CLAUSE LINKAGE AND PURPOSE CLAUSES IN SOUTHERN UTO-AZTECAN LANGUAGES

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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[1]

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

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

        Nee$_i$ 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

        Tiburcio$_i$ hená   [ka'í amó$_j$ __$_i$ tewi-mí   ruhka]

Tiburcio   come.PFV   NEG 2SG.NS   see-CLM like.this
"Tiburcio came so that you couldn't see him." (Miller 1993: 136)

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-*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-*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   ɨgai]
          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-cucsiñ
          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)
　　　b.　Ni$_i$-yawi　　　[ni$_i$-k-tegi-ti　　　　　tro:ha　chi:hli]
　　　　　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-pɨ-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

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[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-Ø$_i$ wakas-ta   _$_i$ jinu-se-maachi
         Lupe-NOM   meat-ACC   buy-MOV.PURP.SG-SHOULD
         "Lupe should go to buy the meat."
     b. Joan-Ø$_i$ 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-∅$_i$ 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-∅   bwite-bae-k
         DET man-NOM   run.SG-DESID-PFV
         "The deer wanted to run." (Yaqui)
     c. Neé$_i$ 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   tehíba-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^L-h´ȩʔ^{H}i$_i$ [duʔ^M ʔa^L-ʔi^L-ié:^{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$_i$ 'ana va'a-.levu [me+u$_i$ bula.bula   vinaa'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   _$_i$ [au   _$_i$ 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$_i$ 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   _$_i$ 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.   Wanita$_i$ werumá puusi-ta-re   [_$_i$ kawé nene-narí=a]
           Juana   big   eye-make-PFV   well see-DESID-EMPH
           "Juana opened her eyes wanting to see better." (Guariijio; Félix 2005:321)
      b.   Lili-Ø$_i$ 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." (Guarijio; 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-Ø$_i$ 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-Ø$_i$ bwite-k   [u-ka   o'ou-ta$_j$ ka
      DET   deer-NOM   run.SG-PFV   DET-ACC   man-ACC   NEG
      a$_i$ me'e-ne-betchi'ibo]
      3SG.ACC   kill.SG-POT-CLM
      "The deer ran quickly in order for the man not to kill it." (Yaqui)
   c. Tiburcio$_i$ hená   [ka'í   amó$_j$ ___$_i$ 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
      "(He$_i$) 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-Ø$_i$ u-ka   yoi-ta$_j$ kaba'i-m$_k$ reuwa-bae
       Fermín-NOM   DET-ACC foreigner-ACC horse-PL   lend-DESID
       [$_j$ am$_k$ 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-Ø$_i$ u-ka tractor-ta$_j$ jinu-k
 Fermin-NOM DET-ACC tractor-ACC buy-PFV
 [enchi$_k$ a-e$_j$ bwia-ta tekipanoa-ne-betchi'ibo]
 2SG.ACC 3SG.ACC-with land-ACC work-POT-CLM
 "Fermín 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$_i$-p-e-nanai   [kiye-xi ne$_i$-'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. te$_i$-pi-'u-ti-tsuana   [te$_i$-mi-heu-ta-hiwerie-tsie-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]

wakabaki-ACC   make-POT-CLM
        "Lupe should buy the meat in order to cook the wakabaki."
    b. Lupe-Ø_i   wakas-ta_j   jinu-k
       Lupe-NOM   meat-ACC   buy-PFV
       [__{i/k}   wakabak-ta   yooko   ya'a-ne-betchi'ibo]
            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-Ø_i   kaa aabo siika   [enchi   __i   bit-ne-betchi'ibo]
        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-Ø_i   yeu   siika
        Goyo-NOM   out   go.SG.PFV
        [enchi   __i   kaa   bit-ne-betchi'ibo]
        2SG.ACC   NEG   see-POT-CLM
        "Goyo left so that he didn't see you." (Yaqui)
     c. Tiburcio hená   [ka'í amó   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)

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 *-kɨ* which marks instrumental (16c), cause and finality (16db) in Huichol; some cognates are found in Guaríjio *-ke* signaling beneficiary, dative, possession (Félix 2005), and Comache *-kɨ* marking cause and beneficiary (Charney 1989).

