Abstract

This paper explores the syntactic and semantic properties of purpose clauses following the Interclausal Relation Hierarchy as proposed by Role and Reference Grammar. Based on data from Southern Uto-Aztecan languages, I show that the way purpose relations are expressed make use of different syntactic linkage types even within the same language. The analysis shows that these linkage types entail different degrees of syntactic tightness, i.e., from nuclear cosubordination and core coordination, to ad-core subordination. A first attempt to establish the logical structure for these purposive linkage types is also proposed.

Keywords

Purpose clause, clause linkage, RRG, Uto-Aztecan

1. Introduction

This paper explores the syntactic and semantic properties of purpose clauses in Southern Uto-Aztecan languages, within the framework of Role and Reference Grammar [RRG] (Van Valin and LaPolla 1997; Van Valin 2005). Compared with other adverbial constructions, purpose clauses have received less attention, and

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1 This work is a revised version of the paper presented in the 2009 Role and Reference Grammar International Conference. An extended analysis on purpose clauses in Yaqui can be found in Guerrero (in review); a comprehensive typological overview of control relations and purpose clauses within Role and Reference Grammar is present in Guerrero (in press, 2011). This study was possible thanks to funding from CONACyT (project No. 83529).
most of the studies have been based on English (Thompson 1985; Jones 1991) except for the recent typological studies presented by Verstraete (2008) and Schmidtke-Bode (2009).

In regards to the study of purpose clauses, one is confronted with two apparently conflicting assumptions. Syntactically, purpose clauses are considered as a type of adverbial subordination, i.e., an argument-adjunct (Jones 1991) or a peripheral unit (Van Valin and LaPolla 1997; Ernst 2001: 355). Semantically, purpose clauses share certain meanings with other adverbial sentences such as consequence (reason and cause clauses), and future-oriented (sequential clauses), but they also share the notion of intention with certain complement sentences (modal clauses) (Givón 2001; Cristofaro 2003). In turn, purpose can be grouped with other semantic relations within the domain of adverbial subordination, such as cause and reason, or can be aligned with certain complement relations as in desideratives. In the former, the syntactic and semantic properties of the dependent unit are minimally restricted by the main clause, as long as the event is unrealized. In the latter, some properties can be determined by the whole clause similar to the way in which complement-taking predicates specify the morpho-syntactic properties of a dependent unit.

Syntactically, a purpose clause can have a range of manifestations. In English, for instance, a purpose clause can be formally introduced by a to-infinitive clause, as in John went out to run, by the complex preposition in order to, as in “John went to the CEO office in order to apply for the new position”, or by the special conjunction so that as in “John left early so that he won’t be late for the job interview”. In Guarijio, a Southern Uto-Aztecan language, at least three linkage types can be identified as the most common and unambiguous clauses coding a purpose relation: motion-cum-purpose (1a), intention (1b), and finality (1c). In the 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 (i.e., equi-deletion).

(1) Guarijio

a. Motion-cum-purpose linkage type
   wa’á maní, _i  eci-po=sa e’ego
   there be, sow-MOV.PURP.PL=EMPH then
   “There is the corn, go to sow it then.” (Miller 1996: 110)

b. Intentional linkage type
   Neei ehturiáwa-ni [ _i  merikó ini-nári=a]
   1S.SG study-PRS doctor be-DESID=EMPH
   “I am studying in order to become a doctor.” (Félix 2005: 322)

c. Finality linkage type
   Tiburcioi hená [ka’í amój _i  tewi-mí ruhka]
The aim of this paper is twofold: to provide an overview of the clause linkage patterns expressing a purpose relation in Southern Uto-Aztecan languages, and to show that purpose clauses trigger a high degree of syntactic and semantic integration in terms of argument coding, operator restrictions, and the occurrence of clause linkage markers. Moreover, purpose clauses commonly entail a referential dependency among an argument of the main unit and an argument of the linked unit. As for the Guarijio examples above, the first two types are limited to actor control relations, that is, the actor of the main unit and the actor of the dependent unit must be co-referential, whereas the finality type allows actor and undergoer control relations. The next two sections characterize motion-cum-purpose, intentional and finality clause linkages in Uto-Aztecan languages. The degree of syntactic integration is analyzed in §2, while the juncture-nexus relations for each of these linkages are presented in §3. For the semantic dimension (§4), a new sub-hierarchy is proposed in order to distinguish the different patterns of control relations found in purpose clauses. Finally, §5 concludes this paper.

Two mayor branches are recognized for Uto-Aztecan family, the Northern branch (spoken mainly in the United States) and the Southern branch (spoken in Mexico and El Salvador). This study focuses on languages from the Southern branch. Five major groups are generally recognized: i) Tepiman (Southern and Northern Tepehuan, Mountain Pima, Lower Pima, O’odham; ii) Taracahitan (Tarahumara varieties, Guarijio, Yaqui, Mayo), iii) Tubar (extinct), iv) Corachol (Cora, Huichol), and v) Nahuatl varieties (including Classic Nahuatl and Pipil).

As a family, Uto-Aztecan languages show synthetic/agglutinant, head-final properties, and follow a nominative-accusative case system. Except for Yaqui, the other languages have lost the case markers on the nouns, but most of them keep track of the nominative vs. non-nominative distinction on the pronominal system. In addition, Nahuatl variants, Cora and Huichol behave as head-marking languages since pronominal forms are obligatorily attached to the verb. The data used in this paper come from published reference grammars, grammatical sketches, articles, papers, as well as other linguistic materials. Most of the Yaqui data come from my own fieldwork on this language.

