are common too; there are fewer examples where there is an obligatory control relation involving the dependent undergoer, such as in (15c). The very same tendencies are observed in the Yaqui corpus. In Table 2, I also indicate whether the main clause in Yaqui involves an intransitive or (di)transitive verb, and the former being more common. That is, based on the Spanish and Yaqui data, there is a clear tendency for a referential dependency between a matrix argument and an argument in the dependent unit.⁹

3.2. *The lexical manifestation of the controllee*

The literature dealing with control phenomena focuses on complement-taking predicates involving infinitival complements, e.g., *try*, *promise*, *want*, *order*, and so on. The theory of obligatory control refers to hypotheses about how the controller of the missing syntactic argument in the linked unit is to be determined. There are syntactic as well as semantic approaches trying to predict what matrix argument is the controller. Within the semantic accounts, Comrie (1984) and Foley and Van Valin (1984) predict control relations based on the semantics of the matrix verb. Thus, the theory of control as illustrated in (16) is based on the macroroles, actor and undergoer, in the matrix predicate as the

⁹ It does not mean that there must be an obligatorily referential control for all purposive construction types, but that there is a strong tendency to share one argument in semantic terms. The tendencies for actor controllers, instead of undergoer controllers, in these corpora can be due to the predicate types in the main unit (e.g. activity vs. non-activity, intransitive vs. transitive). All these patterns would need to be checked systematically in a larger sample in Spanish and other languages.

controllers. It applies to matrix predicates which are M-transitive (i.e., take two macroroles), and M-intransitive (i.e., take one macrorole).

(16) Theory of obligatory control (Foley and Van Valin 1984):

- a. Causative and jussive verbs have undergoer control (Control_U)
- b. All other (M-)transitive verbs have actor control (Control_A)

One of the most striking facts about control phenomena, as defined in (16), is how consistent control properties are across languages (Van Valin 2005: 241). In English (17), Lakhota (18), and Dyirbal (19), for instance, the controllee inside the complement clause is left unfilled, i.e., the linked verb occurs in an infinitive verb form. From examples like these, the conclusion has been drawn that the typical instance of obligatory control involves a covert argument in the complement clause; neither free nor bound pronouns are assumed to be possible (Stiebels 2007). In English and Dyirbal, the controllee inside a purpose clause is also left unfilled. The Lakhota and Dyirbal examples come from Van Valin (2005: 241).

(17) English

- a. *Chris tried to see Pat* Control_A
- b. *Kim persuaded Pat to go to the party* Control_U
- c. *Robin promised Sandy to wash the dishes* Control_A
- d. *Pat brought the book to read* Control_A
- e. *Pat brought the book for her sister to read* Control_U

(18) Lakhota

- a. [*Wówapi ki Ø-yawá*] *i-bl-ítthe* Control_A

book the INAN-read read-1SGA-try

‘I tried to read the book.’

b. *Wówapi ki hená Ø-yawá-wičha-wa-ši* Control_U

book the those INAN-read-3PLU-1SGA-tell

‘I told them to read those books’

(19) Dyrbal

a. *Bayi yaŕa-Ø walma-nu [wayŋɖi-li]* Control_A

NM.ABS man-ABS get.up-TNS go.uphill-PURP

‘The man got up to go to the hill.’

b. *Balan yabu-Ø baŋgul ŋuma-ŋgu* Control_U

NM.ABS mother-ABS NM.ERG father-ERG

gigan-n [banagay-gu]

tell-TNS return-PURP

‘Father told the mother to return.’

Acehnese is a language well-known for the special treatment of ‘grammatical’ relations in terms of actor and undergoer (Durie 1985; Van Valin 2005). As for control structures, verbs like *try*, *begin*, *intend*, and *want* allow the controlled actor to be optionally unfilled, as in (20a-b), and this is also true for undergoer control verbs, in (20c-d). Among other factors, the presence/absence of the controllee may be determined by the occurrence of some clause linkage markers introducing the linked unit, as *nak* (20b) and *beu* (20d), i.e., alternative clause linkages. As for purpose clauses, in (20e) the main actor controls the identity of the dependent

actor and there is an explicit pronominal clitic in the linked unit, i.e.,
there is not a gap.

