




Article

The Forms and Functions of Switch Reference in A'ingae

Scott AnderBois ^{1,*} , Daniel Altshuler ²  and Wilson D. L. Silva ³ ¹ Linguistics Program, Brown University, Providence, RI 02912, USA² Faculty of Linguistics, Philology, and Phonetics, University of Oxford, Oxford OX1 3DW, UK³ Department of Linguistics, University of Arizona, Tucson, AZ 85721, USA

* Correspondence: scott_anderbois@brown.edu

Abstract: This paper examines switch reference (SR) in A'ingae, an understudied isolate language from Amazonian Ecuador. We present a theoretically informed survey of SR, identifying three distinct uses of switch reference: in clause chaining, adverbial clauses, and so-called 'bridging' clause linkage. We describe the syntactic and semantic properties of each use in detail, the first such description for A'ingae, showing that the three constructions differ in important ways. While leaving a full syntactic analysis to future work, we argue that these disparate properties preclude a syntactic account that unifies these three constructions to the exclusion of other environments without SR. Conversely, while a full semantic account is also left to future work, we suggest that a unified semantic account in terms of discourse coherence principles appears more promising. In particular, we propose that switch reference in A'ingae occurs in all and only the constructions that are semantically restricted to *non-structuring* coordinating coherence relations in the sense of Segmented Discourse Representation Theory.

Keywords: adverbial clauses; bridging; clause chaining; coherence; coordination; discourse coordination; switch reference



Citation: AnderBois, Scott, Daniel Altshuler, and Wilson D. L. Silva. 2023. The Forms and Functions of Switch Reference in A'ingae. *Languages* 8: 137. <https://doi.org/10.3390/languages8020137>

Academic Editors: Maria Luisa Zubizarreta and Guillaume Thomas

Received: 1 October 2022

Revised: 11 May 2023

Accepted: 17 May 2023

Published: 26 May 2023



Copyright: © 2023 by the authors. Licensee MDPI, Basel, Switzerland. This article is an open access article distributed under the terms and conditions of the Creative Commons Attribution (CC BY) license (<https://creativecommons.org/licenses/by/4.0/>).

1. Introduction

Switch reference (SR) systems have been defined, for example, by van Gijn (2016a, 2016b), in part as morphological paradigms of forms obliging a choice between a morpheme requiring the identity or non-identity of a clause's subject and that of another clause. As such, much of the literature on SR has understandably focused primarily (or at times even exclusively) on the choice between members of this paradigm and the role of SR in the function of resolving references more broadly.

These issues have been of particular interest given the not infrequently encountered phenomenon of so-called 'non-canonical' SR, in which the choice of DS/SS marker appears to be driven not solely by the (non-)identity of subjects but rather by other aspects of the situation described, such as the agent, topic, or other aspects of the situation more broadly.

While the question of what drives choice between members of SR paradigms, of course, remains an important one, the focus on this choice has, to an extent, obscured an arguably more fundamental question: when do SR paradigms occur at all? Are there specific syntactic, semantic, or pragmatic factors that oblige the presence of a member of the SR paradigm?

In this paper, we present a theoretically informed survey of switch reference in A'ingae (ISO: con), an isolate of Amazonian Ecuador. SR in A'ingae is especially well-suited to address these questions since it presents a simple binary choice within the paradigm: same subject *-pa/-mba* and different subject *-si*. Moreover, as we show, it lacks non-canonical SR and thus does not involve the additional discourse and information-structural complexities present for languages with non-canonical SR.

Focusing on where the SR paradigm occurs, our central claim is that SR is restricted to occurring in three distinct uses: (i) clause chaining in the sense of Longacre (2007), Dooley

(2010), and others; (ii) bridging constructions in the sense of Guérin and Aiton (2019) (also known as tail-head linkage among other names); and (iii) adverbial clauses. We define each of the three constructions in detail below in Sections 3–5. These three uses are illustrated in (1)–(3), respectively. One note on the translations for bridging here. Throughout the paper, for clarity’s sake, we will use overly literal English translations such as that in (2) to make clear the form in A’ingae. Simpler translations with *and*, *then*, *after*, or *next* are arguably more natural than the repeated clause but are less faithful to its form. In terms of punctuation, the speakers we have consulted regard these cases as two separate sentences (as in the English translation), but specifically have the intuition that they ought to be punctuated with a comma rather than a period, a practice we follow here.

1. Clause-chaining

Jasi faengae jakamba sakirama fi’thipa i’ta, fae thenanguchufakhuan andûpa iye atesû.

[*ja-si* *fae-ngae* *jaka-mba* *sakira=ma* *fi’thi-pa* *i]=’ta* *fae*
 go-DS one-MANN walk-SS peccary=ACC kill-SS bring=TOP one
thenangu-chu-fa-khu=an *andû-pa* *i-ye* *atesû*
 leg-SH:RND-SH:LAT-SH:ANG=PEJ.ACC carry-SS bring-INF HAB

‘If he went and we walked together and we killed collared peccary and we brought it, then we would carry a damn leg.’ [20170804_childhood_in_zabalo_my_tc: - 1:04](#) (accessed on 1 October 2022)

2. Bridging

Ûfa’sû jaya, japa tse simejan iya pûshesûma.

ûfa’sû *ja-ya* *ja-pa* *tse* *sime=jan* *i-ya* *pûshesû=ma*
 blow-ATTR go-VERID go-SS ANA.LOC evening=CT bring-VERID woman=ACC

‘He went hunting with a blowpipe (that evening). Having went, in the evening he brought the woman.’ [20170806_apicha_pushesu_BRCA - 2:06](#) (accessed on 1 October 2022)

3. Adverbial

Ingi kani’fasi, ketaki dyai.

Ingi *kani-’fa-si* *ke=ta=ki* *dyai*
 PRO.1PL enter-PLS-DS PRO.2SG=TOP=2 sit

‘Because we entered, you sat down.’

One crucial question that we address in detail below concerns how to tell these different constructions apart. This issue will be addressed in much more detail in Sections 3–5 below (see esp. Section 4.3), as there are indeed individual examples for which it may be unclear which construction is present (or alternatively, we may consider certain examples to be ambiguous). For many examples, however, there are fairly definitive differences. For example, only clause chaining allows for sequences of two or more SR-marked clauses preceding the marked main clause (and interpreted within the scope of its operators). Conversely, only the adverbial use allows for the SR clause to follow the main clause to which it attaches in a linear order. Crucially, in each case, there is a mix of correlated syntactic and semantic properties that can serve to distinguish between the three constructions.

Having established that SR occurs in these three constructions, we then turn to address a unifying question: what properties, if any, characterize the environments where SR in A’ingae occurs? Previous work by Fischer (2007), which considers clause structure in A’ingae more broadly, suggests that SR has a unified ‘cosubordinate’ syntactic structure. While we leave detailed formal syntactic accounts of the individual constructions in (1)–(3) to future work, we show that the differing properties of the three constructions we identify argue against a syntactic generalization.

Instead, we sketch a unified pragmatic explanation in terms of discourse coherence relations in the sense of *segmented discourse representation theory* (SDRT) (e.g., Asher and Lascarides 2003) and related theories. The constructions allowing for switch reference are united in that they are ones contributing a particular kind of *coordinating* discourse coherence relation, namely, one that entails narrative progression by imposing either a spatiotemporal or causal constraint. While a complete formal semantics of the three uses is beyond the scope of this paper, we nevertheless provide evidence that SR in A'ingae does, indeed, have a principled distribution despite the varied formal properties we establish here.

The road map for the rest of the paper is as follows: Section 2 provides information on the language and its speakers and relevant background on A'ingae grammar generally and SR specifically; Sections 3–5 explore the formal properties and semantic functions of the clause chaining, adverbial, and bridging uses of SR, respectively; building on this, Section 6 addresses the question of what unifies the uses of SR, arguing against a syntactic approach and preliminarily sketching a pragmatic alternative based on coherence relations; Section 7 concludes.

2. Background

A'ingae (ISO: con) is an isolate language of Amazonian Ecuador and Colombia, spoken by around 1500–2000 speakers, though a systematic census is lacking. It is perhaps more commonly known by the name Cofán (alternate spelling Kofán), a name that is of unknown foreign origin though also at times used in Spanish and English by speakers themselves to refer to the language or people. The autonym A'ingae is itself morphologically complex, consisting of the root *a'i*, which means a person generally as well as a member of the Cofán ethnicity specifically, plus a case clitic =*ngae* MANN used for manners including other language names (e.g., *gringungae* 'English language').

The ancestral territory of the A'i lies at the interface between the Andes and the Amazon, though, as hunter-gatherer people, they have at times traditionally traveled across a broader area as well. While some present-day A'i communities live on or near their traditional lands, the rapid encroachment of oil exploration and mining (along with substantial environmental damage), Ladino and Kichwa colonists, and highways and other roads has forced many A'i to form communities, such as Dureno (founded in the 1950s) and Zábalo (founded ca. 1980), further east into Amazonia proper. While dialectal variation in A'ingae remains unstudied, there is impressionistically little variation, and the main claims here we take to hold for at least all Ecuadorean varieties of the language with which we have worked.

The data in this paper come from a mix of textual and elicited examples. Textual examples from published sources are cited as such, while other textual examples from collections archived either at ELAR (<https://elar.soas.ac.uk/Collection/MPI1079687>, accessed on 1 October 2022) or CLA (<https://cla.berkeley.edu>, accessed on 1 October 2022) have their unique identifiers provided. Most examples are available on the website of the A'ingae Language Documentation Project (ALDP) (<https://cofan-aldp.github.io/LingView/#/index>, accessed on 1 October 2022), in which case clickable links to the audio/video of the specific example and its surrounding context are provided using LingView (Pride et al. (2020)). These collections total upwards of 20 h of annotated material split across the four largest A'i communities in Ecuador: Dovuno, Dureno, Sinangoe, and Zábalo. In general, there is no major dialectal difference between these, and we are not aware of any dialectal differences in the observations in this paper. Examples with no source listed come from elicitations with two speakers from Dureno (Shen Aguinda and Jorge Mendua), informally confirmed with other speakers from other communities.¹

Examples are written in the community's practical orthography, the main features of which are described in Repetti-Ludlow et al. (2019). In terms of the phonology of the language, the main feature of present relevance is nasality. A'ingae has contrastive nasality on vowels (indicated by an "n" or "m" written following the vowel) as well as a large

class of suffixes and clitics with two different allomorphs conditioned by the nasality of the final vowel of the stem to which they attach. The same subject marker is among these, having allomorphs *-pa* and *-mba* following oral and nasal vowels, respectively (e.g., *ja* ‘go’ → *japa* ‘go (SS)’ and *tsun* ‘do’ → *tsumba* ‘do (SS)’). Other suffixes, however, exhibit no such allomorphy (see [Sanker and AnderBois \(2021\)](#) for further details on phonological classes of suffixes). The different subject marker *-si* is among these, being uniformly expounded regardless of the preceding vowel (e.g., *ja* ‘go’ → *jasi* ‘go (DS)’ and *tsun* ‘do’ → *tsunsi* ‘do (DS)’).

2.1. A’ingae Clause Structure

In terms of morphosyntax, A’ingae is a fairly typical head-final language with SOV basic word order, nominative-accusative alignment, a rich system of agglutinative suffixes and enclitics, including case markers/postpositions, and post-verbal auxiliaries. In addition to case markers on overt arguments, verbs and other predicates show optional number agreement with their subjects through the use of the plural subject marker *-’fa*. The person of the subject is additionally indexed in matrix clauses by second-position clitics =*ngi* ‘1’, =*ki* ‘2’, and =*tsû* ‘3’. The language robustly allows for arguments to be left unsaid (i.e., pro-drop), for subjects as well as a range of other arguments.

While SOV word order is rigidly required in subordinate clauses, including all switch reference clauses, matrix clauses allow for a great deal of flexibility in word order driven by a poorly understood mix of information-structural and prosodic factors (see [Dąbkowski and AnderBois \(2020\)](#) for more details on matrix and subordinate clause structure in A’ingae generally). One further contrast between matrix and subordinate clauses is that second-position clitics, including the aforementioned person agreement clitics as well as interrogative =*ti*/=*ndi* and reportative =*te*/=*nde*, are limited to a matrix clause ([Fischer and Hengeveld \(2023\)](#); [Dąbkowski and AnderBois \(2020\)](#)). We see these features illustrated in (4):

4. *Tisetatsû tsakhûma guathian’jen iyufa jinsa’ne.*

tise=ta=tsû tsakhû=ma guathian-’jen iyufa jin=sa’ne
 PRO.3SG=TOP=3 water=ACC boil-IPFV worm be=APPR
 ‘He is boiling water lest there be germs.’

[Dąbkowski and AnderBois \(2020\)](#)

Of particular interest here is the morphology that can be attached to the verb. As discussed in detail by [Dąbkowski \(2019\)](#), verbs can take a range of derivational and inflectional suffixes within a fairly rigid template, in which maximally one morpheme from each column is allowed in the verbal form (see also [Fischer and Hengeveld \(2023\)](#)). The most relevant part of the template, in [Figure 1](#), shows (in order) the range of voice/valence, aspectual, associated motion, number agreement, modal, polarity, and other suffixes.² There are also various other information structural clitics and other material that occur further to the right of the template, as shown here, though some are limited to matrix clauses. Horizontal lines cannot be crossed, indicating complementarity (e.g., precumulative *-ji* cannot co-occur with andative *’nga*). See [Dąbkowski \(2019\)](#) for details.

One final relevant aspect of A’ingae clause structure concerns interrogative sentences. As in many languages, wh-words in A’ingae have uses beyond forming questions, such as being used as indefinite pronouns and in free relative clauses. As [Dąbkowski \(2022b\)](#) describes in detail, wh-questions in A’ingae are formed from the obligatory fronting of the wh-word (or a larger phrase containing it) to a position in the left periphery preceding the otherwise optional person second-position person clitics, as seen in (5).³

5. *Junguesûmatsû athe kuragaja?*

junguesû=ma(=tsû) athe kuraga=ja*
 what=ACC=3 see shaman=CT
 ‘What did the shaman see?’

Dąbkowski (2022b)

VOICE / VALENCE			ASP	MOT	NUM	MOD	POL	TAX
				-’ngi				-’ya
			-’je	VEN		-ya	-mbi	VER
			IMPV	-’nga		IRR	NEG	HYP
			AND					
-ñā	-khu	-ye	-ji		-’fa			
CAUS	RCPR	PASS	PRCM		PLS			-ye
			-’ñakha					INF
			SMFC					
			-’kha					
			DMN					DCV

Figure 1. Abbreviated version of the A’ingae verbal template by Dąbkowski (2019).

