Presumption in Karuk

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Abstract

This paper examines obligatory resumption in Karuk, a verb-final language of Northern California, and argues that it is the result of conflicting word order requirements. Whereas postpositional phrases and the associate of focus particles must appear before the verb, clausal arguments must appear after the verb. When a clause is the complement of a postposition or the associate of a focus particle, this leads to conflicting word order requirements. This conflict is resolved by “presumption”: the use of a proform before the verb that is co-indexed with the complement clause following the verb. I provide a chain resolution analysis of presumption following Landau (2006). Similar patterns of presumption are attested in other head-final languages including Hindi-Urdo, Persian and Turkish and the final part of the paper develops a comparative perpective on the phenomena.

1 Introduction

We are extremely appreciative of the collaboration between Karuk master speakers and elders Sonny Davis, Julian Lang, Vina Smith, Nancy Super (nee Jerry), Peter Super Sr., and

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Charlie Thom Sr., Karuk language learners and teachers Tamara Alexander, Robert Manuel, Crystal Richardson, Arch Super, Florrine Super, and Franklin (Frankie) Thom, and UC Berkeley linguists Andrew Garrett, Erik Maier, Line Mikkelsen, Karie Moorman and Clare Sandy in Yreka California starting in 2010 and continuing through 2017. The work included language documentation, linguistic analysis, language learning, development of language curriculum, language teaching, working through texts, (re)transcribing legacy recordings, linguistic elicitation with verbal and visual stimuli, and the development of ararahih’urípih (= Karuk language net; http://linguistics.berkeley.edu/~karuk/index.php), an online dictionary and morphologically parsed text corpus.

2 Presumption

Many languages make use of resumptive pronouns in establishing certain syntactic dependencies. Two important environments for resumption cross-linguistically are Contrastive Left Dislocation, illustrated with Dutch in (1), and relativization, illustrated with Irish in (2):

(1) Jani [waar heb je diei gezien]?
   Jan where have you him seen
   Where did you see Jan?  
   (van Riemsdijk 1997:4)

(2) an ghirseachí [ar ghoid na síogaí i]
   the girl c stole the fairies her
   the girl who the fairies stole  
   (McCloskey 2006:5)

(3) XPi [. . . pronouni . . .]

In each of these environments, a resumptive pronoun mediates the syntactic dependency between the left-peripheral XP and the local syntactic environment of the resumptive pronoun, as schematized in (3).

This paper examines resumption in the Karuk language of Northern California and argues that in this language resumption is deployed to resolve conflicting requirements placed on a single syntactic constituent. The Karuk construction of interest is illustrated in (4). The extraposed XP is bracketed, the proform is in italics, and the element defining the local environment is underlined.1

1All Karuk examples are given in the Karuk Practical Spelling System, adopted by the Karuk Tribe in 1989 (see Richardson and Burell (1993) and Bright and Gehr (2005:xi-xii) for details). Individual Karuk examples are identified by speaker and either text title or date of elicitation. If a textual example is part of ararahih’urípih, the online Karuk text database described in fn. 4, it is further tagged with text ID and line number. If not, it is tagged with the publication in which the text appears plus page number. Glossing conventions follow the Leipzig Glossing Rules with the following additions (where glossing assumes a particular analysis of a Karuk morpheme, references to relevant discussion are included): ANC = ancient past, ANT = anterior, CHAR = characterized by (Bright 1957:74–5, Moorman 2014), DESID = desiderative, DO = object marker, EMPH = emphatic particle, ERG = ergative (Bright 1957:129, Macaulay 2000), EV = evidential, FACT = factive, HAB = habitual, IR = irrealis (Bright 1957:126, Peltola 2008), ITER = iterative, PRF = perfect (Bright 1957:138–9, Carpenter 2013:13), PL.AC = plural action, PROSP = prospective

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In (4a) the bracketed clause serves both as the associate of the focus particle kich ‘only’ and as the complement of the matrix verb ukupítiłihanik. The focus particle requires preverbal realization of the associate, but Karuk complement clauses are barred from preverbal position, which leads to a linearization paradox: the complement clause must, but at the same time cannot, be realized in preverbal position. The proform vaa resolves this conflict: it appears immediately before the preverbal focus particle, thereby satisfying the focus particle’s requirement for preverbal realization of the associate. The complement clause appears after the verb, obeying the ban on preverbal complement clauses, and its relationship to the focus particle is mediated by the co-indexed proform.

The Karuk case of resumption in (4) is interesting because its surface characteristics are quite different from canonical instances of resumption. First, it is triggered by rightward displacement, and thus the proform precedes rather than follows the displaced XP; the term presumption is intended to capture this. Second, the displacement has no semantic or information structural effect, but is instead driven by linearization requirements. In contrast, Contrastive Left Dislocation serves an information-structural purpose (Altmann 1981, Frey 2004) and relativization creates a semantic predicate from a proposition. Finally, rightward displacement in and of itself is not enough to trigger presumption, the local preverbal environment of the displaced clause plays a crucial role in conditioning presumption. In particular, the focus particle functions as a trigger for presumption because it requires local phonological realization of its associate. Similar local conditioning effects have in fact been noted in the literature on resumption by Landau (2006), Sichel (2014), and van Urk (2018), who argue that in some cases resumption serves to satisfy a phonological overtness requirement imposed by the local environment. Though it has received limited attention in the literature, it turns out that presumption of complement clauses under association with focus particles is also found in Hindi-Urdu, Persian and Turkish, three verb-final language that nonetheless place complement clauses after the verb. This suggests that we can add rightward complement clause displacement to relativization and Contrastive Left Dislocation as environments that regularly yield phonologically conditioned resumption.

The paper is organized as follows. Section 2 describes presumption in Karuk, including the environments in which it occurs, the phonological requirements associated with these
environments, the word order restrictions that bring about displacement, and the obliga-
toriness of presumption in these environments. The presumption pattern illustrated in (4)
has not been identified in the existing literature on Karuk, nor have the word order re-
strictions and phonological requirements that cause it. An independent goal of section 2
is therefore to establish these facts as carefully as I can. To that end, I draw on my own
and colleagues’ fieldwork with Karuk speakers in Yreka, California from 2010 til 2017 and
on the large corpus of textual material from earlier generations of Karuk speakers that was
gathered, transcribed, and published by various researchers over the last century (de Angulo
and Freeland 1931, Bright 1957, Harrington 1930, 1932b, 1932a, Lang 1994). A significant
portion of this material (about 7000 sentences) has been digitized and linguistically anno-
tated in an online searchable database, ararahih’urípih (Karuk language net). All claims
made in this paper have been systematically checked against that corpus and against the
material in Harrington (1932a) and Harrington (1932b). At this point in time, the window
for grammatical elicitation is effectively closed. There are few first language speakers of
Karuk and the ones involved in language work are, understandably, devoting their time and
energy to language revitalization work. All instances of Karuk presumption involve a depen-
dency across the verb, but differ in the category of the extraposed XP and the trigger. I have identified two categories that undergo obligatory rightward displacement, complement clauses and quotes, and two environments in which this displacement consistently results in presumption: when the displaced XP is the associate of a focus particle (6) and when it is the complement of a postposition (7).

3 Presumption in Karuk

The general profile of presumption in Karuk is given in (5)

(5) Karuk presumption: [ . . . [pro, TRIGGER] . . . V] . . . XP_

It involves a dependency between a preverbal proform and a fully articulated postverbal XP
and the proform forms a syntactic constituent with a preverbal triggering element. Pres-
sumption is productive and robust in the language: all speakers for whom we have recorded
linguistic material in which the conditions for presumption are met use it. At the same
time presumption is highly circumscribed by grammatical factors, which makes it a valuable
window onto parts of Karuk syntax about which very little is presently understood.

All instances of Karuk presumption involve a dependency across the verb, but differ in the
category of the extraposed XP and the trigger. I have identified two categories that undergo
obligatory rightward displacement, complement clauses and quotes, and two environments
in which this displacement consistently results in presumption: when the displaced XP is
the associate of a focus particle (6) and when it is the complement of a postposition (7).

