1. Introduction. The selection and form of the subordinating morpheme has been a crucial topic in the study of adverbial subordination, for the reason that they can specify the semantic relation between the main clause and the adverbial clause. There are two types of adverbial subordinators (Thompson et al. 2007): (i) grammatical morphemes with no lexical meaning (e.g., English *to*, as in *to buy beer*), and (ii) grammatical morphemes with lexical content (e.g., English *before*, *when*, *if*). In languages of the world, subordinating morphemes, like conjunctive elements and adpositions, may be prepositional or postpositional, free or bound (Dryer 2013).

Previous works on Yaqui, a Southern Uto-Aztecan language (ISO cod: yaq), have described some basic features of adverbial clauses based on the selection of the subordinator (Lindenfeld 1973; Dedrick and Casad 1999). In particular, Lindenfeld (1973: 81) claimed that in Yaqui “there are two basic types of subordinated clauses: those marked by *-kai*, a general subordinator, and those marked by specific subordinators such as *ella’apo* ‘although’, *kielekun* ‘so that’ and the like”. Thus, the clause in (1a) taking *-kai* allows for multiple adverbial readings, while that one taking *kielekun* in (1b) expresses a causal relation. The examples come from Lindenfeld (1973: 82-84).1

(1) a. *Aapo lipti-tu-ne [tuisi tekipanoa-kai]*
   3SG.NOM blind-become-POT much work-CLM
   ‘Working hard will make him blind.’
   ‘He will become blind if he works hard.’
   ‘When he works hard, he becomes blind.’

   b. *Empo si kusisi nooka-Ø [kielekun ne kaa enchi hikkaha-Ø]*
   2SG.NOM INT fast speak-PRS CLM 1SG.NOM NEG 2SG.ACC understand-PRS
   ‘You speak so fast that I do not understand you!’

In this paper, I offer a corpus-based study of Yaqui adverbial subordinators.2 The analysis of the data suggests a complex distribution and use of these linkage markers. First, in contrast to relative and complement subordinators which are always final and bound, adverbial subordinators can occur in both positions, clause-final and clause-initial; the former are bound morphemes, and the latter are free particles. Second, there are two types of clause-final subordinators: markers without lexical meaning, such as *-kai* and *-o*, and markers with lexical content, like the postposition *-betchi’ibo* ‘(in order) to, for’. Initial subordinators such as *kielekun* ‘so that, since’ do have lexical meaning. Third, the two most productive final

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1 Abbreviations: **ACC**: accusative, **APPL**: applicative, **CLM**: clause linkage marker, **COM**: commitative, **COMP**: completive, **DEM**: demonstrative, **DET**: determiner, **DIR**: directional, **DM**: discourse marker, **GEN**: genitive, **IMP**: imperative, **INT**: intensifier, **LOC**: locative, **NEG**: negation, **NOM**: nominative, **NMLZ**: nominalized, **PASC**: past continuous, **PASS**: passive, **PFV**: perfective, **PL**: plural, **POT**: potential, **PTCP**: participial, **PRS**: present, **PURP**: purpose, **RDP**: reduplication, **REF**: reflexive, **SG**: singular, **VBLZ**: verbalizer.

2 This chapter is part of a major project dealing with the syntax, semantics and pragmatics of adverbial subordination in Yaqui. I thank two anonymous reviewers for their comments and suggestions on the first version of this document.
subordinators, the markers -kai and -o, can introduce several adverbial clauses including temporal, purpose, manner, concessive and conditional. In fact, these two subordinating morphemes show a consistent, though not obligatory distribution: while -kai is used when the main and dependent subjects are the same, -o tends to occur when the subjects are different, i.e., switch-reference marking. Forth, the initial adverbial subordinators differ from any other linkage markers, as they do not demand structural dependency features in the linked clause. In Yaqui, relative, complement and adverbial clauses taking final subordinators demand a genitive or accusative subject when present inside the linked clause. In contrast, initial subordinators such as kielekun require a nominative subject in the adverbial clause.

The contrasts observed among the adverbial clauses taking final subordinators and those introduced by initial markers suggest that the latter may be relatively new in the Yaqui grammar. Indeed, adverbial particles such as kielekun ‘so that’ and the like, were not mentioned in Buelna’s work (1890). As new adverbial particles with lexical content, they seem to adopt the structural features of coordinate sentences rather than subordinate constructions in the language.

2. Yaqui sentences. This section briefly introduces some aspects of Yaqui grammar that are relevant to the discussion of adverbial constructions. These include the morpho-syntax of simple clauses (§2.1), as well as relative (§2.2) and complement clauses (§2.3).

2.1. Simple clauses. Yaqui is a synthetic/agglutinating, head-final, primary object language (Lindenfeld 1973; Dedrick & Casad 1999; Guerrero & Van Valin 2004). It is the only Southern Uto-Aztecan language still spoken where case marking on nominals is preserved. The nominative case is unmarked (2a), and the accusative is marked by the suffix -ta (2b). There is no dative case but postpositions mark oblique core arguments, as can be seen in (2b). Determiners are morphologically marked too; when the NP is accusative, the determiners are marked by -ka; oblique NPs are marked by -e. Case markers and the plural suffix -(i)m are mutually exclusive in nominals and determiners.

(2) a. U goi-Ø u-ka chu ’u-ta bicha-k
DET coyote-NOM DET-ACC dog-ACC see-PFV
‘The coyote saw the dog.’

b. Peo-Ø u-e jamut-ta-u  etejo-k
Pedro-NOM DET-OBL woman-ACC-DIR chat-PFV
‘Pedro chatted with the woman.’

c. Inepo  u-me jamuch-im nooka-ne
1 SG.NOM DET-PL woman-PL talk-POT
‘I will talk to the women.’

Yaqui shows a rigid SOV word order, though other arrangements are possible, e.g., the logical subjects and objects can follow the verb for a specific pragmatic function (Guerrero & Belloro 2010). There are also some constraints with respect to the ordering of full and reduced pronouns (Table 1): while full pronouns behave as lexical elements in terms of their distribution, see the example in (2c) above, reduced nominative pronouns behave as “second position” clitics (3a), and reduced accusatives (available only for 3rd person) cliticize to the
verb (3b). There is a third paradigm for pronouns associated to postpositions, i.e., oblique arguments and adjuncts. 3rd person pronouns serving as subject tend to be covert (i.e., missing argument or zero).

<table>
<thead>
<tr>
<th>Table 1. Yaqui pronominal system</th>
</tr>
</thead>
<tbody>
<tr>
<td>nominative</td>
</tr>
<tr>
<td>1 Sg ineop = ne</td>
</tr>
<tr>
<td>2 Sg empo = 'e</td>
</tr>
<tr>
<td>3 Sg aapo = Ø</td>
</tr>
<tr>
<td>1 Pl itepo = te</td>
</tr>
<tr>
<td>2 Pl eme’e = ‘em</td>
</tr>
<tr>
<td>3 Pl bempo = Ø</td>
</tr>
</tbody>
</table>

(3) a. Yookoria-po=ne sewa-m jinu-k 
morning-LOC=1SG.NOM flower-PL buy-PFV 
‘In the morning, I brought some flowers.’

b. U jamut-Ø a=bicha-k jita-nenenki-wa-po 
det woman-NOM 3 SG.ACC=see-PFV thing-RED.sell-PAS-LOC 
‘The woman saw him in the market.’

The language presents a rich postpositional system (Table 2) that semantically encodes a wide range of spatial, temporal and associative meanings. Some of these postpositions are always bound, while others may appear as free form in certain contexts. Most have a single form, e.g. the locative -po ‘in, on’ in (3a-b) above, but some may vary in form depending on phonological, morpho-syntactic or semantic factors. For instance, the directional marker tends to be -u when the phrase is non-final (4a), otherwise it is -wi (4b); when the noun is plural, then the forms are -meu/-mewi (4c). Most postpositions take a nominative complement, but some take an accusative noun (e.g., -betchi’ibo ‘for’); for some others, the case marking depends on the animacy of the referent; this is the case of -mak ‘with’ in (4d-e). A limited number of postpositions can also serve as clausal subordinators.