2. The syntax of purpose clauses

A purpose construction is a clause that encodes a particular conceptual relation between two events, such that one of the events (the main event) is performed with
the goal of obtaining the realization of another one (the purposive event) (Cristofaro 2003: 157). In Southern Uto-Aztecan languages three major syntactic linkages have been identified as the most common and unambiguous linkage patterns expressing purpose: motion-\textit{cum}-purpose, intentional and finality. Each of these linkage types has features that distinguish it from the others, yet some properties are consistently present across all construction types, i.e., the main participant’s volition, a future-oriented event, and a strong preference for a shared participant.

2.1. Motion-\textit{cum}-purpose linkage

Very commonly, purpose clauses concern the purpose of motion, for example, the main participant might go somewhere in order to obtain the realization of the intended event. This means that the main actor and the dependent actor must be identical. In these cases, then the unmarked strategy links together the motion event and the desired event, with the two units usually sharing the TAM operators, and the two are placed together without a CLM. In Pima (2a) the motion and the intended events are contiguous independent verbs, while in Yaqui (2b) and Southern Tepehuan (2c), the motion event immediately follows the desired event deriving some sort of co-lexicalization.

(2) a. Huma hihim [i va’igiti ſgai]
    together RED.go bring DEM
   “Together they went to bring them.” (Pima; Estrada 1998: 34)

b. Joan-Ø aabo koko-se-k
   Joan-NOM here sleep-MOV.PURP.PL-PFV
   “John came to sleep here.” (Yaqui)

c. Maic-ach tu-’i’-po-’ gu atuhl mu-cućiñ
   EXH-1NOM.PL EXT-drink-MOV.PURP.PL-FUT DET gruel there-kitchens
   “Let’s go drink gruel at the ceremonial kitchens.”
   (Southern Tepehuan; Willet 1991: 171)

There have been claims that purpose clauses do not logically entail the participants of the dependent unit, and that the performer of the main action does not necessarily controls the realization of the dependent one (Cristofaro 2003: 157). Yet the most striking characteristic of purpose clauses is the occurrence of unexpressed participants in the linked unit. When the main and dependent actors are the same, there may be a missing syntactic argument in the dependent unit which must be identical to the matrix actor; this is the case for all the examples in (2). However, the dependent actor can be overtly expressed as a pronominal form attached to the verb in those languages showing head-marking properties. For
instance, Pajapan Nahuatl has two alternative structures involving a motion event in the main unit. In (3a), the two events are expressed in a complex predicate, and so the actor is expressed only once; in (3b), the two verbs are independent of each other and each must express its core arguments pronominally.

(3)  a. Ti-cho:-ga-ti-wis
    2S.SG-cry-LINKER-come
    “You came to cry.” (Pajapan Nahuatl; Peralta 2007)

    1S.SG-go    1S.SG-3PO-cut-AND a.lot chile
    “I am going to cut a lot of chile.”  (Pajapa2n Nahuatl; Peralta 2007)

Because of its very semantic nature, the TAM information in purpose clauses is usually unmarked or is restricted to future, potential, irrealis, or subjunctive forms as long as it is posterior to the time expressed in the main event. Thus, in a motion-cum-purpose linkage, the two events share all TAM operators, and they are usually marked on the main activity; the only exceptions are co-lexicalized units, as in (2b) above, where the TAM operators are attached to the last verb. In fact, the situation regarding TAM operators within the family is to some extent complicated. On the one hand, there are no “pure” tense markers, but rather tense aspect markers. On the other, the tense and aspect suffixes expressing future, irrealis, potential as well as purpose seem to be historically derived from two sources: either from the suppletive motion stems *-sV/-pV “go (sg/pl)” or the “die” stem *-mV/-kV (sg/pl). Thus, the morphological glosses of these suffixes in the literature go from pure future tense marker, to inceptive, potential, to motion and purpose (4). The Nahuatl “andative” suffix -ti/-to (sg/pl) in (3) can be also related to motion, which explains why in the Sierra variant the suffix -ti is glossed as “timeless directional” (4c).²

(4)  a. Ne             mi             sú-n-ma                   sipúcha.
    1SG.NOM    2SG.ACC    sew-APPL-FUT.SG    skirt
    “I am going to sew a skirt for you.” (Tarahumara; Caballero 2008: 245)

b. Ne-pi-heu-wakaxi-nanai-mie
    1SG-ASI-TRAV-cow-buy-INC.SG
    “I will go to buy more cows.” (Huichol; Iturrioz & Gómez 2006: 205)

c. Ki-mach-ti-to
    3SG.O-learn-CAUSE-DIR.PAST

² Whether these morphemes synchronically encode purpose, genuine motion or purely tense meanings is a question that awaits further studies. See Haspelmath’s proposal (1989) on the evolution of infinitive-like forms from purposive actions.
“He went to teach him.” (Sierra Nahuatl; Robinson 1970: 57)

The example in (5a) shows that a deontic modal operator as -maachi “should” in Yaqui has scope over the two units in a motion-cum-purpose clause, i.e. what Lupe should do is both, go somewhere and buy the meat. Languages might also show a different purpose structure in a situation where the main action takes place in order to prevent another event from occurring. Data on negative purpose is significantly sparse, but some constraints are clear: motion-cum-purpose limits the scope of negation to the main action only (5b).