(16) a. Hɨgai tɨmiti-m   in   taan   a-daad-vuika
        3SG   tortilla-PL 1SG.NS ask   3SG.NS-mother-BEN
        "She asked me for tortillas for her mother." (Pima; Estrada 1988: 80)
     b. Aan_i sudag   nukad   [__i i'i-ag-vuika]
        1SG   water   have.IMPFV   drink-FUT-PURP
        "I don't have water to drink." (Pima; Estrada 1988: 59)

c. Miiki_i   yu-kɨye-kɨ   me_i-pe-i-kuuwaazɨ
   3PL   REFL-stick-INSTR   3PL.S-AS-3SG.O-beat
   "They beat him with their stick." (Huichol; Comrie 1982: 103)
d. Kareta   ne_i-p-e-nanai   [kɨye-xi   ne_i-'ikata-mɨ-kɨ]
   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. Nel_i   ni_i-ya   [pa ompá-i   ni_i-pashsalo-(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-ki_j-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   kova   ap   nɨidiam]
        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-chioñ_i bopa-mɨt [na-mɨt __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   huan_i [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). [3] 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$_{CORE}$. In contrast, adverbial clauses introduced by English *because, if, although* are not in the periphery$_{CORE}$, 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.

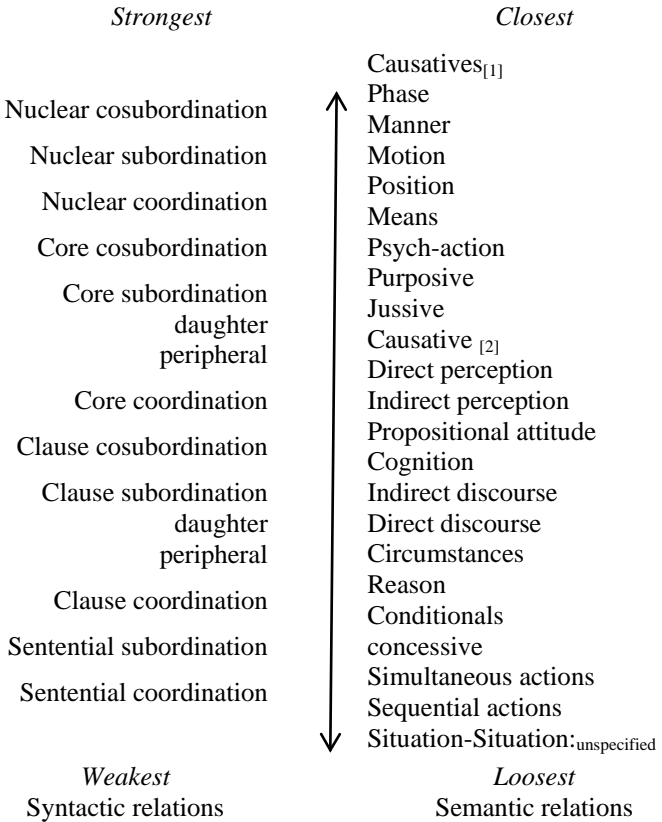| *Strongest*		*Closest*
		Causatives[1]
Nuclear cosubordination		Phase
		Manner
Nuclear subordination		Motion
Nuclear coordination		Position
		Means
Core cosubordination		Psych-action
Core subordination		Purposive
daughter		Jussive
peripheral		Causative [2]
		Direct perception
Core coordination		Indirect perception
Clause cosubordination		Propositional attitude
		Cognition
Clause subordination		Indirect discourse
daughter		Direct discourse
peripheral		Circumstances
		Reason
Clause coordination		Conditionals
Sentential subordination		concessive
		Simultaneous actions
Sentential coordination		Sequential actions
		Situation-Situation:unspecified
Weakest		*Loosest*
Syntactic relations		Semantic relations

