A Case against the Verb-stranding VP-Ellipsis Analysis in Japanese

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The aim of this paper is to argue that Verb Stranding VP-Ellipsis (VVPE) is not necessary in explaining the distribution of null arguments in Japanese. Specifically, I will show that VVPE is irrelevant to Null Adjunct Reading (NAR) against Funakoshi (2016). It has been hotly debated whether the null argument in Japanese is *pro* or is derived via Argument Ellipsis (AE) or VPE. Sentences with a null object like (1b) can be derived at least in three ways in (2). In (2a), *pro* replaces Ziro (Kuroda 1965), whereas in (2b), Ziro undergoes AE (Oku 1998). Another derivation in (2c) involves VVPE, in which VP is elided after the verb raises to T (Otani and Whitman 1991).

(1)a. Taro-ga Ziro-o home-ta.
T.-TOP Z.-ACC praise-PST
'Taro praised Ziro.'

b. Hanako-mo *e* home-ta.
H.-also praise-PST
'Hanako also praised *e*.'

(2)a. SUBJ [$_{VP}$ *pro* V]-T
b. SUBJ [$_{VP}$ ~~OBJ~~ V]-T
c. SUBJ ~~[$_{VP}$ OBJ t_V]~~ V-T
|__ ↑

Funakoshi (2016) argues that Japanese allows VVPE with evidence from the NAR, in which an adjunct is interpreted in an ellipsis site. Oku (1998) points out that adjuncts resist ellipsis in Japanese. (3b) is unacceptable in his judgment under the intended NAR with *teineini* 'carefully'.

(3) a. Bill-wa kuruma-o teineini arat-ta.
B.-TOP car-ACC carefully wash-PST
'Bill washed the car carefully.'

b. *John-wa *e* araw-anakat-ta.
J.-TOP wash-NEG-PST
Intended: 'John didn't wash the car ***carefully***.'

Funakoshi claims, however, that NAR becomes available in (4) with (i) a proper context and (ii) a continuation favoring NAR. He argues that NAR yields strong evidence for the existence of VVPE. Since adjuncts cannot be independently elided, as in (3), the availability of NAR suggests that the VP remnant containing an adjunct undergoes ellipsis. The schematic representation is in (5).

(4) Context: Taro/Hanako are students and often write papers. T likes MS Word while H doesn't.
Taro-wa Word-de ronbun-o kak-u (kedo) Hanako-wa *e* kak-ana-i.
T.-TOP W.-with paper-ACC write-PRS but H.-TOP write-NEG-PRS
Itumo LaTeX-de kak-u.
always L.-with write-PRS
'Taro writes papers with Word, but Hanako doesn't write papers with Word. She always writes with LaTeX.' (Funakoshi 2016:120)

(5) Hanako-wa ~~[$_{VP}$ Word-de ronbun-o t_V]~~ kak$_V$-ana$_{NEG}$-i$_T$.
|____↑

Funakoshi (2016:117) provides a generalization about null adjuncts in (6). He claims that (6) is hard to explain if VVPE is not available in Japanese.

(6) **Generalization**: In Japanese, an adjunct can be null only if the clause-mate object (or other VP-internal elements), if any, is also null.

I argue that the VVPE analysis fails to capture the fact that NAR becomes available even when the verb stays in-situ. Consider first the examples in (7). It has been observed that particles *-mo*/*-sae* 'also/even' mark the right boundary of a lexical head (Kishimoto 2007). I use *-wa* to avoid focus effects in (7), which intervenes between V and T and blocks V-to-T movement. Nevertheless, the adverbials *kenkyuuhi-de* 'research.fund-with' and *Word-de* 'with Word' are still interpreted in the ellipsis site. That NAR is available in (7) suggests that VVPE is irrelevant to null adjuncts.

