

Control the sentence, subordinate the pronoun: on the status of controlled versus non-controlled complement clauses in O'dam

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1. Two types of complement clauses in O'dam

In this paper we examine the argumenthood properties of two types of clausal complements in the Uto-Aztecan language O'dam¹ (glottocode: sout2976), Controlled and Non-Controlled complement clauses.² Using the LFG framework (Kaplan & Bresnan 1982) we will argue that Controlled complements are category COMP (i.e. clausal in nature), while Non-Controlled complements are category OBJ (i.e. nominal in nature), following Dalrymple & Lødrup (2000). The referent of the nominal Non-Controlled complement is the eventuality of the Non-Controlled complement's verb, while its dependents are introduced via a headless relative clause.

Subordinate clauses have the same basic structure regardless of their adjunct or complement status (García Salido 2014, 2021). They minimally consist of a subordinator *na* followed by a standard clause.³ As with all subordinate clauses, controlled complements are finite and fully saturated for their arguments, what Stiebels (2007) calls "inherent control," as in (1,2). What distinguishes a controlled complement clause from all other types of subordinate clause is the obligatory co-reference between the controlled subject⁴ of the subordinate clause and the controller argument in the matrix clause. The controller and controlled arguments must match their person-number features as well as their interpretation, as in (2). We will argue that the entire Controlled clause should be analyzed as a complement of the control verb.

- (1) Tĩmu-**nĩ**-ch [na=**nĩ**-ch mĩi]_{Controlled}
finish-1SG.SBJ-PFV SUB=1SG.SBJ-PFV run.SG.PFV
'I finished running.' (García Salido 2014: 283)
- (2) Na=**m**_i-gu' ba-poder [na=**m**_{i/*j} jich-mantener-ka']_{Controlled} ja'p sap jum-aa'
SUB=3PL.SBJ-ADVR CMP-can SUB=3PL.SBJ 1PL.OBJ-support-EST DIR REP.UI MID-think.PFV
'Because they could support us, he thought so.' (lit. Because they_i could they_{i/*j} support them)
(adapted from García Salido 2014: 283)

A Non-Controlled complement, shown in (3), selects for an object that receives a CP exponent and shows 3SG object⁵ co-reference on the matrix verb, rather than matching person-number marking, as with

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¹ Other works call this language Southeastern Tepehuan, we use O'dam in accordance with our consultants' wishes.

² Abbreviations: po = Primary Object

³ García Salido (2014) discusses other subordinators such as the *ku* adversative subordinator, but the general *na* subordinator is the only one relevant to our study.

⁴ So far we have not identified controlled objects in O'dam, the controlled argument is always the subject of the controlled clause.

⁵ Clausal complements in O'dam must be selected for by the verb and we have no verbs that select for a clausal subject.

Controlled complements. A Non-Controlled complement even receives 3SG object co-reference when it has a plural referent, as seen in (4) where the quantifier *bix* ‘all’ enforces a plural interpretation of the referent of the Non-Controlled complement. We will argue that for Non-Controlled complements only their eventuality is a true complement of the matrix verb, while their CP exponent is an adjunct headless relative clause that introduces all other dependents.

- (3) Sap jup Ø-kaich-’am [na=Ø ba-tu-m-maki-a’ gu tumiñ]_{Non-controlled}
 REP.UI IT 3SG.OBJ-say-3PL.SBJ SUB=3SG.SBJ CMP-DUR-MID-give-IRR DET money
 ‘According to them, they said that money will be received.’ (García Salido 2014: 281)
- (4) Añ joidham ti-Ø-nii [bix na=m pai’ kio gu=ñ
 1SG.SBJ enjoy DUR-3SG.OBJ-see all SUB=3PL.SBJ **where** live DET=1SG.POSS
 pamil]_{Non-Controlled}
 family
 ‘I like all of the (various) places where my family lives’

We present our analysis using the LFG framework (Kaplan & Bresnan 1982). The f-structural distinction between the two types of complements, COMP versus OBJ, means that a Controlled complement is clausal in nature and its arguments are within the argument structure of the matrix verb, while a Non-Controlled complement is nominal in nature and only its eventuality argument is a true argument of the matrix verb.

As evidence we show in §2 that the structure of non-controlled complement clauses matches that of a headless relative clause; in §3 that non-controlled complement clausal objects have a non-personal reading; and in §4 that preverbal quantifiers identify the eventuality and dependents of a controlled complement clause as part of the matrix verb’s argument structure, but only identify the eventuality of a non-controlled complement clause as an argument of the matrix verb. Finally, in §5, we offer an analysis of the argumenthood facts within LFG, focusing on how the quantifier behavior in §4 flows through the f-structure.