Figure 1. 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.
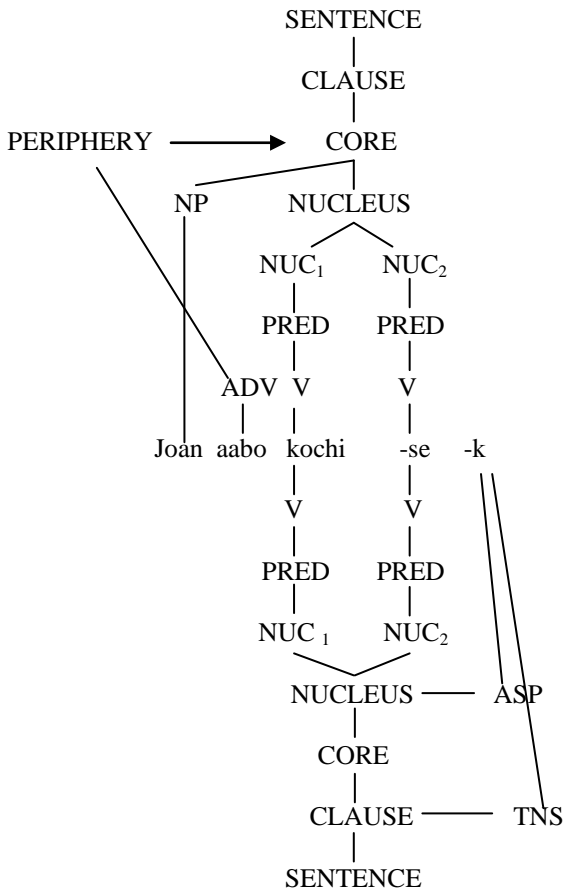
Figure 2. Nuclear cosubordination in Yaqui (2b)

It may be the case that in clauses like those in (4), there is a periphery modifying the nucleus of the clause, i.e. periphery$_{NUCLEUS}$, 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:
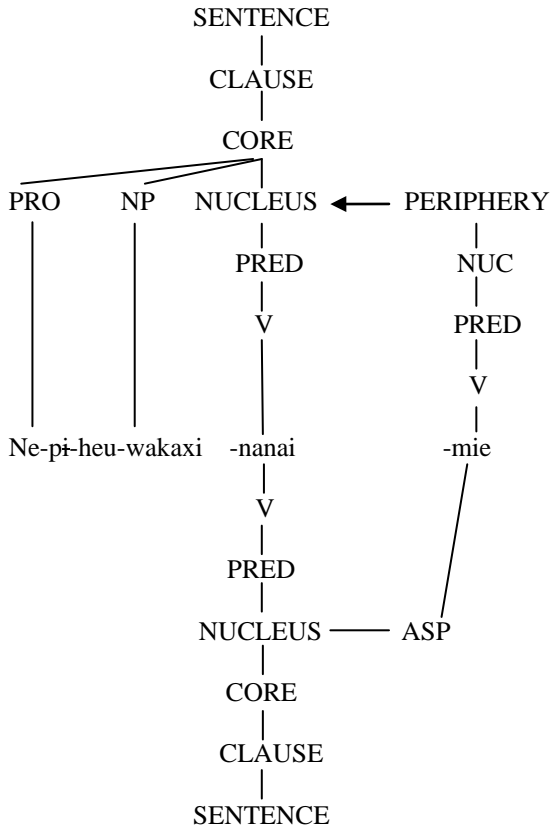
Figure 3. Ad-nuclear subordination in Huichol (4d)

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.
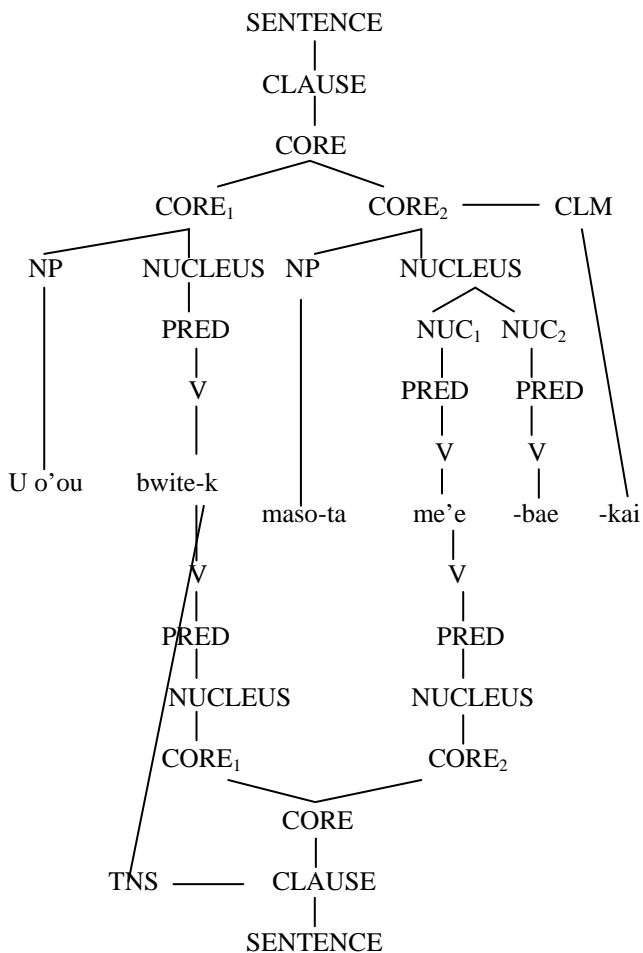
Figure 4. Core coordination in Yaqui (4a)