<table>
<thead>
<tr>
<th>Table 2. Postpositional system</th>
</tr>
</thead>
<tbody>
<tr>
<td>Directional (sg): -u / -wi</td>
</tr>
<tr>
<td>Directional (pl): -meu/-mewi</td>
</tr>
<tr>
<td>Directional (toward): -bicha</td>
</tr>
<tr>
<td>Comitative: -mak/-make</td>
</tr>
<tr>
<td>Instrumental (sg): -e, -ae</td>
</tr>
<tr>
<td>Instrumental (pl): -mea</td>
</tr>
<tr>
<td>Benefactive, purpose: -betchi’ibo</td>
</tr>
<tr>
<td>Locative (space &amp; time): -po</td>
</tr>
<tr>
<td>Limiter ‘until’ tajtia</td>
</tr>
</tbody>
</table>

(4) a. Peo-Ø teopo-u siika 
Peo-NOM church-DIR go.SG.PFV 
‘Pedro went to the church.’
b. U-me ili usi-m saja-k eskuela-wi
   the-PL little child-PL go.PL-PFV school-DIR
   ‘The children went to the school.’

c. U-me ili usi-m saja-k bem eskuela-im-mewi
   the-PL little child-PL go.PL-PFV 3PL.GEN school-PL-DIR
   ‘The children went to their schools.’

d. Kajlos-Ø jamut-ta-mak e’etejo-k
   Carlos-NOM woman-ACC-COM chat-PFV
   ‘Carlos talked with the woman.’

e. Jeemam seboraka into kokoi siari-mak bwasai-tu-k si kia
   liver.PL onion and chili green-COM cook-VBLZ-PFV very good
   ‘The liver cooked with onion and green chili is delicious.’

Except for a few suppletive forms, verbs do not express person or number. The usual situation for the tense-aspect-mood (TAM) verbal system (Table 3) is to display a range of meanings, including tense-aspectual values and distinct mood/epistemic states.

<table>
<thead>
<tr>
<th>TAM Form</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>V-Ø</td>
<td>Present</td>
</tr>
<tr>
<td>V-k(a)</td>
<td>Past perfective</td>
</tr>
<tr>
<td>V-n</td>
<td>Past continuative</td>
</tr>
<tr>
<td>V-ne</td>
<td>Potential, future</td>
</tr>
<tr>
<td>V-na</td>
<td>Potential, future passive</td>
</tr>
<tr>
<td>V-Ø</td>
<td>RDP-V Habitual</td>
</tr>
<tr>
<td>V-k(a)</td>
<td>RDP-RDP-V Iterative, repetitive</td>
</tr>
<tr>
<td>V-n</td>
<td>V-su Completive</td>
</tr>
<tr>
<td>V-ne</td>
<td>V-‘eán Hypothetical</td>
</tr>
<tr>
<td>V-na</td>
<td>V-‘maachi Obligation</td>
</tr>
</tbody>
</table>

Broadly speaking, a subordinate clause is understood as a cause that is (a part of) a constituent in another clause. A formal definition of a subordinate clause is a complex task since subordination can be expressed in a variety of different structures in the languages of the world (Cristofaro 2003). As for Yaqui, a subordinate clause can be identified by the selection of the subordinator, the coding of core arguments (especially, co-referential participants), and the coding of TAM information of the linked verb (for details, see Guerrero 2006 and further works). The description that follows focuses on the subordinator and the lexical coding of the dependent subject only, as these dependency features would be relevant in our discussion of adverbial subordinators.

2.2. Relative clauses. Relative clauses are expressed via nominalization in Yaqui (Álvarez 2012; Guerrero 2012). Two clause types are identified depending on the role of the head noun and the subordinator. If the head noun serves as the dependent subject, as in (5a), the modifying unit takes the linkage marker -m(e). If the head noun serves as the direct or oblique argument of the verb in the linked unit, as in (5b), then the subordinating morpheme is -’u. Although less common, the locative postposition -po may introduce a locative (spatial and time) relative clause, as in (5c).
(5)  a.  U o’ou-Øi [enchi _j bicha-ka-me] siika
   DET man-NOM 2SG.ACC  see-PFV-CLM go.SG.PFV
   ‘The man who saw you, left’

   b.  U-me o’ou-im [en _j bicha-ka-’u] saja-k
   DET-PL man-PL 2SG.GEN see-PFV-CLM go.PL.PFV
   ‘The men who you saw, left.’

   c.  Poso-po [kuchu’ m ane’e-Ø-po] a wo’ota-ne
   pond-LOC fish.PL exist-PRS-LOC 3SG.ACC throw-POT
   ‘Throw it (the fish’s skin) in the pond where the fishes are.’ (Johnson 1:2)

In subject relative clauses, there is an obligatorily missing argument in co-reference with the head noun. In non-subject relative clauses, the linked subject is overt and marked as genitive, when pronominal (5b), or accusative, when nominal.

2.3. Complement clauses. There are four complement strategies in Yaqui. The first two are very productive (the co-lexicalized and the syntactic structures), while the others are limited to a few complement-taking predicates (the nominalized and the participial-like structures). The first complement type consists of a V1-V2 structure, where the two events are usually joined together without a subordinating morpheme, as can be seen in (6a-b); cognitive and speech act verbs allow the marker -t(i), which immediately follows the linked verb, as in (6c).

(6)  a.  Peo-Øi Joan-ta _j bwite-roka-n
   Peo-NOM John-ACC run.SG-want-PASC
   ‘Pedro promised John to run.’

   b.  Peo-Øi Joan-ta _j bwit-tua-k
   Peo-NOM John-ACC run.SG-cause-PFV
   ‘Pedro made John run.’

   c.  Goyo-Ø Tibu-ta wakas-ta ethwa-ne-t-’ea-n
   Goyo-NOM Tibu-ACC cow-ACC steal-POT-CLM-think-PASC
   ‘Goyo thought Tibu would steal the cow.’

In a co-lexicalized complement structure, the main and dependent subjects may, but do not need to be the same. Thus, verbs demanding identical subject (actor control verbs) code the subject once as a nominative argument; this is the case of phrasal, modals and psych-action matrix verbs (6a). Verbs demanding the main object to be the same that the dependent subject (object control verbs), code the co-referential argument once as an accusative argument; this is the case of causative and jussive verbs (6b). Speech-act, propositional attitude, and mental matrix verbs (6c) also take an accusative dependent subject.

3 In the examples, co-referential arguments are co-indexed; the ‘_’ is for illustrative purposes only and indicates a missing argument in co-reference with a main argument. The position of ‘_’ seeks to reflect the expected position for reduced pronouns (e.g., second position clitics for subjects), rather than full pronouns. Like nominal phrases, full pronouns rarely serve as co-referential arguments inside subordinate clauses in Yaqui.
The syntactic type takes a complement marked by the subordinating morpheme -`u, as in (7a). Regardless of the identity of the subjects, the linked subject needs to be overt and marked accusative. There are very few examples of the locative postposition -po introducing the complement of some mental predicates. In some complements taking -po, the subject consists of a genitive pronoun when co-referential with the main subject, as shown in (7b).

(7) a. Peo-Ø [kaba’i-m enchi jinu-ka-`u] suale-n
   Peo-NOM horse-PL 2SG.ACC buy-PFV-CLM believe-PASC
   ‘Peo believed that you bought the horses.’

   b. Inepo si majae-n [ka nim loteria-ta yo’o-ne-po]
      1SG.NOM INT be afraid-PASC NEG 1SG.GEN lottery-ACC win-POT-CLM
      ‘I was afraid I would not win the lottery.’

