Switch reference as a connectivity effect in Wá·šiw predicate ellipsis

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1 Introduction

Wá·šiw (Washo(e); isolate/Hokan, USA) displays a typologically unusual type of predicate ellipsis – the so-called sentence connective – whose remnant is comprised solely of inflectional suffixes appearing without their usual verbal host. Crucially, this remnant requires the expression of switch reference marking, which in Wá·šiw has been argued to be the result of agreement, in particular with the clausemate subject (Arregi & Hanink 2022b). In the sentence connective, this clausemate subject is included in the ellipsis site, yet switch reference is still active. Given that an agreement relation with this subject is required for switch reference, we take this as evidence for the presence of syntactic structure in the ellipsis site, in line with similar types of connectivity effects reported in other types of ellipsis (see Merchant 2019 for an overview). A detailed analysis of the sentence connective thus reveals switch reference as a novel diagnostic for syntactic structure in ellipsis sites.

The outline of the paper is as follows. Section 2 describes the sentence connective in detail, establishing this construction as a type of predicate ellipsis. Section 3 supports this claim with arguments from the presence of an active switch reference contrast in the sentence connective, which requires access to elided material. Section 4 lays out a concrete analysis. Section 5 addresses consequences of the analysis, both for language-internal considerations and more broadly, and Section 6 concludes.

2 The sentence connective as an anaphor

The first account of the sentence connective is by Jacobsen (1964), who describes it in terms of a stem he refers to as a *Sentence Connective Theme*: "The Sentence Connective Theme *ʔ-* often occurs at the beginning of sentences, where it has anaphoric reference to the preceding sentence. It takes certain suffixes establishing syntactic linkages with this sentence" (Jacobsen 1964:397).[1] To illustrate, consider first the following example, which does not contain a sentence connective:[2]

(1) [dawsk'íʔim dawyác'im hú:bi-ha-**yi-š-ge**] wá:diŋ l-í:gi-yi
[wind smoke 3.arrive.by.wind-CAUS-**IND-DS-NM.ACC**] now 1-see-IND
'I see now that the wind is bringing in the smoke.'

[1] While the sentence connective tends to occur at the beginning of sentences, this is not always the case, as can be seen in (2).

[2] Examples without a citation come from one of the author's fieldwork.

The bracketed material in this example is an embedded nominalized clause that is the complement of a perception verb.[3] The verb in this embedded clause contains three inflectional suffixes: the independent mood suffix *-i* (surfacing as *-yi* because of regular hiatus-breaking epenthesis; see Jacobsen 1964:260-265, Staroverov 2016, Bochnak et al. 2023:1204), the different-subject switch reference suffix *-š* (on switch reference in Wá·šiw, see the next section), and the accusative nominalizer *-ge*. Interestingly, (1) can also be expressed in terms of two separate clauses with the help of a sentence connective:

(2) [dawsk'íʔim dawyác'im hú:bi-ha-yi]
[wind smoke 3.arrive.by.wind-CAUS-IND]
[wá:diŋ **ʔi-š-ge** l-í:gi-yi]
[now **IND-DS-NM.ACC** 1-see-IND]
'I see now that the wind is bringing in the smoke.'

Although the identical translation of the two examples conveys the fact that they express the same content, (2) really involves the juxtaposition of two separate matrix sentences (as represented by the brackets): The two verbs end in the independent mood suffix *-i*, a property exclusive to matrix sentences in Wá·šiw.[4] The first sentence in (2) corresponds to the embedded clause in (1), and the second sentence in (2) contains a word *ʔi-š-ge* that consists solely of the verbal inflectional suffixes of the embedded clause in (1), and which provides an anaphoric link to the first sentence in (2) (on the initial glottal stop in *ʔi-š-ge*, see below). This word providing an anaphoric link is the sentence connective. A more literal translation of (2) would thus involve two separate sentences, the second of which would contain a pronoun referring to the content of the first sentence: *The wind is bringing in the smoke. I see **it** now.*

More specifically, Jacobsen analyzes sentence connectives such as *ʔi-š-ge* in (2) as containing a sentence connective theme whose exponent he takes to be the initial glottal stop, which is always present in sentence connective examples. We opt for a different analysis, rooted in work on the phonology of the language. As stated above, *ʔi-š-ge* consists solely of inflectional material. The initial glottal stop is epenthetic and due to a ban on vowel-initial words (Staroverov 2016). This applies to all examples of the sentence connective, as the initial stranded suffix is always vowel initial. Thus, there is no need to posit a special sentence connective morpheme. We instead analyze sentence connectives as specifically involving *elliptical* anaphora in an embedded clause. According to this account, *ʔi-š-ge* in the second sentence in (2) is a full embedded clause with ellipsis of everything in the clause but the stranded inflectional suffixes. The second sentence in (2) can thus be represented as follows (we represent ellipsis with a light-colored font):

(3) wá:diŋ [dawsk'íʔim dawyác'im hú:bi-ha -ʔi-š-ge] l-í:gi-yi
now [wind smoke 3.arrive.by.wind-CAUS -IND-DS-NM.ACC] 1-see-IND

As represented in (3), the elided material is a copy of the first sentence in (2) up to the inflectional verbal suffix, which accounts for the anaphoric link. Evidence that the sentence connective involves ellipsis is presented in the next section.

[3] Clausal nominalizations of the type seen in (1) occur in a number of contexts, including as complements of factive and perception verbs and (internally-headed) relative clauses. See Jacobsen 1998, Peachey 2006, Hanink 2016, Hanink 2021, and Bochnak & Hanink 2022.

[4] This suffix can also appear in some types of embedded clauses, in which case it's always followed by other suffixes, as in the nominalization in (1).

The following example further illustrates the use of the sentence connective in a nominalized clause, in this case involving interspeaker anaphora:[5]

(4) a. Speaker 1:
ʔló:t t'é:liwhu l-í:gi-ayʔ-i-gi
yesterday man 1-see-REC.PAST-IND-NM.NOM
'I saw a man yesterday.'

b. Speaker 2:
ʔi-š-ge lé:-saʔ l-í:gi-ʔay-i-gi
IND-DS-NM.ACC 1.PRO-also 1-see-REC.PAST-IND-NM.NOM
'I also saw him.'