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$_{CORE}$.
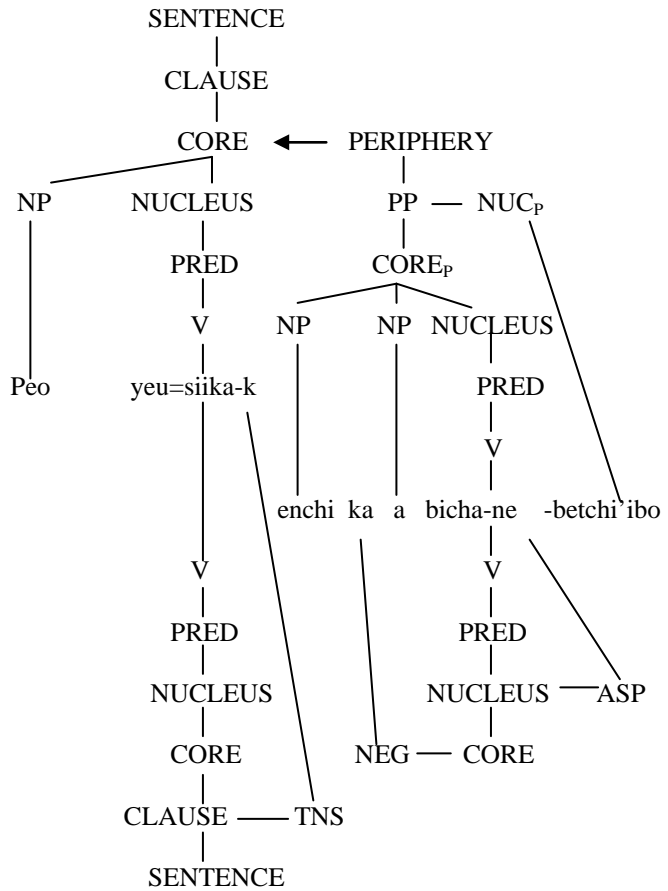

Figure 5. Ad-core subordination in Yaqui (15b)

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. Te$_i$ saja-k   [bweituk itepo$_i$ 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
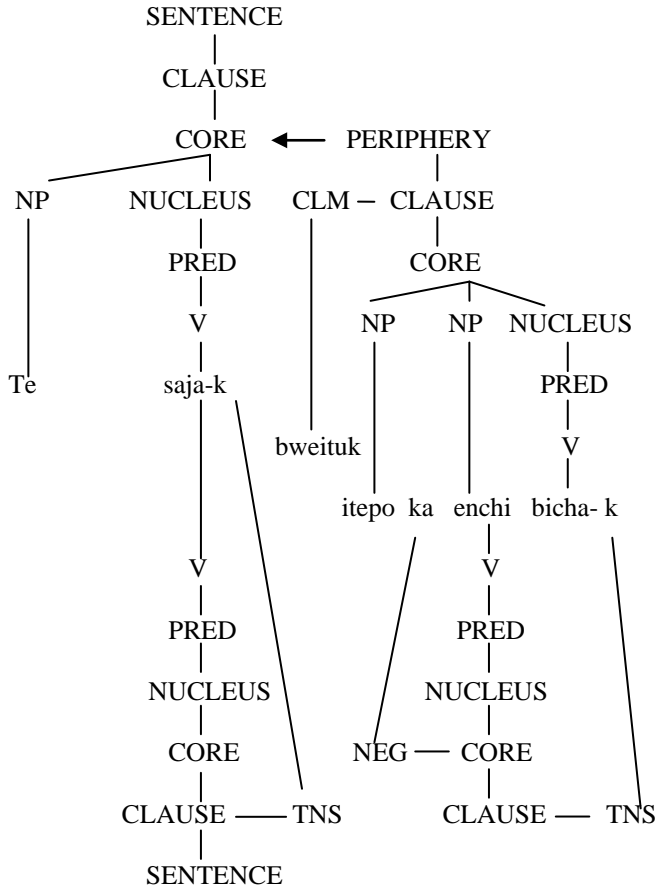   "We left because Mary never arrived."