The last two complement strategies are very restrictive and limited to a few predicates, e.g., bo’obicha ‘expect’, teenku ‘dream/imagine’, some uses of ’ean ‘believe/have the feeling of’, as well as direct perception. The nominalized-like strategy that is depicted in (8a) is marked by -m(e) plus the accusative suffix -ta, and it requires different subjects.4 The participial-like structure in (8b) takes -kai and requires identical subjects. In the former, the dependent subject must be accusative; in the latter, the subject must be omitted.

(8) a. Tuuka beako nepo [Peo-ta enchi kuna-ka-m-ta] teenku-k
       yesterday night 1SG.NOM Peo-ACC 2SG.ACC marry-PFV-CLM-ACC dream-PFV
       ‘Last night, I dreamed of Pedro marrying you.’

   b. Tuuka beako Lupe-Øi [Peo-ta _ i kuna-kai] teenku-k
       yesterday night Lupe-NOM Peo-ACC marry-CLM dream-PFV
       ‘Last night, Lupe dreamt of (herself) marrying Pedro.’

That is, relative and complement clauses make use of final and bound subordinators, i.e., suffixes on the verb that are also at the end of the dependent clause. Contrary to Lindenfeld’s (1973: 102) finding for the Arizona variant, the loanword ke ‘that’ does not serve as a major complement subordinator. The use of postpositions as complement subordinators is exceptional and limits to the locative -po.5 Since final and bound morphemes introducing relatives and complements lack lexical meaning, there are some functional overlaps: -me marks subject relative clauses and the uncommon nominalized complement; -`u introduces non-subject relatives as well as the syntactic complement. As we will see next, -kai is mainly an adverbial marker but it occasionally marks a participial-like complement, as shown in (8b).

3. Adverbial subordinators, some generalities. Thompson et al (2007: 238) propose two types of subordinating morphemes: (i) grammatical morphemes with no lexical content (e.g.,

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4 See Guerrero (2012) for a detailed discussion on the distinction between relative clauses and complements taking -`u and -me in Yaqui.

5 The subordinator -`u may be historically related to the directional -u shown in (4a-b). Synchronically, -`u does not behave as an adposition anymore, since it demands a predicate or clause as a complement. In contrast, -po may combine with a nominal, a predicate or a clause.
English to as in to buy beer, and (ii) grammatical morphemes with lexical meaning (e.g., English before, when, if). Adverbial markers with lexical content denote semantically richer notions between the two linked units, such as comparison, temporality, causality, purpose, and circumstance (Nordstrom 2010). Yet, the categorical status of these subordinators is an open question. They can be considered as adpositions (along with adverbial particles), or as complementizers (along with elements such as that, whether, if). According to Kortmann (1997: 241), adverbial subordinators differ from complementizers because they assign a theta-role to their complements, hence they determine the interclausal semantic relation. Because of this, they can be treated as a kind of predicative adpositions (Jolly 1993).

Based on a sample of 659 languages of the world, Dryer (2013) explore the form and distribution of adverbial subordinators. The author found that the use free particles at the beginning of the adverbial clause is the preferred strategy (398 languages of his sample), followed by separated words at the end of the dependent clause (96 languages), or more than one adverbial subordinator (93 languages). In comparison, the use of suffixal adverbial subordinators is slightly less common (64 languages).

In opposition to relative and complement subordinators, there are two types of adverbial subordinators in Yaqui: free particles at the beginning of the adverbial clause, and suffixal subordinators. In other words, this language makes use of the most common strategy cross-linguistically to introduce adverbial clauses (initial particles) as well as the less common marking (final and bound morphemes). The first column in Table 4 lists the Yaqui adverbial subordinators documented by Lindenfeld (1973) for the Arizona variant; the second column includes those found in the Sonoran variant by Dedrick & Casad (1999).

<table>
<thead>
<tr>
<th>Lindenfeld</th>
<th>Dedrick &amp; Casad</th>
<th>adverbial clause type</th>
</tr>
</thead>
<tbody>
<tr>
<td>-ka(i)</td>
<td>-ka(i)</td>
<td>general subordinator</td>
</tr>
<tr>
<td>-o</td>
<td>-o</td>
<td>general subordinator ‘when/if’</td>
</tr>
<tr>
<td>-patchi</td>
<td></td>
<td>‘upon’ clause</td>
</tr>
<tr>
<td>-tahtia</td>
<td></td>
<td>‘untill’ clause</td>
</tr>
<tr>
<td>-po</td>
<td></td>
<td>locative clause</td>
</tr>
<tr>
<td>-amcha</td>
<td></td>
<td>simulfactive ‘as if’ clause</td>
</tr>
<tr>
<td>-bae-kai</td>
<td>-pea-kai</td>
<td>‘in order to’ purpose clause</td>
</tr>
<tr>
<td>-betchi’ibo</td>
<td></td>
<td>copulative ‘is for X’ purpose clause</td>
</tr>
<tr>
<td>-tek</td>
<td>'o'oben</td>
<td>hypothetical conditional clause (CLM o TAM?)</td>
</tr>
<tr>
<td>(nasuk) huni’i</td>
<td>huni’i</td>
<td>concessive ‘even though’ clauses</td>
</tr>
<tr>
<td>ella’apo</td>
<td></td>
<td>‘although’ clause</td>
</tr>
<tr>
<td>kielekun</td>
<td></td>
<td>causal clause</td>
</tr>
<tr>
<td>bwe’ituk, porke</td>
<td>bwe’ituk</td>
<td>goal, purpose clause</td>
</tr>
<tr>
<td>parake, pake</td>
<td></td>
<td>reason clause</td>
</tr>
<tr>
<td>kwando</td>
<td></td>
<td>‘when’ clause</td>
</tr>
<tr>
<td>si</td>
<td></td>
<td>‘if’ conditional clause</td>
</tr>
<tr>
<td>sino</td>
<td></td>
<td>‘if not, else’ conditional clause</td>
</tr>
</tbody>
</table>
Diessel (2001, 2005) has also established some interesting facts regarding the ordering of the main and the adverbial clauses. He found that languages of the world use either, adverbial clauses both before and after the main clause, or adverbial clauses preceding the main clause; languages preferring final adverbial clauses are less common in his sample. When both orders are possible in the same language, the position of the adverbial unit can be motivated by several factors. One of these factors is word order. While adverbial clauses that tend to precede the main clause only occur in OV languages, adverbial clauses that are commonly pre- and post-posed occur in both VO languages and a significant minority of OV languages (Diessel 2001: 442). Yaqui shows a rigid SOV order but 64% of the adverbial clauses in my sample are final (Table 5).

<table>
<thead>
<tr>
<th>Final subordinator</th>
<th>233</th>
<th>236</th>
<th>469</th>
</tr>
</thead>
<tbody>
<tr>
<td>Initial subordinator</td>
<td>4</td>
<td>187</td>
<td>191</td>
</tr>
<tr>
<td></td>
<td>237 (36%)</td>
<td>423 (64%)</td>
<td>660 (100%)</td>
</tr>
</tbody>
</table>

Diessel also suggests that there is a strong correlation between the ordering of the main and adverbial units and the position of the subordinator. In his sample, adverbial clauses including a final subordinator tend to precede the main clause, while clauses marked by an initial subordinator are commonly found in both initial and final position regardless of the order of verb and object (Diessel 2001: 443). As for Yaqui, this correlation is also shown in Table 5. Whereas clauses with initial subordinators strongly prefer to be final, adverbial clauses taking final markers do not show any strong preference. In fact, Yaqui seems to follow a mixed order pattern (Diessel 2001: 444-445) based on the semantic relation of the two units: temporal and manner clauses tend to be initial, while cause/reason and purpose tend to be final (Table 6). For some adverbial relations, the examples are few in number in order to make any generalization.