2.2. Basics of A’ingae Switch Reference

As noted in the introduction, while SR is often thought of as marking contrasts between the identity or non-identity of the subject, SR systems cross-linguistically often have other factors, such as topicality, spatiotemporal contiguity, etc., that also contribute to the choice between morphemes in the SR paradigm (so-called ‘non-canonical switch reference’). In contrast, A’ingae presents a quite simple system, even compared with the systems found in the neighboring languages, which may show non-canonical examples and/or more complex paradigms (see van Gijn (2016b)). The two SR markers—same subject -pa/-mba, SS, and different subject -si, DS—are conditioned solely by the (non-)identity of the subject, as seen in (6). The SS marker on *fi’thi’thi* ‘hunt repeatedly’ is the same as that on the following verb *i’je* ‘bring-IPFV’, while the DS marker on *i* ‘bring-IPFV’ indicates that its null subject (‘he’) is different from that of the following clause (‘his parents’).

6. ... *tsai’mbi’u chhiririae fithi’thi’je. Fithi’thipa tise mamani i’jesi tise yayandekhû sa’sapa tshañamba shu’khaemba an kan’jen’fa.*

tsai’mbi=’u chhiriria=ve fithi-’thi-’je fithi-’thi-pa tise mama=ni i-’je-si
 many=AUG bird=ABS kill-ITER-IPFV kill-ITER-SS 3SG mom=LOC bring-IPFV-DS
tise yaya-ndekhû sa’sa-pa tshaña-mba shu’khae-mba an kan’jen-’fa
 3SG parent-PL pluck-SS gut-SS cook-SS eat stay-PLS
 ‘... he hunted many birds almost every day. Having hunted repeatedly, he brings them back to his Mom, and his parents pluck them, butcher them, cook them and eat them’ (Blaser and Umenda 2008, p. 173)

The one clear exception we have noted is with body part terms, where both same subject and different subject morphemes are possible to indicate the relationship between an individual and their body part (cf. Bárány and Nikolaeva (2019) for a detailed investigation of inalienable possession and SR). This exception does not appear to extend to other kinds of part-whole relationships (e.g., a singular and a plural that includes it), and we therefore leave it to future work to investigate the difference between SS and DS in this environment.⁴

7. *Thu'pate phûpa pa.*

Thu'pa=te phû-pa pa
 stomach=REP swell-SS die
 'She died because her stomach exploded.'
[20170801_autobiography_ARLQ – 3:16](#) (accessed on 1 October 2022)

8. *Akhiatsû asapae dasiki fûchha'se*

Akhia=tsû asapa-e da-si=ki fûchha'se
 only=3 itch-ADV become-DS=2 scratch-IMP3
 'It's just that, if it (your skin) becomes itchy, you should scratch it.'
[20170803_garden_medicinal_plants_LC – 2:01](#) (accessed on 1 October 2022)

Turning to look at the clauses that SR introduces, [Dąbkowski \(2019\)](#) places the SR morphemes under the HYPOTACTIC category in the template in (1), claiming that all of the morphology to its left can occur between the SR morpheme and the verb root. However, [Dąbkowski \(2019\)](#) does not distinguish between the three different uses of SR seen in (1)–(3), and so we may then ask the question of whether this is equally true of all three uses.⁵

9. *Ña'me ñama kueñasûtatsû tsaja napungae tsa'kaen afapa kanse.*

ña'me
 truly PRO.1SG=ACC raise-ATTR=TOP=3 ANA=CT Kichwa=MANN ANA-CMP-ADV speak -SS
ña=ma kueña'sû=ta=tsû tsa=ja napu=ngae tsa-'ka-en afa-pa kanse.
 live
 'The person who raised me spoke Kichwa.'
[20170801_autobiography_CLC – 4:42](#)
 (accessed on 1 October 2022)

In particular, the bridging use commonly consists only of a verb root repeated from prior context, as we saw in (6), or a bare anaphoric pro-verb *tsun* 'do (so)', as in (10).

10. *... tsunsi tsama athepa utaemba anfaya enthingēja tsunsite fae'khuyi tsa khûshayachuyi*

tsun-si tsa=ma athe-pa utaen-pa an-'fa-'ya enthingēja tsun-si=te
 do-DS ANA=ACC see-SS cook-SS eat-PLS-VERID part=CT do-DS=REP
fae'khu=yi tsa khûsha-ya-'chu=yi
 one=EXCL ANA heal-IRR-SBRD=EXCL
 '... then, they found, cooked, and ate them (the palm fruits), and just one person didn't eat.'
[20170731_vahu_story_mmemeq – 1:16](#) (accessed on 1 October 2022)

Furthermore, we can note in (11) that repeating the imperfective *-'je* IPFV from the occurrence of the verb in the first sentence in the SR clause in the second is judged unacceptable by native speakers.

11. *#tsai'mbi='u chhiriria=ve fithi-'thi-'je fithi-'thi-je-pa tise mama=ni*
i-'je-si tise yaya-ndekhû sa'sa-pa tshaña-mba shu'khæ-mba an
 many=AUG bird=ABS kill-ITER-IPFV kill-ITER-IPFV-SS 3SG mom=LOC
 bring-IPFV-DS 3SG parent-PL pluck-SS gut-SS cook-SS eat
kan'jen-'fa
 stay-PLS

Intended: '... he hunted many birds almost every day. Having hunted repeatedly, he brings them back to his Mom, and his parents pluck them, butcher them, cook them and eat them' (based on (6))

The question then arises specifically about whether the different SR functions correspond to different types or sizes of clauses. To foreshadow our findings in the following sections, we argue that they do not, showing that apparent restrictions, including the negative judgment in (11) are best explained by semantic/pragmatic incompatibilities rather than a difference in the internal syntactic structure. That is to say, the clauses on which SR occurs themselves have a uniform structure but are combined into multiclausal structures in different ways and with different semantic/pragmatic effects.

3. Form and Function of A'ingae Clause Chaining

As we have noted in the introduction, the main SR morphemes in A'ingae, *-pa* SS and *-si* DS, are used in what cross-linguistically are three distinct constructions. The first of these three functions of SR in A'ingae is its use in clause-chaining constructions.

Dooley (2010) characterizes clause chaining as involving “the possibility of long sequences of foreground clauses with operator dependence, typically within the sentence” along with a single, fully independent clause whose operators take scope over the whole chain. While other orders are possible, especially in languages with different basic word orders, A'ingae patterns with other SOV languages (cf. Longacre 2007) in that the independent fully finite clause occurs at the end of the chain. We will therefore follow common practice and talk of clause chaining as a sequence of non-finite or otherwise defective ‘medial’ clauses followed by a single, fully finite ‘final’ clause. Given this definition and the potential for confusion between clause chaining and other SR constructions noted above (and discussed in greater detail in Section 4.3), we focus here exclusively on examples with two or more medial clauses.

We can schematize this use as in (12), where X and Y are medial clauses and Z is the final clause, with the full range of tense/aspect/modal morphology available, as well as clause-typing morphology, such as the assertive/veridical *'ya* VERID:

$$12. \text{ Clause chaining schema: } X \left\{ \begin{array}{l} -pa \\ -si \end{array} \right\} Y \left\{ \begin{array}{l} -pa \\ -si \end{array} \right\} \dots Z\text{-TAM}$$

We see this clause chaining use illustrated in (13). In terms of form, (13) shows a sequence of medial clauses, ‘come’, ‘go out in the morning’, and ‘cut (green plantain)’, each marked with the same subject morpheme, *-pa* SS. Following this sequence, we find that a single final clause, ‘bring green plantains’, occurs in a fully inflected form, allowing for any and all verbal morphology allowed in matrix clauses (in this case, the periphrastic habitual aspect).

13. *Ñandangi jipa sinte japa chathûpa iye atesû kuye inzûma.*

ña=nda=ngi ji-pa sinte ja-pa chathû-pa i-ye atesû kuye
 1SG=TOP=1 come-SS morning go-SS cut-SS bring-INF HAB plantain

inzû=ma
 green=ACC

‘I come, go out in the morning, cut, and bring back green plantain’

20170806_como_preparar_chicha_DEMQ – 0:04 (accessed on 1 October 2022)

Crucially, as per the above definition of Dooley (2010), we see what Dooley calls ‘operator dependence’: the habitual aspect introduced by the periphrastic use of infinitive plus *atesû* HABIT⁶ in the final clause takes scope over the entire chain. That is to say, the events in the medial clauses in the chain are also entailed to occur habitually along with the bringing action in the final clause. We return to the cluster of properties distinguishing clause chaining from adverbial use below in Section 4.3, but note for the moment here that all the examples in this section have a sequence of at least two SR-marked clauses. As we will see in what follows, this property is correlated with other syntactic, semantic, and likely prosodic properties described in what follows.

While SS marking is seemingly more frequent in clause chaining for the semantic reasons discussed in Section 3.3, DS marking is robustly available as well. For example, in (14), we see that the context—a conversation between a person on shore and a person on a boat—makes it very clear who is performing which action in the sequence (e.g., the person on the boat is the one coming ashore, and the person on land is the one who wants the person on the boat to haul goods).

14. *Yumboye'ja motor'ga jayisi fingingian khathûfaensi khathûfasi amigo ñambe angapa chavaen'jan'khen*

Yumbo-ye='ja motor='nga jayi-si fingingian khathûfa-en-si
 Yumbo-HON=CT motorboat=DAT go.PROSP-DS wind touch.land-CAUS-DS
khathûfa-si amigo ña=mbe anga-pa chava-en-'jan=khen
 touch.land-DS friend 1.SG=BEN carry-SS buy-CAUS-IMP=QUOT

'As for Yumbo, I was about to go up river, the wind pushed me ashore, I went ashore, and he was like carry these and sell them.'

[20170803_cofan_territory_lc - 3:12](#) (accessed on 1 October 2022)

While clause chaining may often occur in matrix uses as described above, it is equally possible in embedded contexts. For example, (15), repeated from (1) above, shows a chain with the final verb *i* 'bring' embedded inside a conditional antecedent (N.B. conditional antecedents in A'ingae do not themselves utilize *-pa* SS and *-si* DS but, instead, use various topic markers, such as *'ta* in (15)).

15. *Jasi faengae jakamba sakirama fi'thipa i'ta fae thenanguchufakhuan andûpa iye atesû.*

[Ja-si fae-ngae jaka-mba sakira=ma fi'thi-pa i]= 'ta fae
 go-DS one-MANN walk-SS peccary=ACC kill-SS bring=TOP one
thenangu-chu-fa-khu=an andû-pa i-ye atesû
 leg-SH:RND-SH:LAT-SH:ANG=PEJ.ACC carry-SS bring-INF HAB

'If he went and we walked together and we killed collared peccary and we brought it, then we would carry a damn leg.'

[20170804_childhood_in_zabalo_my_tc - 1:04](#) (accessed on 1 October 2022)

Similarly, (16) shows a clause chain embedded inside of a non-finite complement clause (note the DS marker as it shifts from the description of the people attending to the children).

16. *Majan kasarajepa kûi'jefasi dûsûngandekhû japa tsethinga kaniñe se'pichuyatsû.*

Majan kasara-je-pa kûi-'je-fa-si dûsûnga-ndekhû ja-pa tse-thi=nga
 who marry-IPFV-SS drink-IPFV-PLS-DS youth-PL go-SS ANA.LOC-LOC=DAT
kani-ñe se'pi-chu-ya=tsû
 attend-INF prohibit-SBRD-VERID=3

'It is prohibited for people to be getting married and drinking and kids going and attending.'

[20170703_comentario_sobre_lengua_vc - 8:01](#)

Having introduced the basics of clause chaining, we turn now to examine in more detail its internal structure (Section 3.1), external structure (Section 3.2), and semantic/pragmatic contributions (Section 3.3).

3.1. Internal Structure of Clause Chaining

As has been observed cross-linguistically (e.g., by Weisser 2015, p. 3), SR clauses in clause chain uses in A'ingae very frequently consist solely of a main verb, which is uninflected except for the SR marker itself, as in (17).

17. *Tsumbangi faenima vanamba yukhiamba uthae'mba jañu junima japa upipa uthaenã*

tsun-mba=ngi fae=ni=ma vana-mba yukhian-pa uthaen-mba jañu
 do-SS=1 one=LOC=ACC suffer-SS insert=SS put-SS now
ju=ni=ma ja-pa upi-pa uthaen-ñã
 DIST=LOC=ACC go-SS carry-SS insert-VERID

'then, I struggled to get one side on and on the other end I had to lift it up with my shoulder'

[20170804_Panzaye_FACQ – 5:55](#) (accessed on 1 October 2022)

Despite this tendency towards minimal clauses, looking more broadly, we find that SR clauses in clause chaining can include a wide range of arguments, modifiers, and verbal morphologies of different kinds. We note also that the range of possible material is identical with SS and DS morphemes, contrary to what analyses such as [Keine \(2013\)](#) predict (cf. [Clem \(2018\)](#) for similar arguments for Amahuaca).

Arguments of all different kinds are possible in clause chaining. This crucially includes subjects, which are possible not only with *-si* DS, as in (18), but also with *-pa*/*-mba* SS in (19)–(20)⁷.

18. *Ingi ka'nifasi tisepa dyai'fasi u'tie ña'khe dyai.*

Ingi ka'ni-fa-si tisepa dyai-'fa-si u'tie ña='khe dyai
 PRO.1PL enter-PL.SBJ-DS PRO.3PL sit-PL.SBJ-DS first PRO.1SG=ADD sit

'We entered and they sat and then I sat first (of the two of us who entered).'

19. *Fithi'thipa tise mamani i'jesi tise yayandekhû sa'sapa tshañamba shu'khaemba an kan'jen'fa.*

fithi-'thi-pa tise mama=ni i-'je-si tise yaya-ndekhû sa'sa-pa tshaña-mba
 kill-ITER-SS 3SG mom=LOC bring-IPFV-DS 3SG parent-PL pluck-SS gut-SS
shu'khae-mba an kan'jen-'fa
 cook-SS eat stay-PLS

'Having hunted repeatedly, he brings them back to his Mom, and his parents pluck them, butcher them, cook them and eat them' ([Blaser and Umenda 2008](#), p. 173)

20. *kûi'khûma ingi chhu'chhupa kûi'ñamba maenjenfaya*

kûi'khû=ma ingi chhu'chhu-mba kûi'-ña-mba maen-jen-fa-ya
 banana.drink=ACC 1PL churn-SS drink-VER-SS send-IPFV-PLS-VERID

'We mash banana, give them it to drink and send them.'

[20170801_escuela_CLC – 2:35](#) (accessed on 1 October 2022)

Turning to verbal morphology, we see that while bare verb forms are common, most forms of verbal morphology seen in (1) are possible in clause chaining. This includes closer-in derivational morphology, such as causatives, but also higher-up morphology, such as the aspect, negation, and plural subject agreement markers, as seen in (21):

21. a. **Reciprocal**

Afakhupa ma'thinga iyikhupa tsa'kaen kansefa nane.

afa-khu-pa ma'thinga iyikhu-pa tsa-'ka-en kanse-fa nane
 talk-RECP-SS when fight-SS ANA-CMP-ADV live-PLS surely

'We talk to each other, sometimes we argue, we just stay like.'