Figure 6. Ad-clausal subordination in Yaqui (20a)

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

	temporal	causal	PMD	NSP
motion-*cum*-purpose	1st value	4th value	1st value	1st value
intentional	3rd value	4th value	1st value	1st value
finality	3rd value	4th value	1st value	1st value

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$_i$ for her sister to read ___$_i$
     b. *Pat brought the book for her sister to read it
     c. Pat$_j$ brought the book$_i$ ___$_j$ to read ___$_i$
     d. *Pat$_j$ brought the book ___$_j$ 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 2. The semantic degree of purpose relations (revised)

	temporal	causal	PMD	NSP	RC
motion-*cum*-purpose	1st value	4th value	1st value	1st value	1st value
intentional	3rd value	4th value	1st value	1st value	1st value
finality	3rd value	4th value	1st value	1st value	1st/2nd value

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
want' $(x_i, LS_2) \land$ DO $(x_i, [\textbf{motion'} (x_i)]) \lozenge$ CAUSE $[_{LS_2}\ldots x_i\ldots])$

b. Intentional linkage
want' $(x_i, [LS_2... x...] \wedge DO (x_i, [LS_1... x_i ...] \lozenge CAUSE [LS_2... x_i...])$
c. Finality linkage
want' $(x_i, LS_2) \wedge DO (x_i, [[LS_1... x_i...]] \lozenge CAUSE [LS_{2....}y_{....}]]$

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(I)	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

References

Bickel, Balthasar. 2003. Clause linkage typology. Lecture series delivered at the 2003 International Role and Reference Grammar Conference, UNESP, São Jose do Rio Preto, Brazil

Bickel, Balthasar. 1993. Belhare subordination and the theory of topic. In K. Ebert, ed., *Studies in Clause Linkage*, 23–55. Arbeiten des Seminars für Allgemeine Sprachwissenschaft, no. 12. Zurich: University of Zürich.

Burgess, Don. 1984. Western Tarahumara. In R. W. Langacker (ed.), *Studies in Uto-Aztecan Grammar 4.* SIL & UTA.

Canger, Una. 2001. *Mexicanero de la Sierra Madre Occidental*. Archivo de Lenguas Indígenas de México 24. México: El Colegio de México.

Cristofaro, Sonia. 2003. *Subordination*. New York: Oxford University Press.

Curter, Michelle. 1993. The semantic and syntactic factors in control. In Robert D. Van Valin (ed.), *Advances in Role and Reference Grammar*, 167-196. Amsterdam and Philadelphia: John Benjamins.

Diessel, Holger. 2001. The ordering distribution of main and adverbial clauses: a typological study. *Language* 77 (3): 433-455

Dixon, R.M.W. and Alexandra *Aikhenvald*. 2009. *The Semantics of Clause Linking.* Oxford: Oxford University Press.

Ernst, Thomas. 2001. *The Syntax of Adjuncts*. Cambridge: Cambridge University Press.

Estrada, Zarina. 1998. *Pima Bajo de Yapechi, Chihuahua.* Archivo de Lenguas Indígenas de México 21. México: El Colegio de México.

Félix, Rolando. 2005. *A Grammar of River Warihio*. Unpublished Ph. D. Dissertation, Rice University.

Foley, William and Robert D. Van Valin, Jr. 1984. *Functional Syntax and Universal Grammar*. Cambridge: Cambridge University Press.