In Speaker 2's utterance, the sentence connective *ʔi-š-ge* is the remnant of ellipsis in a clausal nominalization interpreted as an internally-headed relative clause:

(5) [ʔló:t t'é:liwhu m-í:gi-ayʔ -i-š-ge]
[yesterday man 2-see-REC.PAST -IND-DS-NM.ACC]
lé:-saʔ l-í:gi-ʔay-i-gi
1.PRO-also 1-see-REC.PAST-IND-NM.NOM

In this case, the antecedent for the elided material in Speaker 2's utterance is found in Speaker 1's utterance.[6] Since ellipsis in this case occurs within an internally headed relative clause referring to the man seen by Speaker 1, *ʔi-š-ge* in this case is best translatable as *him*, as reflected in (4b).

Other examples of the sentence connective based on the independent mood marker include the following:

(6) [c'ɬk'i t'íyeliʔ húlb-emiʔ-k'eŋ-aʔ]
[spider big 3.long.object-out-REST-DEP]
[**i-š-gi** t'i-lé:we p'íšiyuk-giš-gipɬs-gadag-a-š]
[**IND-DS-NM.NOM** 3OBJ-toward 3.hop-PROG-GIPɬS-start.out-DEP-DS]
'He knocked out a big spider with a stick, which started to make little hops towards him.'[7]
Jacobsen 1998:109

(7) a. Speaker 1:
Adele ʔíšɬm-gaʔlám-i
Adele 3.sing-want-IND
'Adele wants to sing.'

b. Speaker 2:
ʔi-∅-ŋa t'-íšim-dugá:gu k'-éʔ-i
IND-SS-but NMLZ-sing-not.understand 3-be-IND
'But she doesn't know how to sing.'

[5]The use of nominative nominalized clauses as matrix clauses, as in both sentences in (4), is common in Wá·šiw.

[6]Note that we posit a mismatch in the subject agreement prefix: It's second person *m-* in the elided clause in (4b/5), but first person *l-* in its antecedent in (4a). This must be the case, given the shift in who the speaker is from (4a) to (4b). This sort of person mismatch in both agreement and pronouns under ellipsis is common, as in the sloppy reading of *Sue finished her homework, and I did, too* (see i.a. Fiengo & May 1994).

[7]The morpheme *gipɬs* is a motion-expressing suffix that is likely derived from the bipartite final stem *ips* 'stand up from the surface' (Jacobsen 1980:89).

(6) is another example of a sentence connective based on an internally-headed relative clause, in which the nominalizing suffix is nominative *-gi* (cf. accusative *-ge* in (4)). The antecedent for ellipsis is the previous clause, with the sentence connective referring to the spider that was knocked out. In (7b), the sentence connective ends in the coordinating particle *-ŋa* 'but' (see Bochnak 2025), and the antecedent is the previous utterance by the other speaker, so that (7b) means "Adele wants to sing, but she doesn't know how to sing". Another difference with respect to previous examples is that it contains the same-subject switch reference suffix *-∅* (cf. different subject *-š* in (6)).

All examples of sentence connectives discussed so far involve the independent mood suffix *-i*. Another mood suffix commonly found in embedded clauses is dependent *-aʔ* (*-a* before a consonant; see Jacobsen 1964:368). This suffix is used in adjunct clauses that can be translated as either temporal modifiers (8) or in terms of conjunction (9) (Bochnak et al. 2023:1209–1210,1217).[8]

(8) [mé:hu ʔélšim**-aʔ**-Ø] ʔémc'i-gaʔlam-é:s-i
[boy 3.sleep **-DEP**-SS] 3.wake.up-want-NEG-IND
'The boy doesn't want to wake up while he's sleeping.' Bochnak & Hanink 2022:984

(9) [dewdíʔiš ʔíʔmiʔ-é:s**-a**-š] dawp'ápił ʔíʔmiʔ-áŋaw-i
[tree 3.grow-NEG**-DEP**-DS] flower 3.grow-well-IND
'The flower is growing well, the tree is not growing well.'

The sentence connective is also possible with this mood suffix, both in its temporal and coordination-like uses, as in (10) and (11), respectively.

(10) [di-y-áwd-uwaʔ-i daláʔag-a] [**ʔaʔ-Ø** dawyác'im míʔleʔ-a l-í:gi-yi]
[1-go-over-hence-IND mountain-OBL] [**DEP-SS** smoke all-OBL 1-see-IND]
'When I drove over the mountain, I saw smoke all over.'

(11) [dewdíʔiš ʔíʔmiʔ-é:s-aʔ-Ø] [**ʔa-š** dawp'ápił ʔíʔmiʔ-áŋaw-i]
[tree 3.grow-NEG-DEP-SS] [**DEP-DS** flower 3.grow-well-IND]
'The tree is not growing well, the flower is growing well.'

Example (10) consists of two separate matrix sentences, as shown by the fact that the two verbs end in the independent mood suffix *-i*. The second sentence starts with the sentence connective *ʔaʔ*, which under our analysis is an embedded clause marked by the dependent suffix *-aʔ* (preceded by word-initial epenthetic [ʔ]) that's stranded by ellipsis. As in previous examples, the antecedent of ellipsis is the first sentence. Given the temporal interpretation of the example, a good approximation to a literal translation of this elliptical embedded clause would be something like *and at that moment*, or simply *and*: *I drove over the mountain, and (at that moment) I saw smoke all over*.

We analyze (11) in a similar way, but with an important difference. Note that it forms a minimal pair with (9): They convey the same content, but in a somewhat different way. In (9), that the tree is not growing well is expressed as an *-aʔ*-marked adjunct (enclosed in brackets). The verb in this embedded clause also contains the different-subject switch-reference suffix *-š*, indicating that the subject of the embedded clause *dewdíʔiš* 'tree' does not have the same referent as the subject of the matrix clause *dawp'ápił* 'flower'. On the other hand, while (11) starts the same way with an embedded *-aʔ*-marked adjunct clause, the immediately following switch-reference suffix is same-subject *-∅*, which is not appropriate given that the subjects of this clause and the following

[8]Clauses with *-aʔ* also occur embedded under non-presuppositional verbs (Bochnak & Hanink 2022).

sentence aren't coreferential. We follow Jacobsen 1998:109–110, who takes examples of this sort to constitute a false start, repaired by restarting the utterance with a sentence connective containing the right inflectional material, rather than a full repetition of the clause. In (11), the repair consists in restarting the utterance with the sentence connective *ʔa-š*, which contains the correct switch-reference suffix *-š*. According to Jacobsen, this is a very common use of the sentence connective.