[20170801_escuela_CLC – 10:34](#) (accessed on 1 October 2022)

b. **Passive**

Faesû kuraganga kû'ipa mendeyepa kû'iñasi faesû tsa'kaentsû athekhesûya

faesû kuraga=nga kû'i-pa mende-ye-pa kû'i-ña-si faesû
 other shaman=DAT drink-SS have.mercy-PASS-SS drink-CAUS-DS other
tsa='ka=en=tsû athe=khesû-ya

ANA-CMP-ADV=3 see-HAB.NMLZ-IRR

'When you drink, are cared for, and give another (shaman) to drink, like that you will be a seer.' [20170731_yaje3_MM – 1:07](#) (accessed on 1 October 2022)

c. **Associated motion**

Tsembaki keja maki motoropataki jangaya Lagoni japa chavangapa jiya

tsu-mba=ki ke=ja maki motoro-pa=ta=ki ja-nga-ya Lago=ni
 do-SS=2 2SG=CT when motor-ASSC=TOP=2 go-AND-IRR Lago.Agrio=LOC
ja-pa chava-nga-pa ji-ya

go-SS buy-AND-SS come-IRR

'the times you have a motor and all, you would go to Lago Agrio. You would go, go and buy, and return.' [20170807_oil_company_work_fc – 5:24](#) (accessed on 1 October 2022)

d. **Plural subject**

Simba'fapa tsampinga tsûi'fapa, isian'chuve isian'fapa fi'thi'fa.

Simba-'fa-pa tsampi=nga tsûi-'fa-pa, isian-'chu=ve isian-'fa-pa
 fish-PLS-SS forst=DAT hike-PLS-SS take.photo-NMLZ=ACC2 take.photo-PLS-SS
fi'thi-'fa
 hunt-PLS

'They fished, went hiking, took photos, and then hunted.'

e. **Imperfective, Negation**

Vani ethini kanjamba kuirajepa jajembipa va añoma kheña.

va=ni ethi=ni kanje-mba kuirajepa ja-je-mpi-pa va
 PROX=LOC house=LOC stay-SS care-IPFV-SS go=IPFV-NEG-SS PROX
año-ma khe-ña.

year=ACC lose-CAUS

'(since her sister was sick,) she stayed home, was taking care of her, wasn't going, and she lost a year.' [20170801_autobiography_ocq – 11:42](#) (accessed on 1 October 2022)

While the full range of arguments and modifiers may be expressed overtly within medial and final clauses, they can also at times appear to be "shared". That is to say that an argument that is interpreted in one clause may, but need not, also be interpreted as an argument in another clause. For example, in (22), the green plantains are interpreted as the direct object of the verb in the final clause, *i* 'bring', but also the verb of the preceding medial clause verb *chathû* 'cut':

22. *Ñandangi jipa sinte japa chathûpa iye atesû kuye inzûma.*

ña=nda=ngi ji-pa sinte ja-pa chathû-pa i-ye atesû kuye
 1SG=TOP=1 come-SS morning go-SS cut-SS bring-INF HAB plantain
inzû=ma
 green=ACC

'I come, go out in the morning, cut, and bring back green plantain.'

[20170806_como_preparar_chicha_DEMQ – 0:04](#) (accessed on 1 October 2022)

At this point, however, it remains unclear whether any specific syntactic ‘sharing’ mechanism must be posited. Instead, we know that A’ingae allows for null arguments of various kinds quite systematically. In the case of direct objects, in particular, it may also be that the verb is simply used intransitively (e.g., ‘went chopping’) and so, despite the clear conclusion of cutting down bunches of bananas, it is not clear whether there is evidence supporting any syntactic mechanism. Rather, we tentatively assume that such cases are due to independently available null arguments.⁸ Moreover, as is clear from many examples here, non-coreferential arguments are plainly possible too, whether or not these are overtly present or are in some way null.

Thus far, we have seen that, despite bare verbs being the most common form, a wide range of arguments, adjuncts, and derivational and inflectional verbal morphologies is possible inside SR clauses in clause chaining. On the other hand, high elements in the C domain do not occur in this environment. These include speech act-related verbal morphologies, such as the imperative suffix *-ja* and the veridical/assertive *-’ya*, as well as second-position clitics encoding the person of the sentence’s subject as well as the reportative and polar interrogative clitics. However, these restrictions are all shared by the other uses of switch reference to be discussed below and, indeed, by all forms of subordinate clauses in the language (cf. [Dąbkowski and AnderBois \(2020, 2022\)](#)).

There is, however, one restriction on clause chaining that does not appear to be shared with other SR uses (or other embedded clauses): the irrealis suffix *-ya/-ña* is unattested in clause chaining (in contrast to what we find below for adverbial uses in (35) in Section 4). We argue that this restriction is a semantic/pragmatic one rather than a syntactic one. As we establish in detail below in Section 3.3, clause chaining describes a sequence of events in iconic narrative order. Without getting into the details of the semantics of the irrealis morpheme, it seems plausible that a single irrealis event description would be odd in a narrative otherwise consisting of a sequence of realis event descriptions.⁹

In this section, we have argued that, despite most typically consisting solely of a bare verb, marked SR clauses in clause chaining allow for the full range of arguments, modifiers, and verbal morphology as other SR clauses and other subordinate clauses generally in A’ingae. Having established that clause chaining does not involve any distinctive internal clausal structure, we turn now to a discussion on how the SR clauses in clause chaining are integrated into the larger clauses in which they occur.

3.2. External Structure of Clause Chaining

Cross-linguistically, there have been a range of different approaches to analyzing the syntactic structure of clause-chaining constructions. Some authors, such as [Finer \(1985\)](#) for various languages and [Broadwell \(1997\)](#) for Choctaw, hold that SR clauses are high clausal adjuncts. Others, such as [Foley \(2010\)](#) for several Papuan languages, [Nonato \(2014\)](#) for Kĩsédjè, and [Toosarvandani \(2016\)](#) for Northern Paiute, hold that clause chaining involves clausal coordination. At the same time, literature, even in English (see [Altshuler and Truswell \(2022\)](#) and references therein), has questioned classical assumptions about the syntactic structure of coordination in general, arguing for a range of different analyses, including ones where coordination is itself a particular kind of adjunction.¹⁰

We return to these analytical complexities below in Section 6 once we have described each of the different SR uses. In this section, we focus on the empirical picture, including the kinds of data that have often been used to argue for or against these various alternatives, but postpone a substantive discussion of the analytical options.

Central to many of these debates over the structure of clause chaining across languages has been data from *wh*-extraction. Traditionally, it has been held that coordinations disallow extraction from either individual conjunct, instead allowing only for ‘across-the-board’ extraction, in which something is extracted from all clauses in parallel (i.e., the coordinate structure constraint of [Ross \(1967\)](#)). While subsequent research has revealed a more nuanced picture both within and across languages (again, see [Altshuler and Truswell \(2022\)](#)), extraction data with clause chaining nonetheless show important differences across

languages and across constructions within a language that make them important to consider here.

For example, [Broadwell \(1997\)](#) argues that clause chaining in Choctaw involves adjunction rather than coordination since it allows extraction from only the final finite clause. In contrast, [Toosarvandani \(2016\)](#) claims that extraction from the final finite clause alone is unacceptable in Northern Paiute clause chaining, thus, in his view, supporting a coordination analysis (ultimately with an asymmetric syntax for coordination). Setting aside the analytical conclusions, we clearly see the potential of clause-chaining constructions across languages to differ in important ways.

23. a. **Choctaw**

Katah-oosh John-at taloowa-nah hilhah?
 who-FOC.NOM John-NOM sing.L-DS dance
 ‘Who₁ did John sing and t₁ dance?’ ([Broadwell 1997](#), p. 39)

b. **Northern Paiute**

**Haga su=miitsi-’yu nana tiba tika-na, su=tiitsi-’yu naatsi’i*
 who NOM=short-NOM man pinenut eat-SIM NOM=little-NOM boy
mutuhe’e?
 kiss.IPFV
 Intended: ‘Who, while the short man was eating pinenuts, did the little boy kiss?’
 ([Toosarvandani 2016](#), p. 855)

Similarly, even within a single language, [Nonato \(2014\)](#) argues for Kĩsêdjê that the potential for extraction from the final/finite clause is conditioned by the size of the clauses being chained. What he regards as clause-chain combining *v*Ps allows extraction, (24a), while what he regards as clause-chain combining IPs does not.¹¹

24. **Kĩsêdjê**

a. **“vP-combining” clause chaining**

Wâtâ=n ka Ø-khajtu=nhy Ø Canarana mã thê=n
 what=FACT 2.NOM 3.ACC-order=and.DS 3.NOM Canarana to go=and.SS
 Ø a-mã khu-py.
 3.NOM 2.ACC-to 3.ACC-get
 ‘What_i is such that you gave him orders, he went to Canarana, and bought it_i for you?’
([Nonato 2014](#), p. 47)

b. ***“IP-combining” clause chaining**

**nhy mbry=n Roptxi ra ita pĩ=nhy Nuki ra khu-pĩ*
 which animal=FACT Roptxi NOM this kill=DS Nuki NOM 3.ACC-kill
 Intended: “Which animal_i is such that Roptxi killed this one and Nuki killed it_i?”
([Nonato 2014](#), p. 61)

Returning to A’ingae, we see that A’ingae shows a pattern very much in line with what [Toosarvandani \(2016\)](#) shows for Northern Paiute. So-called across-the-board extraction from each clause in the chain is acceptable, as in (25a) (and is expected under any of the relevant analyses). In this case, the question naturally expects a single answer common to each clause, e.g., *khuvi=ma* tapir=ACC ‘tapir’. Extraction just from the final finite clause, however, is judged unacceptable, as in (25b).¹²

25. a. **Across-the-board extraction acceptable**

Jungue'sûma tsû pushesû panzasi tsandie shu'khaensi dû'shuja an?

Jungue'sû=ma=tsû pushesû panza-si tsandie shu'khaen-si dû'shu=ja an?
 what=ACC=3 woman hunt-DS man cook-DS child=CT eat
 'What did the woman hunt that the man cooked that the boy ate?'

b. **Final clause extraction unacceptable**

#Junguesû=ma tsû pûshesû=ja khuvi=ma panza-pa aru=ma utaen-si
 what=ACC 3 woman=CT tapir=ACC hunt-SS rice=ACC cook-DS
dûshû=ja an
 child=CT eat

Intended: 'What is the X such that the woman hunted tapir and cooked rice and the child ate X.'

One further empirical parallel between the description of [Toosarvandani \(2016\)](#) of Northern Paiute and A'ingae concerns extraction from the initial medial clause, as in (26). Such extraction in A'ingae is slightly degraded but ultimately judged acceptable, as in (27). While more detailed empirical work is needed on this pattern, it is worth noting that the judgment here contrasts sharply with extraction from just the final finite clause or from just a non-initial marked SR clause, both of which are plainly unacceptable.

26. **Northern Paiute**

Haga su=tiitsi-'yu nana mutuhe-na yaisi su=naatsi'i-bino'o tiba tika
 who NOM=little-NOM man kiss-SIM PTC NOM=boy-NOM pinenut eat.IPFV
 'Who is the little man kissing while the boy is eating pinenuts?'
 ([Toosarvandani 2016](#), p. 855)

27. **Extraction from closest conjunction more or less acceptable**

Junguesûma tsû pûshesûja panzapa aruma utaensi dûshûja geñuma an?

Junguesû=ma tsû pûshesû=ja panza-pa aru=ma utaen-si dûshû=ja
 what=ACC 3 woman=ACC hunt-SS rice=ACC cook-DS child=CNTR
geñu=ma an?
 banana=ACC eat

'What did the woman hunt before she cooked rice and the child ate banana.'
 (Lit. 'What did the woman hunt and then cook rice and the child ate banana?')

For Northern Paiute, [Toosarvandani \(2016\)](#) proposes an analysis in which the wh-phrase in such examples is not actually extracted from the initial clause but rather remains in situ. For A'ingae, however, such an approach appears untenable. As discussed above, wh-questions in A'ingae require the wh-phrase to be fronted to a position preceding a second-position clitic, *tsû* 3 in (27). As already noted in Section 2.1, however, these same second-position clitics are not possible inside of SR clauses or other subordinate clauses generally, presumably being too high in the clausal architecture given that they only occur in matrix clauses and quotations. Whatever their status in Northern Paiute, it therefore seems unlikely for A'ingae to think that this example does not involve extraction out of the initial clause.

While we leave a detailed syntactic analysis to future work, we can consider in general terms the size of the clauses being combined in clause chaining. We can approach this question from two different perspectives. First, we can consider what material is possible inside the SR clauses and conclude that the size of the unit being combined must be at least that large. Second, we can consider the operators that may take scope over the whole chain (i.e., operators involved in 'operator dependence') and conclude that the size of the medial clauses must be lower than those elements.

Starting from inside the SR clause, we have seen that, as in other SR uses, a wide range of verbal morphologies and other elements are possible. Certainly, the elements that are closer to the verb, such as the causative, reciprocal, passive, and associated motion suffixes, do not show any ability to scope over the entire chain. We can therefore conclude that the size of the medial clauses must be at least as high as these elements. Conversely, there are some higher elements, such as the veridical *-'ya*, imperative *-ja*, negative imperative *-jama*, and the infinitive *-ye*, which appear to be able to scope over the whole chain in operator dependence. We can therefore conclude that the height of the coordination must be lower than those elements.¹³

We leave it to future work to investigate the clausal structure of A'ingae and the precise height of coordination/adjunction involved in clause chaining within that structure. We note, however, that, as best as we can tell at present, the results from these two methods appear to provide converging evidence. For example, while one can imagine semantically negating a whole sequence of events, as in (16), sentential negation itself is lower than the height at which clause chaining occurs. Sentential negation can therefore occur inside medial clauses (28), but is not able to scope over a clause chain when present in the final clause (29), with periphrastic constructions or a lexical means of negation needed instead, as in (16) above.

28. Negation inside medial clause

...*fae a'tanga tse ushambipa khuangi kuse rundapa tse anaña.*

*fae a'ta=nga tse usha-**mbi-pa** khuangi kuse runda-**pa** tse*
 one day=DAT ANA.LOC be.able-NEG-SS two night wait-SS ANA.LOC
ana-ña
 sleep-VERID

'One day, he couldn't (sleep), waited two days, and then slept there'
[20170730_kusiana_cuento_vc_2 – 9:16](https://doi.org/10.21203/rs.3.rs-2170730/v1) (accessed on 1 October 2022)

29. Negation inside final clause

Yokoma man'dyipa kû'ipa anae'sûmbi.

*yoko=ma man'dyi-**pa** kû'i-**pa** anae'sû-**mbi***
 yoko=ACC press-SS drink-SS sleepy-NEG

'I prepared yoko, drank, and then wasn't sleepy (anymore).'

To summarize, we have seen that A'ingae clause chaining involves the combination of medial clauses with a final finite clause containing certain elements that may scope over the whole chain. Beyond the asymmetries in which elements can be present in final clauses, we have also seen a quite different pattern in the extraction data, in which extraction from the initial medial clause is relatively acceptable while extraction from the final finite clause alone is unacceptable. While both patterns have at times been argued to support a coordination analysis (e.g., by Nonato (2014)), such conclusions depend on general assumptions about the syntax of coordination. We return to these issues in Section 6, once we have investigated other SR constructions, in particular adverbial uses, which show distinct patterns of extraction, operator dependence, etc.