(20) Acehnese (Austronesia, Durie 1985: 253-7)

- a. *h'an=lôn=têm [(lôn=)jak u=keude lôn]* Control_A
 NEG=1SG=want 1SG=go to=town 1SG
 'I don't want to go to town.'
- b. *abang geu=meukeusu* Control_A
 elder brother 3SG=intend
[nak=geu=ceume'ucah uroe=nyoe]
 DES=3SG=clear.scrub day=this
 'The elder brother intends to clear scrub today.'
- c. *soe yue'=neuh [(*neu)=jak keu=noe]* Control_U
 who order=2SG 2SG=go to here
 'Who ordered you to come here?'
- d. *ka=lôn=yue* Control_U
 IN=1SG=order
[jih beu=ji=peugot pinto=nyoe]
 3SG DESID=3SG=fix door= this
 'I told him to fix this door.'
- e. *[ku_i]=jak =[seumayang]* Control_A
 1SG = go= pray
kee_i dilee u = krueng
 1SG now DIR = river
 'Now I am going to pray to the river.' (p. 196)

In Chuj (Mayan), an ergative language, actor control verbs like *want* demand the controllee to be filled inside the complement unit (21a). It is not strange, therefore, that in purpose clauses where the main and the linked actors are identical, the controllee emerges as a bound pronoun (21b), i.e., there is no gap.

(21) Chuj (Mayan; Buenrostro 2007)

- a. *tz-ø-in_i-nib'ej* Control_A
 NCOMPL-3B-1A-want
 [tz-in_i-b'at t'a Chinapjul]
 NCOMP-1B-go PREP Huehuetenango
 'I want to go to Huehuetenango.'
- b. *ix-in_i-ja-i'* Control_A [to ol-in_i-wa'-ok]
 COMPL-1B-eat-INTR CLM FUT-1B-walk-IRR
 'I came to eat.'

3.3. Structural and inherent control relations

Although there is a tendency for the so-called 'equi-deletion' phenomena in complementation, there is also a wide range of variation in the world's languages when encoding co-referential arguments inside of complex constructions, i.e., Acehnese and Chuj complement clauses taking a covert but still semantically bound controllee. Based on cross-linguistic observations, Stiebels (2003, 2007) has developed a different view of control phenomena within complementation.¹⁰ When discussing control and argument realization, she distinguishes structural vs. inherent control

¹⁰ Stiebels shows very interesting cases of non-obligatory control relationships, i.e., variable, shift, partial and even split control readings, with verbs like *propose*, *ask*, *want*, *order*. See also Landau (2000) and Jackendoff and Culicover (2003).

based on the lexical manifestation of the controllee. Among other properties, there is *structural* control (i.e., missing syntactic elements, gap, empty slots, null NPs), and *inherent* control (i.e., overt pronouns, clitics, agreement-inflection), as long as the referential properties of an overt controller determine the referential properties of a silent controllee (Stiebels 2007: 2).

Accordingly, the crucial feature of control is the obligatory co-reference of two arguments inside a complement sentence. This definition does not impose any requirement with regard to the structure of the whole construction or the status of the arguments involved in the controller-controllee relation, meaning it allows for the inclusion of a wider range of data excluded by the standard control approaches. What is more, if control is understood as a semantic relation of co-reference between two arguments, then we may provide a unified characterization of control phenomena for complement and purpose constructions: some languages may choose structural control (e.g., gap), others may select inherent control (e.g., bound pronouns), and others may have both options (e.g., gaps for ‘subject’, and bound pronouns for ‘object’ controllee).

English demands structural control for actor and undergoer control verbs, as illustrated in (17a-c) above. For purposive constructions, there is structural control when the referential identity of the linked actor is controlled by the main actor, as in *Pat brought the book to read* (17d), and when the main undergoer controls the linked undergoer, as in *Pat*

brought the book for her sister to read (17e). When the main undergoer controls the referential identity of the linked undergoer, there may be structural control in a sentence like *Pat brought the book for her sister to read*, and inherent control in *Pat brought the book in order for her sister to read it*. As Cutrer reveals, the last controller-controllee pattern is the result of different clause linkages, i.e., core juncture demands structural control, whereas clause juncture exhibits inherent control (§5).

In Spanish, on the other hand, there must be structural control with actor control verbs (22a, c) and undergoer control verbs (22b). As for purposive constructions, there is structural control when the main actor and the linked actor are identical (22d), but there can be both control types when the matrix undergoer controls the referential identity of the linked undergoer (22d, e). The next question would be which semantic or pragmatic factors are involved in each linkage type for each language, and that goes beyond the goal of this paper.

(22) Spanish equivalents of English examples in (17)

- | | | |
|----|---|----------------------|
| a. | <i>Cristina intentó ver a Paty</i> | Control _A |
| b. | <i>Kim convenció a Paty para ir a la fiesta</i> | Control _U |
| c. | <i>Ruben le prometió a Sandra lavar los platos</i> | Control _A |
| d. | <i>Paty compró el libro para leer(lo)</i> | Control _A |
| e. | <i>Paty le compró el libro a su hermana para leer</i> | Control _U |

In Yaqui, actor control predicates demand structural control (23a), and the same must be true in purpose clauses with identical actors (23b).