(7)a. Taro-wa kenkyuuhi-de manga-o ka-u (kedo) Ziro-wa *e* kai-***wa*** si-na-i.
T.-TOP research.fund-with comic-ACC buy but Z.-TOP buy-TOP do-NEG-PRS
Ziro-wa sihi-de ka-u.
Z.-TOP own.money-with buy-PRS
'Taro buys comic books with his research fund. Ziro doesn't buy them ***with his research fund***.' 'He buys them with his own money.'

b. Taro-wa Word-de ronbun-o kak-u (kedo) Hanako-wa *e* kaki-***wa*** si-na-i.
T.-TOP W-with paper-ACC write-PRS but H.-TOP write-TOP do-NEG-PRS
Hanako-wa itumo LaTeX-de kak-u.
H.-TOP always L.-with write-PRS
'Taro writes papers with Word, but Hanako doesn't write papers ***with Word***. She always

writes with LaTeX.'

(8) SUBJ [$_{VP}$ ~~ADJUNT~~ ~~OBJ~~ V]-***wa*** do-NEG-T
|__×__↑

Another counterexample comes from VP-coordination (Takano 2004). In (9), negation *wake-de-wa nai* 'it is not the case' scopes over both conjuncts: $\neg(VP_1 \wedge VP_2)$. Now consider the sentences in (10). The first conjunct in (10b) contains a gap, in which the adjunct *kenkyuuhi-de* is interpreted. This is further supported by the fact that the continuation (11) is compatible with (10b).

(9) Taro-wa [ringo-o tabe], [koohii-o nom]-u wake-de-wa na-i
T.-TOP apple-ACC eat, coffee-ACC drink-PRS case-COP-TOP NEG-PRS
'Taro doesn't [eat an apple and have coffee].'

(10) Context: Prof. Tanaka and Yamada are notorious for research misconduct.

a. Tanaka-kyooju-wa [manga-o kenkyuuhi-de kai], [ronbun-o tooyoosi]-ta.
T.-Prof.-TOP comic-ACC research.fund-with buy, paper-ACC plagiarize-PST.
'Prof. Tanaka bought comic books with his research fund and plagiarized others' papers.'

b. Yamada-kyooju-wa[*e* kai], [*e* tooyoosi]-ta wake-de-wa na-i (rasii).
Y.-Prof.-TOP buy plagiaeize-PST case-COP-TOP NEG-PRS seem
'Prof. Yamada didn't [buy comics ***with his research fund*** and plagiarize others' papers].'

(11) Tooyoosi-ta kedo, (sasugani) manga-wa sihi-de kat-ta (rasii).
plagiarize-PST but expected comic-TOP own.money-with buy-PST seem
'He plagiarized, but he bought comic books ***with his own money***.'

That NAR is available in (10b) is problematic to the VVPE analysis. In (10b), *kai* 'buy' cannot raise to T since such movement violates the Coordinate Structure Constraints (CSC) (Ross 1967), as in (12). ATB-movement of V is not an option, since verbs are different in VP1 and VP2. Therefore, both verbs *kai* and *tooyoosi* 'plagiarize' must stay in-situ. VVPE is impossible without verb-raising, hence the data in (10b) indicates that verb-raising and VVPE are irrelevant to null adjuncts.

(12) SUBJ [$_{VP1}$ ~~ADJUNT~~ ~~OBJ~~ *kai*$_V$] & [$_{VP2}$ *e* *tooyoosu*$_V$] T … NEG
|_____×_____↑

The two observations indicate that NAR is irrelevant to VVPE. Funakoshi was partially right in that adjuncts, unlike arguments, somehow need such a heavy contextual support to be recovered. The discussions above suggest that adjuncts can be independently elided in principle, contrary to Oku (1998) and Funakoshi (2016). We now have a more accurate generalization about null adjunct in (13). In what follows, I provide evidence for the claim that adjuncts can be elided by themselves.

(13) **Generalization**: In Japanese, an adjunct can be null but it requires (i) a proper context and (ii) a continuation favoring NAR to be recovered.

One may wonder whether other elements inside VP must always be elided together with an adjunct. Funakoshi (2016) showed that direct/indirect objects can be overt if they are contrastively focused, as in (14) (cf. Tanaka and Hayashi 2017). In (14), *Tokyo* and *Sendai* are contrasted and the adjunct *jitensha-de* 'by bicycle' is interpreted in the gap in (14b).

(14)a. Taro-wa **Tokyo-ni-wa** jitensha-de it-ta.
T.-TOP Tokyo-DAT-TOP bicycle-by go-PST
'Taro went to Tokyo by bicycle.'

b. (…kedo) **Sendai-ni-wa** *e* ik-anakat-ta.
but Sendai-DAT-TOP go-NEG-PST
'(But) he didn't go to Sendai ***by bicycle***.'