3.3. Semantic/Pragmatic Functions of Clause Chaining

In terms of interpretation, the semantics of this use appear compatible with the meaning of conjunction, with each clause entailed and seemingly having equal standing. However, whereas sequences of finite clauses or syndetic coordination with *tuya'kaen* 'and' (similar to coordination with 'and' in English) allows for a wide range of different relationships between the coordinated clauses (see AnderBois and Altshuler (2022)), clause chaining is more restricted. For example, clause chaining requires the events described to take place

in the iconic linear order in which they are stated, whereas these other constructions allow for non-iconic ordering, as in (30a)–(30b). The analogous clause chaining example in (30c) is therefore judged infelicitous (note that clause chaining requires verb-final word order, as in (30c)).

30. a. *Guathiangi tsa'khûma tsa'uni. Afangi mamama. tsa'ma u'tiengi tanda shavuma*
Guathia=ngi tsa'khû=ma tsa'u=ni. Afa=ngi mama=ma. (tsa'ma) u'tie=ngi
 boil=1 water=ACC house=LOC talk=1 mom=ACC but first=1
tanda shavu=ma
 tie canoe=ACC
 'I boiled water at home and talked to my mom. But first I tied up the canoe.'
- b. *Guathiangi tsa'khûma tsa'uni tuya'kaen afangi mamama tuya'kaen u'tiengi tandan shavuma.*
Guathia=ngi tsa'khû=ma tsa'u=ni tuya'kaen afa=ngi mama=ma tuya'kaen
 boil=1 water=ACC house=LOC and talk=1 mom=ACC and
u'tie=ngi tanda shavu=ma
 first=1 tie canoe=ACC
 'I boiled water at home and talked to my mom. But first I tied up the canoe.'
- c. *#Tsa'khû=ma tsa'u=ni guathia-mba mama=ma afa-pa (tsa'ma) u'tie=ngi*
 water=ACC house=LOC boil-SS mom=ACC talk-SS but first=1
shavu=ma tanda
 canoe=ACC tie
 Intended 'I boiled water, talked to my mom, but first I tied the canoe.'

In cases where there is a particular order that is uniquely natural given world knowledge, other orders are infelicitous in clause chaining. For example, *yoko* is a warm beverage made by steeping a stimulant-containing root in hot water. Reversing the order of the conjuncts from that natural order, as in (31), results in the absence of infelicity and a more elaborate context, making the stated order natural.

31. *#yoko=ma ma'ndyi-pa tsa'khû=ma guathia-mba kû'i-pa kashi api'shuthu=ma*
 yoko=ACC press-SS water=ACC boil-SS drink-SS dishwash pottery=ACC
 Intended: 'I prepared *yoko* and boiled water and drank it and washed the dishes.'

As we will see for bridging below (and as argued for bridging by [AnderBois and Altshuler \(2022\)](#)), merely being in the iconic temporal ordering is not sufficient for clause chaining to be used felicitously. Rather, clause chaining involves events that happen in close succession, at least typically in the same location. For example, we see a clear contrast between the clause chain in (32a) with a corresponding coordination with the coordinator *tuya'kaen* in (32b). The clause chain in (32a) is felicitous only in case the walking, hunting, and photography events happen in a sequence; for example, they describe a single trip by a group with the implicit argument of *isian'chu* 'photos' most naturally interpreted as being photos of hiking and hunting. In contrast, without clause chaining in (32b), the example is degraded in the iconically ordered context¹⁴, and sounds more natural in describing a set of unrelated events; for example, I went to the forest and hunted with some friends, while my brothers engaged in a totally different photo-taking event, say, taking photos around their houses.

32. a. **Clause chaining**

Tsampini jakamba a'chuma fi'thisi ña antiandekhû isian'fa isian'chuve

Tsampi=ni jaka-mba a'chu=ma fi'thi-si ña antia-ndekhû isian-'fa
 jungle=LOC walk-SS monkey=ACC hunt-DS PRO.1SG brother-PL photo-PLS
isian-'chu=ve
 photo-SBRD=ACC2

'I walked in the forest and hunted a howler monkey and my brothers took photos (of it).'

b. **No clause chaining**

Tsampini jakamba fi'thi a'chuma tuya'kaen ña antiandekhû isian'fa isian'chuve

Tsampi=ni jaka-mba fi'thi a'chu=ma tuya'kaen ña antia-ndekhû
 jungle=LOC walk-SS hunt monkey=ACC and PRO.1SG brother-PL
isian-'fa isian-'chu=ve
 photo-PLS photo-SBRD=ACC2

'I walked in the forest and hunted a woolly monkey while my brothers took photos (of something else).'

Finally, we can note that, as [AnderBois and Altshuler \(2022\)](#) show for bridging, clause chaining discourages inferences of direct causation between the events in the chain. Rather than emphasizing plausible causal connections, clause chaining serves to present the events as a sequence. For example, in (33), we might naturally interpret a child playing as causing them to fall, and yet translations emphasizing such causal connections are not found in naturalistic examples of clause chaining, and speakers reject them, saying that the events as described here are "un poco más separado" ("a little more separate"). As [AnderBois and Altshuler \(2022\)](#) describe for bridging, more indirect causal connections are not completely ruled out (e.g., falling itself may not injure the child, but sequentially landing on something sharp, say, might). As we will see below, this finding here contrasts sharply with adverbial uses such as in (40), which show no such limitation.¹⁵

33. *Juan tsû ku'fepa amphipa iñakha*

Juan tsû ku'fe-pa amphi-pa iñakha

Juan 3 play-SS fall-SS injure

'Juan played and then fell and then got hurt.'

To summarize, we have found that clause chaining contributes a conjunctive truth-conditional contribution. It additionally requires that the events described occur in the order in which they are described, allowing for a tight, coherent narration to be readily inferred. This picture contrasts sharply with the clausal adjunct uses described in Section 4 and more subtly with the bridging linkage uses described in Section 5.

4. Adverbial Uses of Switch Reference

The second use of switch reference in A'ingae is in adverbial clauses that receive either temporal or causal interpretations, being roughly translatable with English clausal adjuncts headed by *after*, *when*, *since*, or *because*. In this section, we will show that this additional interpretive flexibility is paralleled by structural differences with clause chaining uses, including differences in extraction. Like the aforementioned English clausal adjuncts and unlike clause chaining, we find that extraction from the finite clause alone is possible in adverbial uses.

4.1. Internal and External Structure of Adverbial Uses

In terms of their internal structure, adverbial uses of a switch reference clause more typically show the full range of arguments, modifiers, and verbal morphologies, as illustrated in (34).

34. a. ... *tsa'ma jañuundangi titshe ingikhe atapañakhapa jañu'ja seis tsakaen jañu jayifa'ya.*
tsa-'ma jañu=nda=ngi titshe ingi=khe atapa-ñakha-pa jañu='ja seis
 ANA-FRUST now=TOP=1 more 1PL=ADD reproduce-REPET-SS now=CT six
tsa-ka-en jañu jayi-fa-'ya.
 ANA-CMP-ADV now go.PROSP-PLS-VERID
 '... , but now because we reproduced more, now there are six like this, going forward.'
[20170806_charapa_proyecto_BRCA – 14:29](#) (accessed on 1 October 2022)
- b. *Tsatate tsûthe'ma tsaihkakaen dasi dûshû inakhen kuenzandekhû tsinkufani*
tsa=ta=te tsû'the=ma tsai-'kha-'kan-e da-si dû'shû i'na=khen
 ANA=NEW=REP foot=ACC bite-DMN-CMP-ADV become-DS child cry=QUOT
kuenza-ndekhû tsinkun-'fa=ni
 old-PLH behave-PLS=LOC
 'According to the elders because of the bitey-like feeling on the feet, the child cries if the elders act behave that that way (i.e., applying a particular medicine)'
[20170803_garden_medicinal_plants_LC – 5:37](#) (accessed on 1 October 2022)

As we have seen in Section 3, the possibility for various forms of clausal material to be present is found even for clause chaining, despite the tendency for more minimal clauses. So, we therefore conclude that the internal structure of the SR clause is the same here as in clause chaining. The one surface difference, as noted above, concerns the possibility of the irrealis morpheme *-ya*, as illustrated in (35). As discussed above, there is good reason to take its infelicity in clause chaining to be attributable to a semantic/pragmatic conflict between the meaning of clause chaining and the meaning of irrealis rather than a syntactic difference.

35. *Mein'khe ke kuenzama angaye ashaenda ûtû tsaiki'nga indiyeyasi vama muenjenkhen sûya*
mein='khe ke kuenza=ma anga-ye asha-e=nda ûtû tsaiki='nga
 no=QUOT 2.SG old=ACC carry=INF beginning-CAUS=TOP partway path=DAT
indi-ye-ya-si va=ma muen-jen=khe sû-ya
 take-PASS-IRR-DS PROX=ACC send-IPFV=QUOT say-VERID
 'no, if I send you an adult pig, then because you would eat it half way through the journey, I am sending this with you, I said.'
[20170803_dyandyaccu_LC – 10:20](#) (accessed on 1 October 2022)

Turning to the external structure of adverbial uses of switch reference, we see two key differences with clause chaining. First, whereas clause chaining requires its clauses to be ordered iconically in the same order as the events they describe, adverbial SR clauses may either precede, (36a), or follow, (36b), the finite clause to which they are attached. As discussed in detail in Section 4.2, this is despite the fact that the event described in the SR clause is typically subsequent to that of the matrix clause, whether or not it is causally dependent.¹⁶

36. a. **Left-adjoined**
tsa mani kuenjinsi tsa kukeja tsama an'jeña.
 [tsa mani kuen-jin-si] tsa kuke=ja tsa=ma an-'je-ña
 ANA groundnut grow-PRCM-DS ANA hare=CT ANA=ACC eat-IPFV-VERID
 'When the groundnut is ready for harvest, the hare eats it'
[20170804_kuke_chiste_FACQ – 0:15](#) (accessed on 1 October 2022)

b. **Right-adjoined**

Ñajan ja'ñu si'tsive kañe tsunjen tû'i jayisi.

ña=jan ja'ñu si'tsi=ve ka-ñe tsunjen [tû'i jayi-si]

PRO.1SG=CT now firewood=ACC2 try-INF PROSP tomorrow go.PROSP-DS

'I am now going to try to cut firewood, because tomorrow you're going to leave.'

20170731_attembi_ai_MM-3:13 (accessed on 1 October 2022)

In addition to the potential for adverbial SR clauses to either precede or follow the finite clauses they combine, we also see a clear contrast with the extraction data compared to clause chaining above. Recall that, for clause chaining, we found that extraction from just the finite clause (i.e., the final one in the chain) was ungrammatical, while across-the-board extraction from each clause was judged acceptable by speakers. For adverbial uses, however, we find a quite different picture. While extraction from the finite main clause is grammatical, (37a), extraction from the adverbial SR clause itself is ungrammatical, (37b).

37. a. **Extraction from matrix clause:**

Majan tsû Jose sethapuensi an'dyuje?

Majan tsû Jose sethapuen-si an'dyu-je

who 3 Jose sing-DS dance-IPFV

'Who was dancing when José was singing?'

b. ***Extraction from SR clause:**

**?Majan tsû sethapuen-si Maria an'dyu-je*

who 3 sing-DS Maria dance-IPFV

Intended: 'While who sang did Maria dance?'

We can note further that this is true here even though the adverbial SR clause is closest to the *wh*-word in linear order in this example. This empirical pattern therefore contrasts with that of clause chaining in two ways. First, the extraction from just the finite clause in (37a) is acceptable here. Second, the extraction from just the linearly adjacent SR clause in (37b) is unacceptable. While we again postpone discussion of the analytical consequences until later sections, we note that this pattern is similar to clausal adjuncts in English and closely resembles patterns of extraction that authors such as Broadwell (1997) have previously used to argue for an adjunction analysis rather than a traditional coordination one.

One additional note here concerns the positioning of the second-position clitic in these cases of extraction. Looking at both examples in (37), we see that the second-position clitic, *tsû* 3, occurs following the *wh*-word itself, indicating that it is only the *wh*-word itself that has been extracted. Interestingly, we can note that a minimally different example where the entire SR clause has been extracted via pied-piping is felicitous¹⁷, as seen in (38) (see Dąbkowski (2022a) for a discussion of pied-piping in A'ingae more generally):

38. *Majan sethapuensi tsû Maria an'dyu'je?*

[Majan sethapuen-si] tsû an'dyu-'je

who sing-DS 3 dance-IPFV

'While who sang did María dance?' (i.e., 'María danced while *who* was singing?')

To summarize, we have seen that adverbial uses of SR clauses unsurprisingly allow for the same range of verbal morphology, arguments, and modifiers as clause chaining. Despite this uniform internal clause structure, we have also seen that adverbial uses display certain syntactic differences, including in extraction patterns. As we will see in Section 4.2, these syntactic differences have a semantic/pragmatic correlation as well.

4.2. Semantic/Pragmatic Function of Adverbial Clauses

In Section 3, we saw that, despite having essentially conjunctive truth conditions, clause chain uses of switch reference impose an additional semantic/pragmatic condition: the chain of events described must form a coherent narrative sequence. Related to this, we saw that clause chains do not readily allow for direct causal connections between the clauses in the chain. In contrast, for adverbial uses here, the sole SR clause is less constrained causally while still requiring temporal ordering. While narration-like sequences with no causal connection are felicitous, (39a), we find other examples that are more clearly causal, (39b), or that are weakly causal in the sense that the SR clause provides an ‘enabling condition’ in the sense of Cheng and Novick (1991), Altshuler and Varasdi (2015), and others, (39c).

39. a. No causal relation

Fae a'ta tise tsandûja, semasû jayipa tisû pûshema mandaya keja utaenjenjan.

fae a'ta tise tsandû=ja, sema-sû jayi-pa tisû pûshe=ma
 one day 3SG husband=CNTR work=ATTR go.PROSP-SS REFL wife=ACC
manda-ya ke=ja utaen-jen-jan
 order-VERID 2SG=CT cook-IPFV-IMP

‘One day, when her husband was about to go to work, he ordered her to cook.’ 20170807_flor_flanca_chiste_RJCL – 0:33 (accessed on 1 October 2022)

b. Causal relation

... tsa'ma jañuundangi titshe ingikhe atapañakhapa jañu'ja seis tsakaen jañu jayifa'ya.

tsa-'ma jañu=nda=ngi titshe ingi=khe atapa-ñakha-pa jañu='ja seis
 ANA-FRUST now=TOP=1 more 1PL=ADD reproduce-SEMEL-SS now=CT six
tsa-ka-en jañu ja-yi-fa-'ya.
 ANA-CMP-ADV now go-PROSP-PLS-VERID

‘... , but now because we reproduced more, now there are six, now going forward.’ 20170806_charapa_proyecto_BRCA – 14:29 (accessed on 1 October 2022)

c. Enabling/Weak causal relation

Kuragandekhûtate yajema injan'tshe kû'ipa usha'chu tsampini kansekhesûve di'shafa.

kuraga-ndekhû=ta=te yaje=ma injan'tshe kû'i-pa usha'chu
 shaman-PL=TOP=REP ayahuasca=ACC much drink-SS everything
tsampi=ni kanse-khesû=ve di'sha-fa
 forest=LOC live-HAB.NMLZ=ABS transform-PLS

‘When the shamans drink a lot of yaje, they turn them into anything in the forest.’ (Blaser and Umenda 2008, p.66)

We also see this reflected in a minimally different example from the clause chaining example in (33). Placing the playing event in an adverbial clause (definitely so, given its right-adjoined position here), as in (40), most naturally gives rise to the inference that the play was the direct cause of the fall and injury, inviting causal translations with Spanish *por eso* ‘due to that’ and *porque* ‘because’.