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4 http://linguistics.berkeley.edu/~karuk/

5 On the history of Karuk language work and current vitality of the language, see Lang (1994), Bright and Gehr (2005:i–xvi), and Sandy (2017:7–9).
In (6a) the complement clause appears to the right of the matrix verb *u’ıtapti* and the proform *vaa* appears adjacent to the preverbal focus particle *kich*. Similarly, in (6b), the quote appears to the right of the verb of saying, *upítih*, and the proform *vaa* accompanies the focus particle in preverbal position. In (7) the clause *[pani’ıpakahaaak]* is a dependent of the postposition *kóó* ‘as much as’ and expresses the standard of comparison (i.e. how long the addressee must sit there). The postposition appears before the matrix verb *ikúuntakoovish* and is accompanied by the proform *vaa*, whereas the dependent clause appears after the matrix verb.\(^6\)

The idea that I will develop is that in each of the environments in (6) and (7), there is a tension between the general requirement that complement clauses and quotes appear after the verb and a specific requirement for phonological manifestation of the clause or quote preverbally. In (6) the requirement for preverbal phonological manifestation comes from the focus particle, in (7) from the postposition.

I start by establishing some basic properties of argument realization in Karuk (section 2.1). Section 2.2 describes complement clauses in Karuk, in particular their internal structure and obligatory postverbal surface position. In 2.3, I turn to focus particles and establish that they must appear preverbally, that they form a syntactic constituent with their associate, and that the associate to be phonologically realized. In 2.4 I show that *kóó* must appear preverbally and requires its complement to have in-situ phonological realization. In 2.5 I bring all of these observations together and show how they conspire to produce the observed patterns of presumption.

In what follows I concentrate on presumption of complement clauses, as in (6a) and (7), since they are found in both environments. Presumption of quotes is more limited, because the distribution of quotes is more limited. As far as I can tell, quotes never function as complements of postpositions, presumably because there are no postpositions of saying.

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\(^6\) *ık* and *vúra* are second position clitics. Because the PP is clause initial in (7), *ık* and *vúra* intervene between *vaa* and *kóó*. 

5
3.1 Argument realization

Karuk is a headmarking, polysynthetic language of the Klamath River of Northern California. It is an isolate within the Hokan stock (Golla 2011:82-127). Karuk phonology and morphology is thoroughly described in Bright’s (1957) grammar, which also contains a chapter on the syntax of the language (pp. 119-142). As Bright’s description makes clear, Karuk exhibits the three surface characteristics of a non-configurational language: arguments can be omitted, split, and freely ordered (Hale 1983). These properties are illustrated in (8)–(10).

(8) a. púyava kári pa-’áraar pa-’urípi u-p-ithyúru-ripaa.
you see then the human the-net 3SG>3-ITER-pull-out
Then the Indian pulled the net out of the water.
Julia Starritt “Salmon Fishing” (WB-KL-69:16) [SOV]
b. xás pa-pihníich u-pímmi pa-mú-’aramah.
then the-old.man 3SG>3-fall.in love the-3SG.POSS-child
And the old man fell in love with his child.
Julia Starritt “Coyote Marries His Own Daughter” (WB-KL-16:3) [SVO]
c. ta’ítam kun-íík-aheen pa-xuntápan pa-’asiktávaan-sa.
so 3PL>3SG-pick.up-ANT the-acorn the-woman-PL
Then the women gathered the acorns.
Mamie Offield “Coyote Gives Salmon and Acorns to Mankind” (WB-KL-17:34) [VOS]

(9) xás t-u-’áv.
then PRF-3SG>3-eat
Then he ate it.
Mrs. Bennett “Screech Owl and Coyote” (ALK-14-35:16)

(10) a. púyava táay tá kun-’úupva pa-tayíith.
you see much PRF 3PL>3SG-dig.root the-brodiaea
So they dug a lot of brodiaeas.
Nettie Ruben “The Story of Skunk” (WB-KL-46:14)
b. pa-vírusur íshyaav kusrah-kée kári koovüra eerá’éív-ak kúuk tá kun-pá-vyíihma.
the-bear winter sun-bad then all den-LOC to PRF 3PL-ITER-go.to.PL
In the winter, in December (the bad month), the bears all go into dens.‘
Nettie Ruben “Bear Hunting” (WB-KL-71:1)
c. á ’iknëechhän pirishkáarim mu-hròoha.
falcon grizzly 3SG.POSS-wife
Duck Hawk’s wife was Grizzly Bear.
Lottie Beck “Duck Hawk and His Wife” (WB-KL-25:1)

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Important aspects of Karuk morphosyntax have been insightfully analyzed by Monica Macaulay in a series of papers (Macaulay 1989, 1992, 1993, 2000, 2005). None of these are concerned with word order per se. To the best of my knowledge this paper, along with Maier (2015), are the only works since Bright (1957) to examine word order in the language. Sandy (2017) provides a comprehensive analysis of the accentual system and its complex interplay with morphophonology.
The examples in (8) illustrate the relatively rare case of a transitive verb with two overt DP arguments and show that there is no grammatically fixed order for subject, object and verb. (9) illustrates pro-drop of subject and object. Examples of split DPs are given in (10). In (10a) the quantified object DP táay pa-tayúth is split across the verb, so that the quantifier precedes the verb and the rest of the DP follows the verb. In (10b) a quantified subject DP is split before the verb with the determiner and noun appearing clause initially and separated from the quantifier by temporal adverbs. Finally, in (10c), a possessor is split from the possessed nominal in a non-verbal predication structure. (See Maier (2015) for detailed discussion of split DPs in Karuk.)

3.2 Complement clauses

Karuk complement clauses are finite and carry the same tense, aspect, mood and agreement morphology as root clauses. For instance, the complement clause in (6a), repeated below in (11), expresses agreement (3SG oo-), aspect (durative -tih), and tense (ancient past -anik). This inflection is entirely analogous to that found in the corresponding root clause in (12):

(11) p=óo-thtii-tih-anik
    COMP=3SG-gamble-DUR-ANC
    that he was gambling

(12) út-thtii-tih-anik.
    3SG-gamble-DUR-ANC
    He was gambling.

Complement clauses are uniformly marked by the proclitic pa=, which I analyze as a complementizer and gloss COMP. If the complement clause contains additional pre-verbal material, the complementizer may attach to that material (13) or to the verb (14):

(13) naa íp ni-pasúpiichv-at [pa=sóomvaan t-i-’ípasuk].
    1SG PST 1SG-reveal-PST COMP=prospective.wife PRF-2SG-bring.back
    I revealed that you were bringing home a new wife.
    Mamie Offield “Duck Hawk and His Wife” (WB-KL-27:23)

(14) ni-krüunti [jim p=ee-nmísh-eesh].
    1SG-wait.for 2SG COMP=2SG-cook-PROS
    I am waiting for you to cook.
    Vina Smith, elicitation, 09/08/2013

As far as I can tell, there are no clausal subjects in Karuk, but clausal complements are attested with propositional attitude verbs, aspectual verbs, and verbs of communication. An exhaustive list of these are given in Table 1.\textsuperscript{10}

\textsuperscript{8}If the host of the complementizer proclitic begins with a vowel, as is the case in (11), the vowel of the proclitic coalesces with the stem-initial vowel through a regular phonological process (Bright 1957:34-35).
Table 1: Karuk verbs that allow clausal complements

<table>
<thead>
<tr>
<th>Verb</th>
<th>Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>aachíchha</td>
<td>‘to be glad’</td>
</tr>
<tr>
<td>áapunma</td>
<td>‘to know’</td>
</tr>
<tr>
<td>imus</td>
<td>‘to look at’</td>
</tr>
<tr>
<td>ikruunti</td>
<td>‘to wait for’</td>
</tr>
<tr>
<td>ikyâavarihva</td>
<td>‘to try’</td>
</tr>
<tr>
<td>ipêer</td>
<td>‘to tell’</td>
</tr>
<tr>
<td>ipshinváriahta</td>
<td>‘to forget’</td>
</tr>
<tr>
<td>ítap</td>
<td>‘to know’</td>
</tr>
<tr>
<td>káriha</td>
<td>‘to be ready’</td>
</tr>
<tr>
<td>kóoha</td>
<td>‘to stop’</td>
</tr>
<tr>
<td>kúupha</td>
<td>‘to do’</td>
</tr>
<tr>
<td>mah</td>
<td>‘to see, to find’</td>
</tr>
<tr>
<td>pasúpiichva</td>
<td>‘to reveal’</td>
</tr>
<tr>
<td>piip</td>
<td>‘to say’</td>
</tr>
<tr>
<td>pikrook</td>
<td>‘to remember’</td>
</tr>
<tr>
<td>pikyaar</td>
<td>‘to finish’</td>
</tr>
<tr>
<td>táapkup</td>
<td>‘to like’</td>
</tr>
<tr>
<td>thitiv</td>
<td>‘to hear’</td>
</tr>
<tr>
<td>úurih</td>
<td>‘to be unwilling’</td>
</tr>
<tr>
<td>vîha</td>
<td>‘to dislike’</td>
</tr>
</tbody>
</table>

Adverbial clauses are formed the same way as complement clauses:¹¹

(15) [p-oo-’áaksur] pirishkâarim sáruk u-ikyîv-unih.
    COMP-3SG-release.arrow grizzly.bear downhill 3SG-fall-down
    When he released the arrow, Grizzly Bear fell downhill.
    Lottie Beck “Duck Hawk and His Wife” (WB-KL-25:23)

(16) kári xás tá kun-taxîsh~xish [pa=t-óo msip].
    then then PERF 3PL>3SG-scrape~iter COMP-PRF-3SG cool.off
    And they scraped it when it was cool.
    Nettie Ruben “Bear Hunting” (WB-KL-71:23)

a+u yields oo (as in (11)); a+i yields ee (as in (14) below).