In summary, sentence connectives in Wá·šiw involve stranded verbal inflectional affixes, and establish anaphoric links to preceding sentences. We hypothesize that this is the result of ellipsis in embedded clauses, and in the next section, we provide evidence for this analytical claim.

3 Connectivity and switch reference

In this section we expand on the claim that the Wá·šiw sentence connective is an instance of embedded predicate ellipsis. We argue that the presence of an active switch reference contrast in the sentence connective (i.e., the remnant of ellipsis) necessitates the presence of unpronounced syntactic structure. This evidence for unpronounced syntactic material both highlights the elliptical nature of the sentence connective while also instantiating a novel instance of agreement as a connectivity effect.

So-called connectivity effects in ellipsis refer to evidence of a dependency between the remnant of ellipsis and some element within the ellipsis site itself. Evidence for connectivity from agreement in particular is best known from predicate and nominal ellipsis (Saab 2009, Saab & Lipták 2015, Merchant 2013, 2014, 2019). An example of this type of connectivity effect is shown in (12), in which agreement on predicative *be* in the remnant of the second clause must agree in number with an elided subject that is identical to the subject of the antecedent.

(12) a. I didn't think there would be many linguists at the party, but there {were/*was}.
b. I didn't think there would be a linguist at the party, but there {*were/was}.
Merchant & van Craenenbroeck 2013:704

As summarized by Merchant (2019:31-32), if agreement can be controlled by some element internal to the ellipsis site, then this serves as evidence for unpronounced syntactic structure that makes the agreement relation possible. This is schematized in (13) for the examples in (12):

(13) *Agreement with an elided subject in English predicate ellipsis*
a. … but there were [linguists at the party.]
agreement
b. … but there was [a good linguist at the party.]
agreement

In a similar vein, we argue below that the presence of an active switch reference contrast in the sentence connective offers a novel connectivity diagnostic along these lines. This is because switch reference in this context also points to an agreement dependency between an element in the remnant (C) and an element within the ellipsis site (the embedded subject). We now turn to discuss switch reference in more detail.

Switch reference, a term coined by Jacobsen (1967), refers to morphology that tracks whether subjects across a clausal boundary have the same referent.[9] In Wá·šiw, the verb is marked with

[9]Switch reference is found across languages in the western United States (see overview in McKenzie 2015).

the suffix *-š* when they do not (*different subject*), while it is marked with *-∅* when they do (*same subject*). The following examples illustrate the basic contrast between different and same subject in complement clauses, which require the independent mood marker *-i* in addition to nominalization when the embedding verb is presuppositional (Bochnak & Hanink 2022). In (14), the different-subject suffix *-š* appears on the embedded verb 'bring' because the subject of the main clause refers to the speaker, while the subject of embedded clause refers to Adele: they are disjoint in reference. In (15) on the other hand, no different-subject suffix appears because the subjects of both clauses refer to the same person (Adele).

(14) *Different subject* -š
pro$_i$ [**Adele**$_j$ díme? sú:bi?-i**-š**-ge] di-hámup'ay?-é:s-i
pro$_i$ [**Adele**$_j$ water 3.bring-IND**-DS**-NM.ACC] 1-forget-NEG-IND
'I$_i$ remember that Adele$_j$ brought the water.'

(15) *Same subject -Ø*
Adele$_i$ [***pro***$_i$ dalá?ak ?í:gi-yi**-Ø**-ge] hámup'ay?-é:s-i
Adele$_i$ [***pro***$_i$ mountain 3.see-IND**-SS**-NM.ACC] 3.forget-NEG-IND
'Adele$_i$ remembers that she$_i$ saw the mountain.' Hanink & Bochnak 2018:67

(16–17) show the same contrast in adjunct clauses, which differ from the complement clauses above in that they require the dependent mood marker *-a?* and are not nominalized.

(16) *Different subject* -š
[**súku?**$_i$ le-gí:t'i?-a**-š**] ***pro***$_j$ de-gum-su?ú?uš-leg-i
[**dog**$_i$ 3/1-bite-DEP**-DS**] ***pro***$_j$ 1-REFL-dream-REC.PST-IND
'I$_j$ was dreaming while the dog$_i$ bit me.' Wá·šiw Archive

(17) *Same subject -Ø*
[**mé:hu**$_i$?élšim-a?**-Ø**] ***pro***$_i$?émc'i-ga?lám-é:s-i
[**boy**$_i$ 3.sleep-DEP**-SS**] ***pro***$_i$ 3.wake.up-want-NEG-IND
'The boy$_i$ is sleeping and he$_i$ doesn't want to wake up.'
(Lit.: 'While the boy's sleeping, he doesn't want to wake up.') Arregi & Hanink 2022b:685

Returning to the sentence connective, the next two sets of examples lay out the active contrast between different and same-subject marking in the context of ellipsis. First, (18)–(19) illustrate this with clausal nominalizations. In (18), the source of the sentence connective (in bold) is an internally-headed relative clause referring to the doe which she killed by biting mentioned in the bracketed embedded clause. In (19), the source of the sentence connective is also an internally-headed relative clause, in this case referring to the the mountain that looks good mentioned in the first first sentence.

(18) *Different subject*
[mudalá? ?l-át'ig-a?-∅] **?i-Ø-ge** ?í?w-a?
[doe 3.by.biting-be.killed-DEP-SS] **IND-SS-NM.ACC** 3.eat-DEP
'She ate the doe which she killed by biting.'
(Lit.: 'She killed a doe by biting and she ate it.') Jacobsen 1998:111

(19) *Same subject*
[daláʔak M-í:gi-ʔáŋaw-i] [**ʔi-š-ge** l-í:gi-gaʔlám-i]
[mountain 3.REFL-see-good-IND] [**IND-DS-NM.ACC** 1-see-want-IND]
'I want to see the mountains that look good.'
(Lit.: 'The mountain looks good; I want to see it.')

Below, (20)-(21) offer a similar contrast between different and same-subject marking within the sentence connective in adjunct clauses:

(20) *Different subject*
[di-nént'uš-i] [**ʔa-š** wí:di-w netúnt'ušu ʔwáʔ ʔéʔ-i]
[1-be.old.woman-IND] [**DEP-DS** this-PL old.ladies here 3.be-IND]
'I am an old lady, the old ladies are here.'