2. Non-controlled complement clauses are headless relative clauses

When the referent of the Non-Controlled complement is not the subordinate clause’s eventuality, we find that there is always a *wh*-word, as in (4) where we see *pai* ‘where’ in the Non-Controlled complement. In contrast, when the referent is the eventuality, as in (5,6), there is no *wh*-word in the Non-Controlled complement.

- (5) Jix=bhai’ jix=Ø-maat [na cham ji’xkat jugio-ka’ gu tu’]_{Non-Controlled}
 COP=good COP=3SG.OBJ-know SUB NEG never eat-EST DET something
 ‘Because it is good for him to know that he could not eat it.’
- (6) Sap ba’ mo mi’ dha sap ba’ tuka’ sap jup Ø-titda [sap na
 REP.UI SEQ doubt DIR sit.SG REP.UI SEQ night REP.UI IT 3SG.PO-say.PFV REP.UI SUB
 taiñbui-dha-’ gu laber]_{Non-Controlled}
 borrow-APPL-IRR DET violin
 ‘‘Then he sat all night while he told them to lend him a violin.’ (García Salido 2014: 238)

Obligatory *wh*-words are also diagnostic features of headless relative clauses (García Salido 2021), as in (7) where we see the *wh*-word *gu* ‘because’. Headless relative clauses are always either adjunct dependents of the verb or embedded within a DP, so that they are typically not treated as arguments of the verb (Everdell 2021).

- (7) Añ jix=io’ m tu-jua [na gu’ ap jix=io’ m tu-jua]_{headlessRC}
 1SG.SBJ COP=hard DUR-work.PFV SUB why 2SG.SBJ COP=hard DUR-work.PFV
 ‘I worked hard because you worked hard.’ (García Salido 2021: 70)

Our analysis is that the reason that the CP exponent of a Non-Controlled complement matches the shape of a headless relative clause when the complement's referent is not an eventuality is because only the eventuality of the Non-Controlled complement is a true argument of the matrix verb. The dependents must be introduced via an adjunct headless relative clause.

3. The 'personal' distinction

Most verbs that select for a Non-Controlled complement object can also select for a more typical DP object, as in (8), where the DP object can receive non-3SG object co-reference, as in (8a). We find that the Non-Controlled complement object expresses a less personal reading of the eventuality's dependents.

In (8) we see two minimally contrastive sentences using the verb *maat* 'know'. In (8a) the object of *maat* is a canonical nominal, indicated by the *ja-* 3PL object prefix. In (8b) the object of *maat* is the Non-Controlled complement, indicated by the \emptyset - 3SG object prefix. Both sentences express that the speaker knows something about the multiple people who burned all of the firewood her friend had collected. Our consultants commented that they would use the utterance in (8a) if she personally knew the people who burned the firewood (e.g. their names and where they lived). In contrast, she noted that she would use the utterance in (8b) if she had seen the people who burned the firewood but does not know those people personally (e.g. she had never seen them).

- (8) a. Bix **jix=ja-mat-iñ** na=m jaroi' mii-'ñ gu ku'a'
all COP=3PL.OBJ-KNOW-1SG.SBJ SUB=3PL.SBJ who burn-APPL DET firewood
'I know who all burned the firewood' (Lit. I know all of them, who burned the firewood)
- b. Bix **jix=Ø-mat-iñ** [na=m jaroi' mii-'ñ gu ku'a']_{Non-Controlled}
all COP=3SG.OBJ-KNOW-1SG.SBJ SUB=3PL.SBJ someone burn-APPL DET firewood
'I know who.PL completely burned the firewood' (Lit. I know that people completely burned the firewood)

Thus, when *maat* 'know' takes a Non-Controlled complement it expresses that the subject is familiar with the event overall, rather than the specific dependents.

4. Preverbal quantifiers

Quantifiers in O'dam are a distributionally defined category of modifiers (Willett 1991), although many of them also have true quantifier meanings. When we say that something is a "quantifier" or is being "quantified", we are referring to a syntactic relation and are agnostic about how they are specifically associated through the s(emantic)-structure.

O'dam quantifiers appear in one of two positions in a clause, which we call the constituent and preverbal positions. In the constituent position they quantify whatever XP they are a constituent with, as in (9).⁶ In this position the grammatical function of the XP in the larger clause is not relevant as long as it is compatible with the meaning of the quantifier (e.g. a plural quantifier requires an XP with a plural referent). In the preverbal position they quantify compatible arguments of the associated verb and not adjuncts, as in (10).