9An alternative analysis of (14) would treat the second person pronoun iim as a dependent of the matrix verb and pro drop in the complement clause. That analysis is ruled out by the agreement prefix on the matrix verb, which is sensitive to object person features (Bright 1957:60). ni- is the form used with 1SG subject and 3rd person object (or no object); nu- is used for 1SG subject and 2SG object.

10According to Bright (1957:57, 134) verbs of emotion, like viîhi ‘to dislike’ and iθóonha ‘to be eager’ may also take a bare verb root as their complement, optionally prefixed with the impersonal possessive va-.

There are only a handful of examples of this construction in the corpus; in all of them the complement is postverbal. I will have nothing more to say about this construction.

¹¹Here I illustrate with temporal clauses. Other types of adverbial clauses, including locative clauses, purpose clauses, reason clauses, and conditional clauses, are formed the same way and exhibit the same freedom of position as temporal clauses. Locative clauses may additionally feature a verbal suffix -irak.
Adverbial clauses may precede the main clause, as in (15), or follow it, as in (16). This freedom of position is typical of adverbial clauses in languages with an initial subordinator (Diessel 2001:442ff). In contrast, complement clauses must follow the main verb. This restriction is observed in the textual material and confirmed in elicitation. When translating English sentences with complement clauses into Karuk, speakers invariably produce structures in which the complement clause follows the main verb. Examples of such translation tasks are given in (17) and (18):

(17) naa vùra ni-tapkùupi-ti [pa=ni-’uufíthvu-ti].

1SG EMPH 1SG-like-DUR COMP=1SG-swim-DUR

_I like to swim._

Vina Smith, elicitation, 09/07/2013

(18) ni-krùunti [iim p=ee-mnísh-eesh].

1SG-wait.for 2SG COMP=2SG-cook-PROS

_I am waiting for you to cook._

Vina Smith, elicitation, 09/08/2013

When presented with a version of the Karuk sentences in which the complement clause precedes the main verb, the speaker either rejected it as “no good” (19) or reinterpreted the complement clause as an adverbial clause and adjusted the aspectual inflection of the matrix clause accordingly (20):


1SG EMPH COMP=1SG-swim-DUR 1SG-like-DUR

_Intended: I like to swim._

Vina Smith, elicitation, 09/07/2013

(20) [iim p=ee-mnísh-eesh] ni-krùuntih-eesh.

2SG COMP=2SG-cook-PROS 1SG-wait.for-PROS

_If you are going to cook, I will wait._

Vina Smith, elicitation, 09/08/2013

This state of affairs is also expected on typological grounds: complement clauses tend to be positionally restricted and to favor postverbal position (Dryer 1980, Schmidtke-Bode and Diessel 2017).

Before I turn to the environments that trigger presumption, one matter deserves further attention. As the example in (16) makes clear, the complementizer proclitic is segmentally identical to the definite determiner. Bright (1957:121–2) distinguishes the two based on the morphophonological precesses they trigger, and identifies the first as a nominalizer and the second as an article. Bright doesn’t give any specific evidence that the _pa_= that marks subordinate clauses is a nominalizer, and it is not easy to distinguish a nominalization analysis from a complementizer analyses. One thing that makes it difficult is that Karuk subordinate clauses exhibit the full gamut of verbal inflection. So if they involve nominalization, it is very high nominalization, i.e. nominalization at the CP-level in the typology of Kornfilt and Whitman (2011). The analytic issue is thus to differentiate the nominalized structure in (21) from the plain CP structure in (22).
As far as I know there is no positive evidence for a nominalization analysis: \textit{pa=}-clauses are not case-marked, they do not expone number, and they do not bear possessive marking.\textsuperscript{12} On the other hand, there is indirect evidence for the complementizer analysis of \textit{pa=} from embedded questions. Karuk generally exhibits wh-movement to the left periphery in constituent questions and in embedded constituent questions the question word invariably precedes \textit{pa=}:\textsuperscript{13}

\begin{verbatim}
(23) i-pikrôok-ti hûm [fâat p=ee-pî-tih]?  
2SG-remember-DUR Q what COMP=2SG-say-DUR  

Did you remember what you said?  
Charlie Thom, Sr. “Sentences from Now You’re Speaking Karuk” (CT-01:25)
\end{verbatim}

\begin{verbatim}
(24) chavûra pu=mah-‘ará, [hôoy p=oo-’aramsiipriv-tih].  
finally NEG=see-NEG where COMP=3SG-come.from-DUR  

In the end he didn’t find where it came from.  
Chester Pepper “Coyote Tries to Reach the Sun” (WB-KL-12)
\end{verbatim}

Under the CP analysis, the relative order of the question word and \textit{pa=} follows straightforwardly from wh-movement targeting Spec-CP, as shown in (25) for the embedded clause in (23):\textsuperscript{14}

\textsuperscript{12}The absence of case, number and possessive marking on \textit{pa}-clauses does not amount to a direct argument against the nominalization analysis, since their absence can be explained in terms of independent restrictions. Only external arguments and instruments are ever case marked (Macaulay 2000) and \textit{pa}-clauses only function as internal, non-instrument arguments, so the opportunity for case marking of a \textit{pa}-clause doesn’t arise. Similarly, only human-denoting nouns expone number and \textit{pa}-clauses do not denote humans, hence no potential for number marking. Finally, \textit{pa}-clauses appear to be excluded from possessive constructions, plausibly on semantic grounds.

\textsuperscript{13}Karuk question words are indeterminate pronouns in the sense of Shimoyama (2008): their interpretation depends on syntactic and semantic context: an indefinite reading is associated with in situ realization and the question interpretation with movement to the left edge. This pattern holds in root and embedded contexts.

\textsuperscript{14}Recall that \textit{a+i} yields \textit{ee}, so \textit{pa=} + \textit{ipîtîh} yields \textit{peepîtîh}. 
Under the nominalization analysis, we expect the opposite order of \textit{fäät} and \textit{pa=} since \textit{pa=} heads the projection above CP, and some additional movement process is required to bring the question word to a position above the nominalizer. I therefore adopt the CP analysis in (22) and analyze \textit{pa=} as complementizer.\(^{15}\)

In summary: Karuk complement clauses are finite CPs and displaced to postverbal position. Next I turn to the environments for presumption of post-verbal complement clauses, starting with focus particles.

### 3.3 Focus particles

Karuk has three focus particles, \textit{kich} ‘only’, \textit{káru} ‘also’, and \textit{kúna} ‘in addition’:

\[(26)\]
\[
n\text{aa kich} \\
1\text{.sg only} \\
only \text{me}
\]

\[(27)\]
\[
n\text{aa káru} \\
1\text{.sg also} \\
me too
\]

\[(28)\]
\[
fäät kúna \\
what \text{in.addition} \\
what else
\]

These focus particles appear immediately following the element they associate with and I will argue that they are right-adjoined to the associate, as shown schematically in (29):

\[(29)\]
\[
\text{XP} \\
\text{XP kich/káru/kúna}
\]

The first generalization that I want to establish is that such overtly focus-marked constituents must precede the verb, though they need not be immediately preverbal as (32) shows. Representative textual examples are given in (30)–(33).

\[(30)\]
\[
xása [\text{pa-}’\text{únuhich kich}] t-u-páth-ih. \\
then the-kidney only \text{PRF-3SG>3-throw-BEN} \\
Then he threw only the kidney to him. \\
Mrs. Bennett “Screech Owl and Coyote” (ALK-14-35:13)
\]

\(^{15}\)Complementizer \textit{pa=} is also used to form clefts, as discussed in Garrett and Mikkelsen (2015).
They (the Does) were singing too. (After saying that Coyote was singing when he met the Does)
Mamie Offield “Coyote Trades Songs and Goes to the Sky” (WB-KL-09:4)