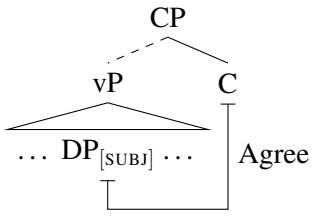
(21) *Same subject*
[di-y-áwd-uwaʔ-i dalá ʔag-a] [**ʔaʔ-Ø** dawyác'im míʔleʔ-a l-í:gi-yi]
[1-go-over-hence-IND mountain-OBL] [**DEP-SS** smoke all-OBL 1-see-IND]
'When I drove over the mountain, I saw smoke all over.' =(10)

Other examples illustrating the presence of both same-subject and different-subject switch reference in sentence connectives can be found in the preceding section.

The presence of switch reference contrasts in sentence connectives is evidence for ellipsis, since it relies on the establishment of an agreement dependency between the switch-reference morpheme and a subject that is contained in the material that is, by hypothesis, elided. While some analyses treat switch reference as the result of semantic or discursive factors (Dahlstrom 1982, Stirling 1993, McKenzie 2012), most accounts analyze this construction as a purely syntactic phenomenon (Finer 1984, 1985, Broadwell 1990, 1997, Watanabe 2000, Camacho 2010, Georgi 2012, Keine 2013, i.a.). Importantly for our purposes, recent syntax-based analyses have reached a consensus that switch reference is a type of agreement (McKenzie 2012, Baker & Camargo Souza 2020, Camargo Souza 2020, Arregi & Hanink 2022b, Clem 2022).

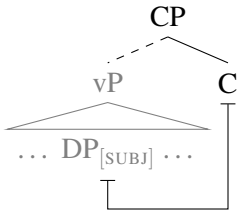
While the choice of implementation within this family of agreement-based approaches is not crucial for our purposes, what is important is that a common element in all analyses within this approach is that switch reference involves (in part) an agreement relation between the head hosting switch-reference morphology and its clausemate subject. In Wá·šiw, this head is C (Finer 1984, Peachey 2006, Arregi & Hanink 2022b), and so the relevant dependency for this language is schematized in (22):

(22) *Switch reference involves agreement between C and the subject in the embedded clause*



If this analysis is correct, it means that the presence of a switch-reference contrast in sentence connective examples such as (18)–(19) and (20)–(21) requires that there be a silent embedded subject in the ellipsis site that embedded C is able to agree with, as schematized in (23).

(23) *Agreement with an elided embedded subject in Wá·šiw predicate ellipsis*



In this section we have laid out the mechanism of switch reference and how its presence in the sentence connective offers evidence that this construction involves ellipsis, and have established that switch reference, as a reflex of Agree, can be used as a type of connectivity-based diagnostic tool for ellipsis. In the next section, we turn to the syntactic details of predicate ellipsis.

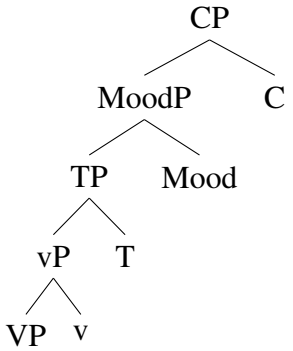
4 The sentence connective as predicate ellipsis

In light of the evidence for an elliptical analysis of the sentence connective based on switch reference, this section offers an explicit account of the construction. We first motivate an account of the data we've seen so far, which we argue involves an ellipsis-licensing E-feature (Merchant 2001) on a high Mood head (subsection 4.1), and then extend the analysis to other instances of the sentence connective that we argue are the result of ellipsis triggered by an E-feature in T, which is a lower head than Mood in the clausal spine in Wá·šiw (subsection 4.2).

4.1 Ellipsis of the complement of Mood

We assume, following Finer 1984, Peachey 2006, Hanink 2016, and Bochnak & Hanink 2022 that the clausal spine in Wá·šiw consists of at least the following functional projections:

(24) *Washo sentence structure*



T can host several tense suffixes, some of which are discussed below. As mentioned above, two common realizations of Mood are independent *-i*, used in matrix clauses as well as clausal nominalizations, and dependent *-aʔ* in embedded adjunct clauses. Finally, in embedded clauses, the C head is the locus of switch reference, as established in the preceding section.[10] In clausal nominalizations, which are used in a variety of environments (see fn. 3), CP is the complement of D, which

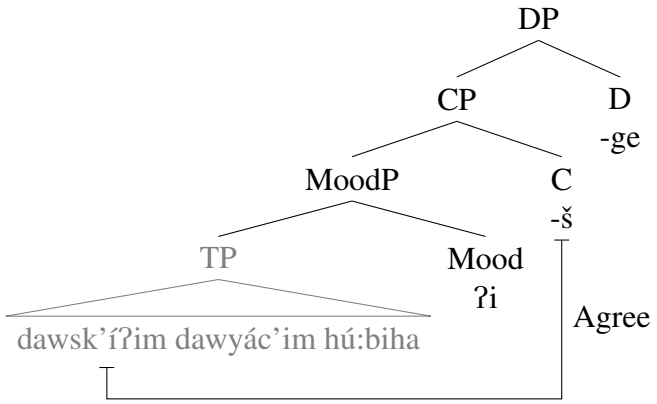
[10]Matrix clauses lack switch reference, but we remain agnostic as to whether they have a CP projection. Clauses embedded by non-presuppositional verbs also lack switch reference, which Bochnak & Hanink (2022) take as evidence that they don't have a CP layer.

is realized as either nominative *-gi* or accusative *-ge*. All these T, C, and D affixes are illustrated by several examples in the preceding sections.

Under the ellipsis analysis, sentence connectives are full embedded clauses, and thus have the structure shown above. In all examples given so far, the sentence connective starts with a Mood suffix (independent *-i* or dependent *-aʔ*), and can thus be analyzed in terms of ellipsis of TP, the complement of Mood. Consider (2), repeated here as (25a). The structure of the sentence connective *ʔi-š-ge* in the second clause is shown in (25b).

(25) a. [dawsk'íʔim dawyác'im hú:bi-ha-yi]
[wind smoke 3.arrive.by.wind-CAUS-IND]
[wá:diŋ **ʔi-š-ge** l-í:gi-yi]
[now **IND-DS-NM.ACC** 1-see-IND]
'I see now that the wind is bringing in the smoke.'

b.