García Salido, Gabriela. 2008. The encoding of serial verbs in Southeastern Tepehuan. Handout from talk at the Seminario de Complejidad Sintáctica, USON.

Gómez, Paula. 1999. *Huichol de San Andrés Cohamiata, Jalisco*. Archivo de Lenguas Indígenas de México 22. México: El Colegio de México.

Guerrero, Lilián. 2006. *The Structure and Function of Yaqui Complementation.* Munich: Lincom.

Guerrero, Lilián. 2009. Extending the challenge of control phenomena. Paper presented at the 2009 International Conference on Role and Reference Grammar. University of California at Berkeley/LSA. California.

Guerrero, Lilián. 2011. Revising the controller-controllee relations: Evidence from purpose, rationale and other control clauses. Paper to be presented in the 2011 International Conference on Role and Reference Grammar. Chile.

Guerrero, Lilián. In press. Más sobre controladores y pivotes: el caso de las relaciones de propósito. In Ricardo Mairal, Lilián Guerrero and Carlos González-Vergara (eds), *Gramática del Papel y la Referencia. Introducción, Avances y Aplicaciones.* Madrid: AKAL

Guerrero, Lilián. In review. Goal, desire and finality: Different strategies for the same purpose*. International Journal of American Linguistics.*

Givón, Talmy. 2001. *Syntax*. Amsterdam and Philadelphia: John Benjamins.

Haspelmath, Martín. 1989. From purposive to infinitive. A Universal path of grammaticalization. *Folia Linguistica Historica* X/1-2, 287-310. Societas Linguistica Europea.

Hengeveld, Kee. 1998. Adverbial clauses in the languages of Europe. In J. Van der Auwera and D. O. Baoill (eds.), *Adverbial Constructions in the Languages of Europe*, 335-419. Berlin: Mouton de Gruyter.

Iturrioz, José Luis and Paula Gómez. 2006. *Gramática Wixarika*. Munich: Lincom.

Jones, Charles. 1991. *Purpose Clauses: Syntax, Thematic and Semantics of English Purpose*. Dordrecht: Springer.

Johnson, Jean. 1962. *El Idioma Yaqui*. México: INAH.

Kortmann, Bernd. 1997. *Adverbial Subordination. A Typology and History of Adverbial Subordinators Based on European Languages*. Berlin and New York: Mouton de Gruyter.

Longacre, Robert. 2007. Sentences as combination of clauses. In T. Shopen (ed.), *Language Typology and Syntactic Description II,* 372-420*.* Cambridge: Cambridge University Press.

Miller, Wick. 1996. *Guarijío: Gramática, Textos y Vocabulario*. México: UNAM.

Miller, Wick. 1993. *Guarijío de Arechuyvo, Chihuahua*. Archivo de Lenguas Indígenas de México 16. México: El Colegio de México.

Peralta, Valentín. 2007. Construcciones de propósito y movimiento asociado en nawatl de Pajapan, Veracruz. Handout from talk at the Friends of the Uto-Aztecan languages.

Saxton, Dan. 1982. Papago. In R. W. Langacker (ed.), *Studies in Uto-Aztecan Grammar 3*. SIL & UT at Arlington.

Schmidtke-Bode, Karsten. 2009. *A Typology of Purpose Clauses*. Amsterdam and Philadelphia: John Benjamins.

Thompson, Sandra. 1985. Grammar and written discourse: initial vs. final purpose clauses in English. *Text* 5, 55-84.

Van Valin, Robert, and Randy LaPolla. 1997. *Syntax. Structure, Meaning and Function.* Cambridge: Cambridge University Press.

Van Valin, Robert D., Jr. 2009. Privileged syntactic arguments, pivots and controllers, In Lilián Guerrero, Sergio Ibáñez, and Valeria Belloro (eds), *Studies in Role and Reference Grammar*, 45-68. México: UNAM.

Van Valin, Robert D. 2005. *Exploring the Syntax-Semantic Interface.* Cambridge: Cambridge University Press.

Verstraete, Jean-Christophe. 2008. The status of purpose, reason, and intended endpoint in the typology of complex sentences: implications for layered models of clause structure. *Linguistics*: 46:4, 757-788.