Weasel had a song. (After the Old Woman sings her song)
Lottie Beck “The Perils of Weasel” (WB-KL-18:19)

He grabbed his wife in turn. (After grabbing his child.)
Lottie Beck “The Greedy Father” (WB-KL-23:67)

Postverbal placement of a focus-marked phrase is judged ungrammatical (34) and preverbal placement is invariably volunteered (35):

(34) *tá nu-ákih [uxnáhich kích].
    PRF 1SG>2SG-feed strawberries only
    Intended: All I gave you were strawberries. (Vina Smith, 16/06/2013)

(35) [uxnáhich kích] tá nu-ákih.
    strawberries only PRF 1SG>2SG-feed
    All I gave you were strawberries. (Vina Smith, 16/06/2013)

There are three indications that strict preverbal position is due to focus marking. First, as shown in section 2.1, DPs may generally precede or follow the verb, suggesting that the strict preverbal position of the focus-marked DPs in (30)-(35) is due the presence of the focus particle. Second, focus particles may associate with categories other than DP and when they do, these also must appear preverbally. This is shown for a locative adverb in (36), a temporal adverb in (37), and an adverbial clause in (38).16

(36) víri vaa kumáii vaa káan kích kun-áaraahi-tih-anik pirishkâarim.
    so that because.of so there only 3PL-live.PL-DUR-ANC grizzly.bear
    For that reason grizzly bears lived only there.’
    Mamie Offield “Duck Hawk and His Wife” (WB-KL-27:31)

(37) . . . axakyáanich vúra kích pa-kun-’íp-aam-tih.
    twice EMPH only COMP-3PL-ITER-eat-DUR
    . . . it is only twice that they eat.
    Phoebe Maddux “Their Daily Life and How They Smoked” (Harrington 1932b:199)

16The realization of 3SG u- as oo- in the subordinate clause in (38) is due to the vowel coalescence process described in fn. 8. The temporal particle mit that follows the embedded verb in (38) is part of the matrix clause and the expected position is immediately preceding the matrix verb ührwaútihat. I have no explanation for why it shows up to the left of kích in this example.
pa-pishiip t-óó kyáa-haak mit kich símsiim ú-hruuv-tih-at.

When he first made them was the only time he used a knife.

Phoebe Maddux “How They Dress off the Outside and Make it Smooth” (Harrington 1932b:150)

Finally, textual material and elicitation work both suggest that any focused constituent must appear preverbally in Karuk, whether it is marked by a focus particle or not. This requirement is illustrated by the elicited examples in (39). The question asks whether the addressee’s knife is dull. The addressee denies this and says that his axe is dull. In this exchange, the axe is contrasted with the knife and is thus contrastive focus. The volunteered form is (39a) where the contrastive constituent precedes the verb. The order in (39b) where the contrastive constituent follows the verb is judged infelicitous.

(39) Q: Is your knife dull?

a. púuhara, pa-nandi-’akôor u-múmu-hi-tih.
   no the-my-axe 3SG-dull-VBL-DUR
   No, my axe is dull.  Sonny Davis Jr, 11/08/15

b. #púuhara, u-múmu-hi-tih pa-nandi-’akôor.  Sonny Davis Jr, 11/08/15
   no 3SG-dull-VBL-DUR the-my-axe

So far we have established that focus marked constituents must appear preverbally in Karuk. Next I want to argue that the focus particle forms a syntactic constituent with the associate in support of the adjunction structure in (29), repeated here as (40).

(40) XP
    XP kích/káru/kúna

The first piece of evidence that the associate and focus particle form a constituent is that they can be the target of constituent negation. Karuk has bipartite negation which consists of a proclitic pu= and a suffix -ara or -hara. In clausal negation, -(h)ara attaches to the predicate and pu= attaches at the left edge of the scope of negation, which may be the predicate, as in (41), or some preverbal dependent of the predicate, as in (42) and (43).

(41) xás háari vúra ára pu=úa-tih-ara, víri vúra t-óó piip p-eethvuy.
    and sometimes EMPH person NEG=think-DUR-NEG and EMPH PRF-3SG say the-name
    Sometimes a person just wasn’t thinking, so he said the name.
    Julia Starritt “Swearing” (WB-KL-0:6)

17Bright (1957:137–18) analyzes the two forms of the negative suffix as allomorphs: -ara occurs with verbal stems, -hara with non-verbal stems. Macaulay (1989) decomposes -hara into verbalizer -ha followed by -ara. The argument about constituency made here goes through under either analysis.
(42) áf-ee r t á kun-vítrip, vaa uum pu=kúkuum p-úf-tih-ara, . . .
bottom-CHAR PRF 3PL-pull.up thus 3SG NEG=again ITER-grow-DUR-NEG
Root and all they pull them out, so they will not grow up again, . . .
Phoebe Maddux “Practices Bordering on a Knowledge of Tillage” (Harrington 1932b:73)

(43) víri chavúra pu=’áraar iim-tih-ara, . . .
and finally NEG-person die-DUR-NEG
Finally no person died . . .
Mamie Offield “A Trip to the Land of the Dead” (WB-KL-58:56)

In (41) the indefinite subject ára ‘person’ appears to the left of the negative proclitic and
is interpreted outside the scope of negation. In (42), pu= attaches to the adverb kúkuum
‘again’ and takes scope over the adverb: the interpretation is that it is not the case that
the plants will regrow, not that again the plants will fail to grow. Similarly, in (43), pu=
attaches to the indefinite subject áraar ‘person’ and takes scope over it, resulting in the
interpretation that no one died. If negation had narrow scope relative to the subject, the
sentence would mean that some person didn’t die, analogous to the interpretation of narrow-
scope negation in (41).18

18It’s an accident that (43) has áraar for ‘person’, where (41) has ára. Both forms occur with narrow and
wide scope wrt. negation and other scope-taking elements.

When negation targets a smaller constituent, one that does not
include the predicate, negation “wraps around” that constituent, as shown in (44), where
negation targets the quantifier táay ‘much’.

(44) apmáan-kam káru víra t-u-píshusurishuk,19 víra pu=táay-hara.
mouth-side also EMPH PRF-3SG-come.out EMPH NEG=much-NEG
It (= smoke) comes out of his mouth too, but not much.
Phoebe Maddux “How They Take the Tobacco Smoke into the Lungs” (Harrington 1932b:193)

With this much in place, consider the example in (45), where negation wraps around a focus
particle and its associate:

(45) pu=fáthip kích-ara p-eekúor kun-iká-ar-tih, xavish’úhraam káru
NEG-manzanita only-NEG the-stone.pipe.bowl 3PL-make-INST-DUR arrowwood also
víra ikóor kun-iká-ar-tih.
EMPH stone.pipe.bowl 3PL-make-INST-DUR
Manzanita was not the only kind that they put stone pipe bowls onto, the arrowwood
also they fitted with stone bowl pipes.
Phoebe Maddux “Stone Bowl Pipes” (Harrington 1932b:151)

The verb is not included in the scope of negation, since the first clause presupposes that they
did put stone pipe bowls onto manzanita pipes. Rather negation targets the exhaustivity
of the focus particle. The interpretation is that it is not the case that the only type of
pipe outfitted with a stone pipe bowl is the manzanita pipe. If the focus particle forms a

19The exact meaning and morphology of the verb stem píshusurishuk is uncertain. I gloss it ‘come.out’
based on the translation of the sentence in Harrington (1932b:193) and the discernable presence of the
directional suffix -rishuk ‘out’.
constituent with its associate, as I propose here, a very simple and appealing generalization emerges: Karuk negation targets constituents of any size and \( pu= \) and -ara mark the edges of that constituent. Elements inside of that constituent are interpreted within the scope of negation, elements outside of that constituent are interpreted as outside the scope of negation.

A second observation in support of the structure in (40) is that the focus particles always surface right adjacent to their associate, modulo second position clitics. In this respect, Karuk focus particles differ from their English counterparts, which famously may be linearly separated from their prosodically marked associate:

\[
(46) \quad \text{I only heard that the man with the green sweater was arrested.}
\]

\[
a. \quad \text{I only [HEARD] that the man with the green sweater was arrested.}
b. \quad \text{I only heard that the [MAN] with the green sweater was arrested.}
c. \quad \text{I only heard that the man [WITH] the green sweater was arrested.}
d. \quad \text{I only heard that the man with the [GREEN] sweater was arrested.}
\]

In Karuk, there appears to be no prosodic correlate of associated foci, nor of free focus (focus that is not associated with a focus particle). Both are characterized by preverbal position and associated foci are further identified by the position of the focus particle. The latter is straightforwardly accounted for by the adjunction structure in (40).