(5)  a. Lupe-Øi wakas-ta _i jinu-se-maachi
    Lupe-NOM meat-ACC buy-MOV.PURP.SG-SHOULD
    “Lupe should go to buy the meat.”

   b. Joan-Øi kaa aabo _i kochi-se-k
    John-NOM NEG here sleep-MOV.PURP.SG-PFV
    “John didn’t come here to sleep/ *came here to not sleep.” (Yaqui)

2.2. The intentional linkage

The second strategy, i.e., the intentional type, is something between the motion-cum-purpose and the finality linkage types. On the one hand, the main activity may be a motion predicate, as in the former strategy, though it may involve another activity instead. Unlike in the motion-cum-purpose strategy, however, there is a special verbal marker on the dependent unit expressing some sort of volition and purpose. There are two sub-types of this construction, characterized primarily by the type of the verbal marker used. The first sub-type takes a desiderative verbal suffix attached to the intended event, as shown in Yaqui (6a) and Guarijio (6c) below. Notice that in (6b) and (6d), the verbal suffixes -bae and -nári function as modal complement-taking predicates, i.e. co-lexicalization.

(6)  a. U o’ou-Øi bwite-k [maso-ta _i me’e-bae-kai]
    DET man-NOM run.SG-PFV deer-ACC kill.SG-DESID-CLM
    “The man ran in order to kill the deer.” (Yaqui)

   b. U maso-Ø bwite-bae-k
    DET man-NOM run.SG-DESID-PFV
    “The deer wanted to run.” (Yaqui)

   c. Neéi ehturiáwa-ni [_i merikó ini-nári=a]
    1S.SG study-PRS doctor be-DESID=EMPH
    “I am studying to become a doctor.” (Guarijio; Félix 2005: 322)

   d. I’wa=ni tehiba-nare
    here=1SG.NOM stay-DESID
“I want to stay here.” (Guarijio; Miller 1993: 96)

So far, this linkage type has been identified in Taracahita languages inside the Uto-Aztecan family. Outside the family, it is also attested in Lealao Chinantec (Otomangue), as in (7a), and Fijian (Austronesia), as in (7b).

(7)  a. Ka\textsuperscript{L}-h’\textsuperscript{H}_{\text{i}} [\text{du}^M_2 \text{a}^L_{i-}\text{i}^L_{-i:_{i}}] PAST-move something.INAN.3 PURP NEG-INTENTION-ruin.III3
   “He moved it to another place in order not to ruin it.” (Rupp 1989: 50)

   b. Au\textsubscript{i} ’ana va’a-.levu [me+u\textsubscript{i} bula.bula vinaa’\textsubscript{a}]
   1SG eat a lot DESID+1SG healthy good
   “I ate a lot to be healthy.” (Dixon 1988: 287)

The second sub-type may additionally take the purpose and motion verbal suffix inside the linked unit, like -se/-bo in Yaqui (8a), -mi ~ -mia in Guarijio (8b), and possibly, -mea in Tarahumara (8c). That is, in this linkage type, the linked unit itself may function as a desiderative complex unit in the examples above, or as a motion-cum-purpose clause below, but here, it follows a unit expressing the main action. Notice again that the dependent clause in Yaqui is marked by -kai, whereas in Guarijio it is unmarked.

(8)  a. Bwite-k\textsubscript{\_i} [au\textsubscript{i} esso-se-ka]
run-PFV 3SG.REFL hide-MOV.PURP.SG-CLM
San Hose de Waimam-mewi
San José de Guaymas-DIR
“He ran to hide himself in San José de Guaymas.”
(Yaqui; Johnson 1962, kahe’eeme: 34)

b. ma’chihéna=boga\textsubscript{i} wa’a te’pé-chi [\_i no’o tepóre-mi]
go.out.SG = DEM there house-LOC 1SG.ACC greet-PURP
“He went out of the house to say hello to me.”(Guarijio; Miller 1996: 105)

c. Pé ’yáti\textsubscript{\_i} simí-le [\_i yo-méa]
just quick go-PAST cure-FUT.SG
“He went quickly in order be cured.” (Tarahumara; Burgess 1984: 142)

As with the motion-cum-purpose clause type, the intentional clause type demands the main and dependent actors to be identical. A further restriction of the intentional clause type is that the actor must have volition. Notice that in (6) and (8) above, there is a missing syntactic argument inside the linked event, which is co-referential to the main actor, while in (7) there is a pronominal copy of the actor. With respect to the coding of TAM information, in Yaqui and Guarijio the
dependent event must be completely unmarked in both sub-types, as in (9a-c). In the example (9d), the modal operator -maachi “should” has scope over the two units, i.e., Lupe should buy the meat and should cook the wakabaki.

(9)  a. Wanitai  werumá  puusi-ta-re          [ _i     kawé   nene-nari=a]  
    Juana     big          eye-make-PFV             well     see-DESID-EMPH
    “Juana opened her eyes wanting to see better.” (Guariijio; Félix 2005:321)
  
b. Lili-Øi         aabo     yepsa-Ø  
    Lili-NOM there    arrive.SG-PRS  
    [ _i     jiak-nok-ta             ne-u         taa’a-bae-kai]  
    Yaqui-word-ACC  1SG-DIR      know-DESID-CLM
    ‘Lili comes there wanting to learn Yaqui from me.’ (Yaqui)
  
c. asi-rú = mu    [no’ó       wewé-mia]  
    arrive-1.PFV = 2SG.S 1SG.NS hit-PURP
    “You came to hit me.” (Guarrijio; Félix 2005: 148)
  
d. Lupe-Ø      wakas-ta    jinu-maachi [ _i    wakabak-ta        ya’a-bae-kai]  
    Lupe-NOM      meat-ACC      buy-SHOULD      wakabaki-ACC    make-DESID-CLM
    “Lupe should buy meat to cook the wakabaki.” (Yaqui)

With respect to negation, there is a pair of examples in Yaqui where the dependent unit (10b) can be negated independently of the main unit. There are not examples of this type in Guarijio.