Again, the relevant NAR is still available even when verb-raising is blocked by -*wa* in (15a). This is further supported by the fact that (15a) is compatible with the continuation (15b). Since no other elements inside VP is elided, the data (15) indicates that the adjunct can be the sole target of ellipsis.

(15)a. (…kedo) **Sendai-ni-wa** *e* iki-***wa*** si-nakat-ta.
but Sendai-DAT-TOP go-TOP do-NEG-PST
'(But) he didn't go to Sendai ***by bicycle***.'

b. Sendai-ni-wa densya-de it-ta.
Sendai-DAT-TOP train-by go-PST
'He went to Sendai by train.'

To sum, the empirical evidence provided in this paper indicates that VVPE is not necessary in Japanese to account for null adjuncts. The empirical evidence shows that NAR results from eliding an adjunct as a sole target. The arguments in this paper have two implications: First, NAR does not suffice as evidence for the existence of string-vacuous verb-raising in Japanese. Second, the data support the *pro*/AE analyses of null arguments by showing that they are compatible with NAR.

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Selective opacity of RC island in Mandarin

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Introduction The present paper starts with these observations in Mandarin: (i) with *overt movement* (topicalization), RC island is transparent to extraction when the sentence has a non-episodic eventual reading (see (1a-b)) and that this episodic eventuality effect only affects the subject but not the object position (see (2a-b)), the extraction from which is ungrammatical; (ii) with *LF "movement"*, extraction from RC island in the subject position shows episodic eventuality effect (see (3a-b)), but extraction from the object position is always grammatical (see (4a-b)). We summarize the phenomena in the following table:

Movement type	Extraction site	Episodic event	Non-episodic event
Topicalization	Subject	✗	✓
	Object	✗	✗
LF "movement"	Subject	✗	✓
	Object	✓	✓

Overt movement

(1) a. Na-ben shu$_i$, ni juede [$_{DP}$ [$_{RC}$ t$_j$ du-guo t$_i$ DE] ren$_j$] bu-duo? (*Subject, Non-episodic eventual*)
which-CL book you think read-ASP Comp people not-many
"Which book, you think, the people who have read it are not many?"

b. *Na-ben shu$_i$, ni juede [$_{DP}$ [$_{RC}$ t$_j$ du-guo t$_i$ DE] ren$_j$] lai-le. (*Subject, Episodic eventual*)
which-CL book you think read-ASP Comp people arrive-ASP
Which book, you think, the people who have read it have arrived?"

(2) a. *Na-ge chushi$_i$, ni xihuan [$_{DP}$ [$_{RC}$ t$_i$ zuo t$_j$ DE] cai$_j$]. (*Object, Non-episodic eventual*)
which-chef you like make Comp dish
"Which chef, you like the dish which he cooks?"

b. *Na-ge chushi$_i$, ni chi-le [$_{DP}$ [$_{RC}$ t$_i$ zuo t$_j$ DE] cai$_j$]. (*Object, Episodic eventual*)
which-chef you eat-ASP make Comp dish
"Which chef, you ate the dish which he cooked?"

Covert movement

(3) a. [$_{DP}$ [$_{RC}$ t$_j$ Du-guo na-ben shu DE] ren$_j$] bu-duo? (*Subject, Non-episodic eventual*)
read-ASP which-CL book Comp people not-many
"Which book is it such that the people who have read it are not a lot?"

b. *[$_{DP}$ [$_{RC}$ t$_j$ Du-guo na-ben shu DE] ren$_j$] lai-le? (*Subject, episodic eventual*)
read-ASP which-CL book Comp people arrive-ASP
"Which book is it such that the people who have read it have arrived?"

(4) a. Ni xihuan [$_{DP}$ [$_{RC}$ na-ge chushi zuo t$_j$ DE] cai$_j$]? (*Object, Non-episodic eventual*)
you like which-CL chef make Comp dish
"Which chef is it such that you like the dish which he cooks?"

b. Ni chi-le [$_{DP}$ [$_{RC}$ na-ge chushi zuo t$_j$ DE] cai$_j$]? (*Object, Episodic eventual*)
you eat-ASP which-CL chef make Comp dish
"Which chef is it such that you ate the dish which he cooked?"