The third important fact is that the associate of a focus particle must be overt. Recall from section 2.1 that Karuk allows prodrop for nominal arguments. However, when a nominal argument is the associate of a focus particle it is invariably pronounced, even when the referent of the focus-marked DP is recoverable from context and/or verbal agreement. Consider the example in (31), reprocued below in its narrative context, which is the beginning of a traditional story about Coyote trading songs and going to the sky.

\[
(47) \quad \text{a. So Coyote was traveling, he was singing.}
\]

\[
\text{b. And he met two young women.}
\]

\[
\text{c. They were does.}
\]

\[
\text{d. [uumkun káru] kun-páriihva.}
\]

\[
\text{3PL also 3PL-sing,songs}
\]

\[
\text{They (the Does) were singing too.}
\]

Mamie Offield “Coyote Trades Songs and Goes to the Sky” (WB-KL-09:4)

The associate of the focus particle in (47d) is the third person plural pronoun uumkun. The verb is intransitive and the associate of the focus marker is thus unambiguously the subject of the verb. The person and number of the subject (3PL) is encoded in the agreement prefix on the verb, and given the preceding context, the subject referent is unambiguously recoverable as the does. The conditions for prodrop are clearly met and yet an overt pronoun is used. Similarly, in the text excerpt in (48), the first person pronoun naa is dropped in the first clause of the quote (48a) and again in the last clause of the quote (48d), but not in (48c) where the pronoun is the associate of a focus particle.
I attribute the distinctive use of overt pronouns in (47d) and (48c) to a requirement that the associate of Karuk focus particles must be pronounced. Based on the adjunction structure in (29), this requirement can be stated as in (49).

(49) P-requirement of Karuk focus particles: The sister of a Karuk focus particle must be pronounced.

It seems plausible that this requirement could be derived from a more general principle that foci must be phonologically realized. In a language like English, where focus is marked by pitch accent, the motivation for such a requirement is obvious: if the associate is not phonologically realized at all it cannot realize the required pitch accent. In a language like Karuk that does not mark the associate prosodically, one cannot derive the obligatory overtness of the associate as straightforwardly, and here I simply state it as a requirement imposed on the associate by its sister.

Next we turn to the second trigger for presumption, which is the postposition koo.

3.4 Postpositional koo

The postposition koo is used to express the standard of comparison in comparisons of equality. Typical examples are shown below:

(50) [ishvít kóo] t-u-’uum.
    half as.much.as PRF-3SG-arrive
    He arrived as far as half-way (up the tree).
    Lottie Beck “The Perils of Weasel” (WB-KL-18:15)

(51) xás xunyéep u-púp “nää yääs [áachip kóo] ni-vïk-tih.”
    and Tan.Oak.Acorn 3SG-say 1SG just middle as.much.as 1SG-weave-DUR
    And Tan Oak said, ”I've just woven it half-way.”
    Lottie Beck “The Story of Tan Oak Acorn” (WB-KL-30:10)
In each case the complement of *koo* establishes the standard of comparison — the half-way point of the tree in (50), the middle of the basket cap in (51), and tobacco in (52) — and *koo* expresses that the event in question meets this standard in the relevant dimension.

While some Karuk PPs exhibit the same freedom of position as DPs, most PPs must appear preverbally. This is true of PPs headed by *koo*. When presented with a version of (52), in which the PP appears after the verb, the speaker judged it ungrammatical (53) and then volunteered a reformulation that places the standard of comparison after the verb, but does not involve a PP (54):

(52)  ... [ihêeraha kóo]  u-ˈúux.
      tobacco  as.much.as 3SG-be.bitter
      ... *it tastes as bad as tobacco.*

  Phoebe Maddux “How it tastes” (Harrington 1932b:49)

(53)  *u-ˈúux  [ihêeraha kóo]
       3SG-be.bitter tobacco  as.much.as
       Intended: *It tastes as bad as tobacco.*

  Vina Smith, 15/01/2014

(54)  u-ˈúux,  kúnish ihêeraha.
       3SG-be.bitter, sort.of tobacco
       *It is bitter, sort of like tobacco.*

  Vina Smith, 15/01/2014

Karuk allows prodrop of all DP arguments to verbs (subject, direct object, indirect object, and applied object), but DP complements of postpositions are not dropped. Nor are postpositions ever stranded under extraction in question formation. Instead the postposition is pied-piped to the left edge of the clause, as illustrated for the postposition *kumá’ii* ‘because of’ in (55).

(55)  kun-píip “[fāat kumá’ii] p-eekmaháchraam tá nu-p-sáamkir?”
       3PL-say what because.of the-sweathouse PRF 1PL>3-ITER-leave
       *They said: “What did we leave him there for in the sweathouse?”*

  Yaas “How Grizzly Bear Got his Ears Burnt Off” (JPH-KT-01a:13)

This suggests that postpositions are like focus particles in requiring their sister to be phonologically realized.

### 3.5 Resolving word order conflict through presumption

Taking stock, we have arrived at the following generalizations about Karuk word order:

---

20The locative postposition *kuuk* ‘to(wards)’ at first glance appears to falsify this claim, as it can occur by itself with the meaning “to(wards) the contextually salient location”. However, there are good indications that *kuuk* does not take a DP complement to begin with, but rather what Bright (1957:69) calls an ADVERBIAL NOUN. Direct evidence for this comes from *kuuk* appearing with adverbial complements like *yiiv´a rí* ‘rather far’, and from the observation that regular nouns bear the locative suffix -*ak* when serving as the complement of *kuuk*, e.g. *eer´a rí-ak kíu ak* ‘den-LOC towards’ in example (10b) above. Thus the use of *kuuk* without an overt complement does not violate the generalization that DP complements to postpositions may not be dropped.
1. DPs may appear before or after the verb.

2. Complement clauses must appear postverbally.

3. Focus particles
   (a) must appear preverbally.
   (b) cannot be separated from their associate.
   (c) require their associate to be phonologically realized.

4. The postposition *koo*
   (a) must appear preverbally.
   (b) cannot be separated from its complement.
   (c) requires its complement to be phonologically realized.

When the associate of the focus particle is a DP the requirements in (3a-c) dictate that the DP appears preverbally immediately followed by the focus particle. Similarly, when the complement of *koo* is a DP the requirements in (4a-c) force the DP to appear immediately before *koo* in the preverbal field. Both are allowed given (1). However, when the associate of a focus particle is a complement clause, a conflict arises: (2) requires the complement clause to be after the verb, but the focus particle requires its associate to be preverbal in order to satisfy (3a-c). When the complement of *koo* is a clause, the exact same conflict arises: the postposition must be preverbal (4a) and requires its complement to immediately precede it (by (4b,c) and the fact that it is a postposition), but the complement clause is not allowed to surface in preverbal position. Presumption resolves this conflict, as illustrated in (56):

\[(56) \quad \ldots [vaa_i \text{ TRIGGER}] \ldots V] \text{ CP}_i\]

The proform *vaa* meets the linearization requirements of the trigger (a focus particle or the postposition *koo*) without running afoul of the requirement that complement clauses appear postverbally. The CP itself is thus free to appear after the verb, meeting the requirement for postverbal realization.

4 Presumption as the outcome of chain resolution

Above we have seen in an intuitive way how conflicting linearization requirements result in presumption. In this section, I am going to cash out that intuition within the PF chain resolution framework of Landau (2006). The core idea of Landau’s theory is that syntactic movement creates chains which must be resolved for pronunciation and interpretation, at the PF and LF interface respectively. At PF two opposing principles govern chain resolution: P-Recoverability (protecting chain members from deletion) and Economy of Pronunciation (forcing deletion of chain members where possible):
(57) P-Recoverability (Landau 2006:56)
In a chain \(<X_1 \ldots X_i \ldots X_n>\), where some \(X_i\) is associated with phonetic content, \(X_i\) must be pronounced.

(58) Economy of Pronunciation (Landau 2006:57)
Delete all chain copies at PF up to P-recoverability

The key notion of P-Recoverability is being “associated with phonetic content”. A chain member can be associated with phonetic content inherently or by virtue of the structural position it occupies. The latter plays a crucial role in the analysis of Karuk presumption. To my knowledge, this is the first application of Landau’s framework to rightward movement. For further applications to leftwards movement see van Urk (2018) and Harizanov and Mikkelsen (2018) among others.