<table>
<thead>
<tr>
<th>Reason</th>
<th>1</th>
<th>130</th>
<th>131</th>
</tr>
</thead>
<tbody>
<tr>
<td>Causal</td>
<td>3</td>
<td>55</td>
<td>58</td>
</tr>
<tr>
<td>Restriction</td>
<td>2</td>
<td></td>
<td>2</td>
</tr>
<tr>
<td>Conditional</td>
<td>5</td>
<td>3</td>
<td>8</td>
</tr>
<tr>
<td>Temporal</td>
<td>148</td>
<td>24</td>
<td>172</td>
</tr>
<tr>
<td>Purpose</td>
<td>35</td>
<td>185</td>
<td>220</td>
</tr>
<tr>
<td>Manner-like</td>
<td>33</td>
<td>21</td>
<td>54</td>
</tr>
<tr>
<td>Other relations</td>
<td>12</td>
<td>3</td>
<td>15</td>
</tr>
<tr>
<td></td>
<td>237</td>
<td>423</td>
<td>660</td>
</tr>
</tbody>
</table>

In what follows, I examine the most common adverbial subordinators in Yaqui based on its distribution and use.

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6 The analysis is based on a corpus comprised of several narratives from the Sonoran variant; the sample includes traditional and folk stories, life stories and short conversations (approximately 4,900 clauses). Though sentences from direct elicitation are also analyzed to illustrate specific purpose, they are not included in Tables.
4. Yaqui adverbial subordinators. As mentioned before, Lindenfeld (1973: 81) claimed that “there are two basic types of subordinated clauses: those marked by -kai, a general subordinator, and those marked by specific subordinators such as ella’apo ‘although’, kielekun ‘so that’ and the like”. The examination of adverbial clauses from a narrative corpus provides evidence for a slightly more complex distribution of Yaqui adverbial subordinators.

4.1. The sample. The adverbial subordinators found in my corpus are listed in Table 7. Some markers are the same than those mentioned in Lindenfeld and Dedrick & Casad (Table 4 above); others mentioned before rarely occur in the sample (e.g., -patchi ‘upon’, -amcha ‘as if’, o’oben ‘even though’). The use of Spanish loanwords such as porke ‘because’, pake/parake ‘(in order) to’, and kwando ‘when’, is much less common in the Sonorant variant; all the examples of porke in my sample come from young bilingual speakers. Notice also that some adverbial relations can be expressed by alternative structures, e.g. cause, purpose and temporal clauses, whereas others make use of a single structure, e.g. manner clauses. Because of the nature of the sample, some adverbial relations are uncommon, e.g., conditionals.

Both, Lindenfeld and Dedrick & Casad include the particle juni’i, commonly glossed as ‘also, yet, even, although, in spite of’, as a subordinating morpheme. However, while clauses taking juni’i are very common in the sample, the use of this adverbial particle is hard to analyze at this point of the analysis. On one hand, this particle may appear at different positions in a sentence; in the fragment in (9a), there are three examples of juni’i in different position. On the other hand, it seems that juni’i does not need to take any nominal, predicate or clausal as a complement; see the first line in (9a) where it occurs at the beginning of clause. In (9b), this particle follows a -kai clause but, rather than an ‘even though’ adverbial reading, the sentence is interpreted as a manner clause. In (9c), juni’i is the only particle that allows a concessive reading. Because of its own complexity, adverbial clauses taking juni’i are not included in this analysis.

(9) a. Bweta jachim-po juni’i ju’u in koba-po jippue-’u, jiba
   CLM what-LOC yet DET 1SG.GEN head-LOC have-CLM always
   junaman aane-Ø, in jiapsa-po naate-kai. Jaibu bu’u-m wasuktia-m
   over.there exist-PRS 1SG.GEN heart-LOC begin-CLM already big-PL year-PL
   sim-su-k juni’i, ju-me waati-m into ju-me tenkui-m jiba
   go-COMPL-PFV even DET-NOM memory-PL and DET-PL dream-PL always
   in takaa-po jiapsa. Ketun=ne au waate-Ø juna-ka
   1SG.GEN fruit-LOC heart yet=1SG.NOM self remember-PRS DEM-ACC
   yeu=sika-’u kia iliki-k juni’i kaa kopta-Ø.
   out=go.SG.PFV-CLM INT little-ACC even NEG forget-PRS
   ‘[When I become 14 years old, my life changed]. But my thought (lit. what I have in my head) is over there, since the beginning of my life. Even though several years had passed, my memories and my dreams still live inside of me (lit. always the fruit of my heart). I still remember what happened, I don’t forget even the most little things.’
   (Buitimea; Pesio betanaa: 1-7).
<table>
<thead>
<tr>
<th>Adverbial relation</th>
<th>initial and free subordinator</th>
<th>suffixal subordinator</th>
<th>double subordinator</th>
<th>Total clauses in the sample</th>
</tr>
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<tbody>
<tr>
<td>Reason</td>
<td><em>bweituk</em></td>
<td>97</td>
<td>34</td>
<td>131</td>
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<td></td>
<td><em>porke</em></td>
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<tr>
<td>Causal</td>
<td><em>kiali’ikun</em></td>
<td>33</td>
<td><em>-betchi’ibo</em></td>
<td>58</td>
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<td><em>por eso</em></td>
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<tr>
<td>Concessive</td>
<td><em>ela’apo</em></td>
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<td></td>
<td>220</td>
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<td>Other relations</td>
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<td>10</td>
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</tr>
<tr>
<td></td>
<td>-o</td>
<td>5</td>
<td></td>
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</tbody>
</table>

| Total              | 165                           | 475                   | 21                  | 660                         |
b.  [Junama’a si tebae koko-ka] jümii te ama jooka
over.there INT hunger die.PL-CLM yet 1PL.NOM there live.IMPV
‘Dying of hunger, we still lived over there.’ (Silva; Hilario: 204)

c.  Santa iklesia-po net na-t yaja-k,
Holly church-LOC 1SG-LOC together-LOC arrive.PL-PFV
ju-me’e tetekia-ka-me,  ju-me’e Cantoora-m, Kiiyojteim,
DET-PL   RDP-work-PFV-CLM DET-PL singer-PL Kiiyojteim,
num bea kaa ne jeewite-k jümii
there DM NEG 1SG.NOM accept-PFV even
‘As for the persons in charge, the singers or Kiiyojteim, they all reunited in the church
with me although I did not accept.’ (Silva; Hilario. 47-8)

The description of Yaqui adverbial subordinators begins with specific subordinators with
lexical content, and then moves to the distribution of -kai and -o, the two most productive but
also most complex adverbial subordinators.

4.2. Specific subordinators. There are two types of subordinators which mark adverbial
clauses for their semantic relationship to the main clause. The first type, originally mentioned
by Lindenfeld, involves adverb-like initial particles. In my corpus, the two most common
initial subordinators also introduce a specific semantic relation (Guerrero 2014): bweituk
‘because’ (occasionally porke) expresses the motivation or explanation for the event described
in the main clause, as depicted in (10a); kiali’ikun ~ kielikun denotes the result or
consequence of the event described in the main unit, as in (10b).

(10) a.  ¡ju-ka tampareo-ta yaati-tua ’e!
DET-ACC drummer-ACC play-cause-IMP
[bweituk kompae-Ø a’abo weye-k]
CLM compadre-NOM here walk.SG-PFV
‘Stop the drummer because my compadre is coming.’ (Buitimea; dream:155)

b.  U yoeme-Ø kaa a=eya-k [kiali’ikun __ jaa a=mabeta-k]
DET man-NOM NEG 3SG.ACC=trust-PFV CLM NEG 3SG.ACC=accept-PFV
‘The man didn’t trust him, so he didn’t accept [the food].’ (Silva; fox:17)

The adverbial particle ella’apo ‘although, it does not matter’ belongs to this group too, and it
introduces some sort of restriction subordination (Lindenfeld 1973: 85). In the sample,
however, there are only two examples involving ella’apo. The clause in (11a) comes from
Lindenfeld’s work; the one in (11b) comes from the corpus. Notice that ela’apo in (11b) is
followed by jümii’i.
Further, *bweituk, kiali’ikun* (and *ela’apo*) stand out among the Yaqui subordinators not only because of their position and lexical meaning, but also because they demand a nominative subject in the adverbial clause. In (10a) above, the main and the linked subjects are different, then the linked subject is overt and takes nominative case, e.g. *compadre*; in (10b), the two subjects are the same, and there is a co-referential missing argument in the linked unit. In the adverbial clauses in (11), the subject is also nominative. Nominative subjects are completely disallowed in relative, complement and several other adverbial clauses in Yaqui.