Mandarin thus presents a challenge to Condition on Extraction Domain (CED) (Huang, 1982) because with overt movement, only extraction from the subject domain is allowed, thereby displaying a *reversed subject-object asymmetry*, compared to English in (5a-b):

(5) a. Who$_i$ did you have [a picture of t$_i$]?
b. *Who$_i$ did [a picture of t$_i$] scare you?

Analyses The reversed subject-object asymmetry can be accounted for by the Generalized Control Rule (GCR) (Huang, 1984). The idea is that an empty pronominal must be co-indexed with the closest DP, hence the ungrammaticality in (6a). However, Hsu (2008) contended that such an analysis would also rule out grammatical cases such as (6b), as the subject in the main clause ('I') is also a blocker. Given a null operator analysis, we argue that the GCR can still be maintained if we suppose the OP binds the empty pronoun in the lower CP position in (6b) before movement.

Bind

(6) a. *Na-ge nvhai$_i$, [OP$_i$ [wo bu xihuan [$_{DP}$ [$_{RC}$ e$_i$ chuan DE] yifu]. (*Object: blocking effect*)
that-CL girl I not like wear Comp clothes
"That girl, I don't like the clothes she wears."

Move *Bind*

b. Na-ben shu$_i$, [OP$_i$ wo juede [$_{CP}$ t$_i$ [$_{DP}$ [$_{RC}$ du-guo e$_i$ DE] ren] bu-duo]. (*Subject: no blocking*)
that-CL book I think read-ASP Comp people not-many
"That book, I think the people who have read it are not many."

For the episodic eventuality effect, we follow Zhang (2002) in hypothesizing that there is a presupposition OP (at the left edge of the DP subject) as the pragmatics difference between (1a) and (1b) lies in the presupposition of the existence of subject DP. The existence of subject DP under non-episodic eventuality in (1a) is only implied since this implicature can be cancelled with a continuation. Thus, we hypothesize that there is a dependency between OP$_{pres}$ and DP (i.e. 'people') in (1b). The ungrammaticality (here we part paths with Zhang (2002) who posits a trace and uses a different argument) is due to the violation of the Constraint on Crossing Dependencies (CCD) (Kuno & Robinson, 1972) which is argued to play a pivotal role in A-not-A questions in Mandarin as well (Stabler, 2004).

(7) Na-ben shu$_j$, [$_{CP}$ OP$_j$ [$_{DP}$ OP$_{pres}$ [$_{RC}$ e$_i$ du-guo e$_j$ DE] ren$_i$] lai-le]?
which-CL book read-ASP Comp people arrive-ASP

CCD can also explain why covert movement from subject is subject to episodic eventuality effect but covert movement from the object is always fine. Again, we argue that is a dependency between the head noun ('people') and the OP$_{pres}$ in (3b) but no OP$_{pres}$ exists in (4b). The existence of DPs in (4a-b) is again implied. Thus, as in (8a-b), under unselective binding, CCD is violated in (8a) only, but not in (8b).

(8) a. Q$_i$ [you think [$_{CP}$ OP$_k$ [read which book$_i$ DE] people$_k$ came]]]? (*"movement" from subject in LF*)
b. Q$_i$ [[you yesterday ate [which chef$_i$ cooked DE] dish]? (*"movement" from object in LF*)

Conclusion we have shown that, unlike what was assumed before (e.g. Huang, 1982), RC islands are not always exempt from subjacency rule. If the extraction is from the subject, the island is selectively opaque under episodic eventuality due to crossed dependencies in both syntax and LF modules; if the extraction site is in an object, topicalization violates GCR whereas "movement" in LF (unselective binding) is natural. These linguistic facts in Mandarin are interesting as it makes us rethink about previous analyses (e.g. movement blocking by Zhang (2002), the pragmatics account by Hsu (2008)) as well as its implications to standard island theories such as Chain Uniformity (Takahashi, 1994).

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Sluicing in French

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Sluicing in wh-in situ languages has long been a puzzle, as it has traditionally been analyzed as an operation involving (overt) wh-movement and TP deletion (1) (Merchant 2001). This analysis is referred to as the move-and-delete approach (MDA) (ellipsis indicated with strikethrough).