I start from the assumption that Karuk is underlyingly verb-final and more generally head-final (Mikkelsen 2017). All arguments, including complement clauses are base-generated to the left of the verb and all complements of adpositions (including DPs and CPs) are base-generated to the left of the adposition. Following Moulton (2015) I propose that clausal complements (of V or P) must move, as they cannot be interpreted in their base position. In English they move to the left, but in Karuk they move to the right to adjoin to matrix CP.\(^{21}\)

(59) \[
\begin{array}{c}
\text{CP}_{\text{matrix}} \\
\text{CP}_{\text{matrix}} \quad \text{CP}_1 \\
\quad \quad \quad \ldots \\
\quad \quad \quad \text{VP} \\
\quad \quad \quad \quad <\text{CP}_2> \quad V
\end{array}
\]

Under the copy theory of movement (Chomsky 1993, Chomsky 1995, Bobaljik 2002, Bošković and Nunes 2007), this movement creates the two-member chain in (60).\(^{22}\)

(60) \(<\text{CP}_1, \text{CP}_2>\)

At PF the chain is resolved according to two general principles of chain resolution, namely P-Recoverability (57) and Economy of Pronunciation (58), and a language particular requirement that the highest chain member realize full phonetic content (61):

(61) In Karuk the highest chain member realizes full phonetic content.

\(^{21}\)In English leftward movement of CP is accompanied by remnant AspP fronting resulting in V CP surface order (Moulton 2015:310, 320–325).

\(^{22}\)By convention the highest member of the chain is written leftmost in the linear notation and the lowest member rightmost. This result in a non-iconic ordering for rightwards movement.
van Urk (2018:971) proposes that languages vary parametrically as to which chain member realizes full phonetic content. Evidence that in Karuk it is always the highest chain member comes from constituent questions, which always realize the higher copy (in Spec-CP). This is especially clear in object questions where the wh-phrase surfaces initially (63), deviating from unmarked SOV order (62).

(62) vírusur pa-áama u-áam-tih.
    bear the-salmon 3SG-eat-DUR  
    *The bear’s eating the salmon.* Lucille Albers, October 24, 2010.

(63) fáat iim i-áv-eesh?
    what 2SG 2SG-eat-PROSP  
    *What are you going to eat?* Vina Smith, October 20, 2012.

Returning to extraposition of clausal complement, let us first consider a typical case where the CP is a complement of V and no focus is involved (59). In this case, only the highest copy (CP₁) is pronounced:

(64) naa íp ni-pasúiichv-at [pa=sóomvaan t-i-ípasuk].
    1SG pst 1SG-reveal-pst COMP=prospective.wife PRF-2SG-bring.back  
    *I revealed that you were bringing home a new wife.*  
    Mamie Offield “Duck Hawk and His Wife” (WB-KL-27:23)

This is derived as follows: the chain in (60) is subjected to (57)–(61). As the highest chain member, CP₁ is pronounced in full due to (61). CP₂ however is not associated with phonetic content. First, it is the bottom of the chain and therefore not privileged by (61). Second, the verb does not require the pronunciation of its sister; Karuk freely allows object drop (see section 2.1). Since CP₂ is not associated with phonetic content and CP₁ satisfies P-Recoverability, Economy of Pronunciation demands that CP₂ not be pronounced, resulting in the realization in (64).

Consider now the case of focus on a complement clause, as in (65) and schematized in (66):

(65) xas uum víura vaa, kích u-kupí-tih-anik [p=óo-thtii-tih-anik]i.
    and he EMPH that only 3SG-do-DUR-ANC COMP=3SG-gamble-DUR-ANC  
    *And all that he used to do was to gamble.*  
    Fritz Hansen “Mourning Dove Young Man Gambles away his Doodle Bug Grandmother’s Dress” (JPH-KT-06:5)

(66)  
    CP<sub>matrix</sub>  
    CP<sub>matrix</sub>  
    CP<sub>1</sub>  
    CP<sub>2</sub>  
    FOCUS  
    CP  
    VP  
    <CP<sub>2</sub>, FOCUS>
Again, the highest (rightmost) copy, CP₁, is pronounced by (61). The lower copy, CP₂, is now also associated with phonetic content because Karuk focus particles require their sister to be pronounced (see (49)). Thus the lower copy must also be pronounced, but, as argued by van Urk (2018), Economy of Pronunciation requires it to be minimally pronounced, i.e. as a proform. Independent evidence that vaa is a CP proform comes examples like (67) where vaa functions as a complement of the CP-taking verbs ipshinvárihva ‘forget’ and ánunma ‘remember’.

(67) váa vára pu-na-pi-shinvárihvu-tih-ara váa vára ni-áapunmu-ti that Intensive NEG-1SG>3-ITER-forget-DUR-NEG that Intensive 1SG>3-know-DUR payéem now  
I’ll never forget that, I know it today.  
Source: Vina Smith, I’ll Never Forget Those Days (VS-22:28)

The derivation of presumption inside PPs proceeds analogously to (66), the only difference being that it is the post-position rather than a focus particle that forces pronunciation of the lower copy.

5 A comparative perspective

Section 2 established that Karuk employs presumption to resolve a word order conflict that arises when an obligatorily preverbal focus particle associates with an obligatorily postverbal complement clause. A natural question to ask is whether presumption is unique to Karuk or found in other languages with similar word order properties. In this section I give evidence that three such languages — Hindi-Urdu, Persian and Turkish — all employ presumption when a postverbal complement clause associates with a preverbal focus particle. I further show that these languages have additional strategies for resolving the word order conflict — nominalization of the complement clause, long-distance association with focus, and postverbal focus — none of which are available in Karuk. This comparison thus suggests the dimensions of a typology and situates Karuk within it.

---

23The preverbal position of vaa in these examples is predicted by Moulton’s (2015) analysis of CP movement. Unlike regular CPs, CP proforms can be interpreted in situ (they are of a different semantic type than regular CPs) and therefore do not move (p. 318).

5.1 Word order preliminaries

Hindi-Urdu, Persian and Turkish are head-final languages, which nonetheless require finite CP complements to follow the verb.\(^{25}\)

\[(68)\]  
\begin{align*} 
\text{a. } \text{Man midoonam [ke zamin gerd-e].} \\
& \text{I know.1SG.PRS that the.earth round-is} \\
& \text{I know that the earth is round.} \\
& \text{(Persian, Lotfi 2006:(3a))} \\
\text{b. } \text{*Man [ke zamin gerd-e] midoonam.} \\
& \text{I that the.earth round-is know.1SG.PRS} \\
& \text{(Persian, Lotfi 2006:(3d))} \\
\end{align*}

\[(69)\]  
\begin{align*} 
\text{a. } \text{Siita-ne kah-aa thaa [ki Mohan aay-aa thaa].} \\
& \text{Sita-ERG say-PFV AUX.PST that Mohan come-PFV AUX.PST} \\
& \text{Sita said that Mohan had come.} \\
& \text{(Hindi-Urdu, Manetta 2012:2a)} \\
\text{b. } \text{*Siita-ne [ki Mohan aay-aa thaa] kah-aa thaa.} \\
& \text{Sita-ERG that Mohan come-PFV AUX.PST say-PFV AUX.PST} \\
& \text{(Hindi-Urdu, Manetta 2012:2b)} \\
\end{align*}

\[(70)\]  
\begin{align*} 
\text{a. } \text{sanik farket-ti [ki hakim uyuyakal-müş].} \\
& \text{accused notice-PST that judge fall.sleep-EV.PST} \\
& \text{The accused noticed that the judge had fallen asleep.} \\
& \text{(Turkish, Jaklin Kornfilt, personal communication, July 9, 2017)} \\
\text{b. } \text{*sanik [ki hakim uyuyakal-müş] farket-ti.} \\
& \text{accused that judge fall.sleep-EV.PST notice-PST} \\
& \text{(Turkish, Jaklin Kornfilt, personal communication, July 9, 2017)} \\
\end{align*}

The relationship between word order and focus is a good deal more complex, but the important point for present purposes is that there is a robust preference for preverbal focus in all three languages. The situation is perhaps clearest in Turkish, which IŞsever (2003:1028) characterizes as follows “[t]he entire pre-verbal area, including the verb itself, is the ‘focus field’ in Turkish”; whereas “[t]he post-verbal area is reserved for tails” (in the sense of Vallduvı and Engdahl (1996)). According to Adli (2010:2261-2263), the situation is similar in Persian. Focus appears preverbally, including, but not limited to, the specifier of a designated Focus Projection. She characterizes postverbal elements as topics, though notes that adjuncts expressing destinations may appear postverbally regardless of information structural status (p. 2263). Finally, Butt and King (1996:5) conclude that in Hindi-Urdu “topics appear sentence initially, foci immediately before the verb, and backgrounded material is postverbal.”