(10)  a. ’emo  tobokta-k   [a          _i     kom     yecha’a-bae-kai]  
      REFL.PL      rise-PFV  3SG.ACC  down   put.SG-DESID-CLM
      [kaa      _i     into a      beje’e-bae-kai]  
      NEG            and 3SG.ACC pay-DESID-CLM
      “They rose up to dominate it and did not pay it.”
      (Yaqui; Johnson 1962, hiakim ’etehoi: 30)

In Guarijio, this linkage type is unmarked in terms of CLM, whereas in Yaqui, the dependent unit is marked by the adverbial suffix -kai. The distribution and functions of -kai are hard to typify, but it is limited to same-subject clauses, it demands equi-deletion, and it disallows any TAM information in the verb, which results in a participial- or gerund-like dependent clause. Other Yaqui adverbial clauses marked by -kai include manner clauses and simultaneous temporal clauses.

2.3. The finality linkage

While the first two clause types are restricted to identical actors, the finality clause linkage allows different participants. Additionally, in the finality clause type, the
linked unit is introduced by a special CLM. For instance, in Yaqui the finality clause linkage marked by -betchi’ibo “for, in order to” may be used for identical actors, as in (11a), as well as different actors, as in (11b). When the actors are different, the dependent actor must be marked as accusative. In Guarijio, this structure type make use of extra morphology like the adverbs ruhka and olaga “like this” at the end of the linked unit marked by -mi ~ -mia. Notice again that in (11c) the dependent subject is non-nominative.

(11) a. U o’ou-Øi juya-u siika [i mas-ta me’e-betchi’ibo]
DET man-NOM mountain-DIR go.SG.PFV deer-ACC kill.SG-CLM
“The man went to the mountain to kill the deer.” (Yaqui)
b. U maso-Øi bwite-k [u-ka o’ou-taj ka]
DET deer-NOM run.SG-PFV DET-ACC man-ACC NEG
3SG.ACC kill.SG-POT-CLM
“The deer ran quickly in order for the man not to kill it.” (Yaqui)
c. Tiburcioi hená [ka’í amòi __i tewi-mí ruhka]
Tiburcio come.PFV NEG 2SG.NS see-PURP like.this
“Tiburcio came so that you couldn’t see him.”(Guarijio; Miller 1993: 136)
d. Oí-re [ihí-bo olága]
invite-PAST drink-PURP.PL like.this
“(Hei) invited them ___i+v to drink.” (Guarijío; Miller 1993: 206)

When the actors are different, other instances of semantic correlation among different participants may take place. In contrast to the main actor controlling the identity of the dependent actor in (11a), the main actor controls the dependent undergoer in “the deer ran in order for the man not to kill it” in (11b), and in “Tiburcio came so that you couldn’t see him” in (11c). In (11d), the controller of the missing argument includes the main actor and someone else. A more complex situation is found when the main clause is transitive. In (12a) the main undergoer controls the identity of the missing actor in the linked unit; though the theme is also shared, there is a co-referential pronoun am “them” in the dependent unit. In (12b) the main undergoer controls the identity of an optional instrument phrase.

(12) a. Min-Øi u-ka yoi-taj kaba’i-mk reuwa-bae
Fermín-NOM DET-ACC foreigner-ACC horse-PL lend-DESID
[_i amk wiria-ne-betchi’ibo]
3PL.ACC feed-POT-CLM
“Fermin wants to lend the foreigner the horses in order for him to feed them.” (Yaqui)
b. Min-Øi u-ka tractor-ta jinu-k
   Fermin-NOM DET-ACC tractor-ACC buy-PFV
   [enchik a-ej bwia-ta tekipanoa-ne-betchi’ibo]
   2SG.ACC 3SG.ACC-with land-ACC work-POT-CLM
   “Fermin bought the tractor in order for you to work the land with it.”

Traditionally, purpose is analyzed as belonging with other adverbial relations like reason and cause constructions (Dixon and Aikhenvald 2009). A feature that distinguishes purpose from other adverbial clauses is temporal anchoring: the linked state of affairs must be unrealized at the time of the former action for purpose, while for reason/causal relations it may be already realized at the time of the main event as long as it is posterior (Kortmann 1997: 86; Hengeveld 1998:357; Ernst 2001:327; Longacre 2007:381). This contrast of finite vs. non-finite units can be seen in Huichol; the purpose clause in (13a) and the reason clause (13b) share the same linkage marker -ki, but only in the latter is the linked unit fully independent with respect to operators.

(13) a. kareta ne_{r}-p-e-nanai [kiye-xi ne_{r}’ikata-mi-ki]
cart 1SG.S-ASI-INV-buy.PFV wood-PL 1SG.S-carry-IMPL-CLM
   “I bought the cart to carry out the wood.” (Huihol; Gómez 1988: 172)
b. tei-pi ‘u-ti-tsuana [tei-mi heu-ta-hiwerie-ki]
   1PL.S-ASI-EXP-MULT-cry 1PL.S-ASI-EXT-UNIT-concern-TNS-CLM
   “We are crying because we were concerned.”
   (Huichol; Iturrioz & Gómez 2006:204)

This does not mean, however, that the dependent verb must be unmarked, but rather that the TAM information is limited to future, potential or other irrealis-like markers. In Yaqui, the dependent verb inside a -betchi’ibo clause may be unmarked or may be marked by the ‘potential’ suffix -ne; contrast (11a) and (11b) above. Moreover, the modal operator has scope within the main action only, hence in (14a) “Lupe” should buy the meat, but she is not obligated to cook it. This follows from the fact that a deontic modal operator can modify the relation between one actor and a sequence of events performed by the same participant, whereas it cannot modify relationships between the actor and distinct states of affairs which may be realized, at least potentially, by a different participant. In addition, only this linkage type allows the occurrence of temporal adverbs independently modifying the dependent unit.