(1) John ate something, but I do not know [what [~~John ate <what>~~]].

In wh-in situ languages, such as Japanese, there is no wh-movement, but sluices are still attested (see (2) from Merchant 2006). For this reason, it has been suggested that these are either pseudo-sluices, or are derived by an analogous type of Ā-movement (such as scrambling) that is found in the language, consistent with the MDA (see e.g. Takahashi 1994; Toosarvandani 2008).

(2) Abby-ga dareka-o mi-ta ga, watashi-wa dare ka wakarani
Abby-NOM someone-ACC see-PAST but I-TOP who Q know.not
'Abby saw someone, but I don't know who.'

French is unlike English (which has only fronted wh-questions) and Japanese (only wh-in situ), in that it allows for both fronted (3a) and wh-in situ (3b) strategies. It may be expected that, given the MDA and the option for wh-movement in this language, that French relies on wh-movement for sluicing. While on the surface it would seem that the wh-word actually remains in situ, in this paper we will argue that the MDA is still able to be upheld.

(3) a. **Que** manges-tu?
what eat.2SG-you
'What are you eating?'

b. Tu manges **quoi**?
you eat.2SG what
Lit. 'You are eating what?'

First, although most wh-phrases in French have the same form in fronted and wh-in situ questions, this is not the case for *what*-questions (as in 3). Curiously, the in situ form is the only form allowed in sluices (see 4).

(4) Jean mange quelque chose, mais je ne sais pas **quoi**.
Jean eat.3SG some thing but I NEG know.3SG not what
'John is eating something, but I don't know what.'

We argue that these sluices contain full structure, as this wh-word cannot be interpreted as a pivot (as in a pseudo-sluice); a cleft in this position (5) is ungrammatical.

(5) *Jean mange quelque chose, mais je ne sais pas **c'est quoi.**
Jean eat.3SG some thing but I NEG know.3SG not this-is what
'Jean is eating something, but I don't know what it is.'

Additionally, we show that *quoi*-sluices do not have a "short source" (viz. Barros et al. 2014), as pronouns that could be propositional in nature— and do in fact surface with other elliptical forms (as in matrix sluices in (6))— are also ungrammatical here (7).

(6) A: Il joue quelque part. B: Où **ça**?
he play.3SG somewhere where that
'He is playing somewhere.' 'Where?'

(7) *Jean mange quelque chose, mais je ne sais pas quoi ça.
Jean eat.3SG some thing but I NEG know.3SG not what that
'Jean is eating something, but I do not know what.'

On the surface, the data might suggest that French has non-constituent ellipsis (8), as argued for by Ott & Struckmeier (2018) in German.

(8) Jean mange quelque chose, mais je ne sais pas ~~Jean mange~~ quoi.
Jean eat.3SG some thing but I NEG know.3SG not Jean eat.3SG what
'Jean is eating something, but I don't know <Jean is eating> what.'

Nevertheless, the in situ form also surfaces in sluicing in cases where wh-in situ is impossible, which makes the possibility of non-constituent ellipsis in (10b) unlikely.

(9) *Je me demandes que Marie mange quoi?
I REFL ask.2SG that Marie eat.3SG what
'You wonder that Marie is eating what?'

(10) a. Marie mange quelque chose, et je me demande quoi.
Marie eat.3SG some thing and I REFL ask what
'Marie is eating something, and I wonder what.'
b. Marie mange quelque chose, et je me demande ~~Marie mange~~ quoi.

As a result, we argue that not only do sluices in French involve full structure, but that they involve movement as well. Following Sportiche (2008), we assume that *quoi* is a strong form of 'what'— and argue that it surfaces in non-matrix environments (as in sluicing) by default.

(11) Marie mange quelque chose, et je me demande quoi ~~Marie mange <WH>.~~

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Epenthesis or allomorphy: A case study from Korean

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Introduction: In Korean, when a vowel-initial suffix (e.g., *-i* NOM) is attached to nouns, the non-etymological consonant [s] optionally appears in onset of the second syllable. This occurs with noun stems that end both (1) in a simplex consonant (e.g., /pa**p**-i/ 'rice-NOM') and (2) in a biconsonantal cluster (e.g., /ta**lk**-i/ 'chicken-NOM') in a variety that I call Nonstandard Korean II, as in (1c) [pap.**s**i] 'rice-NOM' and (2c) [tak.**s**i] 'chicken-NOM', respectively.