Thus the question of how to realize focus on a CP complement arises in these three languages as well. Below I examine five strategies, starting with presumption.

5.2 Presumption

All three languages employ presumption of a complement clause under association with a focus particle, as illustrated in (71)–(75). In each example the focus particle is underlined

\(^{25}\)Persian \textit{ke} and Hindi-Urdu \textit{ki} are cognates and Turkish borrowed \textit{ki} from Persian.
and the presumptive pronoun is in italics and co-indexed with the bracketed postverbal complement clause.

(71) Man faghat in-o, midunam [ke zamin gerd-e],.
I only this DO know.1SG.PRS that the earth round-is
I know only that the earth is round.
(Persian, Ahmad Lotfi, personal communication, July 9, 2017)

(72) ham yehi bhii nahii jaante [ki vah aa nahii sakaa],
we this also not know that he could not come
We did not even know it that he could not come. (Hindi-Urdu, Subbarao 1984:146)

(73) wo yehi hii kah-tee haiN [ki bhaarat to match jit-ega],
3PL this only say-HAB.PL AUX.PL that India EMPH match win-FUT.M.SG
They only say that India will win the match. (They don't say anything else.)
(Hindi-Urdu, Emily Manetta, personal communication, July 2, 2017.)

(74) sanik şun-u i sadece farket-ti [ki hakim uyuyakal-miş],
accused that-ACC only notice-PST that judge fall.sleep-EV.PST
The accused only noticed this, that the judge had fallen asleep.
(Turkish, Jaklin Kornfilt, personal communication, July 9, 2017)

(75) Şun-u da anla-dı-m [ki çabalarımız bir sonuç ver-me-yeceк],
that-ACC also understand-PST-1SG that our efforts a result give-NEG-FUT
I also understood that our efforts won't produce any result.
(Turkish, Ashi Göksel, personal communication, July 22, 2017)

This shows that presumption is not particular to Karuk, but a more wide-spread strategy for resolving a word order tension induced by focus association with a finite complement clause across the verb.

5.3 Nominalization

In addition to finite complement clauses, Hindi-Urdu, Persian and Turkish have nominalized complement clauses. Unlike regular finite complement clauses, nominalized complement clauses occur in preverbal position and may associate directly with a focus particle:

I only this that the earth round-is DO know.1SG.PRS
I know only that the earth is round.
(Persian, Ahmad Lotfi, personal communication, July 9, 2017)

(77) mujhe [uskaa hasnaa] hii/bhii pasand hai.
I.DAT he.GEN laugh.INF only/also pleasing is
I only/also like his laughing.
(Hindi-Urdu, Veneeta Dayal, personal communication, July 15, 2017)
The accused noticed only that the judge had fallen asleep.' (Turkish, Kornfilt 2005:(1), p. 164)

I also understood that our efforts won’t produce any result. (Turkish, Sumru Özsoy, personal communication, August 6, 2017)

Thus nominalization constitutes a second strategy for associating a complement clause with a preverbal focus particle. This strategy is absent in Karuk, which I have argued lacks nominalized complement clauses. These observations fit with a broader typological generalization established in Schmidtke-Bode and Diessel (2017:21-32): the morphosyntactic properties of complement clauses correlates with their position relative to the matrix verb. Finite, unreduced, non-nominalized complement clauses tend to follow the verb, whereas non-finite, reduced, nominalized complement clauses tend to precede the verb.

5.4 Long-distance association

A third strategy, found in Persian and Turkish, is long-distance association between the preverbal focus particle and a finite post-verbal complement clause. This strategy is illustrated for Persian in (80):

(80) Man faghat midoonam [ke zamin gerd-e].
I only know.1SG.PRS that the.earth round-is
I know only that the earth is round.
(Persian, Ahmad Lotfi, personal communication, July 9, 2017)

(80) is grammatical and, as indicated in the English translation, allows a reading in which the focus particle associates with the complement clause. This long-distance association with focus is familiar from English only, but absent in Karuk, where a focus particle must be adjacent to its associate.

Like presumption and nominalization, long-distance association resolves the word order conflict — the focus particle is preverbal, the complement clause postverbal — but instead of employing a resumptive pronoun or nominalizing the complement clause, it gives up on adjacency between the focus particle and its associate. Such long-distance association is also marginally possible in Turkish with the pre-associate particle sadece (‘only’):

(81) ?sanık sadece farket-ti [ki hakim uuyukal-mıs].
accused only notice-PST that judge fall.sleep-EV-PST
The accused noticed only that the judge had fallen asleep.’
(Turkish, Kornfilt 2005:(3), p. 165)

In contrast, long-distance association is not possible with Turkish da (82) or Hindi-Urdu bhii (83) or hii (Veneeta Dayal, personal communication, July 15, 2017).
While the sample is small, this distribution suggests a correlation between relative order of particle and associate and their ability to associate long-distance: particles that precede the associate allow long-distance association (Persian *faghat*, English *only*, and Turkish *sadece*), particles that follow their associate do not allow long-distance association (Turkish *da*, Hindi-Urdu *hii* and *bhii*, and Karuk *kich*).

5.5 Postverbal focus particle

A fourth logically possible resolution is for the focus particle to surface in the post-verbal field adjacent to the complement clause it associates with. From what I have been able to learn this is not a preferred strategy in any of the three languages. It is outright impossible for Hindi-Urdu *hii* and *bhii* (Veneeta Dayal, personal communication, July 18, 2017, Emily Manetta, personal communication, July 2, 2017), and marginal for Persian *faghat* (Ahmad Lotfi, personal communication, July 9, 2017) and Turkish *sadece* (Jaklin Kornfilt, personal communication, July 22, 2017). As for *dA*, at least some Turkish speakers accept *dA* following a postverbal complement clause, but only under certain circumstances (Aslı Gökşel, personal communication, July 22, 2017, Sumru Özsoy, personal communication, August 6, 2017).

5.6 Preverbal complement clause

A fifth logically possible strategy would be for a finite complement clause to exceptionally occur in preverbal position when it is the associate of a focus particle. This, however, is ungrammatical in all three languages. The relevant Persian and Turkish structures are given in (84)-(86).

(84) *Man faghat [ke zamin gerd-e] midunam.
   I only that the.earth round-is know.1SG.PRS
   Intended: *I know only that the earth is round.*
   (Persian, Ahmad Lotfi, personal communication, July 9, 2017)

(85) *sanık sadece [ki hakim uyuyakal-mı¸s] farket-ti.
   accused only that judge fall.sleep-EV.PST notice-PST
   Intended: *The accused noticed only that the judge had fallen asleep.*
   (Turkish, (Kornfilt 2005:(3'), p. 166))

26In all three languages it is of course possible for a focus particle to occur inside a postverbal complement clause associating with some constituent of the complement clause.
(86) * [ki çabalarımız bir sonuç ver-me-yecek] da an-la-di-m.
that our.efforts a result give-NEG-FUT also understand-PST-1SG
Intended: I also understood that our efforts won’t produce any result.
(Turkish, Sumru Özsoy, personal communication, August 7, 2017)

5.7 The beginnings of a typology

The observations made so far are summarized in Table 2.27 Much more work is obviously

Table 2: Strategies for focus association with complement clauses in Karuk, Hindi-Urdu, Persian, and Turkish

<table>
<thead>
<tr>
<th></th>
<th>Karuk</th>
<th>Hindi-Urdu</th>
<th>Turkish (de)</th>
<th>Turkish (sadece)</th>
<th>Persian</th>
</tr>
</thead>
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<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Nominalization</td>
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<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Long-distance association</td>
<td>*</td>
<td>*</td>
<td>✓</td>
<td>?</td>
<td>✓</td>
</tr>
<tr>
<td>Postverbal focus particle</td>
<td>*</td>
<td>*</td>
<td>%</td>
<td>?</td>
<td>?</td>
</tr>
<tr>
<td>Preverbal CP</td>
<td>*</td>
<td>*</td>
<td>✓</td>
<td>*</td>
<td>*</td>
</tr>
</tbody>
</table>

needed to establish a proper typology of the possible realizations of complement clauses in association with focus particle. Nonetheless, several observations can be made on the basis of the preliminary distribution in Table 2. The first observation is that presumption is the most widely used strategy for resolving the word order tension induced by focus association of a complement clause. It is found in all four languages and with all of the focus particles in each of the languages. Second observation is that if a language prohibits finite complement clauses from preverbal position, a preverbal focus particle cannot override that restriction and “pull” an associated complement clause to preverbal position (bottom row). Third, the existence of nominalization as a strategy for direct association with a preverbal focus particle connects to a broader typological generalization established by Schmidtke-Bode and Diessel (2017): while non-nominalized complement clauses tend to be postverbal, nominalized complement clauses tend to be preverbal. Fourth, the possibility of long-distance association across the verb appears to correlate with the relative order of focus particle and associate: focus particles that precede their associate may associate long-distance, focus particles that follow their associate may not. Finally, we can observe that Persian is the most liberal language in that it employs all four attested strategies, Karuk is the most restrictive language in that it employs only one strategy, namely presumption, and Hindi-Urdu and Turkish fall somewhere in between.