There are alternative structures for jussive verbs; there is structural

control when the main undergoer controls the linked actor within a core juncture (23c), but inherent control when the linkage involves a clause juncture (23d).¹¹ When the controller-controllee relation involves the main and linked undergoer, there is again inherent control (23b). In (23e) there are two control relations and none involve the main actor: the main undergoer (recipient) controls the linked actor (i.e., structural control), and the main theme controls the dependent theme (i.e., inherent control).

(23) Yaqui (Guerrero 2006, 2012, under review)

Complement clause: structural actor control

- a. *Ivan-Ø_i kaa _i ubba-bae-k*
 Ivan-NOM NEG bath-DESID-PFV
 ‘Ivan didn’t want to bath.’

Purpose clause: structural actor control

- b. *Empo_i tractor-ta_j jinu-k*
 1SG.NOM tractor-ACC buy-PFV
 [*_i a_j u’ute-bae-kai*]
 3SG.ACC fix-DESID-CLM
 ‘I bought the tractor to fix it.’

Complement clause: structural and inherent undergoer control

- c. *Empo_i Goyo-ta_j tekil-ta _j tekipanoa-ne-sae-k*
 2SG.NOM Goyo-ACC land-ACC work-POT-order-PFV
 ‘You ordered Goyo to work the land.’

- d. *Empo_i Goyo-ta_j sawe-k*

¹¹ In Yaqui, the verbal affix *-tua* ‘cause’ yields nuclear juncture, while *-sae* ‘order’ exhibits core juncture; only the latter allows the linked verb to be marked by the potential suffix *-po*, but never *-tua*, i.e., operator dependency (see Guerrero 2006).

2SG.NOM Goyo-ACC order-PFV
 [tekil-ta a_j tekipanoa-ne-'u]

land-ACC 3SG.ACC work-POT-CLM

‘You ordered Goyo to work the land.’

Purpose clauses: structural and inherent non-actor control

e. *Min-Ø_i yoi-ta_j kaba'i-m_k reuwa-k*

Fermín-NOM foreigner-ACC horse-PL lend-PFV

[am ____j wiria-ne-betchi'ibo]

3PL.ACC feed-POT-CLM

‘Fermín lent the foreigner the horses so that he would feed them.’ (lit. in order for him to feed them)

In Toqabaquita, both complement-taking predicates and purpose clauses involve inherent control. The main actor and the linked actor in (24a-b) are co-referential, and there is a bound pronoun inside the linked unit. In the purpose clause in (24c), there are again two controller-controllee relationships, first among the actor participants in each core, and then between the undergoer participants; for the second, there is a co-referential pronoun in the dependent verb. Notice that the referential phrase introducing the actor appears inside the dependent unit, instead of the main unit, i.e., backward control.

(24) Toqabaquita (Austronesian; Lichtenberk 2008)

Complement clauses: inherent actor control

a. *Nau ku_i thathami-a [kwai_i*

1SG 1SG.NFUT want-3.OBJ 1SG.FUT

rongo-a qa-kuqauqunu fasi qoe]

hear-3.OBJ SBEN-1SG story ABL 2SG

‘I want to hear (some) stories from you.’ (p. 1003)

Complement clause: inherent undergoer control

b. *Kera tako fale_i*

3PL.NFUT ask.sb.to.do.st 1SG

[nau_i kwaiili-a raa]

1SG.FUT do-3.OBJ work

‘They asked me to do (some) work.’ (1137)

Purpose clauses: inherent undergoer control

c. *Tari-a_i teqe iqa_i*

chase-3.OBJ one fish

[fasi qoko_j thau-ngi-a_i]

PURP 2SG.SEQ kill-TR-3SG.OBJ

‘Chase one fish so that you may kill it.’ (p. 1146)

The fact that the lexical manifestation of the controllee in complement constructions may vary within the same language, suggests that the cross-linguistic study of obligatory and non-obligatory control phenomena is much more complex than traditionally assumed (Stiebels 2007). What is important here is that purposive constructions may follow the same controller-controllee semantic relations, as well as the lexical manifestation of the controllee found in control predicates. In contrast to control verbs, to determine the range of obligatory vs. non-obligatory

control relations for purposive constructions requires more corpus-based studies in the languages of the world. Meanwhile, we found some tendencies of semantic roles for English (Cutrer 1993), Spanish and Yaqui. For instance, if the main predicate encodes motion or change of position, then the main actor obligatorily controls the dependent actor; if the main predicate involves a transitive verb expressing possession, transfer or use-verb types, the main undergoer obligatorily controls the linked undergoer. If there is a human undergoer (recipient) involved in the main unit, there is a strong preference for a control reading of the linked actor. In the next and final section, I share a preliminary analysis of purposive constructions in terms of RRG constructional schemas.