- (9) a. Tii-ñi-ch [ma'n gu bhan]_{DP} mu pue'mlo
see.PFV-1SG.SBJ-PFV one DET coyote DIST.LOWER town
'I saw **one/a coyote** in that town'
- b. Tii-ñi-ch gu bhan [ma'n mu pue'mlo]_{Loc}
see.PFV-1SG.SBJ-PFV DET coyote one DIST.LOWER town
'I saw the/a coyote IN A/ONE TOWN (DOWN THERE)'

⁶ Definiteness is pragmatic in O'dam so *gu bhan* in (9) and (10) can be interpreted definite or indefinite depending on the larger discourse context, see Willett (1991: 206-7).

- (10) **Ma'n** Ø-tii-Ø [gu bhan]_{Argument} [mu pue'mlo]_{Adjunct}
 one 3SG.OBJ-see.PFV-3SG.SBJ DET coyote DIST.LOWER town
 'She (the child) saw **one/a coyote** in that town'
 '**One (child)** saw a coyote/coyotes in that town'
 #She (the child) saw the/a coyote IN A/ONE TOWN (DOWN THERE)

In the preverbal position the eventuality itself is identified as a quantifiable argument. In (11), the eventuality of *niiya* 'can be quantified by the preverbal *bix* 'all', in (11a), along with the co-referenced object, in (11b), but not the object's possessor, in (11c).

- (11) **Bix** ja-nii'-iñ [gu ja-mamtuxi'ñ-dham [gu=ñ
 all 3PL.OBJ-see-1SG.SBJ DET 3PL.POSS-teach-NMLZ DET=1SG.POSS
 a'~mi']_{DPpossessor} DPpossessum
 PL~friend
 a. 'I see all of the teachers of my friends (e.g. if the teachers are trying to hide)'
 b. 'I see **all of the teachers** of my friends'
 c. #I see the teachers of **all of my friends**

When a quantifier sits in the preverbal position of a control verb, we find that it can quantify the arguments of both the control verb and the controlled verb. This is shown using the analytical causative *chia* 'send' in (12) and (13). In (12) *chia* 'is preceded by the quantifier *dilh* 'only'. In (12a) we see that *dilh* can quantify the subject of *chia*'. In (12b) we see that *dilh* can quantify the co-referenced object of *chia*', which is also the subject of the Controlled complement. The eventuality of the Controlled complement is also accessible to the matrix preverbal quantifier in control constructions, as in (12c). Finally, we see in (13) that the non-controlled object *gu tacos* 'tacos' of the controlled clause can be quantified by *bix*. Thus, all of the arguments of the Controlled complement are quantifiable from the preverbal position of the matrix clause

- (12) *Dilh* jam-*chia*-mi-t na=pim bopooy-a' jix=io'm
 only 2PL.OBJ-send-3PL.SBJ-PFV SUB=2PL.SBJ run.PL-IRR COP=very
 a. '**Only they** told you.PL to run faster'
 b. 'They told **only you all** (as opposed to anyone else) to run faster'
 c. 'They told you all **to only run** faster (as opposed to do anything else faster)'
- (13) *Gok* jiñ-*chia*-pi-ch na=ñ jup duñi-a' gu tacos
 two 1SG.OBJ-send-2SG.SBJ-PFV SUB=1SG.SBJ IT do-IRR DET tacos
 'You wanted me to make **two tacos**'

While preverbal quantifiers essentially treat the arguments of the Controlled clause as arguments of the matrix verb, this is not the case for Non-Controlled complement clauses. To show this, let us return to the burning examples discussed in §3. When *maat* 'know' takes a Non-Controlled clausal complement, as in (14), we see that the quantifier *bix* in the matrix preverbal position can quantify the eventuality of the Non-Controlled complement, in (14a), but not the object or subject of the Non-Controlled complement, in (14b) and (14c) respectively.

- (14) *Bix* jix=Ø-mat-iñ na=m jaroi' mii-'ñ gu ku'a'
 all COP=3SG.OBJ-know-1SG.SBJ SUB=3PL.SBJ someone burn-APPL DET firewood
 a. 'I know who.PL **completely burned the firewood**' EVENTUALITY
 b. #I know who.PL burned **all of the firewood**. OBJECT
 c. #I know **all of them** who burned the firewood. SUBJECT

When *maat* ‘know’ takes a pronominal complement referring to an individual, as in (15), we see that it can quantify the the object of *maat*, in (15c), which is also the subject of the headless relative clause. However, in (15a) we see that now *bix* cannot quantify the BURN eventuality like it could in (14a) when *maat* had a Non-Controlled object.