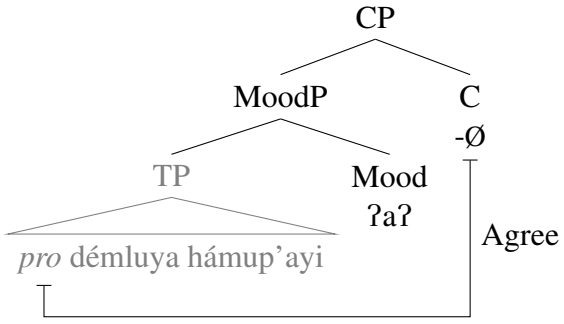


The antecedent of the elided TP is the TP in the preceding clause, as depicted in (25b). Also shown in (25b) is the Agree relation between C and the embedded subject *dawsk'íʔim* 'wind', which accounts for the appearance of the different-subject suffix *-š* in the sentence connective, indicating disjoint reference with respect to the matrix (pro-dropped) subject (see section 3).

A similar example but with dependent mood *-aʔ* is shown in (26):

(26) a. [démlu-ya hámup'ay-i] [**ʔaʔ-Ø** ʔémlu-yé:s-i]
[food-OBL 3.forget-IND] [**DEP-SS** 3.eat-NEG-IND]
'She forgot about the food and didn't eat.'

b.



As in the previous example, what's elided is the TP complement of Mood, whose antecedent is the TP in the preceding clause. C in this example also agrees with the embedded subject, resulting in this case in same-subject *-Ø*, indicating coreference with the matrix subject.

Following Merchant (2001), we take ellipsis of a constituent to be licensed by [E], a feature hosted by a head that triggers ellipsis (non-pronunciation) of its complement, as well as an anaphoric interpretation of this complement. Under the assumption that the examples above, as well as all examples of the sentence connective that start with a Mood suffix involve TP ellipsis, we conclude that both independent and dependent Mood heads in Wá·šiw can be specified for [E].

Given that Wá·šiw is an optional past tense language,[11] the question arises whether TP is part of what is elided in the sentence connective, in the sense that it is not clear whether TP is present to begin with. For instance, in (26), a past tense interpretation arises despite the lack of an overt tense morpheme. In such cases, is there a null T or no TP at all, and if the former, is the TP layer part of the elided material? This issue relates directly to the topic of the next subsection, which discusses examples of sentence connectives that include overt tense suffixes, and thus appear to involve ellipsis of a constituent smaller than TP. Taken together with the evidence in the present subsection, we find that we need two ellipsis sites, namely the complement of Mood and the complement of T.

4.2 Ellipsis of the complement of T

In addition to recent past *-ay?*, Wá·šiw has several other tense suffixes, some of which are illustrated in the following examples:

(27) *Past* -uŋil
háʔaš-**uŋil**-i
3.rain-**PST**-IND
'It rained.' Bochnak 2016:249

(28) *Sequential* -ud
háʔaš-**ud**-∅-i déʔeš-gáŋaʔ-i
3.rain-**SEQ**-SS-IND 3.snow-start-IND
'It was raining, and then it started to snow.' Bochnak 2016:257

(29) *Habitual* -enun
ʔát'abiʔ yúc'im-**enun**-i-∅-da
fish 3.catch.by.damming-**HAB**-IND-SS-there
'They used to catch fish by damming there.' Jacobsen 1964:622

We highlight these specific tense suffixes because they can also surface as part of sentence connectives, as shown below:

(30) *Past* -uŋil
[ga-bugayáʔ-yaʔ] [**ʔuŋil-i-š-gi** ga-damal-dugá:gu-yaʔ]
[3/3-talk-DEP] [**PST-IND-DS-NMLZ** 3/3-hear-not.understand-DEP]
'They$_i$ talked to them, but they$_j$ couldn't understand them$_i$.'
Donner Expedition Story as told by Hank Pete[12]

[11] In particular, although the language has several suffixes that express past tense, verbal forms lacking any of these suffixes are compatible with past time reference. See Bochnak 2016.

[12] This version of the story was recorded and translated by William Jacobsen in 1955.

(31) *Sequential* -ud

[ʔitbamušéʔeš-a di-wgayáy-še] [**ʔud-i-š** Melba di-mugá:gim-hi]
[book-OBL 1-talk-HORT.DU] [**SEQ-IND-DS** Melba 1/3-ask-OPT]
'Let's talk about the book, and then I'll ask Melba.'

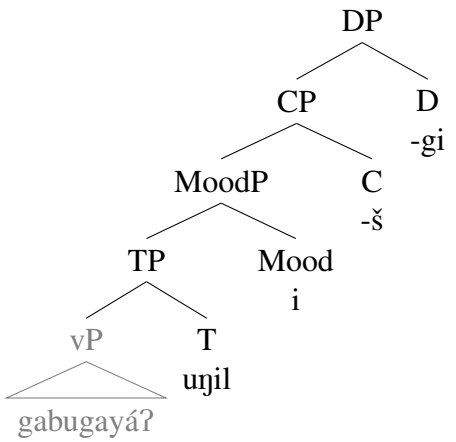
(32) *Habitual* -enun

[**ʔenun-i-∅-ge-duk** ʔéʔ-i-da], [ʔéʔ-a-š]
[**HAB-IND-SS-NMLZ-SIM** 3.be-IND-SS-ADV] [3.be-DEP-DS]
'They were where they usually were.' Jacobsen 1964:624

As above, these sentence connectives likewise show an active switch reference contrast, with e.g., different-subject marking in (30–31), and same-subject marking in (32).

While both the types of sentence connectives illustrated in this subsection and the preceding one involve ellipsis, the size of the elided material differs between them. Given that tense morphology appears in the remnant (i.e., the sentence connective), the examples in (30)–(32) differ from those presented in the previous subsection in that the elided material must be the complement of T, rather than Mood. This is schematized in (33) for (30).

(33)



Thus, unlike the examples in subsection 4.1, we take the [E] feature in the above examples to be located on T rather than Mood, such that the complement of T rather than the entire TP is elided.

5 Consequences of the analysis

In this section, we lay out some consequences and implications that follow from the above analysis, both specific to Wá·šiw and more generally.

5.1 The location of Agree probes

First, one language-specific consequence of this analysis is that it allows us to narrow in on the height of the probe(s) responsible for agreement in Wá·šiw. Verbs in this language have subject and object markers, expressed as prefixes. For instance, the verb in the first clause in (34) (repeated from (20)) has a first person subject prefix *di-*, and similarly, the verb in the first clause in (35) (repeated from (30)) is prefixed by *ga-*, indexing a third person subject and a third person object.