4. A constructional schema for purpose clauses

Role and Reference Grammar discusses a wide range of grammatical phenomena and linguistic variation of simple and complex sentences. The analysis considers the syntactic and semantic representations of a particular sentence and how they are related to each other, as well as the discourse-pragmatic factors that may intervene between the two representations; there is also a set of rules, called the linking algorithm, that establish how the syntax, semantics and pragmatics link to each other in a particular sentence (Van Valin 1993, 2005; Van Valin and LaPolla 1997).

Cross-constructional and cross-linguistic generalizations are captured in terms of general principles and constraints established in the

linking algorithms, e.g., the actor-undergoer hierarchy, the layered structure of the clause (LSC), the privileged syntactic argument (PSA) selection hierarchy, and so on. Only the idiosyncratic, language-specific features of constructions are represented in constructional schemas. There are constructional schemas that account for the particular properties of passives, antipassives, conjunction reduction and wh-questions. Hence constructional schemas, by virtue of their reference to general principles, permit the capturing of cross-linguistic generalizations, while at the same time expressing language-particular properties of grammars (Van Valin 2005: 131-2).

In order to account for both, complements and purposive constructions cross-linguistically, control constructions in RRG require some modifications to the syntax-semantics algorithm, and some construction-particular specifications.¹² In Van Valin (2005: 250), the linking algorithm was modified in order to account for the theory of obligatory control in complement sentences. Having determined the voice of the verb, the RPs functioning as the actor and underger and other core arguments (step 1), the relevant adjustments apply after the logical structure of the clause is retrieved (step 2), and the linking of macrorole and non-macrorole core argument have taken place (step 3). Thus, before linking a predicative adpositional adjunct, a new step is added:

¹² For details on the analysis of control constructions and the linking algorithm, see §7.3.1 (Van Valin 2005).

- (25) 4. In non-subordinate core junctures, one of the arguments of the matrix core must be linked to an argument position in the embedded logical structure, following (16) above.

This step in the linking algorithm establishes, on the one hand, that there is a control relation among an argument in each core inside a non-subordinate core juncture, and, on the other, that the controller selection follows the theory of obligatory control based on the semantics of the matrix predicate, i.e., it is a construction-specific feature. A purpose clause cannot function as a core argument, but as an adjunct (or argument-adjunct), thus extra information may be needed with respect to the semantics of the clause. In order to extend the analysis to purpose clauses, we may add to (25) the specifications below; (a) and (b) apply to both, complement and purpose relations:

- a. if the construction demands structural control, then the linked argument must be unfilled, i.e., the syntactic controllee in English, Lakhota, Dyrbal
- b. if the construction demands or allows inherent control, then the linked argument can be filled by a bound pronoun, clitic, or agreement-inflection, i.e., the semantic controllee in Acehnese, Chuj, Yaqui, Toqabaquita
- c. when the linked unit functions as an event adjunct, the control relations may follow the semantics of the main unit, and the *Referential control* hierarchy (below); pragmatics and

real world knowledge can also influence the choice of the controller:

the referential identity of an argument in the linked unit is controlled by the main undergoer > the main actor > another main argument > there is no control relation.

Cutrer already establishes two clause linkage types expressing a purpose relation in English. There is a core juncture in which there must be a syntactically shared argument, i.e., structural control in (4.a); and there is a clause juncture in which there is a (semantically) linked pronoun, i.e., inherent control in (4.b). In the latter only, the dependent unit is formally introduced by the clause linkage marker *in order*, and it can be clause-initial. While the semantics is apparently the same, the structural differences are due to the degree of syntactic tightness of each linkage. Furthermore, the crucial feature of non-subordinate core juncture is a shared semantic argument between or among the linked cores, and this shared argument requires modifications of the linking algorithm (Van Valin 2005:240): when the controllee is left unfilled in a non-subordinate core juncture, then the number of core slots inside the linked unit reduces by 1 (e.g., unfilled, structural control).

As a preliminary proposal, the constructional schema in Table 3 tries to capture the properties of a sentence like *Pat went to buy a book*. Because there is only one macrorole direct core argument in the matrix unit, there is only one choice for the controller, e.g., the actor.