Although they do not occur in my corpus, Lindenfeld shows that temporal clauses introduced by *kwando* ‘when’, and purpose clauses taking *parake* ‘in order for’ also demand nominative subjects. Two of her examples are illustrated in (12).

(12) a. *[Kwando em papa-Ø yepsa-k] ne lihta-tu-ne*

   CLM 2SG.GEN father-NOM arrive.SG-PFV 1SG.NOM ready-VBLZ-POT

   ‘When your father arrived, I will be ready.’ (Lindenfeld 1973: 83)

b. *Ame-u=te chachae-ne [parake bempo itom bit-ne]*

   3PL-DIR=1PL.NOM RDP.call-POT CLM 3PL.NOM 1PL.ACC see-POT

   ‘We will keep calling them in order for them to see us.’ (Lindenfeld 1973: 84)

The second type of specific subordinators involves postpositions: the locative -po, as well as the directional -u/-wi can introduce locative clauses. It is still unclear if there is a formal distinction between locative relatives, as depicted in (5b) above, and locative adverbials, as in (13), since both may restrict the identity of a head noun and delimit the event within a time/location frame in discourse.

(13) a. *Naman ba’a-po bauba’a-po [kaa wawake-n wasuktia-m-po]*

   DEM water-LOC lake-LOC NEG RDP.dry-PASC year-PL-LOC

   ‘For years, the water in the lake never dried out.’ (Silva et al; turtle&coyote: 2)

b. *‘aman jo’a-k [bwia-ta bweji-wa’a-wi]*

   there home-PFV dirt-ACC dig-PASS-DIR

   ‘He lives there where they are digging dirt.’ (Dedrick & Casad: 387)
Yaqui has several syntactic strategies to express purpose clauses (Guerrero 2012, under review) and one of these structures takes the postposition -betchi’ibo ‘for’. Purpose clauses taking -betchi’ibo as a subordinator are the only purpose linkage allowing both, same- and different-subjects. When the subjects are the same, as in (14a), there is a missing argument in co-reference with the main subject; when the subjects are different, as depicted in (14b), the dependent subject must be overt and take accusative case.

(14) a. Peo-Øi a’abo siika [ _i ji’i-bwa-betchi’ibo]
   Peo-NOM here go.SG.PFV something-eat-CLM
   ‘Peter came here in order to eat.’

   b. Peo-Øi enchi a’abo bittua-k [enchi ji’i-bwa-ne-betchi’ibo]
   Peo-NOM 2SG.ACC here send-PFV 2SG.ACC something-eat-POT-CLM
   ‘Peter sent you here in order for you to eat.’

Álvarez (in press) was the first one to notice that -betchi’ibo may also introduce a causal relation. A detailed analysis contrasting purpose and causal sentences (Guerrero 2014, under review) shows that -betchi’ibo indeed expresses a direct cause-effect relation. Interestingly, cause clauses taking -betchi’ibo are structurally differ from those clauses introduced by bewituk and kiali’ikun. Whereas the initial causal subordinators demand a nominative subject, as seen in (10) above, a -betchi’ibo clause takes a genitive subject, when pronominal (15a), or an accusative subject, when nominal (15b).7

(15) a. Wikosa-ta =nei baajta-k [in_i ousi ji-bwa-ka-betchi’ibo]
   bell-ACC= 1SG.NOM loosen-PFV 1SG.GEN a.lot thing-eat-STA-CLM
   ‘I loosen my bell because I ate a lot.’

   b. In maala-Ø omte [puato-ta jamte-ka-betchi’ibo]
   1SG.GEN mother-NOM angry-PRS plate-ACC break-STA-CLM
   ‘My mother is angry because the plate is broken.’

That is, the Yaqui language has two types of subordinators denoting the semantic relation between the main and the adverbial clauses. First, bewituk ‘because’ and kiali’ikun ‘so that’, introduce reason and causal clauses, respectively; ella’apo ‘although’ introduces some sort of restriction clause. These initial subordinators demand a nominative subject in the adverbial unit. Second, some postpositions can serve as adverbial subordinators. This is the case of the locative -po, the directional -u, and the beneficiary -betchi’ibo. The postpositions -po and -u introduce locative clauses, while -betchi’ibo mark purpose as well as direct cause structures. As happens with relative and complement subordinators, postpositions serving as adverbial subordinators require non-nominative subjects, i.e. genitive or accusative subjects.

4.3. General subordinators. Following Nordstrom (2010: 95), the neutral term general subordinator means subordinators without rich lexical content, as opposed to adverbial (specific) subordinators. The general subordinator only has a meaning in relation to the clause

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7 In §3.2 we saw that genitive subjects in the dependent unit is a feature of relatives rather than complement or adverbial clauses. Thus, the -betchi’ibo cause clauses in (15) may be a case of nominalized-like adverbial causal.
it is heading, whereas the adverbial subordinator denotes under what circumstance the matrix event takes place, e.g., temporality, causal or conditional circumstances.

In Lindenfeld’s work, -kai is described as carrying an undifferentiated meaning of subordination, and so it may express several types of semantic associations all at once between two statements. In opposition, she refers to -o as a type of specific subordinator and so it is glossed as ‘when/if’ (Lindenfeld 1973: 82-83). In my sample, both -kai and -o introduce several adverbial clauses, suggesting both can be treated as general subordinators.

According to Lindenfeld, -kai (or -ka when the clause is non-final) can introduce a manner clause, as depicted in (16a), a ‘goal’ purpose clause, as in (16b), as well as a clause expressing a more general adverbial meaning, as in (16c).

(16) a. Wa-ka kuta-ta aapo kaa chukta-ne [junen aa joa-kai]
DEM-ACC stick-ACC 3SG.NOM NEG cut-POT like.this able do-CLM
‘He cannot cut this stick by doing it this way.’ (Lindenfeld 1973: 89)

b. Inepo in koarto-wi kibake-k [supe-te-bae-kai] 8
1SG.NOM 1SG.GEN room-DIR enter.SG-PFV shirt-put on-want-CLM
‘I went to my room in order to get dressed.’ (Lindenfeld 1973: 82)

c. Aapo lipti-tu-ne [tuisi tekipanoa-kai]
3SG.NOM blind-become-POT much work-CLM
‘Working hard will make him blind.’
‘He will become blind if he works hard.’
‘When he works hard, he becomes blind.’ (Lindenfeld 1973: 82)

The author also includes -kai clauses functioning as a gerund-type of clause. In (17), the dependent unit is also marked by the accusative -ta. The predicative element in Lindenfeld’s examples consists of nouns and (derived) adjectives, rather than full verbs, e.g., some sort of secondary or depictive predication.

8 In previous works, I have argued that it is not -kai which allows the purposive meaning, but the occurrence of a co-lexicalized V1-V2 structure inside the dependent unit (Guerrero 2012, 2013, under review). That is, in the example in (a), -bae ‘want’ follows the intended event, e.g. they wanted to rest; without -bae, the clause is interpreted as a simultaneous clause (a’). In (b), there is a motion-cum-purpose linkage; without -se ‘move in order to’, the clause is interpreted as a manner clause in (b’).

a. Wate, into [juya-ta-betukun _i kopan-bae-ka] aman rukte-k
someDM tree-ACC-under shelter-want-CLM there approach-PFV
‘Then some people approached there to rest under a tree (lit. wanting to rest).’

a’. Wate, into [juya-ta-betukun _i kopan-ka] aman rukte-k
some DM tree-ACC-under shelter-CLM there approach-PFV
‘Then some people approached there and rest under a tree (lit. moving & resting).’

b. Bwite-k [ _i au esso-ka] Waimam-mewi
run.SG-PFV 3SG.REF hide-move.PURP.SG-CLM Guaymas-DIR.PL
‘He ran to Guaymas to hide himself (lit. moving to hide).’ (Johnson; Cajeme:34)

b’. Bwite-k [ _i au esso-ka]
run.SG-PFV 3SG.REF hide-CLM
‘He ran, all the while hiding himself.’
(17) a. Empo lottila-ta-kai kaa yi’i-ne
   2SG.NOM tired-ACC-CLM NEG dance-POT
   ‘Being tired you will not dance.’

b. Junu kuta-Ø teta-ta-kai kaa beeti-ne
   DET stick-NOM stone-ACC-CLM NEG burn-POT
   ‘This stick, being (made of) stone, will not burn.’ (Lindenfeld 1973: 82)

With respect to -o, Lindenfeld mentions that it introduces time (18a) and condition clauses (18b). In temporal clauses, the loanword kwando ‘when’ may additionally introduce the adverbial unit; in conditionals, the particle si ‘if’ can also be present. A time/conditional clause as in (18c), claims the author, can be also marked by -tek, some sort of hypothetical verbal suffix.