(14) a. Lupe-Ø wakas-ta jinu-maachi
   Lupe-NOM meat-ACC buy-SHOULD
   [i/k wakabak-ta ya’a-ne-betchi’ibo]
Lupe should buy the meat in order to cook the wakabaki.

b. Lupe-NOM meat-ACC buy-PFV
   wakabaki-ACC tomorrow make-POT-CLM
   “Lupe bought meat in order to cook the wakabaki tomorrow.”

In a finality clause type, either the main unit (15a) or the linked unit (15b, c) can be negated.

(15) a. Goyo-NOM NEG here go.SG.PFV 2SG.ACC see-POT-CLM
   “Goyo didn’t come here to see you (e.g. but to see me).” (Yaqui)

b. Goyo-NOM out go.SG.PFV
   2SG.ACC NEG see-POT-CLM
   “Goyo left so that he didn’t see you.” (Yaqui)

c. Tiburcio come.PFV NEG 2SG.NS see-PURP like.this
   “Tiburcio came so that you couldn’t see him.”
   (Guarrijio; Miller 1993: 136)

Since purposes are essentially goal-oriented, they are usually introduced by CLMs commonly specific to benefactive and dative arguments, as well as recipients, allatives, and goals. In Yaqui and Pima, for instance, this clause type makes use of the postposition encoding beneficiaries; contrast the uses of vuika “for” in Pima marking a benefactive (16a) and purposive (16b) unit. Another possible marker seems to be the suffix -ki which marks instrumental (16c), cause and finality (16db) in Huichol; some cognates are found in Guarrijio -ke signaling beneficiary, dative, possession (Félix 2005), and Comache -ki marking cause and beneficiary (Charney 1989).

(16) a. Hi3 SG tortilla-PL 1SG.NS ask 3SG.NS-mother-BEN
   “She asked me for tortillas for her mother.” (Pima; Estrada 1988: 80)

b. Aani1 SG water have.IMPFV drink-FUT-PURP
   “I don’t have water to drink.” (Pima; Estrada 1988: 59)
c. Míiki₃ yu-kiye-ki meᵣ-pe-i-kuuwaazi
   3PL REFL-stick-INSTR 3PL.S-AS-3SG.O-beat
   “They beat him with their stick.” (Huichol; Comrie 1982: 103)

d. Kareta neᵣ-p-e-nanai [kiye-xî neᵣ-’ikata-mî-ki]
   cart 1SG.S-ASI-INV-buy.PFV wood-PL 1SG.S-carry-IMPL-INST
   “I bought the cart to carry out the wood.” (Huichol; Gómez 1988: 172)

The Spanish loanword para “for” is found in same-actor purpose clauses in some Nahuatl dialects (17a-b), regardless of the identity of the actors, while in the complex preposition para que ~ paque “in order to, so that” is used in Pima for different-actor purpose clauses (17c).

(17) a. Nelᵢ nomá-pi niᵣ-pashsal-o-(a)
   1SG.NOM 1SG.S-go CLM there-around 1SG.S-walk-(PRS.S.SG)
   “I am going there in order to walk around.”
   (Mexicanero Nahuatl; Canger 2001: 54)

b. Shi-kî-wahwana [para in ∅ j-kisa-s]
   IMP-3SG.O-scrach CLM DET 3SG.S-get.out-FUT
   “(You) scratch it in order to get the spine out.”
   (Mexicanero Nahuatl; Canger 2001: 137)

c. Huaan him [pake ap koa ap ñiïdim]
   Juan go.SG.PFV CLM 2SG NEG.EMPH 2SG see.PROB.CONT
   “John left so you don’t see him.” (Pima; Estrada 1988: 123)

Finally, in Tarahumara, Tepehuan, and O’odham, finality clauses are introduced by a general subordinator which also introduced complement and other adverbial clauses. These general clause linkage markers appear in the middle of the two clauses; see the marker -na in Southern Tepehuan (18a) and by ma- in O’odham (18b).

(18) a. Gu chi-chioñi bopa-mit [na-mit _i tusa-m gu tai]
   DET RED-man run-PFV CLM-PFV extinguish-O DET fire
   “The men run to extinguish the fire.” (Southern Tepehuan; García 2008)

b. Am a-t hii-x g huanᵢ [ma-t _i wo ñii-x a husi]
   LOC MD-TNS go-PFV DET Juan CLM-TNS FUT see-PFV DET José
   “Juan went to see José.” (O’odham; Saxton 1982: 261)

Diessel (2001) claims that in languages in which adverbial clauses have a final subordinator, the dependent unit tends to precede the main clause, whereas in languages with an initial subordinator, the adverbial unit may occur in either sentence-initial or sentence-final position. For purpose, in particular, it has been
observed that the purposive unit usually follows the main action, although it may also appear pre-posed with a different, more general meaning (Thompson 1985: 61). In the family, the purposive unit prefers to follow the main action regardless whether the CLM appears at the beginning, as in (17) and (18), or at the end of the linked unit, as in the rest of the examples.