(34) [di-nént'uš-i] [**ʔa-š** wí:di-w netúnt'ušu ʔwáʔ ʔéʔ-i]
[1-be.old.woman-IND] [**DEP-DS** this-PL old.ladies here 3.be-IND]
'I am an old lady, the old ladies are here.'

(35) [ga-bugayáʔ-yaʔ] [**ʔuŋil-i-š-gi** ga-damal-dugá:gu-yaʔ]
[3/3-talk-DEP] [**PST-IND-DS-NMLZ** 3/3-hear-not.understand-DEP]
'They$_i$ talked to them, but they$_j$ couldn't understand them$_i$.'

Importantly, the sentence connectives in both examples take the first clause in each as their antecedent, yet they are missing these subject/object prefixes. This is evidence that the probe responsible for these prefixes is included in the ellipsis site, and must thus be lower than TP, since, as we established in the previous section, ellipsis at least in some cases (e.g. (35)) targets a constituent smaller than TP. This finding is consistent with previous proposals made by Douros (2019) and Arregi & Hanink (2022a). While these works were agnostic as to the precise position of the probe – noting only that it has to be higher than vP – the behavior of person markers in the sentence connective offers evidence that it must in addition be lower than TP.

Referring back to the basic clause structure for Wá·šiw laid out in (24), this means that the probe must be situated in some functional projection somewhere between vP and TP. Indeed, this tree is a simplification also in that it does not represent the possibility for other functional projections that must be present to host other tense/aspect-related suffixes we haven't illustrated here (belonging to the class of so-called prefinal suffixes in Jacobsen 1964:606–653), some of which do co-occur with the suffixes we discuss.

5.2 Stranded inflection

Beyond Wá·šiw in particular, the facts above have implications for our understanding of stranded inflection more generally. Stranded inflection has been a topic of study in ellipsis contexts (Bobaljik 1995, Lobeck 1995, Saab & Lipták 2015), with a particular emphasis on the behavior of affixes after ellipsis has deleted their usual host (relating to Lasnik's (1981) *Stranded Affix Filter*). For instance, the nominal plural suffix in Hungarian must generally attach to a noun, but is able to attach to a preceding modifier instead in case the noun is elided:

(36) Mi a János mellett-i szék-ek-en ültünk. Ők a Péter mellet-i-[__]-ek-en
we the János next-ADJ chair-PL-ON sat they a Péter next-ADJ-[__]-PL-ON
'We sat on the chairs next to János. They on the chairs next to Péter.'

Saab & Lipták 2015:68

Other repairs include deletion of the stranded inflection, as in Spanish nominal ellipsis (Saab & Lipták 2015), and insertion of a dummy host, as in *do*-support in VP ellipsis in English and other languages (Bobaljik 1995).

The sentence connective offers a type of stranding seemingly related to the Hungarian pattern in that stranded functional morphology is neither deleted nor supported by a dummy host. However, unlike the Hungarian case, it's not clear whether the stranded inflection in Wá·šiw attaches to a new host. Perhaps informative in this respect is an interesting property of the sentence connective: It is always stressless (Jacobsen 1964:397). This is unusual for Wá·šiw if the sentence connective is a word, since all words in Wá·šiw bear stress. This is therefore a potential indication that it is not an independent word at all. For instance, one reason for this stresslessness might be that

the remnant is able to lean on the next word (e.g. by Local Dislocation, as in the analysis of Hungarian stranded nominal inflection in Saab & Lipták 2015): The sentence connective is always in embedded clauses, and it always surfaces to the left of matrix material.

While the fact that the remnant in the sentence connective consists solely of functional material may seem unusual, we in fact find a parallel with analyses of personal pronouns that treat them as containing elided material, stranding nominal functional heads such as D (Elbourne 2001, 2005, 2013, Hewett 2023). As mentioned in Section 2, the sentence connective in Wá·šiw in many cases is translatable as a pronoun. This can be seen in (37) (repeated from (4)). In this case, the source of the sentence connective in (37b) is a relative clause referring to the man mentioned in (37a), and is thus translatable as *him*.

(37) a. Speaker 1:
ʔló:t t'é:liwhu l-í:gi-ayʔ-i-gi
yesterday man 1-see-REC.PAST-IND-NM.NOM
'I saw a man yesterday.'

b. Speaker 2:
ʔi-š-ge lé:-saʔ l-í:gi-ʔay-i-gi
IND-DS-NM.ACC 1.PRO-also 1-see-REC.PAST-IND-NM.NOM
'I also saw him.'

(38) offers a similar example in which the remnant can be translated as a subject pronoun (*it*).

(38) c'ɬk'ɨ t'íyeliʔ húlb-emiʔ-k'eŋ-aʔ-∅
spider big 3.with.long.object-out-REST-DEP-SS
ʔi-š-gi t'i-lé:we p'íšiyuk-giš-gipɬs-gadag-a-š
IND-DS-NM.NOM 3OBJ-toward 3.hop-PROG-GIPɬS-start.out-DEP-DS
'He knocked out a big spider with a stick, which started to make little hops towards him.'
≈'He knocked out a big spider with a stick, and it started to make little hops towards him.'
Jacobsen 1998:109

On the view that pronouns involve ellipsis, a parallel analysis of pronouns and the sentence connective becomes available. Recall that clausal nominalizations are encased within a DP layer (see (33)). This means that both pronouns and sentence connectives derived from nominalizations involve DPs in which part of the internal structure has been elided, leaving only functional material behind. The main difference between them is in what precisely is elided: a nominal projection in personal pronouns and a clausal functional projection in sentence connectives.

A related question that arises in the context of stranded inflection in the sentence connective has to do with head movement. Given the logic of the ellipsis analysis proposed here, it must be the case that, at least in cases of ellipsis, the stranded inflection is not attached to the verbal word by head movement of the verb. If the verbal word, which includes high-functional heads such as C, were formed by verbal head movement to C, we would expect ellipsis to result in V-stranding ellipsis (i.a. McCloskey 1991, Martins 1994, Ngonyani 1996, Goldberg 2005, Gribanova 2013), contrary to fact. We can understand the absence of head movement in sentence connective examples in one of two ways. First, it could be that the verbal word in Wá·šiw is *not* formed by head movement, or at least not by head movement to a high position. Since the relevant inflectional material is suffixal and Wá·šiw is a head-final language, an analysis of the verbal word that does

not involve head movement to a high position is at least initially plausible. A second possibility is that the verbal word does involve head movement of the verb to a high functional head, but that this movement is bled by ellipsis in sentence connective examples. Ellipsis has been argued to bleed movement in other languages in van Craenenbroeck & Lipták 2008, Aelbrecht 2010, Saab & Lipták 2015, and Sailor 2018, among others. It is not clear to us which is the better option, and we leave the matter for future research.