40. Juan tsû amphî iñakha kufekha'pa

Juan tsû amphî iñakha kufe-kha'-pa
 Juan 3 fall injure play-DIM-SS

‘Juan fell and got hurt because he was playing.’

In addition to this, we can see that adverbial SR clauses can naturally provide answers to ‘why’ questions. A'ingae has two distinct wh-words corresponding roughly to the

English ‘why’: *jungueje*, ‘why, what reason’, and *mikumba*, ‘why, what cause’. We see in the naturalistic example in (41), that an SR clause can felicitously respond to a question posed by the more plainly causal of these two elements.

41. a. **Context:** An autobiographical interview about the subject’s family and the death of her older sister before she was born.
Mikumbate pa?

Mikumba=te pa
 why=REP die
 ‘Why did she die?’ 20170801_autobiography_ARLQ – 3:16 (accessed on 1 October 2022)
- b. *Thu’pate phûpa pa.*

Thu’pa=te phû-pa pa
 stomach=REP swell-SS die
 ‘She died because her stomach exploded.’

To summarize, we have seen in this section that, aside from being limited to a single medial clause, adverbial uses of SR are more flexible in their form (they can be left- or right-adjoined) as well as in their semantic contribution (as they have not only narration-like uses but also causal uses). An additional semantic property implicit in the above is the lack of operator dependence. We see this, for example, in (36b), where the aspectual *tsun’jen* scopes only over the main clause. In other cases, not shown here, we see, for example, an imperative mood similarly only scoping over the main clause to the exclusion of the SR clause. While we have not proposed a formal analysis here, we can note that these features are reminiscent of clausal adjuncts in English.

4.3. Distinguishing Clause Chaining and Adverbial Uses

Thus far, we have described the formal and interpretive properties of two constructions involving switch reference: clause chaining and clausal adjuncts. Given the similarities between the two, however, it is worth comparing in detail the properties of the two and what this means for the relationship between them. To recap, we have thus far proposed the following properties for the two constructions as seen in Table 1.

Table 1. Comparison of properties of clause chaining and adverbial SR clauses.

Property	Clause Chaining	Adverbial
# of SR-marked clauses	≥1	1
Position of finite clause	After SR clauses	Before/after SR clause
Operator dependence	Yes	No
Interpretation	Sequential	Causal or sequential
Irrealis in SR clauses	No	Yes
Extraction from finite clause only	No	Yes
Pied-piping of SR-marked clause	No	Yes

Looking at these properties, we see that, for each individual property, one column allows for a subset of the options in the other column. For the most part, adverbial SR constructions allow more flexibility than clause chaining. However, in two cases, the directionality is reversed. First, clause chaining allows for a sequence of indefinitely many SR-marked clauses, while the adverbial construction only allows for a single marked clause. Second, clause chaining requires that certain operators on the final finite clause take scope over the entire chain (i.e., operator dependence), while adverbial SR clauses do not allow this.

Taken together, then, this means that we can find individual examples for which we cannot determine which construction we have (or, alternatively, which are ambiguous

between the two). For example, a sentence such as (42) has only one SR clause, the finite clause after the SR clause, no irrealis or other operators, a sequential interpretation, and no extraction/pied-piping, and therefore could instantiate either construction.

42. *Ña ña antia-ndekhûkhû tsampini jakamba fi'thi fue a'chuve.*

Ña ña antia-ndekhû=khû tsampi=ni jaka-mba fi'thi fue
 PRO.1SG PRO.1SG relative-HUM.PL=INST forest=LOC walk-SS hunt INDEF
a'chu=ve
 howler.monkey=ACC2
 'I walked in the forest with my brothers and I hunted a howler monkey.'

While (42) could instantiate either construction, many examples will have properties that definitively indicate which construction we have. For example, in Section 3, we considered only examples with more than one SR-marked clause to rule out the adverbial parse. Conversely, a right-adjoined SR clause would uniquely allow for the adverbial parse. Crucially, then, the claim here is about the interactions between the properties listed here. Regarding these as two different constructions, we therefore predict, for example, that a sentence with operator dependence will not allow the marked clause to follow the finite clause, that a sentence with multiple marked clauses will not allow them to follow the finite clause, etc.

While it may ultimately be that some examples are indeed ambiguous, there are two further properties that we speculate may disambiguate more widely. The first is prosody. While we leave a systematic investigation of the prosody of SR constructions to future work, anecdotally, cases of clear adverbial SR (e.g., causal ones and ones with the finite clause first) often seem to have a pause between the two clauses. In contrast, clause chaining seems to have a more integrated prosody without pauses. The second potential difference to look for is the interaction with matrix second-position clitics. It remains unclear precisely what mixture of prosodic, syntactic, and information-structural factors determines their positioning. In either case, though, we might expect to find differences in how the clitics interact with these constructions, given that the two constructions have distinct syntactic and likely prosodic properties.

In sum, we have argued that clause chaining and adverbial SR constructions have overlapping yet distinct sets of properties. Given this overlap, there are certain cases in which it may not be possible to distinguish between them (or perhaps where only prosody will do so). At the same time, however, we have seen that the clustering of different properties supports the claim here that they are indeed separate constructions.

5. Bridging Uses of Switch Reference

Thus far, we have discussed the use of switch reference morphology in clause chaining and in clausal adverbial uses. We turn now to the third and final use, in what Guérin and Aiton (2019) dub 'bridging' clause linkage (also variously known as 'tail-head linkage', 'head-tail linkage', and many other names). This construction involves a sequence of three clauses in the following order, as illustrated in (43): (i) a finite REFERENCE clause **R**; (ii) the BRIDGING clause **B**, a subordinate SR clause that repeats and/or summarizes **R**; and (iii) the CONTINUATION clause **C**.

43. *Tsampini japa yuku'ma chathûnga'ya. Chathûngapa jiya.*

[tsampi=ni ja-pa yuku=ma chathû-nga-'ya]_R [[chathû-nga-pa]_B ji-ya]_C
 forest=LOC go-SS yoco=ACC cut-AM-VER cut-AM-SS come-VER
 'I went to the forest and cut him some yoco. Having cut yoco, I came back.'
[20170807_autobiography_JWC: 421-422](#) (accessed on 1 October 2022)

The remainder of this section unpacks the internal structure of the bridging SR clause and the way it is incorporated into the larger structure, as well as considering its semantics/pragmatics. We also refer the reader to [AnderBois and Altshuler \(2022\)](#) for a more detailed formal treatment of A'ingae bridging, primarily focused on its semantics/pragmatics.

5.1. Internal and External Structure of Bridging Uses

Above, we saw that, although clause chaining typically involves just a bare verb, careful investigation of elicited and natural data showed that the same range of arguments, modifiers, and verbal morphologies is possible as for adjunct SR clauses. We argue here for a similar picture for bridging SR clauses.

[Guérin and Aiton \(2019\)](#)'s typological work distinguishes three subtypes of bridging defined by the form of the B clause: 'recapitulative' bridging, in which the verb of the R clause is repeated, (44a); 'summary' bridging with an anaphoric verb, typically *tsun* 'do so', (44b); and 'mixed' bridging with repetition of the prior verb plus an anaphoric adverbial, (44c).

44. a. 'Recapitulative' bridging

... *kueje'fa khutsiañaña, kueje'nga khûtsiansi tsaja aceite yaya'pave daya'ya.*

kueje'fa khûtsi-a-ña-ña, kueje='nga khûtsi-an-si tsa=ja aceite
 sun stand-CAUS-IRR-VERID sun=DAT stand-CAUS-DS ANA=CT oil
yaya'pa=ve da-ya-'ya
 oil=ACC2 become-IRR-VERID

'He set it in the sun, after he set it in the sun, it became a natural oil'

[20170806_Charapa _proyecto_BRCA – 1:07](#) (accessed on 1 October 2022)

b. 'Summary' bridging

Ingi ka'nifani dyai'fa, tsunsi ña'khe dyai

Ingi ka'ni-fa=ni dyai-'fa, tsun-si ña='khe dyai
 PRO.1PL enter-PLS=LOC sit-PLS do-DS PRO.1SG=ADD sit

'When we entered, they sat down, them having sat down, I sat down too.'

c. 'Mixed' bridging

Josetsû fi'thi thesima, tsa'kaen fi'thipatsû Jose tise tsa'uni anga.

Jose tsû fi'thi thesi=ma, Tsa-'ka-en fi'thi-pa=tsû Jose tise
 Jose 3 kill jaguar=ACC ANA-CMP-ADV kill-SS=3 Jose PRO.3SG
tsa'u=ni anga
 house=LOC carry

'José killed the jaguar, having so killed it, José carried it to his house.'

Research on bridging cross-linguistically at times seems to regard it as potentially involving a specific sort of grammatical repetition mechanism. However, at least for A'ingae, it is clear that the SR-marked B clause is interpreted in a fully compositional way, being totally flexible to include the same rich range of clausal material as the other uses of SR clauses that we have seen above. The only additional constraint bridging imposes is indirectly through the semantic/pragmatic contribution described in Section 5.2.

We can see this flexibility in several different ways. First, as illustrated in (45), a wide range of modifiers and arguments are possible in the B clause (see also (50) for a more straightforward repeated direct object):

45. a. **Repetition of arguments:**

Te shavunga tsû'tsû tsanjan'fa shavukhûnga tsûtsû tsanjamba kuejen'fa khûtshiañaña

te shavu=nga tsû'tsû tsanjan-'fa shavu=khû=nga tsûtsû tsanja-mba
 REP canoe=DAT IDEO:mash mash=PLS canoe=SH.DLM=DAT ONOM mash-SS

kueje'fa khûtshi-a-ña-ña
 sun stand-CAUS-IRR-VERID

'they mashed the eggs on the canoe like "tsûtsû", having mashed them like "tsûtsû", they then let it set on the sun'

[20170806_Charapa_proyecto_BRCA - 0:59](#) (accessed on 1 October 2022)

b. **Repetition of modifiers:**

Injantshe atapa'faya. Injantshe atapapa ankhesûma sefaembate, ...

Injan-tshe atapa-'fa-ya. Injan-tshe atapa-pa
 much-ADJ.ADV reproduce-PLS-VERID much-ADJ.ADV reproduce-SS

an-khesû=ma sefa-em-ba=te...

eat-HAB.NMLZ=ACC use.up-CAUS-SS=REP

'They had grown in number a lot. Having grown in number a lot, they used up the food, ...'

[20170731_vahu_story_mmemq - 0:31](#) (accessed on 1 October 2022)

Second, while the verb form in the bridging clause tends to be in a bare repeated verb form, the verb form can also differ either in the morphology it bears, e.g., the lack of perfect *-chu* PERF in (46a), or simply being a different lexical verb, (47). We leave it to future work to determine the precise rules by which mismatching verb forms are possible, as this requires a more detailed investigation of the semantics of various TAM markers in the language.

46. a. **Difference in verb morphology:**

Ñakhe tuya ña chite jichu vani,

ña=khe tuya ña chi ji-chu va=ni

1.SG=ADD still 1.SG youth come-PERF PROX=LOC

'I had arrived here when I was a child.'

b. *jisitsû charapa dûsûchujechuma asipa aña atesûfa.*

ji-si=tsû charapa dûsûchu-je-chu=ma asi-pa a-ña atesû-fa
 come-DS=3 turtle lay.eggs-IPFV-SBRD=ACC take.out-SS eat-INF know-PLS
 'after we arrived, we would eat turtle eggs.'

[20170806_Charapa_proyecto_BRCA - 0:13](#) (accessed on 1 October 2022)

47. **Difference in verb root:**

Jose tsû bâthujangi tsa'kaen uyasi shavu'khe uya.

Jose=tsû bâthujangi tsa-'ka-en uya-si shavu='khe uya

Jose=3 jump ANA-CMP-ADV move-DS canoe=ADD move

'Jose jumped. Having moved like that, the canoe moved too.'

Third, the bridging clause can describe an event that can be inferred or 'interpolated' as a natural next step following the event described in the reference clause. In simple cases, this might be the completion of an event that the reference clause describes as beginning or in progress, (48a). In more complex cases, it may be a naturally subsequent event, such as drying the dishes in (48b), or an event that is merely implied by **R**, as in the case of 'not carrying him' in the rhetorical question in (48c).

48. a. *Sinte sumbupangi thûthûye ashaen, thûthûpangi tueki tsa'uningae ji.*
Sinte sumbu-pa=ngi thûthû-ye asha-en, thûthû-pa=ngi tue-ki
 morning leave-SS=1 chop-INF begin-CAUS chop-SS=1 same-day
tsa'u=ningae ji
 house=ALL come
 'I left in the morning and started to cut trees. Having cut trees, I returned home.'
- b. *Sinte jangipangi kashi apishu'thuma, apishu'thuma san'jambangi anañe ja*
Sinte jangi-pa=ngi kashi apishu'thu=ma apishu'thu=ma san'ja-mba=ngi
 morning arise-SS=1 dish.wash dish=ACC dish=ACC dry-SS=1
ana-ñe ja.
 sleep-INF go
 'I got up in the morning and washed dishes. Having dried the dishes, I went to sleep.'
- c. **Context:** The story describes a man who has been impaled with a harpoon and cannot be safely carried:
Ma'kaentsû anga'faya, angambipa i'na
Ma'kaen=tsû anga-'fa-ya, anga-mbi-pa i'na
 how=3 carry-PLS-VERID carry-NEG-SS cry
 'How could they carry him? Having not carried him, they cried.'
 2022Ene02-VQ-Biografia - 4:38

In sum, we have seen that while SR clauses in bridging often involve only a bare repeated or anaphoric verb, they nonetheless show the potential for a rich clausal structure, including the same range of material as other SR clauses. We therefore conclude that SR morphemes occur with subordinate clauses with a uniform structure in terms of the internal syntax of the clauses they introduce.

We turn now to the way SR clauses are incorporated into the larger clausal structures in which they occur. As is clear from the definition of bridging above, the SR **B** clause is associated most closely with the linearly following **C** clause rather than the preceding **R** clause. We see this illustrated, for example, in the fact that the second-position person clitic =ngi 1 is attached to the SR clause prosodically, but serves to indicate that the subject of **C** is first person (as opposed to the subject of **B**, the water, which is third person), as in the case of the adverbial SR clauses above.