	(1) Suffixed forms of nouns with a stem-final *simplex consonant*		(2) Suffixed forms of nouns with a stem-final *biconsonantal cluster*	
Input	/pa**p**-i/	'rice-NOM'	/ta**lk**-i/	'chicken-NOM'
a. Standard Korean (fully faithful to input)	[pa.**p**i]		[ta**l**.**k**i]	
~ b. Nonstandard Korean I (without [s])	-		[ta. **k**i]	
~ c. Nonstandard Korean II (with [s])	[pa**p**.**s**i]		[ta**k**.**s**i]	

(Note: As shown in (2b) and (2c), stem-final consonant clusters can be reduced to a simplex consonant (i.e., /lk/ → [k]) in Nonstandard Korean I and II.)

Despite its consistent occurrence in suffixed forms of nouns in nonstandard colloquial Korean, [s] has been disregarded as a speech error (e.g., Jun and Lee 2007) and largely ignored in the literature. The present study aims to evaluate two possible approaches to account for the occurrence of [s] in suffixed forms of Korean nouns: allomorphy vs. epenthesis. I argue for the epenthetic approach over the allomorphic approach.

Allomorphic approach: One might argue that the [s]-initial form (e.g., [si] in [tak.si] 'chicken-NOM') is allomorphic to the vowel-initial suffix *-i*. That is, *-i* and *-si* are two allomorphs of the nominative suffix NOM. However, phonologically conditioned suppletive allomorphy (PCSA, using the term of Paster 2005) already exists in Korean nominative suffixes: vowel (V)-initial suffix *-i* and consonant (C)-initial suffix *-ka*. The V-initial suffix is attached to noun stems ending in a consonant, as in (3a) whereas the C-initial suffix is attached to those ending in a vowel, as in (3b) (e.g., Cho and Sells 1995). The purpose of allomorphy selection is to maximize phonological optimization. In other words, the CV syllable structure is favored while vowel hiatus and codas are avoided.

(3) Selection of V-initial suffixes or C-initial suffixes in Korean nouns

a. V-initial suffixes (e.g., *-i* NOM) are attached to noun stems ending in a consonant.
e.g., *John*-NOM /con-NOM/ [co.ni], *[con.ka] 'John-NOM'

b. C-initial suffixes (e.g., *-ka* NOM) are attached to noun stems ending in a vowel.
e.g., *Mary*-NOM /mɛri-NOM/ *[mɛ.ri.i], [mɛ.ri.ka] 'Mary-NOM'

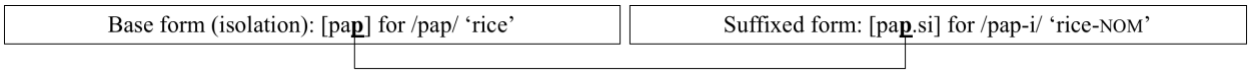
Since there already exists the C-initial allomorph, it is redundant to postulate another C-initial allomorph (i.e., [s]-initial suffix allomorph). In addition, it is inefficient to postulate [s]-initial allomorphs for all kinds of V-initial suffixes: for instance, the inflectional suffixes NOM (*-i* / *-si*), ACC (*-ɨl* / *-sɨl*), LOC/DAT (*-e* / *-se*), and even the conjunctive suffix 'and' (*-iraŋ* / *-siraŋ*) that is beyond the nominal paradigms.