(18) a. [(Kwando) ju-ka o’o-ta yepsa-k-o] itepo saja-k
   CLM DET ACC man-ACC arrive.SG-PFV-CLM 1PL.NOM go.PL-PFV
   ‘When the man arrived we left.’ (Lindenfeld 1973: 81, 83)

b. Aapo aman wee-ne [(si) enchi aman siik-o]
   3SG.NOM there go.SG-POT CLM 2SG.ACC there go.SG.PFV-CLM
   ‘She will go there if you go.’ (Lindenfeld 1973: 83)

c. Aapo lipti-tu-ne  [chikti ta’apo tekipanoa-tek-o]
   3SG.NOM blind-VBLZ-POT every day work-hypothetical-CLM
   ‘He will become blind if ever he works every day.’ (Lindenfeld 1973: 83)

In my sample, -kai generally introduce a simultaneous temporal clause (19a), a sequential clause (19b), a clause expressing the mean or circumstance of the main event, as in (19c), as well as some sort of negative circumstance, e.g. the ‘without’ clause in (19d).

(19) a. Peo-Øi muuku-k [Unison-po _i estudiaroa-kai]
   Peo-NOM die.SG-PFV Unison-LOC study-CLM
   ‘Peter died while studying at the Unison.’

b. [bea sechupti _i pensasaroa-ka] ne_i aman siika
   MD suddenly think-CLM 1SG.NOM there go.SG.PFV
   ‘Then, after I suddenly thought [about it], I went there.’ (Guerrero; Lalo:182)

c. Into=nei ousi tomi-yo’o-k  [ _i yeewe-kai]
   DM=1SG.NOM a.lot money-win-PFV play-CLM
   ‘And then, I won a lot of money by playing.’ (Buitimea; chapayeca: 83)

d. [kat]=e’e_i  [ _i ji’i-bwa-ka] to’o-ne
   NEG.IMP=2SG.NOM something-eat-CLM lie-POT
   ‘You will go to bed without eating.’ (D&C:394)
I also found some examples which can be understood as a clause expressing the way in which the event described in the main clause is realized, as the examples in (20a), or a clause expressing the notion of being/having a quality, as depicted in (20b-c). Notice that the linked verb in (20b-c) consists of a stative verb without -ta. Yet, more data is needed to establish some generalizations in form and use of structures like those in (20).

(20) a. ¡Kubaji-make ameu chai-tebo!=ti ne-u te’-ka [omte-kai]
   drum-INST 3PL.DIR call-order=CLM 1SG.DIR insist-PFV be.mad-CLM
   “Order to call them with the drum”, he insisted me with anger / being mad.’
   (Buitimea; malaguero:42)

   b. Naa=bea enfermera-Øi [kea _i majae-ka] bea am=bwise-Ø,
      DM =DM nurse-NOM just be.scare-CLM DM 3PL.ACC=take-PRS
      u-me ili mampusiam
      DET.PL little finger.PL
      ‘And then, the nurse, with fear/being scare, takes the little fingers.’
      (Guerrero; Lalo:321)

c. Bea ba’a-po yeu=saja-k [kaa tajo’ore-kai]
   DM water-LOC out=go.PL-PFV NEG be.dress-CLM
   ‘They left the water without being dressed.’ (Buitimea; lagartas:38)

Likewise, the final subordinator -o may introduce simultaneous (21a) and sequential (21b) temporal clauses, conditional (21c), and some sort of counter-factive (21d) clauses.

(21) a. [Unison-po nee estudiaroa-k-a] Peo-Ø muuku-k
       Unison-LOC 1SG.ACC study-PFV-CLM Peo-NOM die.SG-PFV
       ‘When I was studying at the Unison, Peter died.’

   b. Naa=bea=te pakun-bichaa yeu=saja-k [a=puntaroa-su-k-o]
      then=MD=1SG.NOM outside-toward out=go.PL-PFV 3SG.ACC=suture-COMPL-PFV-CLM
      ‘Then, we left [the hospital] after they sutured him.’ (Guerrero; Lalo:358)

c. [Jiba enchi nee suaati-bicha-o] ne ya’ura-ta tejwaa-ne
   always 2SG.ACC 1SG.ACC bother-see-CLM 1SG.NOM authority-ACC tell-POT
   ‘If you keep bothering me, I will tell the authorities.’ (Silva et al. turtle&coyote:59)

d. [Kaa nee, ’u’utte bwite-o] nee, bwij-’ea-n
   NEG 1SG.ACC strong run.SG-CLM 1SG.ACC grab-SHOULD-PASC
   ‘If I hadn’t run fast, he would have grabbed me.’ (D&C:395)

This subordinator may also introduce a similarity-type of manner clause, as shown in (22a). The adverbial clause in (22b) may be interpreted as either, a temporal, causal or reason clause.

(22) a. [Junak=bea kaa tua jiak-nok-wa-o junama jo’araapo],
      then=DM NEG INT Yaqui-speak-PASS-CLM there house-LOC
ne yo- nok-ta ta’a-taite-k
1SG.NOM yori-word-ACC learn-begin-PFV

‘As Yaqui was not spoken in that house, then I started to learn Spanish (lit. the word of the yoris, meaning the foreigners).’ (Buitimea; mundo de sueño:77)

b. [a’a kuna-wa siik-o] puhi-bahiya-taka junji bwaana
3SG.ACC husband-GEN go.SG.PFV-CLM face-swell-being ADV cry

‘When/since/because her husband left, her face was swollen from crying.’
(D&C: 395)

In oral narratives, these two general markers strongly prefer to encode a temporal relation. In my sample, 152 out of 180 adverbial clauses marked by -kai and -o introduce a temporal clause (Table 8). They can express a simultaneous relations (complete and partial overlap), as well as posterior and anterior sequential relations; there are some narrative ‘when’ clauses in the corpus too (see Declerck 1997).

| TABLE 8. Temporal clauses marked by general subordinators (Guerrero 2014) |
| Simultaneous reading | Sequential readings |
| complete overlap | point of coincidence | posterior (before) | anterior (after) |
| -kai clauses (94) | 17 | 16 | 33 | - |
| -o clauses (65) | 15 | 15 | 30 | 5 |
| | | | 82 | 87 |

Interestingly, sequential clauses can take additional markers to specify the semantic association they establish with the main unit. Thus, before-clauses are highlighted by the initial adverbial particles ketun ‘yet’ and ketun ke ‘not yet’, in addition to -o/-kai, as illustrated in (23a). After-clauses can take the completive suffix -su (historically related to ansu ‘finish’) directly attached to the dependent verb, as in (23b). In my corpus, however, there are only 18 specific temporal clauses (10% of the sample of temporal clauses), suggesting that speakers strongly prefer to use the general clauses over the more specific expressions.