49. *Tsa'khû kûpa tsû gua'thiya, gua'thisingi atesû'fa ake'chuveja*
tsa'khû kû-pa=tsû gua'thi-ya, gua'thi-si=ngi atesû-'fa ake-'chu=ve=ja
 water heat-SS=3 boil-IRR boil-DS=1 know-PLS heat-SBRD=ACC2=CT
 'when the water heats up, it will boil. After it boils, we know it's warm.'
[20170808_como_preparar_kuikhu_EQ - 1:12](#) (accessed on 1 October 2022)

We conclude, therefore, that the SR clause in bridging is a special case of the adverbial clause syntactically, modifying the linearly following **C** clause.¹⁸ Following [AnderBois and Altshuler \(2022\)](#), we further take the **R** and **C** clauses to be asyndetically coordinated, a pattern also found in DP-level coordination. As we will see in the next section, this coordination between **R** and **C** is relevant for understanding SR since it imposes additional semantic constraints not seen in other adverbial uses in Section 4.

5.2. Semantic/Pragmatic Function of Bridging Uses

[Guérin and Aiton \(2019\)](#) characterize the meaning contribution of bridging as “adding structure and cohesion”, backgrounding **R**'s content and foregrounding **C**, highlighting “important turning points, or new events on the main event line” and expressing “a semantic

relation between discourse segments, typically, expressing sequentiality".¹⁹ Guérin and Aiton (2019) further note a tendency for iconically ordered temporal sequentiality. In other words, the event described in the **R** clause precedes the event described in the **C** clause. For example, the bridging clause in (50) backgrounds **R**'s content, namely, that the trees were cut, which is vital for highlighting the fact that the goggles were put on *afterwards*.

50. *Kinikhuma chathûje, kinikhuma chathûpatsû gafama utsian.*

[*kinikhu=ma chathû-je*]_R, [[*Kinikhu=ma chathû-pa*]_B=tsû *gafa=ma utsian*]_C
 tree=ACC cut-IPFV tree=ACC cut-SS=3 goggle-ACC put.on
 'He cuts trees. Having cut trees, he puts on goggles.'

What is striking about this example is that speakers find (50) infelicitous in the (more plausible) scenario in which the subject puts on safety goggles *before* cutting trees. Based on such observations, AnderBois and Altshuler (2022) argue that the semantics of bridging linkage *forces* the iconic order, i.e., it is not merely a pragmatic tendency.²⁰

AnderBois and Altshuler (2022) further observe that bridging is adverse to direct causal connections between the events described in **R** and **C**. This is striking since a causal connection respects an iconic order. They provide the example below, repeated from (47), which speakers do not understand as establishing a direct causal connection between the described jump and the canoe shaking; only an indirect causal relationship is possible.

51. *Jose tsû bâthujangi tsa'kaen uyasi shavu'khe uya*

[*Jose tsû bâthujangi*]_R, [[*tsa-'ka-en uya-si*]_B *shavu='khe uya*]_C
 Jose 3 jump ANA-CMP-ADV move-DS canoe=ADD move

Scenario A: #José jumps and his jumping shakes the canoe.

Scenario B: José jumps and then the canoe shakes (e.g., from a wave).

This is unlike what we find for sequences of finite clauses, which readily allow for a direct causal interpretation. For example, in (52), the anger is caused by getting stuck in the rabbit's hole rather than by some independent source or more indirect causal chain.

52. **Context:** A traditional story in which the hare dug a hole and the fox fell in, angering the fox.

Tsefa'e indiya tse'thinga. Ti'tshe panduja iyikhayeya tsa kukefan'an

tse-fa-'e indiya tse-'thi=nga ti'tshe pandu=ja iyikhaye-ya
 ANA.LOC-PEJ-ADV stuck-VER ANA.LOC-LOC=DAT more fox=CT anger-VER

tsa kuke-fan'an

ANA rabbit-PEJ.ACC

'He got stuck in that damn place!' The fox got more angry at the hare.

In sum, bridging in A'ingae differs from sequences of finite clauses in requiring iconicity to the inclusion of direct causation. In other words, bridging requires the described events to form a coherent narrative without establishing a causal relationship between them.

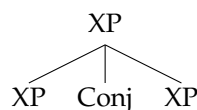
6. Synthesis

A common intuition about SR is that its function is to disambiguate potentially ambiguous sentences. However, as early as Haiman and Munro (1983), it has been noted that this cannot quite be correct. As we have seen in A'ingae, SR occurs only in particular constructions and not others, and within those constructions, it occurs obligatorily with no sensitivity to the potential for ambiguity to arise. If not a need for ambiguity avoidance, then what, if anything, unites the places where SR occurs? This is the topic we take up preliminarily in this section.

Fischer (2007) proposed that SR constructions in A'ingae have a common syntax. This is significant because it leads us to ask whether SR could be defined in purely syntactic terms: given a particular structure S, if SR, then S, and if S, then SR. While there are many who have argued against such a view cross-linguistically (see McKenzie (2015) and references therein), there have been other such attempts in the literature to provide such definitions for a wide array of SR languages (see, e.g., Finer (1985)).

In Sections 3 and 4, we saw that, on the one hand, clause chaining does not involve any distinctive internal clausal structure, and that adverbial uses of SR clauses allow for the same range of verbal morphology, arguments, and modifiers as clause chaining. This prima facie supports Fischer's (2007) view. On the other hand, we also saw that adverbial uses of SR display certain syntactic differences from clause chaining, most notably in extraction patterns. Traditional flat coordination syntax, as in (53), regards extraction patterns such as the ones we have seen as diagnosing coordinate vs. adjunction structures (see Altschuler and Truswell (2022, chs. 3-4) for a recent overview).

53.



If we were to assume such a syntax for A'ingae, we would have to conclude that some SR constructions are coordination and others are adjunction. Moreover, we find that other forms of coordination and other clausal adjuncts do not display SR. For example, as seen in (54), the factual conditional clitic =ni=jan does not co-occur with -pa SS or -si DS.²¹ The same is true for syndetic coordination with overt coordinators, such as tuya'kaen 'and', tsa'ma 'but', and tsumbi'ta 'or' (not shown).

54. a. **Different-subject factual conditional**

Kama tisû tsa'ndû simbasû jayinijan, faengae jakañe atesû'ya

ka-ma tisû tsa'ndû simba-'sû jayi=ni=ja, fae=ngae jaka-ñe
 try-FRUST REFL marry fish-ATTR go.PROSP=LOC=CT one=MANN walk-INF
atesû-'ya
 know-VERID

'they tried, but when the husband in going to go fishing, she goes together (with him)'

[20170806_apicha_pushesu_BRCA: 2:19](#) (accessed on 1 October 2022)

b. **Same-subject factual conditional**

Jungaesû deberma maennijan purikhue da'fa

jungaesû deber=ma maen=ni=jan puri-khu-e da-'fa
 what homework=ACC send=LOC=CT poor=SH.ANG=ADV become=PLS
 'when they turn in some homeworks, they do poorly'

[20170807_language_and_education_ml: 0:43](#) (accessed on 1 October 2022)

Therefore, traditional flat coordination syntax could not be unified for SR, and it could not be unified to the exclusion of non-SR constructions.

However, most current research disregards structures like (53) because they cannot capture the asymmetric properties of coordination. Already, Ross (1967) pointed out several asymmetries in the relationship between conjuncts and conjunctions:

55. a. John left. And he didn't even say goodbye.

b. *John left and. He didn't even say goodbye.
 (Ross 1967, p. 163)

- 56. a. Even Harold failed, and he is the smartest boy in our class.
- b. Even Harold, and he is the smartest boy in our class, failed.
 (Ross 1967, p. 164)
- c. *Even Harold, he is the smartest boy in our class, failed and.

- 57. a. ((Tom) (and Dick) (and Harry)) all love watermelon.
- b. *((Tom and) (Dick and) (Harry)) all love watermelon.
 (Ross 1967, pp. 164–5)

Moreover, there are coordinations that do not accord with the results of common constituency tests (displacement, pronominalization, etc.), which poses a problem for structures such as (53). Two such examples are provided below.²²

- 58. Mary spoke [[[PP to Sue] [PP on Wednesday]] and [[PP to Fred] [PP on Thursday]]].

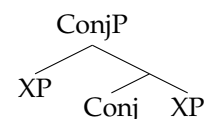
- 59. [[Mary likes], but [John detests]], donuts.

Finally, other morphosyntactic asymmetries have been noted in the literature. For example, Johannessen (1998) discussed ‘unbalanced agreement’ in Norwegian, where only the first conjunct could substitute for the whole coordinate structure. This is illustrated in (60a). Moreover, van Koppen (2005) observed complementizer agreement in Dutch dialects with the first conjunct or the whole conjunction, but never the last conjunct. This is illustrated in (60b)–(60c) for Tegelen and Lapscheure, respectively.

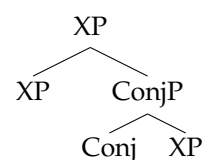
- 60. a. *Han og meg var sammen om det.*
 NOM and me.ACC were together about it
 ‘He and I were in it together.’
- b. *Ich dink de-s doow en ich ôs treff-e.*
 I think that-2SG you.SG and I each.other meet-PL
 ‘I think that you and I will meet.’
- c. *Kpeinzen da-n Valère en Pol morgen goa-n.*
 I.think that-3PL Valère and Pol tomorrow go-PL
 ‘I think that Valère and Pol will go tomorrow.’

There have been many attempts to capture the noted asymmetries, and we do not provide an overview here (again, see Altshuler and Truswell (2022, chs. 3–4)). What is crucial for our purposes is that, regardless of the syntactic analysis chosen, we do not think it could be unified to the exclusion of non-SR constructions. As a brief demonstration, consider two common asymmetric structures in which the first conjunct commands the second:

- 61. Johannessen (1998): spec-head-comp



- 62. Munn (1993): adjunction



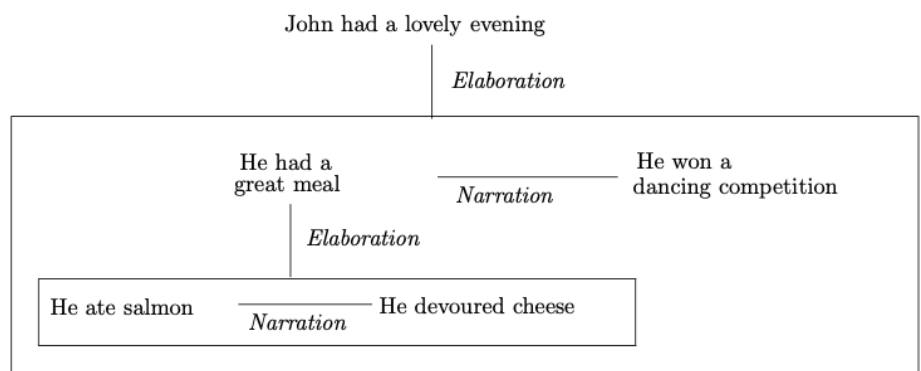
Even if we assume that one of these analyses is correct and a unified syntax for SR emerges, this syntax would not be unified to the exclusion of other spec-head-comp or clausal adjuncts without SR in A'ingae. This includes both temporal adjuncts seen above in (54): other clausal adjuncts, such as frustrative clauses with *-'ma* (see [Morvillo and AnderBois \(2022\)](#)), and apprehensional clauses with *-sa'ne* (see [Dąbkowski and AnderBois \(2020\)](#)), among others.

In light of this discussion, we do not think the distribution of SR morphemes in A'ingae could be defined in purely syntactic terms, even if a unified syntax is possible, as ([Fischer 2007](#)) has claimed. However, we do think that a semantic/pragmatic characterization of where SR occurs is promising. In what follows, we would like to suggest that what unites SR in A'ingae is a sensitivity to a particular natural class of coherence relations, what [Asher \(1993\)](#) calls *non-structuring coordinating*. While there are various proposals regarding the semantic contribution of SR across languages (e.g., [Stirling 1993](#); [McKenzie 2012](#); [Lima and Thomas 2017](#)), there have not been, to our knowledge, prior attempts to give a semantic generalization of the environments where SR occurs. While previous typological literature at times describes related notions informally (e.g., [Borman \(1977\)](#) for A'ingae), this paper is, to our knowledge, the first to talk about SR in terms of formal theories of coherence, such as *segmented discourse representation theory* (SDRT, [Asher and Lascarides 2003](#)).²³

SDRT models discourse structure as a graph over semantic representations (SDRSs) of discourse units (DUs), which are eventuality descriptions. The graph edges connecting DUs are labeled with coherence relations, with vertical edges representing SUBORDINATING coherence relations and horizontal edges representing COORDINATING ones. The graph used to model discourse structure is directed, reflecting the progressive building up of the discourse representation as new DUs are interpreted. We see this illustrated in (63b) for the discourse in (63a) from [Asher and Lascarides \(2003\)](#).

- 63. a. John had a great evening last night.
 He had a great meal.
 He ate salmon.
 He devoured lots of cheese.
 He won a dancing competition.

b. **Discourse structure of (63a):**



Coordinating coherence relations changes the scene, hence moving forward the narrative. Subordinating coherence relations, on the other hand, detail the scene, hence deepening the narrative. Since coordinating coherence relations change the scene while subordinating coherence relations detail the scene, only subordination keeps the things we talk about around and hence available for anaphora. Put differently: we cannot “detail” scenes that have been changed. Hence, coordinated discourse moves “block” certain kinds of anaphoric potential. For example, *It was a beautiful pink* is an infelicitous continuation of (63a).²⁴

Returning to SR in A'ingae, we have seen that the three uses of SR we have described—clause chaining, adverbial, and bridging linkage—do not plausibly have a syntactic property that distinguishes them from other constructions where the SR morphology does not occur. Considering their semantic/pragmatic contributions, however, we can see that what each of them contributes is limited to coordinating coherence relations: NARRATION for clause chaining, NARRATION or RESULT for adverbial uses, and NARRATION and BACKGROUND for bridging uses. These coherence relations are, roughly speaking, characterized as follows:

64. NARRATION(α, β): the post-state of the event described by α constitutes the pre-state of the event described by β .
65. RESULT(α, β): the event described by α causes the event described by β .
66. BACKGROUND(α, β): the eventuality described by α and β temporally overlap.

While we leave it to future work to provide a detailed analysis of clause chaining, adverbial, and bridging uses in terms of these coherence relations²⁵, the data in Sections 3.3, 4.2, and 5.2 motivate the following generalization in (67) (to be revised below):

67. **Coherence generalization (preliminary):** Switch reference in A'ingae occurs only in constructions whose semantics require a coordinating discourse coherence relation.