In sum, from a syntactic standpoint, a purpose clause can be expressed by means of different clause linkage types. The syntactic and semantic dimensions of these purpose clause types can be neatly captured by the theory of clause linkage as proposed by Role and Reference Grammar; the syntactic dimension is presented in (§3) and the semantic relations in (§4).

3. The juncture-nexus relationships of purpose clauses

In their seminal analysis, Foley and Van Valin (1984: 264) elaborated the concept of syntactic boundedness. The central idea was that the functional-semantic notion of dependence is not equivalent to the purely syntactic notion of embeddedness and structural dependency. Further works within RRG offer an original model for the study of clause linkage. Three theoretical aspects of clause linkage are considered: (i) the theory of juncture, (ii) the theory of nexus, and (iii) the interclausal semantic relation among the units.

The theory of juncture deals with the units which make up complex sentences: nucleus, core, clause and sentence. In a nuclear juncture, there is a single core containing two nuclei taking a single set of core arguments. In a core juncture, there is a single clause containing more than one core, each with its own set of arguments. In a clausal juncture, whole clauses are joined and each clause may be fully independent of the others. The sentence is the major syntactic unit. The theory of nexus concerns the syntactic relationship between the units in the juncture, subordination, coordination, and co-subordination, each type distinguished on the basis of structural or operator dependencies. In subordination, the linked unit functions either as an argument (as in complementation), or as a modifier (as in adverbials). In coordination, the two units are added together in a sequence in a relationship of equivalence and independence at the level of the juncture. Cosubordination shows properties of both: there are two equivalent units joined together (as in coordination), but one unit depends on the other (as in subordination), in terms of operators. What distinguishes cosubordination from coordination is operator sharing: in the former, the linked verb must be dependent upon the matrix verb for expression of one or more operators at the level of juncture, whereas in the latter, the two verbs can, but do not need to be independently specified for the relevant operators.
Thus, the term *clause linkage* denotes linking of units at any layer (nucleus, core, clause, and sentence), through any of these nexus relations, resulting up to eleven combinations organized into the Syntactic Relations Hierarchy ranked in terms of their syntactic tightness, as seen in the first column in Figure 1. The linkage types at the right edge are combinations of whole clauses constituting sentences (e.g. sentential or clausal coordination); moving to the left edge, the linked units lose more and more features of an independent clause until they are reduced to a bare nucleus (e.g. nuclear co-subordination). These syntactic combinations express a wide variety of semantic relations between the units in the juncture, which are organized in terms of their degree of semantic cohesion, presented the second column in Figure 1, next page.

This Interclausal Relation Hierarchy reflects the basic iconic principle governing the interaction of the two hierarchies: the closer the semantic relation between the two propositions is, the stronger the syntactic link joining them. That is, the semantic relations at the top end should be realized by the strongest syntactic combination (e.g. nuclear, core junctures & cosubordination, subordination nexus), whereas perception, cognition and discourse predicates which are at the bottom of the scale, should be realized by the loosest syntactic linkage (i.e. core, clausal junctures & subordinate, coordinate nexus). The semantic relations at the top end should be realized by the strongest syntactic combination (e.g. nuclear, core junctures & cosubordination, subordination nexus), whereas perception, cognition and discourse predicates which are at the bottom of the scale, should be realized by the loosest syntactic linkage (i.e. core, clausal junctures & subordinate, coordinate nexus). It is important to keep in mind that these juncture-nexus types are abstract linkage relations, not grammatical constructions, and languages rarely make use of all of them. This means that each of type may be realized by more than one grammatical construction in a particular language, and vice versa, the same grammatical construction may involve different linkage types.

Subordination involves some further distinctions, since subordinate adjuncts may function either as arguments or adjunct modifiers (Van Valin 2005: 194). Generally, subordinate units within complementation trigger a “daughter” relationship with the main core, while adverbial subordination may occur in the periphery of the core it modifies, i.e. “peripheral” subordination introduced by predicative adpositions like English *where, before or after*. For instance, in “I saw Bartola after she entered the house”, the relationship of after she entered the house is the same as that of the PP “I saw Bartola inside the house”. Following Bickel’s proposal (1993, 2003), this peripheral modification is referred to as “ad-core subordination” in RRG, because the subordinate clause is a modifier of the matrix core and occurs in the periphery of the core. In contrast, adverbial clauses introduced by English *because, if, although* are not in the periphery, but in the periphery of

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3 As a manifestation of the stronger the semantic relation, the tighter the morpho-syntactic bond between the units, it is very common for the function at the top end of the hierarchy to grammaticalize into complex predicates (i.e., nuclear cosubordination) and, lastly, into grammatical morphemes.
the clause unit, i.e., ad-clausal subordination (Van Valin 2005: 194-5). Unlike ad-core subordinate clauses, they do not express the spatial or temporal setting of the event expressed by the core; they express the reason or condition for the event expressed by the clause as a whole, e.g. “Bartola entered the house because it is raining”. It is also predicted that the ad-core subordinate linkage should be closer to the matrix core than the ad-clausal subordinate linkage, since the former is construed as modifying the core, rather than the whole clause.