(23) a. [kee Sulumai-ta_i bwij-wa-o]
   ADV.NEG Sulumai-ACC capture-PAS-CLM

   aapo i enchi juya-m nasuk e’e-ria-k
3SG.NOM 2SG.ACC brush-PL middle hide-APPL-PFV

‘Before Sulamai was captured, she was able to hide you inside the brush.’
(Buitimea; torokoroyi: 78)

b. U'u chu'u-Ø [ į] ji-bwa-su-ka] muku-k
DET dog-NOM thing-eat-COMPL-CLM die.SG-PFV

‘When the dog stopped eating, he died.’

In sum, both -kai and -o can be considered as general subordinators. In the adverbial domain, the two can introduce temporal, manner, concessive, and counter-factive clauses. In this
sample, only -o introduces conditional clauses, while only -kai can express means, positive and negative circumstances related to the main event. Occasionally, more than one subordinating morpheme may occur in the sentence in order to emphasize the semantic relation between the main clause and the adverbial clause. Like relatives and complements, adverbial clauses marked by final subordinators demand accusative subjects in the linked unit. Even though nominative subjects are allowed in adverbial clauses taking initial subordinators, they are ruled out in here.

4.4. General subordinators serving as switch-reference marking? Neither Lindenfeld nor Dedrick & Casad draw attention to a consistent, though not obligatory distribution among the two general subordinators and the identity of the subjects. It is generally the case that -kai is used when the main and dependent subjects are the same, as in (24a), while -o tends to occur when the subjects are different, as can be seen in (24b). As for the Sonoran Yaqui, I have not seen cases of -kai with different-subjects, but one may find some examples (three in my narrative sample) of same-subject -o clauses, as depicted in (24c) above.

(24) a. *Maria-Øi  Fermin-ta_j  bicha-k  [kafe-ta  _j  saake-kai]*
    María-NOM Fermin-ACC see-PFV coffee-ACC toast-CLM
    ‘Maria saw Fermín when (she) was toasting coffee.’

    b. *Maria-Øi  Fermin-ta_j  bicha-k  [kafe-ta  _j  saake-o]*
    María-NOM Fermin-ACC see-PFV coffee-ACC toast-CLM
    ‘Maria saw Fermín when (he) was toasting coffee.’

    c. *[Ju-ka  Sulumai-ta_i  omotria-u  yepsa-k-o]*
    DET-ACC Sulumai-ACC brush-DIR arrive.SG-PFV-CLM

    _j  jaibu   kaa enchi tea-k
    already NEG 2SG.ACC find-PFV  (Buitimea; toorokoyori:117)
    ‘When Sulumai got back to the brushes, she couldn’t find you.’

The distribution of -kai and -o in the clauses in (24a-b) resemble a canonical switch-reference system. Formally, switch-reference is almost always a verbal category indicating whether or not two arguments have identical reference (Haiman and Munro 1983); functionally, it is a device for referential tracking (i.e., limiting possible range of nominal reference). In other words, the function of switch-reference systems is to avoid ambiguity of reference, especially across-clauses. The use of these two Yaqui general subordinators as switch-reference is promising although it is limited to the domain of adverbial subordination.9 There is another pair of examples in (25) below. In addition to -kai/-o, the particle *juni’i* emphasizes the concessive meaning of these clauses.

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9 The distribution of -kai/-o satisfies another common property of switch-reference systems, the fact that same-subject clauses are usually the reduced version of the corresponding different-subject counterpart. In addition to the missing argument, the verb inside a -kai clause must be unmarked for tense-aspect-mood.
(25) a. Ta [ama ejkuela-ka juni’i] kaa aa nooka

but there study-CLM even NEG able speak
‘But, even though they study there, they were not able to speak [our language].’
(Félix; HVC:332)

b. Empo a=uuse-k [pochi-lai-k a bwasia-k-o juni’i]

2SG.NOM 3SG.ACC=son.have short-PTCP-have 3SG.ACC tail-have-CLM even
‘You have a son, even though he has a short tail.’ (Silva et al; wildcat: 20)

The use of -kai/-o establishes particular co-reference patterns and lexical coding of linked subject.10 It is generally the case that the two subjects are different in -o adverbial clauses; thus, the linked subject can be overt or covert (when 3rd person); when it is overt, it must be marked as accusative case. In -kai clauses, there is a missing argument in co-reference with the main subject. When the adverbial is sentence final, as in (19a, c) above, the co-referential subject is overtly expressed in the main clause; when the adverbial clause is at the beginning of the sentence, the typical situation is that the lexical subject is coded in the following clause, as in (26a). There are a few cases where the subject is extra-posed to the left of the sentence for pragmatic purpose; see the nominative subject in (26b).

(26) a. [bea sechupti _i pensasaroa-ka] ne_i aman siika

MD suddenly think-CLM 1SG.NOM there go.SG.PFV
‘And, when I suddenly thought [about it], I went there.’ (Guerrero; Lalo: 255)

b. Dios-Øi into [ _i a=bicha-ka] a-u chai-tebo-k

God-NOM DM 3SG.ACC=see-CLM 3SG-DAT call-order-PFV
‘And God, after seeing all this, he ordered to call him.’ (Silva et al; Wildcat: 36)

b’. Dios-Øi into a-u chai-tebo-k [ _i a=bicha-ka]

God-NOM DM 3SG-DAT call-order-PFV 3SG.ACC=see-CLM
‘And God ordered to call him when he saw all this.’

The fact that the subject Dios ‘God’ is nominative rather than accusative, indicates that it serves as a constituent of the main unit. I asked my consultant what would happen if the linked unit in (26b) occurs at the end of the sentence, and he provided me with the alternative structure in (26b’), with the lexical subject in the main unit and the co-referential missing argument in the adverbial clause.

For the Arizonan variant, Lindenfeld explicitly claims that in -kai clauses “its subject is often not identical to that of the matrix sentence” (1973: 87). The author uses the example in (27) to illustrate this generalization. She argues that ine po ‘I’ is the subject of tekipanoa ‘work’ and in mala ‘my mother’ is the subject of the linked verb ‘die’; thus, the two subjects are different and still there is a -kai clause. That would be a contradiction to the findings in my corpus. My consultant, however, provide a different interpretation of the same sentence. Accordingly, ‘my mother’ is the subject of the two verbs inside the linked verb, muku ‘die’ and the phrasal verb naate ‘begin’, thus, the subjects of the two verbs are the same.

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10 As a reviewer suggested, the use of -kai and -o as switch-reference markers may follow a pragmatic, rather than syntactic control relation.
Inepo [in mala muku-k-naate-kai] tekipanoa
1SG.NOM 1SG.GEN mother-Ø die.SG-FV-begin-CLM work
‘I have been working ever since my mother died.’

Inepo [in mala i muku-k naate-kai] tekipanoa
1SG.NOM 1SG.GEN mamá-Ø morir-PFV empezar-CLM work
‘I have been working since my mother become to be death (lit. begin to die)’

Still, this sentence (presumably from direct elicitation) is strange. On one hand, there is a full clause in the middle of the main clause; the subject of tekipanoa ‘work’ is a nominative subject extraposed to the left (the same that (26b) above). On the other, the dependent subject does not take accusative case. In Lindenfeld’s examples, adverbial clauses marked by native final subordinators (no loanwords) do take accusative case. And yet, at least for the Sonoran variant, -kai clauses in the corpus involve same subjects. The possibility of -kai taking different subjects (or not) deserves a study on its own (Guerrero, in prep).

5. Adverbial subordinators in Cahita languages: initial or final subordinators? Thus, bweituk and kiali’ikun stand out among the Yaqui subordinators not only because of their position and lexical meaning, but also because they demand a nominative subject. Interestingly enough, these adverbial particles were not mentioned in the earlier works on Yaqui. In Buelna’s work (1890), all the adverbial clauses were marked by final subordinators, including those denoting cause and reason relations. Buelna argued that “en oraciones de dos supuestos [different subjects], la persona que hace, sobre que cae o apela cualquiera de las dichas partículas se pone en acusativo” (1890: 68).11

First, Buelna noticed that causal and reason clauses were marked by final subordinators. The clause linkage markers teca ~ tuca ‘because’ introduce same-subject reason clauses; teca is used with verbs in present and future, as in (28a), while tuca is used elsewhere. The subordinator ituca~ tuco ‘because’ marks different-subject clauses, the former for present and imperfective, as illustrated in (28b-c), and the latter elsewhere.