We can therefore say that SR in A'ingae functions specifically to help resolve references in cases of coordinating discourse coherence relations. While speakers of languages without SR make do with pragmatic reasoning about coherence and reference here, this restriction is functionally motivated in the sense that, as noted above, coordinating coherence relations are informally ones that go on to describe a new scene (as opposed to further detailing a prior scene), and therefore pose a different challenge for reference resolution since new actors are perhaps more likely to be introduced and existing actors are more likely to shift roles in less predictable ways.

At the same time, however, SR is nonetheless grammaticalized in the sense that it is obligatory in these particular constructions and cannot simply be added anywhere a coordinating coherence relation can be inferred. For example, [AnderBois and Altshuler \(2022\)](#) show that a sequence of finite matrix clauses, (68), can be interpreted with a range of coordinating or subordinating coherence relations. The context in (68) naturally leads to an interpretation with a coordinating relation of NARRATION, and yet the SR is not possible here without more radically altering the structure to use one of the constructions described above.

68. **Context:** Talking about a trip to Quito by way of Lago Agrio
Ja tsû lago agrioningae. Indi tsû busma.

Ja tsû lago agrio=ningae. Indi tsû busma.

go 3 lago agrio=ALL grab 3 bus=ACC

'I went to Lago Agrio. (and then,) I caught a bus (to Quito).'

[AnderBois and Altshuler \(2022\)](#)

Conversely, we have seen already that the use of the three constructions above obliges the use of SR, even in examples where reference is entirely clear due to context, overt subjects, or overt subject agreement markers. Echoing [Haiman and Munro \(1983\)](#), then, we must therefore conclude that SR in A'ingae is grammaticalized beyond the call of functional duty. However, the argument here is that the more narrowly defined functional duty of resolving ambiguity specifically in cases where coordinating coherence relations are

encoded explains why SR is limited to clause chaining, adverbial clauses, and bridging, as these constructions require a coherence relation of this sort.

Note also that, in light of the tight relationship between SR marking in A'ingae and this class of coherence relations, we can also flip the generalization on its head and say that the presence of SR in A'ingae itself serves to signal the presence of a coordinating coherence relation. That is to say, SR in A'ingae simultaneously serves to encode a constraint on coherence and one on pronominal reference. Such a combination is, in a sense, quite expected from the perspective of coherence theories of the sort assumed here, which emphasize the interdependent nature of reference resolution and coherence resolution in the interpretation of natural speech (see [Hobbs 1979](#); [Kehler et al. 2008](#); [Stojnić 2016](#)).

Thus far, we have proposed that while a syntactic generalization for SR in A'ingae is not promising, a generalization based on coherence relations appears far more promising. We can refine this generalization by considering a place where SR notably does not occur: coordinations with overt discourse connectives, such as *tuya'kaen* 'and', *tsumbi'ta* 'or', and *tsa'ma* 'but'. We focus here on *tuya'kaen*, as in (69):

69. *Simbaje'fa tuya'kaen tsui'je'fa tsampinga tuya'kaen isian'jen'fa isian'chuve...*

Simba-je'-fa tuya'kaen tsui'-je'-fa tsampi=nga tuya'kaen isian'-jen'-fa
 fish-IPFV-PLS and walk-IPFV-PLS forest=DAT and take.photo-IPFV-PLS
isian'-chu=ve...
 take.photo-NMLZ=ACC2
 'They fish and they hike in the forest and they take photos...'

While we leave it to future work to provide detailed studies of these elements, they seemingly involve coordinating coherence relations in the sense that they involve 'changing the scene'. They therefore appear to be counterexamples to the stronger bidirectional claim that SR in A'ingae occurs in all and only the constructions encoding coordinating coherence relations: PARALLEL for *tuya'kaen*, ALTERNATION for *tsumbi'ta*, and CONTRAST for *tsa'ma*. However, while these are also coordinating coherence relations, they are what [Asher and Lascarides \(2003\)](#) call 'structuring' coherence relations. Although they change the scene, as in other coordinating relations, they do so in a different way that is determined in part *structurally* (albeit indirectly, cf. [Kehler \(2002\)](#)). That is to say, they make reference not merely to the events described but also to the particular structure in which they are presented. Crucially, [Asher and Lascarides \(2003\)](#) note that explicitly marked structuring coherence relations interact with anaphoric potential in ways that are fundamentally different (e.g., they do not always obey the Right Frontier Constraint; see [Asher and Vieu \(2005\)](#) and [Hunter and Thompson \(2022\)](#)). We may, therefore, refine our coherence generalization, as in (70).

70. **Coherence generalization (final):** Switch reference in A'ingae occurs only in constructions whose semantics require a non-structuring coordinating discourse coherence relation.

To summarize, we have argued in this section that the diverse syntactic behavior of the three SR constructions in A'ingae argues against a syntactic generalization of where SR does and does not occur. While we leave detailed syntactic analyses to future work, we have seen that, to the extent that there are syntactic properties that might unite the three constructions, they are general enough properties that they are also found in many constructions where SR does not occur. Conversely, we have argued that a semantic/pragmatic generalization in terms of coherence theory, as in (70), holds much more promise.

7. Conclusions

In this paper, we have presented the first comprehensive, detailed description of switch reference in A'ingae. We have identified three distinct constructions where the two

switch reference morphemes occur: clause chaining, Section 3; temporal/causal adverbial clauses, Section 4; and bridging linkage, Section 5. Informed by both typological and formal research, we have explored the syntactic, semantic, and pragmatic properties of each construction. We have argued that there is no syntactic property unifying the three to the exclusion of constructions where SR does not occur (contrary to suggestions by Fischer (2007)).

While a syntactic generalization is not possible, a semantic/pragmatic generalization, however, appears more promising. For each of the three SR constructions identified here, there are notable restrictions on the kinds of coherence relations that are possible between the events described by the clauses connected by SR markers. In particular, we have claimed that switch reference in A'ingae occurs only in constructions whose semantics require a non-structuring coordinating discourse coherence relation.

In this paper, we have focused on SR in A'ingae. We may also wonder, however, about the extent to which the coherence generalization we have proposed might apply cross-linguistically. We think this is a fruitful avenue for future research, but offer a few speculations here. First, the three constructions where SR is found in A'ingae are the most common places to find SR cross-linguistically (e.g., the survey of SR in North American languages in McKenzie (2015)). Conversely, many of clearest cases of subordinating coherence relations, such as ELABORATION, do not seem to allow for SR in any language so far as we are aware. At the same time, however, there are some cases of SR with apparent complement clauses as well (cf. detailed case studies by Hanink and Bochnak (2017) for Washo, Clem (2022) for Amahuaca), and so a more detailed investigation of these cases is of particular importance.

Turning to structuring coordinating coherence relations, there is some initial evidence that the restriction in A'ingae may prove to be more generally applicable. First, the survey of (McKenzie 2015) of SR in North America argues that SR never occurs with disjunction. For conjunction, on the other hand, the picture is a bit more complicated. Some works (see references in Weisser (2016)) have proposed that SR is found with syndetic coordination; however, many of these works are focused primarily or exclusively on syntax and therefore do not speak directly to coherence-based properties of these constructions. At the same time, however, Weisser (2016) has argued that apparent cases of SR in coordinations either are not properly to be considered as switch reference or are instances of clause chaining, and therefore likely share similar coherence properties that we have identified here for A'ingae.

Overall, the cross-linguistic viability of the coherence-based generalization for SR remains a topic for future research. Even if the generalization in (70) does prove to be less than absolute, the existence of a language such as A'ingae in which this pattern does appear to be absolute is nonetheless suggestive.

Author Contributions: Conceptualization, S.A., D.A. and W.D.L.S.; investigation, S.A.; data curation, S.A. and W.S.; writing—original draft preparation, S.A. and D.A.; writing—review and editing, S.A., D.A. and W.D.L.S.; funding acquisition, S.A. and W.D.L.S. All authors have read and agreed to the published version of the manuscript.

Funding: We gratefully acknowledge the support of the NSF DEL/DLI #BCS-1911348/1911428 “Collaborative Research: Perspective Taking and Reported Speech in an Evidentially Rich Language” to Scott AnderBois and Wilson Silva.

Institutional Review Board Statement: The study was conducted in accordance with the Declaration of Helsinki, and approved by the Institutional Review Board of Brown University exempt protocol #1704001768, Approved 25 September 2019.

Informed Consent Statement: Informed consent was obtained from all participants involved in the study.

Data Availability Statement: Naturalistic data is available as described in the body text at ELAR (<https://elar.soas.ac.uk/Collection/MPI1079687>, accessed on 1 October 2022) or CLA (<https://cla.berkeley.edu>, accessed on 1 October 2022). Most examples are additionally available on the website

of the A'ingae Language Documentation Project (ALDP) (<https://cofan-aldp.github.io/LingView/#/index>, accessed on 1 October 2022).

Acknowledgments: Our heartfelt thanks above all to our community collaborators in A'ingae language documentation and a special thanks to Shen Aguinda and Jorge Mendua for their careful and patient work in elicitations. Thanks also to Maks Dabkowski, Guillaume Thomas, Robert Truswell, and Gaby Vargas Melgarejo for helpful feedback and to Catherine Nelli for help with corpus examples. Finally, thanks to four anonymous SALT reviewers and audiences at UCSD, SAL 4 at UC Berkeley and SALT 32 in Mexico City for helpful questions about aspects of the work here.

Conflicts of Interest: The authors declare no conflict of interest.

Abbreviations

The following abbreviations are used in this manuscript in addition to standard Leipzig ones:

ADD	Additive focus
ANA	Anaphoric determiner
ANA.LOC	Anaphoric locative
AND	Andative motion
APPR	Apprehensive marker
ASSC	Associative marker
ATTR	Attributive marker
AUG	Augmentative
CMP	Comparative marker
CT	Contrastive topics
DS	Different subject
FRUST	Frustrative
HAB	Habitual marker
HON	Honorific marker
INSTR	Instrumental case
ITER	Iterative
MANN	'Manner' case
ONOM	Onomatopoeia
PEJ	Pejorative
PLS	Plural subject
PRCM	Precumulative aspect
PRSP	Prospective form
REP	Reportative
SBRD	Nominalizing subordinator
SEMEL	Semelfactive aspect
SH:ANG	Angular Shape clitic
SH:DLM	Delimited Shape clitic
SH:LAT	Lateral Shape clitic
SH:RND	Round Shape clitic
SS	Same Subject
VERID	Veridical mood

Notes

- ¹ These examples are typically either negative judgments corroborating the absence of certain kinds of examples in the corpus or else simplified examples analogous to naturalistic ones both for expository clarity and to minimize the potential for analytical compounds that complex naturalistic examples often present.
- ² In addition to the veridical or assertive suffix *-'ya* VERID, Dabkowski (2019)'s TAXIS column also includes subordinators such as *-sa'ne* in (4) under the label HYP for 'hypotactic', and various imperative and related suffixes under the label DCV for 'directive'
- ³ Ultimately, it seems that these clitics are not optional so much as they are triggered or licensed by particular information-structural configurations of an unclear nature. In simple non-interrogative examples out of context, they are often included by speakers, but may be freely dropped. Wh-questions seemingly differ though in that they are clearly obligatory, which we believe to be attributable to intrinsic information-structural properties of wh-questions.

- 4 One intuition for these examples is that in (8), the person is acting upon their skin in a way that they are more conceptually ‘detached’. The addressee’s participation as agent of the scratching event and their skin’s as object is somehow more coincidental than the relationship between the person and their stomach in (7). We leave it to future work to formalize this intuition and to see if it extends to other examples beyond the small number of naturalistic examples involving body parts that we have found.
- 5 One additional use of SR not easily categorized with these is its periphrastic aspectual use with *kanse*, as in (9). While *kanse* has uses as a lexical verb with meanings such as ‘live, stay’, here the combination of an SR clause with *-pa* SS plus *kanse* contributes a habitual aspectual meaning (lit. ‘she spoke Kichwa and stayed speaking it’). It appears that this use is possible with either clause chaining or adverbial SR clauses, but we set it aside here as it is specific to this habitual use of the morpheme *kanse*.
- 6 As a lexical verb, *atesû* means ‘know’ or ‘learn’. The periphrastic aspectual use here appears to be a calque or otherwise quite similar to what is found in Ecuadorean Andean Spanish and Kichwa (Enriquez Duque (2021)).
- 7 It is often difficult to tell whether a subject is part of the first clause in clause chaining or scopes outside of the whole chain. In (20), we can tell this since the direct object of the first clause, *kûi’khû* ‘banana drink’, is clearly not shared by the whole chain (specifically it is not argument of *maen* ‘send’) and so the following *ingi* must be part of the first clause.
- 8 As we will discuss below in Section 3.3, the NARRATION interpretation of clause chains typically ensures spatiotemporal contiguity and therefore further helps produce interpretations of implicit arguments as being related as well.
- 9 An entire narrative of irrealis events in sequence is, of course, possible, but crucially given the ‘operator dependence’ described in Section 3.2, is most naturally expressed with the irrealis marker on the finite verb of the final clause, and taking scope over the whole sequence, as illustrated in (21c). One further caveat to note is that the irrealis *-ya/-ña* and the veridical *-’ya/-’ña* are very difficult to distinguish at times. Phonologically, they differ in the presence of a glottal stop in the latter. However, in longer words, the glottal stop exhibits complex interactions with stress, such that it sometimes does not surface, surfaces gradually, and sometimes patterns more like a suprasegmental (cf. Dąbkowski (2022c) and references therein). Semantically, their respective meanings are quite unclear, especially for the veridical (e.g., they may co-occur).
- 10 A potentially related line of work in other analytical traditions relies on an intermediate notion of ‘cosubordination’, e.g., by Valin (2005). Indeed, the only prior work looking at the syntax of A’ingae clause chaining, Fischer (2007), appeals to such an approach, claiming that all SR clauses involve this intermediate syntactic relationship. However, as Toosarvandani (2016, sec. 1.4) discusses, the notion of ‘cosubordination’ in prior literature lacks consistent, coherent semantics (see also (Foley 2010, p. 40)). It is therefore quite unclear to us what the claims and predictions of a ‘cosubordination’ alternative would be. We therefore set it aside here.
- 11 One caveat here is that it remains unclear to us what evidence Nonato (2014) has that argues for different-sized clauses here, given the superficially quite parallel form of the clauses in the two cases. In light of literature such as Altshuler and Truswell (2022) arguing that coherence relations often play some role in extraction from coordinate structures, we might also wonder whether this factor is instead the important difference (e.g., (24a) intuitively seems like it more naturally supports a narrative progression interpretation than (24b)).
- 12 Note again here that we are using clause chains with at least three clauses to avoid potential ambiguity with adverbial SR clauses. In contrast, Broadwell (1997) and Toosarvandani (2016) consider cases with only two clauses. One question worth examining for Choctaw, then, is whether the same results hold for chains of three or more clauses or whether a similar sort of analytical confound to A’ingae is possible. We leave this to future work to assess.
- 13 Determining whether a given operator scopes over the entire chain is at times quite fraught since one must determine that a morpheme on the final clause indeed takes scope semantically over the medial clauses. We leave a complete list therefore to future work.
- 14 We leave it to future work to understand the semantic contribution of *tuya’kaen*. One possibility may be that *tuya’kaen* requires thematic resemblance between event descriptions (characterized by the coherence relation, PARALLEL; see, e.g., Asher and Lascarides 2003; Kehler 2002).
- 15 While more detailed work is needed, they also appear to contrast with serial verbs in A’ingae, which also seem preliminarily to allow for such causal connections.
- 16 (36b) appears to be an exception to this tendency. However, since the example has a prospective aspect, this exception may be only apparent. The fact that the addressee is currently in the pre-state of leaving is itself causally prior to the event described in the matrix clause. In contrast, a pure future clause such as ‘because I will get in a car accident tomorrow’ might be expected to be infelicitous, given that unforeseen future events have no current relevance. Thanks to an anonymous review for discussion of this example.
- 17 We leave it to future work to examine pied-piping in clause chaining in detail. We can note, though, that we have not found naturalistic pied-piping examples with clause chaining. Perhaps more tellingly, whereas such examples were routinely offered by consultants as corrections for ungrammatical extraction cases, this did not happen for clause chaining. We therefore tentatively conclude that such pied-piping is not possible with clause chaining.
- 18 Note that, given the restrictive nature of the bridging configuration, we cannot explore some of the same data we have seen for the other two uses of switch reference, most notably wh-extraction patterns.
- 19 Aiton (2019) claims for Eibela (AIL, Papua New Guinea) that summary bridging tends to target ‘paragraphs’, while recapitulative bridging targets ‘episodes’. We observe a similar tendency in A’ingae.