5.3 Ellipsis and movement

A notable property of the sentence connective, related to the absence of head movement addressed in the previous subsection, is that unlike other better-known ellipsis constructions such as VP ellipsis, sluicing, and fragment answers, it does not involve stranding of any phrasal material, and in particular, phrasal material that is stranded because of extraction out of the ellipsis site.

One reason this is notable is that there is at least one theory of ellipsis that necessarily ties ellipsis to movement in a way that is not obviously supported by the Wá·šiw pattern. Thoms (2010) in particular makes the strong proposal that ellipsis is necessarily licensed by Ā- or head-movement of something out of the ellipsis site, based on the idea that ellipsis is in effect an instantiation of the deletion of a lower copy under the Copy Theory of movement (Chomsky 1995). The Wá·šiw pattern is a potential counterexample to this claim. First, there is no remnant other than stranded inflection, and so no Ā-movement is implicated. Second, there is no clear evidence that there is head movement out of the ellipsis site (e.g., that Mood head-moves to C and what is elided is MoodP), as we discussed in subsection 5.2.

In other theories of ellipsis however, while the head that triggers ellipsis also triggers movement, these two properties are not necessarily correlated. For instance, according to Merchant (2001, 2005), ellipsis in constructions like sluicing and fragment answers is licensed by a high-peripheral head (e.g. C), and the phrasal remnant is the result of this head also triggering movement to its specifier. These two lexical properties of the head are however not predicted to be necessarily correlated, so that what we see in the sentence connective, that is, ellipsis without movement, is expected in this theory. On this view, the lack of any movement implicated in the sentence connective is not that surprising.

This discussion dovetails moreover with the question as to what types of phrasal movements are possible in Wá·šiw. First, there is a lack of evidence for Ā-movement given that relative clauses are solely internally headed (Hanink 2021) and there is no *wh*-movement in questions. Second, pinpointing the position of the subject is difficult due to Wá·šiw being a verb-final language. Together, these properties have left open important questions concerning phrasal movement in the language. The strongest potential evidence for movement comes from the possibility of scrambling: Alongside SOV, the order OSV is also possible, especially if the object is clausal, as in (5), but this aspect of Wá·šiw syntax has not been explored in any detailed way. Similarly, it is unclear whether Wá·šiw has a dedicated EPP-like position that subjects move to, a question that previous literature on the language has not addressed. With respect to ellipsis in sentence connectives, if any of these movement types do exist in the language, their landing positions are either included in the ellipsis site (i.e. lower than TP), or they are higher, but the movement is bled by ellipsis.

6 Conclusion

In this paper we have offered an analysis of the sentence connective in Wá·šiw as a type of predicate ellipsis. We have argued that – in line with accounts of other ellipsis constructions – the ellipsis site contains syntactic structure on the basis of an active switch reference contrast, which necessarily makes reference to elided material. We can therefore add switch reference to the list of diagnostic tools for syntactic structure in ellipsis sites.

In the last section, we highlighted several ways in which the sentence connective, as an elliptical construction, can be used as a probe into several other aspects of Wá·šiw syntax, such as the formation of the verbal word, the syntax of subjects, and the location of Agree probes responsible for verbal agreement.

References

Aelbrecht, Lobke. 2010. *The Syntactic Licensing of Ellipsis*. Amsterdam: John Benjamins.

Arregi, Karlos & Emily A. Hanink. 2022a. Reverse weak PCC in Washo. In E. Neu Ö. Bakay, B. Pratley & P. Deal (eds.), *Proceedings of the North East Linguistic Society 52*, vol. 1, 43–56. Amherst, MA: GLSA.

Arregi, Karlos & Emily A. Hanink. 2022b. Switch reference as index agreement. *Natural Language & Linguistic Theory* 40. 651–702.

Baker, Mark & Livia Camargo Souza. 2020. Agree without agreement: Switch-reference and reflexive voice in two Panoan languages. *Natural Language & Linguistic Theory* 38. 1053–1114.

Bobaljik, Jonathan David. 1995. *Morphosyntax: The syntax of verbal inflection*: Massachusetts Institute of Technology dissertation.

Bochnak, M. Ryan. 2016. Past time reference in a language with optional tense. *Linguistics and Philosophy* 39. 247–294.

Bochnak, M. Ryan. 2025. Underspecified coordination, focus and contrast in Wá·šiw. In F. Longo & D. Panizza (eds.), *Proceedings of Sinn und Bedeutung 29*, 144–159. MIT Working Papers in Linguistics 40. Cambridge, MA: MIT Working Papers in Linguistics.

Bochnak, M. Ryan & Emily A. Hanink. 2022. Clausal embedding in Washo: Complementation vs. modification. *Natural Language & Linguistic Theory* 40. 979–1022.

Bochnak, M. Ryan, Emily A. Hanink & Alan C.L. Yu. 2023. Wá·šiw. In Carmen Dagostino, Marianne Mithun & Keren Rice (eds.), *The Languages and Linguistics of Indigenous North America: A Comprehensive Guide*, vol. 2, 1201–1221. Berlin: Walter de Gruyter.

Broadwell, George Aaron. 1990. *Extending the binding theory: A Muskogean case study*: University of California Los Angeles dissertation.

Broadwell, George Aaron. 1997. Binding theory and switch seference. In Hans Bennis, Pierre Pica & Johan Rooryck (eds.), *Atomism and Binding*, 31–49. Dordrecht: Foris.

Camacho, José. 2010. On case concord: The syntax of switch-reference clauses. *Natural Language and Linguistic Theory* 28. 239–274.

Camargo Souza, Livia. 2020. *Switch-reference as anaphora: A modular account*: Rutgers University dissertation.

Chomsky, Noam. 1995. *The Minimalist Program*. Cambridge, MA: MIT Press.

Clem, Emily. 2022. Cyclic expansion in Agree: Maximal projections as probes. *Linguistic Inquiry* 54(1). 39–78.

van Craenenbroeck, Jeroen & Anikó' Lipták. 2008. On the interaction between verb movement and ellipsis: New evidence from Hungarian. In Charles B. Yang & Hanna J. Haynie (eds.), *Proceedings of the 26th West Coast Conference on Formal Linguistics*, 138–146. Somerville, MA: Cascadilla Proceedings Project.