(28) a. Emchi ne i noctehoa [emchi _i eria teca]
2SG.ACC 1SG.NOM teach 2SG.ACC love CLM
‘I teach you because I love you.’ (Sp. Porque te amo, te enseño)

b. Emchi ne vuie [emchi ka teopa-u quivaque ituca]
2SG.ACC 1SG.NOM yell 2SG.ACC NEG church-DIR enter CLM
‘I yelled at you because you are not inside the church.’ (Sp. Te riño porque no estas a la iglesia)

c. Buiteca ne [emchi netz eriac tuco]
run.IMPFV 1SG.NOM 2SG.ACC 1SG.ACC love-PFV CLM
‘I ran because you loved me.’ (Sp. Porque me amaste, hui)

11 The examples in this section come from Buelna (1890: 68-76); the orthography is respected from the original examples. The morphological gloss of the examples is mine.
According to Buelna’s examples, these constructions reflect the lexical coding of the linked subject observed nowadays: in same-subject constructions, there is a missing argument in the linked unit in co-reference with the main subject; in different-subject clauses, the dependent subject is overt and marked as accusative. Historically, these final subordinators do not distinguish between reason and causal relations, i.e., they denote a general consequence relation. In fact, Buelna recognized that teca may denote other semantic relations too, such as conditionals, as in (29a), and temporal clauses, in (29b).

(29) a. \(\text{Emchi}=\text{ne}_{i}, \quad \text{hiocori} \quad \text{ciai}, \quad [\text{emchi} \; \_j \; \text{eria} \quad \text{teca}]\)
\(2\text{SG.ACC}=1\text{SG.NOM} \quad \text{help} \quad \text{SUBJ}\? \quad 2\text{SG.ACC} \quad \text{love} \quad \text{CLM}\)
‘I would help you if I would love you.’ (Sp. Te socorrería, si te hubiera amado)

b. \(\text{Emchi}=\text{ne}_{i}, \quad \text{hioco-ree}, \quad [\text{quehe} \; \_j \; \text{emchi} \quad \text{eria} \quad \text{teca}]\)
\(2\text{SG.ACC}=1\text{SG.NOM} \quad \text{help-PFV} \quad \text{not.yet} \quad 2\text{SG.ACC} \quad \text{love} \quad \text{CLM}\)
‘I helped you before I love you.’ (Sp. Te socorrí antes de que te amara)

With respect to the general subordinators, the clause linker -cari, according to Buelna (1890: 69), marks same-subject adverbial clauses such as como ‘like’, cuando ‘when’, aunque ‘although’, después ‘after’. Some examples are shown in (30).

(30) a. \(\text{Eria-naua}='e \quad \text{aeri-cari}\)
\(\text{love-FUT.PAS}=2\text{SG.NOM} \quad \text{love-CLM}\)
‘As you love, you would be loved.’ (Sp. Como ames, tú serás amado)

b. \(\text{Mue-naque} \quad \text{ne} \quad \text{aeria-cari}\)
\(\text{die-FUT} \quad 1\text{SG.NOM} \quad \text{love-CLM}\)
‘I will die when I would be loved.’ (Sp. Me moriré, cuando yo ame)

c. \(\text{Ca}=\text{te}_{i}, \quad \text{eria-naua} \quad [\text{mautz} \; \_j \; \text{aeria-cari}]\)
\(\text{NEG}=2\text{SG.NOM} \quad \text{love-FUT.PAS} \quad \text{although} \quad \text{love-CLM}\)
‘You won’t be loved although you love.’ (Sp. Aunque tú ames, no serás amado)

The clause linker yo ~ co ~ caco introduces different-subject clauses such as como ‘like’, cuando ‘when’, aunque ‘although’, después ‘after’, si ‘if’, and antes ‘before’. The distribution of these morphemes depends on the TAM of the linked verb (Buelna 1890: 70): yo for the present and future, as in (31a, d), co for the past, depicted in (31b), and caco for the pluperfect in (31c).

(31) a. \(\text{Emchi}=\text{ne} \quad \text{eria-naque}, \quad [\text{emchi} \; \text{netz} \; \text{eria-yo}]\)
\(2\text{SG.ACC}=1\text{SG.NOM} \quad \text{love-FUT} \quad 2\text{SG.ACC} \quad 1\text{SG.ACC} \quad \text{love-CLM}\)
‘I will love you, if you love me.’ (Sp. Si me amares, yo te amaré)

b. \(\text{Ca ne} \quad \text{emchi} \quad \text{lulutiria-naque}, \quad [\text{mautz} \quad \text{emchi} \quad \text{eria-ua-co}]\)
\(\text{NEG} \quad 1\text{SG.NOM} \quad 2\text{SG.ACC} \quad \text{forgive-FUT} \quad \text{although} \quad 2\text{SG.ACC} \quad \text{love-PAS-CLM}\)
‘I will not forgive you, even though you would be loved.’ (Sp. Aunque hayas sido amado, yo no te perdonaré)
c. *Emchi=ne eriai [quehe emchi a eria-caco]*
2SG.ACC=1SG.NOM love not.yet 2SG.ACC 3SG.ACC love-CLM
‘I loved you before you could love him/her.’ (Sp. Antes que hubieses amado, ya yo te amaba)

d. *Suroc=te taite-c, [emchi sim-su-co]*
get.sad=1PL.NOM begin-PFV 2SG.ACC go-COMPL-CLM
‘We became sad after you left.’ (Sp. nos entristecimos después que te fuiste)

e. *Anevebac vitzi ka unaua*
whip.PFV CLM NEG strong
‘Whip [him] but not a lot.’ (Sp. Azótele pero no mucho)

Whereas the linked subject in the -cari clauses in (30) is covert, in the sentences in (31) the dependent subject consists of an accusative pronoun. Notice also that -cari and -yo/-co/-caco can co-occur with initial adverbs in order to specify the semantic relations among the two clauses; this is the case of *mautz(i)* ‘although, it does not matter’ in (30c) and (31b), the adverbial *quehe(ri)* ‘not yet, before’ (31c) marking a before-clause, *vitzi* ‘although, but’ in (31d). The initial particle *mautz(i)* was not preserved in Yaqui grammar; the actual *ketunke ~ ke* is historically related to *quehe(ri)* ‘not yet’ (see the example in (29b)); the same seems to be true for *bweta* and *vitzi* ‘but’.

That is, according to Buelna’s work, adverbial subordinate clauses were marked by final subordinators; some of these subordinators were bound (e.g., -cari, -yo/-co/-caco), and others were free but final (e.g. *teca, ituca, tuco*). These subordinating morphemes were general rather than specific linkers. The use of postpositions such as *betchi’ibo* ‘in order to’ and *-po* ‘in, on’, were not mentioned in Buelna’s work either.

6. **Final comments.** The aim of this paper was to explore the complexity of the adverbial subordinators in Yaqui. In contrast to relative and complement clauses which take final and bound subordinators without lexical meaning, adverbial clauses can take both final and initial subordinating morphemes. While all subordinate sentences -including relatives, complements and adverbials marked by suffixal subordinators demand non-nominative subjects, adverbial clauses taking the initial clause linkers *bweituk* ‘because’, *kiale’ekun* ‘so that’, and *alle’apo* ‘although’ require nominative subjects. Historically, these adverbial clauses took final subordinators and accusative subjects, meaning the syntactic structures denoting reason, causal and concessive relations are relatively new in the Yaqui grammar. There are, at least, two aspects that needs to be address in future studies, the possibility of *-kai* taking different subjects, and the use of *-kai* and *-o* as switch-reference markers, a phenomenon observed in languages from the Northern branch (Hill 2012), but rarely mentioned in Southern languages.

**Narrative corpus**
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