- 20 One further restriction implicit in prior descriptions is that the **C** event must follow the **R** event fairly closely. That is to say what the event **C** describes cannot simply occur at just any time following **R**, but rather at a time following it relatively closely. As noted by [AnderBois and Altshuler \(2022\)](#), this requirement is reminiscent of [Partee \(1984\)](#)'s time 'just after' in narrative discourse (see [Dowty \(1986\)](#) for more discussion).
- 21 We leave detailed investigation of the properties of other kinds of clausal adjuncts to future work. We note that one kind that has been discussed under the rubric of SR in prior descriptive work on A'ingae are purpose clauses. In particular, whereas same-subject purposes clauses make use of infinitives introduced by *-ye* INF, different-subject ones are introduced by *kũintsũ* (*kaentsũ*). As discussed in the introduction, however, following [van Gijn \(2016b\)](#)'s definition, we do not regard this as a case of SR since there is not a paradigm of SR morphemes in this case, and there seemingly is more structure present in the DS case. The situation is strikingly reminiscent of the uses of English bare infinitives (typically for SS cases) and infinitives with *for* (typically for DS cases).
- 22 While transformational analyses exist for (59) (see Right Node Raising in [Ross \(1967\)](#)), they do not (to our knowledge) exist for (58).
- 23 Though, see [Thomas and Duarte \(2022\)](#) for an account of non-canonical SR using SDRT.
- 24 Instead, one would have to use a definite description such as *the salmon* to refer back to the salmon introduced earlier in the discourse. For a recent discussion of the differences between co-reference with third person pronouns and reference by description, see [Schlöder and Altshuler \(2023\)](#).
- 25 For a preliminary analysis of bridging in terms of coherence, see [AnderBois and Altshuler \(2022\)](#).

References

- Aiton, Grant. 2019. The form and function of bridging constructions in eibela discourse. In *Bridging Constructions*. Edited by Valérie Guérin. Berlin: Language Science Press, pp. 157–84. [[CrossRef](#)]
- Altshuler, Daniel, and Károly Varasdi. 2015. An argument for definitional adequacy of RESULT and NARRATION. In *Proceedings of SALT 25*. Edited by S. D'Antonio, C.-R. Little, M. Moroney and M. Wiegand. Ithaca: CLC Publications, pp. 38–56.
- Altshuler, Daniel, and Robert Truswell. 2022. *Coordination and the Syntax-Discourse Interface*. Oxford: Oxford University Press.
- AnderBois, Scott, and Daniel Altshuler. 2022. Coordination, coherence and A'ingae clause linkage. In *Proceedings of SALT 32*. Washington, DC: Linguistic Society of America, pp. 793–813. <https://doi.org/doi.org/10.3765/salt.v1i0.5331>.
- Asher, Nicholas. 1993. *Reference to Abstract Objects in Discourse*. Dordrecht: Springer.
- Asher, Nicholas, and Alexis Lascarides. 2003. *Logics of Conversation*. Cambridge: Cambridge University Press.
- Asher, Nicholas, and Laure Vieu. 2005. Subordinating and coordinating discourse relations. *Lingua* 115: 591–610. [[CrossRef](#)]
- Bárány, András, and Irina Nikolaeva. 2019. Possessors in switch-reference. *Glossa* 4: 1–36. [[CrossRef](#)]
- Blaser, Magdalena, and María Enma Chica Umenda. 2008. *A'indeccu Canque'sune Condase'cho—Mitos del Pueblo Cofán*. Sucumbíos: Centro Cultural de Investigaciones Indígenas Padre Ramón López.
- Borman, Marlytte Bub. 1977. Cofan paragraph structure and function. In *Discourse Grammar: Studies in Indigenous Languages of Colombia, Panama, and Ecuador*. Edited by Robert Longacre and Frances Woods. Dallas: Summer Institute of Linguistics, vol. 3, pp. 289–338.
- Broadwell, George Aaron. 1997. Binding theory and switch-reference. In *Atomism and Binding*. Edited by Hans Bennis, Pierre Pica and John Rooryck. Dordrecht: Foris Publications, pp. 31–49.
- Cheng, Patricia W., and Laura R. Novick. 1991. Causes vs. enabling conditions. *Cognition* 40: 83–120. [[PubMed](#)]
- Clem, Emily. 2018. Against non-reference-tracking theories of switch-reference. In *Proceedings of the Linguistic Society of America*. Washington, DC: Linguistic Society of America, vol. 3, pp. 1–9.
- Clem, Emily. 2022. Attitude reports without complementation: The case of amahuaca. In *Proceedings of SALT32*. Washington, DC: Linguistic Society of America.
- Dąbkowski, Maksymilian. 2019. The morphophonology of A'ingae Verbal Stress. Bachelor's thesis, Brown University, Providence, RI, USA.
- Dąbkowski, Maksymilian. 2022a. A'ingae Pied-Piping: A Q-Based Analysis. Unpublished handout from Presentation at Symposium on Amazonian Languages (SAL) 4.
- Dąbkowski, Maksymilian. 2022b. A'ingae second-position clitics are matrix c-heads. Paper presented at the 25th Workshop on Structure and Constituency in the Languages of the Americas, Online, May 28–30; Vancouver: University of British Columbia Working Papers in Linguistics.
- Dąbkowski, Maksymilian. 2022c. Two grammars of A'ingae glottalization: A case for cophologies by phase. In *Natural Language & Linguistic Theory*. Berlin: Springer.
- Dąbkowski, Maksymilian, and Scott AnderBois. 2020. The apprehensional domain in A'ingae (Cofán). In *Untitled Volume on Apprehensional Markers*. Edited by M. Vuillemet, M. Faller and E. Schultze-Berndt. Studies in Diversity Linguistics. Berlin: Language Science Press.
- Dąbkowski, Maksymilian, and Scott AnderBois. 2022. Rationale and precautioning clauses: Insights from A'ingae. *Journal of Semantics*. Unpublished manuscript.
- Dooley, Robert. 2010. *Exploring Clause Chaining*. SIL Electronic Working Papers. Dallas: Summer Institute of Linguistics, pp. 1–20.

- Dowty, David. 1986. The effects of aspectual class on the temporal structure of discourse: Semantics or pragmatics? *Linguistics and Philosophy* 9: 37–62. Available online: <https://rdcu.be/cURzX> (accessed on 1 October 2022).
- Enriquez Duque, Paola. 2021. *El 'Saber Habitual' una Gramaticalización Inducida por Factores Internos y Externos en el Español Andino Ecuatoriano*. Spanish in Context. Amsterdam: John Benjamins. . [CrossRef]
- Finer, Daniel. 1985. The syntax of switch-reference. *Linguistic Inquiry* 16: 35–55.
- Fischer, Rafael. 2007. Clause linkage in Cofán (A'ingae). In *Language Endangerment and Endangered Languages*. Edited by L. Wetzels. Leiden: CNWS, pp. 381–99.
- Fischer, Rafael, and Kees Hengeveld. 2023. A'ingae (Cofán). In *Amazonian Languages: Language Isolates I: Aikanā to Kandozi-Shapra*. Edited by P. Epps and L. Michael. Berlin: De Gruyter Mouton, vol. 1, pp. 65–124. [CrossRef]
- Foley, William. 2010. Clause linkage and nexus in papuan languages. In *Clause Linking and Clause Hierarchy*. Amsterdam: John Benjamins, pp. 27–50.
- Guérin, Valérie, and Grant Aiton. 2019. Bridging constructions in typological perspective. In *Bridging Constructions*. Edited by V. Guérin. Berlin: Language Science Press, pp. 1–44.
- Haiman, John, and Pamela Munro. 1983. Introduction. In *Switch-Reference and Universal Grammar*. Amsterdam: John Benjamins, pp. ix–xv.
- Hanink, Emily, and Ryan Bochnak. 2017. Factivity and two types of embedded clauses in Washo. In *Proceedings of NELS 47*. Amherst: GLSA UMass, vol. 2, pp. 65–78.
- Hobbs, Jerry. 1979. Coherence and Coreference. *Cognitive Science* 3: 67–90. [CrossRef]
- Hunter, Julie, and Kate Thompson. 2022. On the role of relations and structure in discourse interpretation. In *Linguistics Meets Philosophy*. Edited by D. Altshuler. Cambridge: Cambridge University Press.
- Johannessen, Janne Bondi. 1998. *Coordination*. Oxford: Oxford University Press.
- Kehler, Andrew. 2002. *Coherence, Reference, and the Theory of Grammar*. Palo Alto: CSLI.
- Kehler, Andrew, Laura Kertz, Hannah Rohde, and Jeffrey L. Elman. 2008. Coherence and Coreference Revisited. *Journal of Semantics* 25: 1–44. [CrossRef] [PubMed]
- Keine, Stefan. 2013. Deconstructing switch-reference. *Natural Language & Linguistic Theory* 31: 767–826.
- Lima, Suzi, and Guillaume Thomas. 2017. Switch reference in Yudja and update logic with centering. Paper presented at 22nd Workshop on Structure and Constituency in Languages of the Americas (WSCLA 2017), Vancouver, BC, Canada, April 21–23; pp. 1–15.
- Longacre, Robert. 2007. Sentences as combinations of clauses. In *Language Typology and Syntactic Description*. Edited by T. Shopen. Cambridge: Cambridge University Press, vol. 2, pp. 372–420.
- McKenzie, Andrew. 2012. *The Role of Contextual Restriction in Reference Tracking*. Ph.D. thesis, University of Massachusetts, Amherst, MA, USA.
- McKenzie, Andrew. 2015. A survey of switch-reference in North America. *International Journal of American Linguistics* 81: 409–48. [CrossRef]
- Morvillo, Sabrina, and Scott AnderBois. 2022. The Inner Workings of Contrast: Decomposing A'ingae tsa'ma. In *Proceedings of Semantics of Understudied Languages of the Americas 11*. Edited by Seung Suk Lee and Yixiao Song. Amherst: GLSA UMass.
- Munn, Alan. 1993. *Topics in the Syntax and Semantics of Coordinate Structures*. Ph.D. thesis, University of Maryland, College Park, MD, USA.
- Nonato, Rafael. 2014. *Clause Chaining, Switch Reference, and Coordination*. Ph.D. thesis, Massachusetts Institute of Technology, Cambridge, MA, USA.
- Partee, Barbara Hall. 1984. Nominal and temporal anaphora. *Linguistics and Philosophy* 7: 243–86. [CrossRef]
- Pride, Kalinda, Nicholas Tomlin, and Scott AnderBois. 2020. LingView: A web interface for viewing FLEx and ELAN files. *Language Documentation & Conservation* 14: 87–107.
- Repetti-Ludlow, Chiara, Haoru Zhang, Hugo Lucitante, Scott AnderBois, and Chelsea Sanker. 2019. A'ingae (Cofán). *Journal of the International Phonetic Association* 50: 431–44. [CrossRef]
- Ross, John Robert. 1967. *Constraints on Variables in Syntax*. Ph.D. thesis, Massachusetts Institute of Technology, Cambridge, MA, USA.
- Sanker, Chelsea, and Scott AnderBois. 2021. *Reconstruction of Nasality and Other Aspects of A'ingae Phonology*. To appear in *Cadernos de etnolingüística*. Available online: https://research.clps.brown.edu/anderbois/PDFs/SankerAnderBois_submitted.pdf (accessed on 1 October 2022).
- Schlöder, Julian J., and Daniel Altshuler. 2023. Super pragmatics of (linguistic-)pictorial discourse. *Linguistics and Philosophy*. [CrossRef]
- Stirling, Lesley. 1993. *Switch-Reference and Discourse Representation*. Cambridge: Cambridge University Press.
- Stojnić, Una. 2016. *Context-Sensitivity in a Coherent Discourse*. Ph.D. dissertation, Rutgers University, New Brunswick, NJ, USA.
- Thomas, Guillaume, and Germino Duarte. 2022. Switch-reference, Discourse Coherence and Centering. Paper presented at 40th West Coast Conference on Formal Linguistics, Stanford, CA, USA, May 13–15.
- Toosarvandani, Maziar. 2016. The temporal interpretation of clause chaining in Northern Paiute. *Language* 92: 850–89. [CrossRef]
- Valin, Robert Van. 2005. *Exploring the Syntax-Semantics Interface*. Cambridge: Cambridge University Press.
- van Gijn, Rik. 2016a. Switch reference: An overview. In *Switch Reference 2.0*. Edited by R. van Gijn and J. Hammond. Amsterdam: John Benjamins, pp. 1–54.

- van Gijn, Rik. 2016b. Switch reference in western south america. In *Switch Reference 2.0*. Edited by R. van Gijn and J. Hammond. Amsterdam: John Benjamins, pp. 153–206.
- van Koppen, Marjo. 2005. *One Probe—Two Goals: Aspects of Agreement in Dutch Dialects*. Ph.D. thesis, Universiteit Leiden, Leiden, The Netherlands.
- Weisser, Philipp. 2015. *Derived Coordination: A Minimalist Perspective on Clause Chains, Converbs and Asymmetric Coordination*. Boston: de Gruyter. [[CrossRef](#)]
- Weisser, Philipp. 2016. Is there switch-reference marking in coordinated clauses? In *Switch Reference 2.0*. Amsterdam: John Benjamins, pp. 93–114.

Disclaimer/Publisher's Note: The statements, opinions and data contained in all publications are solely those of the individual author(s) and contributor(s) and not of MDPI and/or the editor(s). MDPI and/or the editor(s) disclaim responsibility for any injury to people or property resulting from any ideas, methods, instructions or products referred to in the content.