![Interclausal Relations Hierarchy](VanValin 2005: 209)

Although a more detailed study is needed in order to determine the juncture-nexus relations for each of the Uto-Aztecan languages completely, some generalizations can be made at this point.
Without a doubt, the motion-*cum*-purpose linkage type is the most complex structure to characterize because it may vary from language to language. (i) The main actor and the dependent actor must be identical. Depending on the structural properties of the language in question, the controllee can be covert (i.e., Taracahita, Tepiman) or overt (Nahuatl, Corachol). That is, there is a dependency among the two units in terms of argument coding. (ii) The linked event is future-oriented but it is unmarked; this means that the two linked units must share the relevant TAM operators, including negation, which yields operator dependence as well. (iii) Most of the time, the linked unit lacks a CLM and (iv) the purposive unit follows the main action except in co-lexicalized structures. All these properties together yield nuclear cosubordination or core cosubordination, depending on the valence of the dependent verb. In the former juncture, there is a single set of core arguments (2b-c, 3a), while in the latter there is a single shared argument (i.e. the actor), as in (2a, 3c). The Yaqui motion-*cum*-purpose linkage in (2b) triggers a nuclear cosubordination, as represented in Figure 2.
Figure 2. Nuclear cosubordination in Yaqui (2b)

It may be the case that in clauses like those in (4), there is a periphery modifying the nucleus of the clause, i.e. peripherynucleus, since the purposive marker may be also interpreted as a future or potential aspect marker, e.g. ad-nuclear junctures. If this is so, the representation for the Huichol ad-nuclear subordination clause in (4b) above can be the following:
As for the two sub-types of the intentional linkage, they take a complex predicate inside the linked unit, i.e., either the desiderative verbal suffix, or the motion and purpose suffix. In both cases, (i) the main actor and the dependent actor must be identical and there must be a syntactic missing argument in the linked unit. (ii) The linked event depends on the main unit in terms of the TAM operators, but it may be independently negated. (iii) The linked unit is marked by a same-subject CLM in Yaqui but it is unmarked in Guarijio, and (iv) the purposive unit tends to follow the main action. The fact that the dependent actor cannot be overtly expressed and that the TAM must be shared by the two cores, but not negation, suggests core coordination. In the representation of Yaqui intentional purpose clause in (4a), the linked unit itself takes a nuclear cosubordination linkage type.
The finality linkage type seems to be the most flexible structure, since it is the only one that allows both same-actor and different-actor constructions. (i) When the two actors are identical, the controllee can be covert (Taracahita, Tepiman) or can be overt (Nahuatl, Corachol); when it is overt, the actor commonly appears in a non-nominative form. When the two actors are different, the dependent actor must be explicit; if it is realized as a pronominal form, it must be a non-nominative
form. (ii) The linked event depends on the main unit for tense but not for modal or aspectual information, or even negation. (iii) The linked unit is explicitly introduced by a CLM; in some of the languages, the CLM corresponds to a postposition that also introduces nominal arguments (i.e., benefactives, instruments), while in others, it is a general subordinator marker. All these features result in a less tight linkage type in comparison with the other two, i.e. ad-core subordination. In the representation of the Yaqui purpose clause in (15b), the linked unit is a core unit modifying the matrix core, and so it occurs in the periphery$_{\text{CORE}}$.

Figure 5. Ad-core subordination in Yaqui (15b)
At this point, it is important to know what a typical adverbial construction looks like in these languages in order to understand how a purpose clause differs from these. The examples below illustrate typical cases of ad-clausal subordination in Yaqui. Reason clauses are introduced by bweituk “because” and they may be fully marked by tense, aspect and modal operators, in addition to negation. More importantly, the linked unit explicitly expresses its actor participant as a nominative noun (or full nominative pronoun), as in (19a), regardless it is identical or not to the main actor. In point of fact, reason clauses do not entail any reference dependency among the two units, as in (19b). This linkage type is, therefore, a good example of ad-clausal subordination where the linked unit is a subordinate clause.

(19) a. Tei saja-k [bweituk itepoi ka enchi bicha-k]
1PL.NOM go.PL-PFV because 1PL.NOM NEG 2SG.ACC see-PFV
“We left because we didn’t see you.”

b. [bweituk Mary-Ø ka yepsa-k] te saja-k
because Mary-NOM NEG arrives-PFV 1PL.NOM go.PL-PFV
“We left because Mary never arrived.”
5. The semantics of purpose clauses

Notionally, a purpose clause evokes intention and thoughts, future expectation, and the participant’s willingness for another state of affairs to take place, which alone can be a reason and motivation to do something. In RRG, the interclausal semantic relations are determined by the interaction of sub-hierarchies like those in (21):

(21) Semantic sub-hierarchies (Van Valin 2005; Guerrero 2006)
   a. Temporal hierarchy:
Phase of a single event > simultaneous events > sequential events > unspecified
b. Causal hierarchy: physical > verbal > underspecified [non-defeasible], inferred [defeasible]
c. Participant’s mental disposition [PMD]:
   Intention > internal/direct experience > mental experience: commitment
   > mental experience: reasoning > non-mental experience: report
d. Necessarily shared participant [NSP]: Yes > No

Based on these semantic sub-hierarchies, the three major juncture-nexus relationships are evaluated in Table 1. Notice that the only strategy that can be clearly differentiated is motion-*cum-*purpose which can be conceived as a macro-event where the motion and the intended actions are two phases of a single event (the first value of the temporal scale).