CONSTRUCTION: English purpose core cosubordination
SYNTAX: Juncture: core Nexus: cosubordination Construction type: adverbial non-subordination [_{CL} [NP [_{CORE} [[_{CORE1} ...] [_{CORE2} ...]] (NP)]] Unit template(s): default PSA: the controller is the matrix actor in CORE ₁ the controllee is the linked actor in CORE ₂ Linking: reduces the number of core slots by 1, i.e., structural control (4.a) following (25)
MORPHOLOGY: Verb: infinitival Controllee ₁ : unfilled CLM: none
SEMANTICS: One action is done with the intent of realizing another state of affairs
PRAGMATICS: Illocutionary force: unspecified Focus structure: unspecified

Table 3. Constructional schema for English core cosubordination
Pat went to buy a book

The obligatory control relation follows from the meaning of motion-*cum*-purpose, e.g., a participant moves to one place with the intention to realize another event. In the example in (20e) from Acehese, there is also an obligatory control relation among the two actors, but here the number of core slots in the dependent unit is not reduced, i.e., it is a case of inherent control. In other words, there is not a syntactic but a semantic pivot, since the interpretation of *kee-* follows the predictions of the theory of obligatory control of a motion-*cum*-purpose clause, i.e., actor control.

CONSTRUCTION: Acehese purpose core coordination
SYNTAX: Juncture: core Nexus: coordination Construction type: adverbial non-subordination

CLM: none
SEMANTICS: One action is done with the intent of realizing another state of affairs
PRAGMATICS: Illocutionary force: unspecified Focus structure: unspecified

Table 5. Constructional schema for the English core coordination
Pat brought the book for her sister to read

Finally, the constructional schema in Table 6 captures the syntactic and semantic properties of clausal cosubordination in a sentence like *Pat brought the book for her sister in order to read it*. Cosubordination at the level of the clause yields a looser linkage, in which the two units depend on the expressions of one or more of the operators for that level. Because of its nature, purpose must express a future-oriented motivating event, and so the linked verb must be unmarked or be marked in a special way (e.g., hypothetical, irrealis, subjunctive), i.e., operator dependency at the clause level.¹³ In here, there is an inherent control relation among the undergoers in each core, but a structural control situation with regard to the linked actor.

CONSTRUCTION: English purpose clausal juncture
SYNTAX: Juncture: clausal Nexus: cosubordination Construction type: adverbial non-subordinate clause $[_{CL} [_{CORE} NP [_{NUC...}] (NP)] CLM [_{CORE} [_{NUC...}] (NP)]]$ Unit template(s): default PSA ₁ : the controller is the matrix undergoer in CORE ₁ the controllee is the linked undergoer in CORE ₂ PSA ₂ : the controller is an NMR oblique core argument in CORE ₁ the controllee is the linked actor in CORE ₂ Linking: reduces the number of core slots by 1, i.e., inherent control for PSA ₁ (4.b), but structural control for PSA ₂ (4.a)

¹³ In contrast, in a reason clausal subordination like in *Pat brought the book to her sister because she really wanted to read it*, the linked verb is fully marked by tense and mood.

following (25)
MORPHOLOGY: Verb: infinitival Controllee ₁ : filled Controllee ₂ : unfilled CLM: <i>in order</i>
SEMANTICS: One action is done with the intent of realizing another state of affairs
PRAGMATICS: Illocutionary force: unspecified Focus structure: unspecified

Table 6. Constructional schema for the English clause cosubordination
Pat brought the book in order for her sister to read it

5. Final remarks

Role and Reference Grammar tries to provide the simplest and most general analysis possible of any construction with as little formal stipulation as possible, and so it provides just the kind of theory of the syntax-semantics interface that is adequate for the analysis of cross-linguistic variation. Hence, a unified account for control phenomena is possible, if control is understood as a referential dependency among a matrix argument, and an argument of the linked unit. The controller selection is determined by the semantics of the main clause, i.e., construction-specific, while the lexical manifestation of the controllee, that is, structure or inherent control, can be specified inside the constructional schemas, i.e., language-specific feature. Cutrer (1993) offers some semantic and pragmatic considerations for English purposive constructions. Nonetheless, in order to deeply understand the pragmatic motivations behind the selection of one linkage type over another, i.e.,

structural vs. inherent control, more corpus-based studies are necessary. In addition to real world knowledge, data from oral or textual corpora will allow us to examine the discourse context affecting the type of referring expressions that are chosen in particular purposive constructions, that is, the status and coding of referents in terms of focus structure.

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