- (15) *Bix jix=ja-mat-iñ na=m jaroi' mii-'ñ gu ku'a'*
 all COP=3PL.OBJ-know-1SG.SBJ SUB=3PL.SBJ someone burn-APPL DET firewood
- a. #I know who.PL **completely burned the firewood** EVENTUALITY
 b. # I know who.PL burned **all of the firewood.** OBJECT
 c. I know **all of them** who burned the firewood. SUBJECT

Quantifiers that are in the preverbal position of a matrix clause taking a Non-Controlled object can only quantify the eventuality of the Non-Controlled complement, its dependents pattern with adjuncts of the matrix verb. In contrast, all of the arguments of the Controlled complement pattern with arguments of the matrix verb. In §5 we show an LFG account of the above facts.

5. The representation of clausal complements in f-structure

In the LFG framework, grammatical relations and other syntactic features are specified in the f-structure, which is distinct from the c-structure, in which phrase structure, constituency, and linear order are represented. Our analysis is based on the distinction between argument functions and adjuncts in the f-structure. The argument functions include subjects (SUBJ), objects (OBJ and OBJ θ), oblique arguments (OBL θ), and clausal complements (COMP)⁷. In the f-structure these are represented as distinct attributes, whose value is an f-structure corresponding to the relevant argument. In contrast, the adjuncts of a clause are represented with a single ADJ feature, whose value is a set of f-structures corresponding to the different adjuncts that are present (Bresnan et al. 2016).

The difference noted in §2–§4 between Controlled and Non-Controlled complements can be captured with reference to this contrast. Verbs that take a controlled complement take that clause as a COMP argument; furthermore, they also take a direct object (OBJ) that must be coreferenced with the subject of the embedded clause. To ensure this, these verbs include the equation in (16) as part of their f-descriptions (Asudeh 2005).

$$(16) (\uparrow\text{OBJ})_{\sigma} = ((\uparrow\text{COMP SUBJ})_{\sigma} \text{ ANTECEDENT})$$

This ensures the control relationship between the matrix object and the embedded subject. On the other hand, a verb like *maat* ‘know’ selects for the function OBJ, and require a pronominal interpretation of this object. Thus, they are specified with the f-description in (17).

$$(17) (\uparrow\text{OBJ PRED}) = \text{'pro'}$$

This pronoun has an eventuality referent but the arguments of that eventuality appear in the f-structure in the ADJ set, rather than as an argument of the clause. This accounts for both the shape . In this analysis, the function COMP is only used with control verbs, while other so-called clausal complements are actually adjunct clauses, whose eventuality is co-referenced with a pronominal object.

With this contrast in mind, we propose that the lexical entries for the quantifiers discussed in §4 contain f-descriptions that allow them to provide a QUANT feature either to the f-structure in which it is currently located, or to an f-structure embedded in an argument of the current f-structure, or an argument of that argument, and so on. In contrast, adjuncts and their contents are excluded. This is achieved using f-descriptions of the sort shown in (18), where we use the entry for *bix* ‘all’ to illustrate.

$$(18) (\uparrow\text{AF* QUANT}) = \text{ALL}$$

⁷ Since O’dam lacks a distinction between saturated finite clauses and unsaturated infinitive clauses, we assume the function XCOMP, normally used for unsaturated non-finite clauses, is lacking in the language.

Here, the symbol AF is a variable ranging over the set of argument functions given above. The * symbol indicates that zero or more AF functions may be present. Thus, this assigns the QUANT value ALL either to the current f-structure (i.e., no AF present), or to an argument of the current structure, or any embedded f-structure that can be reached via a path consisting only of argument functions. On the other hand, it cannot be assigned to f-structures in the set of adjuncts, or anything within an adjunct.

This derives the contrast between controlled and non-controlled complement clauses as follows. Since a control verb takes the controlled clause as an argument (COMP), the controlled clause itself, and any of its arguments, will be available for quantification from the matrix clause. However, for a verb taking non-controlled complement clauses, while the controlled clause itself will be available for quantification (i.e., its eventuality can be quantified as discussed above) due to its status as a pronominal OBJ argument, the arguments of that clause only appear in the f-structure found in the set of adjuncts, meaning they are inaccessible to quantification.

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