Dahlstrom, Amy. 1982. A functional analysis of switch-reference in Lakhota discourse. In Kevin Tuite, Robinson Schneider & Robert Chametsky (eds.), *Chicago Linguistic Society (CLS) 18*, 72–81. University of Chicago: Chicago Linguistic Society.

Douros, Darby. 2019. Person marking in Washo as agreement and clitic movement. B.A. Thesis, The University of Chicago.

Elbourne, Paul. 2001. E-type anaphora as NP-deletion. *Natural Language Semantics* 9. 241–288.

Elbourne, Paul. 2005. *Situations and Individuals*. MIT Press.

Elbourne, Paul. 2013. *Definite Descriptions*. Oxford University Press.

Fiengo, Robert & Robert May. 1994. *Indices and identity*. MIT Press.

Finer, Daniel L. 1984. *The formal grammar of switch-reference*: UMass Amherst dissertation.

Finer, Daniel L. 1985. The syntax of switch-reference. *Linguistic Inquiry* 35–55.

Georgi, Doreen. 2012. Switch-Reference by Movement. In Philipp Weisser (ed.), *Perspectives on Switch-Reference: Local Modeling and Empirical Distribution*, 1–40. Linguistische Arbeitsberichte, Universität Leipzig.

Goldberg, Madelyn. 2005. *Verb-stranding VP ellipsis: A cross-linguistic study*: McGill University dissertation.

Gribanova, Vera. 2013. Verb-stranding verb phrase ellipsis and the structure of the Russian verbal complex. *Natural Language and Linguistic Theory* 31. 91–136.

Hanink, Emily A. 2016. Internally headed relatives and event nominalizations in Washo. In *The Proceedings of BLS 42*, 119–134. UC Berkeley.

Hanink, Emily A. 2021. DP structure and internally headed relatives in Washo. *Natural Language & Linguistic Theory* 39(2). 505–554.

Hanink, Emily A. & M. Ryan Bochnak. 2018. Factivity and two types of embedded clauses in Washo. In A. Lamont & K. Tetzlof (eds.), *Proceedings of the North East Linguistic Society 47*, 65–78. GLSA Publications.

Hewett, Matthew. 2023. *Types of resumptive $\bar{A}$-dependencies*: University of Chicago dissertation.

Jacobsen, William. 1964. *A Grammar of the Washo Language*: University of California, Berkeley dissertation.

Jacobsen, William. 1967. Switch-Reference in Hokan-Coahuiltecan. In Dell Hymes & William Bittle (eds.), *Studies in Southwestern Linguistics*, 238–263. The Hague: Mouton.

Jacobsen, William. 1980. Washo bipartite verb stems. In Kathryn Klar, Margaret Langdon & Shirley Silver (eds.), *American Indian and Indo-European Studies: Papers in Honor of Madison S. Beeler*, 85–99. Berlin: Mouton.

Jacobsen, William. 1998. Headless relative clauses in Washo. In Leanne Hilton & Pamela Munro (eds.), *Studies in American Indian languages: Description and theory*, 102–116. Berkeley, CA: University of California Press.

Keine, Stefan. 2013. Deconstructing switch-reference. *Natural Language and Linguistic Theory* 31. 767–826.

Lasnik, Howard. 1981. Restricting the theory of transformations: A case study. In Norbert Horn-

stein & David Lightfoot (eds.), *Explanation in Linguistics*, 152–173. London: Longmans.
Lobeck, Anne. 1995. *Ellipsis: Functional heads, licensing and identification*. NY: Oxford University Press.
Martins, Ana-Maria. 1994. Enclisis, VP-deletion and the nature of Sigma. *Probus* 6. 173–205.
McCloskey, James. 1991. Clause structure, ellipsis and proper government. *Lingua* 85. 259–302.
McKenzie, Andrew. 2012. *The role of contextual restriction in reference-tracking*: UMass Amherst dissertation.
McKenzie, Andrew. 2015. A survey of switch reference in North America. *International Journal of American Linguistics* 81.3. 409–448.
Merchant, Jason. 2001. *The Syntax of Silence: Sluicing, Islands, and the Theory of Ellipsis*. Oxford Studies in Theoretical Linguistics. Oxford University Press.
Merchant, Jason. 2005. Fragments and ellipsis. *Linguistics and philosophy* 27.6. 661–738.
Merchant, Jason. 2013. Diagnosing ellipsis. In *Diagnosing Syntax*, 537–542. Oxford University Press.
Merchant, Jason. 2014. Gender mismatches under nominal ellipsis. *Lingua* 151. 9–32.
Merchant, Jason. 2019. Ellipsis: A survey of analytical approaches. In *The Oxford handbook of ellipsis*, 19–45. Oxford University Press.
Merchant, Jason & Jeroen van Craenenbroeck. 2013. Ellipsis phenomena. In Marcel den Dikken (ed.), *The Cambridge handbook of generative syntax*, 1427–1520. Cambridge University Press.
Ngonyani, Deo. 1996. *The Morphosyntax of Applicatives*: University of California Los Angeles dissertation.
Peachey, Robert M. 2006. On switch-reference and the internally-headed relative clause construction in Washo. *Ms., University of Chicago*.
Saab, Andrés & Anikó Lipták. 2015. Movement and deletion after syntax: Licensing by inflection reconsidered. *Studia Linguistica* 70(1). 66–108.
Saab, Andrés L. 2009. *Hacia una teoría de la identidad parcial en la elipsis*: University of Buenos Aires dissertation.
Sailor, Craig. 2018. The typology of head movement and ellipsis: A reply to Lipták and Saab (2014). *Natural Language & Linguistic Theory* 36.3. 851–875.
Staroverov, Peter. 2016. Washo Onsets and the Revised Sonority Theory. *Open Linguistics* 2. 471–499.
Stirling, Lesley. 1993. *Switch-reference and discourse representation*. Cambridge University Press.
Thoms, Gary. 2010. 'verb floating' and VP-ellipsis: Towards a movement account of ellipsis licensing. In Jeroen van Craenenbroeck (ed.), *Linguistic Variaton Yearbook, Volume 10*, 252–297. Amsterdam: John Benjamins.
Watanabe, Akira. 2000. Feature copying and binding: Evidence from complementizer agreement and switch reference. *Syntax* 3. 159–181.