Table 1. Degree of semantic cohesion of purpose clauses

<table>
<thead>
<tr>
<th></th>
<th>temporal</th>
<th>causal</th>
<th>PMD</th>
<th>NSP</th>
</tr>
</thead>
<tbody>
<tr>
<td>motion-*cum-*purpose</td>
<td>1st value</td>
<td>4th value</td>
<td>1st</td>
<td>1st</td>
</tr>
<tr>
<td>intentional</td>
<td>3rd value</td>
<td>4th value</td>
<td>1st</td>
<td>1st</td>
</tr>
<tr>
<td>finality</td>
<td>3rd value</td>
<td>4th value</td>
<td>1st</td>
<td>1st</td>
</tr>
</tbody>
</table>

Within RRG, Curter (1993) and Van Valin (2009) have suggested that in English, purpose clauses optionally share the main actor, e.g. “John bought a book (for you) to read”, while the undergoer must be always shared by the two units. The main undergoer may control the dependent undergoer as in “John bought a book to read *it/to read *the magazine”, as well as the dependent actor as in “John gave her the book in order to sell it”. Moreover, Curter and Van Valin both identify two related but not identical “purpose” clauses based on syntactic grounds involving the pivot in the linked unit. The examples below come from Van Valin (2009):

(22) a. Pat brought the book, for her sister to read ____
   b. *Pat brought the book for her sister to read it
   c. Pat, brought the book, to read ____
   d. *Pat, brought the book to read it
   e. Pat brought the book in order (for her sister) to read it
   f. *Pat brought the book in order (for her sister) to read __

Thus, while sharing the actor is optional (22a) and (22c), sharing the undergoer
is obligatory (22b) and (22d). This property distinguishes between purpose clauses in (22a, c) from rationale clauses in (22e), since in the latter there is no obligatory controller-controllee relationship of any kind (i.e. there is not a missing syntactic argument). See Guerrero (in press, in review, 2011) for an alternative analysis on this topic.

If the NSP sub-hierarchy in (21d) refers to a semantically shared argument semantically, then all purpose linkage types, including rationale clauses, satisfy the first value. In contrast, if this scale is intended for syntactically shared arguments, then only ‘pure’ purpose clauses satisfy the first value; those clauses showing a co-referential pronoun will satisfy the second value.

Indeed, purpose clauses strongly entail a referential dependency among one argument of the main unit and one argument of the linked unit. The controller may be the actor or undergoer, while the controllee may be any argument inside the main unit (Guerrero, in review). The semantic sub-hierarchy in (21e) seeks to capture these patterns of reference control over an argument inside the linked unit.

(21) e. Referential control [RC]
The identity of an argument in the linked unit is controlled by the main actor > by the main undergoer > by another main participant > there is no control relation.

This scale is compatible with the NSP sub-hierarchy but it looks for a referential dependency among two arguments, regardless of the form of the controllee. Thus, the first value reflects such constructions demanding identical actors; the second value represents such structures requiring the matrix undergoer to control the dependent actor, while the third value encodes cases where a control relation holds between any other main argument and any dependent argument.

<table>
<thead>
<tr>
<th>Table 2. The semantic degree of purpose relations (revised)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>temporal</strong></td>
</tr>
<tr>
<td>motion-cum-purpose</td>
</tr>
<tr>
<td>intentional</td>
</tr>
<tr>
<td>finality</td>
</tr>
</tbody>
</table>

A first try to establish the logical structures for these purposive linkages is presented below based on the logical structures proposed in Van Valin (2005: 207).

(23) Logical structures for purposive modifying sub-events (preliminary)
a. Motion-cum-purpose linkage
\[
\text{want}' (x_i, LS_2) \land \text{DO} (x_i, [\text{motion}' (x_i)] \Diamond \text{CAUSE} [_{LS2... x_i...}])
\]
b. Intentional linkage
\[ \text{want}' (x_i, [LS_2 \ldots x_i \ldots]) \land \text{DO} (x_i, [LS_1 \ldots x_i \ldots]) \diamond \text{CAUSE} [LS_2 \ldots x_i \ldots]\]

c. Finality linkage
\[ \text{want}' (x_i, LS_2) \land \text{DO} (x_i, [[LS_1 \ldots x_i \ldots]] \diamond \text{CAUSE} [LS_2 \ldots y \ldots])\]

6. Conclusion

The aim of this paper was to examine the syntactic and semantic properties of purpose clauses in Southern Uto-Aztecan languages. It was shown that purpose clauses make use of different linkage types which concerns different degrees of syntactic and semantic tightness. The Interclausal Relation Hierarchy as proposed by RRG can capture the syntactic and semantic correlations of these linkages, especially if the Reference Control semantic sub-hierarchy is taken into consideration.

List of Abbreviations

| ACC  | accusative     | MOV  | motion       |
| AND  | andative       | NEG  | negation     |
| APPL | applicative    | NOM  | nominative   |
| AS(1) | assertive     | NS   | non subject  |
| BEN  | benefactive    | O    | object       |
| CLM  | clause linkage marker | PAS | passive |
| CONT | continuative  | PAST | past   |
| DEM  | demonstrative  | PFV  | perfective  |
| DESID | desiderative | PL   | plural     |
| DET  | determiner     | PO   | primary object |
| DIR  | directional    | POT  | potential   |
| EMPH | emphatic       | PRO  | pronominal  |
| EXH  | exhortative    | PROB | probable    |
| FUT  | future         | PRS  | present     |
| IMP  | imperative     | PURP | purpose     |
| IMPFV | imperfective | RED  | reduplication |
| INAN | inanimate      | REFL | reflexive   |
| INC  | inceptive      | S    | subject     |
| INSTR | instrumental  | SG   | singular    |
| INV  | invisible      | TNS  | tense       |
| LOC  | locative       | TRAV | traversal   |
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