27 ✓ indicates that the strategy, to the best of my knowledge, is fully and uniformly grammatical in the language in question, * indicates that the strategy is fully and uniformly ungrammatical, ? indicates that it is grammatical, but somehow degraded, and % indicates inter-speaker variation in judgments.
5.8 Postverbal (dis)placement of complement clauses

The existence of presumption in other head-final languages raises the question of whether the chain resolution analysis proposed in section 3 can be extended to these languages. The answer depends on whether the post-verbal position of complement clauses in these languages is the result of movement of the clause or not. This issue has proven very difficult to answer conclusively, even for well-studied languages like Hindi-Urdu, Turkish and Persian. As an indication of their difficulty, the postverbal placement of Hindi-Urdu complement clauses has been analyzed in terms of extraposition (Subbarao 1984), base-generation in a right-adjoined position (Mahajan 1990:126-127, Dayal 1996:4-5), base-generation in right-hand complement position (Mahajan 1997:205-206), remnant VP movement (Bhatt and Dayal 2007) and prosodic alignment with the right edge of the utterance (Manetta 2012). If the postverbal position of complement clauses in Hindi-Urdu, Persian and Turkish is not the result of CP movement, but instead one of these alternative structures, then there must be others paths to presumption.

In this connection, a reviewer points out the similarity of Karuk presumption within PP to the Dutch construction in (87):

(87) dat wij er op rekenden dat hij kwam
    that we there on counted that he came

As in Karuk, the clausal complement of the adposition (dat hij kwam) occurs in clause-final position and the adposition (op) is accompanied by a proform (er).\footnote{One twist to the Dutch construction is that the proform occurs to the left of the preposition, where regular adpositional complements occur to the right.} The standard analysis of (87) is that the er proform is base-generated inside the PP and not the spell-out of a trace of movement. Instead the dependent clause is base-generated in its post-verbal position and a linking rule is assumed to relate the proform to the CP (van Riemsdijk 1978:185–186, Hoekstra 1984:110, Bennis 1986:103–108, Koster 1987:263, Broekhuis 2013:181–183).\footnote{Thanks to Jason Merchant, Marcel den Dikken, Mark de Vries, Hans Broekhuis, and Jan-Wouter Zwart for discussion of the Dutch data and help with the literature.}

6 It-extraposition in English

Turning, finally, to extraposition in English, consider the constructions in (88)–(90).\footnote{I am grateful to Jim McCloskey and Keir Moulton for their help with the literature on the constructions in (89) and (90).}

(88) *It is surprising [that Kim left].

(89) She mentioned *it to me [that Kim left].

(90) I am counting on *it [that you bring cookies].

In each case *it precedes a CP with which it is intuitively associated. This raises the question of whether the chain resolution analysis proposed for Karuk carries over to English...
extraposition. While it has been suggested that the CP and *it* are related by movement (Iwakura 1994), I think there are compelling reasons to not pursue a chain resolution analysis for (88)–(90). Consider first subject extraposition in (88). Under a chain resolution analysis, the CP would move from a base-generated VP-internal position to subject position (Specifier of TP) and then from there to a right-peripheral position. There are three problems with this analysis. First, it requires CP to pass through subject position, but CP generally cannot occupy subject position in English (Koster 1978, Alrenga 2005). Secondly, there is agreement in the literature that the surface position of the extraposed CP is quite low, either VP-internal (Rosenbaum 1967, Higgins 1973:173–177, Emonds 1976:121–124, Rothstein 1995:501, Stroik 1996:241, Iwakura 2002:203, Kondo 2015:347) or adjoined to VP (Reinhart 1980, Baltin 1982:10–16, Landau 2001:120). This means that the second movement step (from subject position to surface position) would be downwards movement, which is problematic on theoretical grounds. Finally, in order to yield a pronoun in subject position, it further has to be assumed that Spec-TP is associated with phonetic content. However it is perfectly grammatical for subject-extraction to leave Spec-TP phonologically empty, as in (91).

(91) Who do you think ___ painted the shed?

These considerations cast doubt on a chain resolution analysis of subject extraposition.

Consider next the case of object extraposition in (89) (Postal and Pullum 1988, Stroik 1996, Iwakura 2002:204–208). Here a chain resolution analysis would have the CP base-generated as a complement to V and moving to adjoin to VP. This in and of itself is not problematic. What is a challenge is the motivation for the expletive. Under a chain resolution analysis a pronounced chain member is due to a requirement that the position of that chain member is associated with phonetic content. That logic forces us to posit that the complement position of *mention* is associated with phonetic content. However, the presence of the expletive in (89) is optional, as shown by the grammaticality of (92).

(92) She mentioned to me [that Kim left].

Given this optionality, it cannot be maintained that the relevant position is associated with phonetic content, casting doubt on a chain resolution analysis of (89). Similar considerations apply to extraposition from PP in (90). Under a chain resolution analysis, the complement position of P must be associated with phonetic content. However, extraction from PP does not generally involve a resumptive:

(93) Who do you count on (*her)?

Collectively these considerations lead to the conclusion that *it* and CP are not related by movement in English. If the movement analysis of Karuk presumption developed above is correct, the Dutch and English facts suggest that there are multiple derivational paths to presumption within PP, just as there are likely to be multiple paths to presumption under focus particles.

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31 Moulton (2015) argues that CP complements to V move, as they cannot be interpreted in argument position. Though he does not offer an analysis of the structures in (88)–(90), one could add a chain resolution component to his movement analysis to account for the presence of *it* in these constructions. Such an analysis would be equally subject to the criticisms raised above.

32 Various alternatives to a movement relationship have been proposed. One such alternative is con-
7 Conclusion

In this paper I have documented a systematic pattern of resumption in Karuk and argued that it occurs to resolve a word order conflict that arises when a postverbal complement clause associates with a preverbal focus particle or postposition. I gave evidence that this strategy is not particular to Karuk, but also productive in Hindi-Urdu, Persian and Turkish. These are verb-final languages, but differ from strict verb final languages, like Japanese and Korean, in requiring clausal complements to occur after the verb, and allowing DP arguments to occur after the verb, provided that they are not focus. In fact, that characterization applies equally well to Karuk, and I want to end with the suggestion that Karuk clause structure is similarly organized around a configurational verb-final VP. Nominal arguments are allowed after the verb, as long as they are not focused (section 2.3), but the unmarked word order is clearly SOV. It is the most frequent word order in texts, it is what is systematically volunteered in elicitation, and it is always accepted by speakers. Other dependents of the verb, in particular adverbial complements, most PPs, and secondary predicates, must precede the verb, transparently reflecting a verb-final structure (Mikkelsen 2017). As in other loosely verb-final languages, complement clauses go against the grain and obligatorily follow the verb, which leads to presumption when a complement clause associates with a preverbal focus particle or postposition. Existing work characterizes Karuk as a free word order language (de Angulo and Freeland 1931:194–5, Bright 1957:140–1, Macaulay 2000:479–80). While much work remains to be done, I hope to have shown that a more principled characterization is possible.

References


Rosenbaum 1967 and Higgins 1973 argue that *it* and CP form a nominal constituent underlingly and that the CP moves to clause final position, stranding the expletive in argument position. More recently it has been proposed that *it* originates in Spec-CP and the expletive moves while the CP stays in situ (Stroik 1996, Iwakura 2002, Kondo 2015). As an alternative to constituency analyses, Zaring (1994) argues that the expletive and CP form a non-movement chain. Yet others have proposed a less direct relationship between CP and *it*, in which the CP either stays in situ or extraposes to adjoined to VP and the expletive is inserted for independent reasons, such as the EPP or Case assignment (Authier 1991, Groat 1995:360, McCloskey 1991, Baltin 1982:10–16, Landau 2001:121–124, Safir 1985:71–79).


Richardson, N. and S. Burcell (1993). *Now you are speaking Karuk!* Arcata, California: Center for Indian Community Development.