Epenthetic approach: Rather than postulating innovative [s]-initial suffixes that are allomorphic to V-initial suffixes, it would be more efficient to use the C-initial allomorphic suffixes that already exist in the paradigms: for example, the suppletive C-initial allomorph *-ka* for the V-initial suffix *-i* (NOM). However, the output candidate *[pap.ka] /pap-NOM/ 'rice-NOM' is ungrammatical. The Base (or the isolation form) [pap] for /pap/ 'rice' ends in a consonant (i.e., closed syllable), which allows us to keep the V-initial suffix. Yet, the choice of the V-initial suffix *-i* is still problematic since the second /p/ is syllabified to onset (i.e., [pa.**p**i] 'rice-NOM'). To avoid this, epenthesis of a consonant (i.e., [s]) occurs in onset position of the second syllable by keeping the V-initial suffix (i.e., *-i*). In sum, to satisfy the two requirements (i.e., choosing the correct C-initial or V-initial suffix and maintaining the coda position) at the same time, using a preexisting V-initial allomorphic suffix and inserting a consonant in onset position result in the optimal output. Regarding the quality of the epenthetic consonant, [s] but not any other consonant is used due to analogy with the dominant pattern in Korean: [s] is the most frequent variant for stem-final coronal obstruents in suffixed forms of nouns (e.g., /so**t**^{h}-e/ [so.**s**e] (the most frequent variant)~[so.c^{h}e]~[so.te] 'pot-DAT') (Jun 2010).

Motivation for [s]-epenthesis (Base-identity effect): Regarding the phonological environment, [s] occurs after a simplex coda consonant: after [p] in /pap-i/ [pa**p**.si] 'rice-NOM' and after [k] in /talk-i/ [ta**k**.si] 'chicken-NOM', in which the input consonant cluster /lk/ is reduced to the simplex consonant [k]. The rationale behind the occurrence of [s] lies in the requirement for the syllabic profile of Base forms (i.e., isolation forms) and suffixed forms to be identical. A relevant constraint that requires the Base-identity effect at the syllabic level is CORR-σ-ROLE: "… [I]f x and y are corresponding segments then x and y have the same syllabic analysis (onset, nucleus, coda)." (Aguero-Bautista 1998 from Kenstowicz 2005). This constraint was originally proposed to account for Spanish diminutives: the optimal diminutive form of the Base form [amo**r**] 'love' is [a.mo**r**.-si.t-o] and not *[a.mo.**r**-i.t-o] because [r] should occur in coda both in the Base form and in the diminutive form. Likewise, it is required in Nonstandard Korean II to preserve the coda consonant of the Base form in coda position of the suffixed form, as in (4a-b). In sum, [s]-epenthesis allows us to satisfy the Base-identity requirement that is more important than phonological optimization.

(4) Base-identity effect required in coda position

(a) Base form and suffixed form of /pap/ 'rice'



(b) Base form and suffixed form of /talk/ 'chicken'

References: **Aguero-Bautista, C. 1998.** Cyclic and identity effects in Spanish diminutives and augmentatives. **Paster, M. 2005.** Subcategorization vs. output optimization in syllable-counting allomorphy. **Cho, Y and P. Sells. 1995.** A lexical account of inflectional suffixes in Korean. **Jun, J. 2010.** Stem-final obstruent variation in Korean. **Jun, J and J. Lee. 2007.** Multiple stem-final variants in Korean native nouns and loanwords. **Kenstowicz, M. 2005.** Paradigm uniformity and contrast.

Parallels between Japanese case markers and English prepositions regarding null elements

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Introduction Nominative and accusative case markers in Japanese are overtly realized as in (1a), but as (1b) indicates an identical meaning to (1a), they can be omitted, also known as "case marker drop" (CMD).

(1) a. John-ga ringo-o tabe-ta. b. John-Ø ringo-Ø tabe-ta.
John-Nom apple-Acc eat-Past John-Ø apple-Ø eat-Past ("-Ø" = null case marker)

Japanese is also known as a null subject language, where *pro* can occur as a sentence's subject as in (2d).

(2) a. Kare-ga ki-ta. b. Kare-Ø ki-ta. c. **pro*-ga ki-ta. d. *pro*-Ø ki-ta.
he-Nom come-Past he-Ø come-Past *pro*-Nom come-Past *pro*-Ø come-Past

Although CMD is optional in most cases, it is obligatory when the host is *pro*, as in the contrast between (2c) and (2d). Given that *pro* is a nominal and Japanese case markers can be attached to any nominal whether an ordinary noun or a pronoun, it is unclear **why *pro* cannot co-occur with case markers**, which has gone unnoticed in the literature. One might claim that *pro* lacks sound and thus its case marker is silent. However, if Cases/cases are assigned in syntax, how can syntax determine whether a case marker is silent?

I believe that a similar phenomenon is observed in English relative clauses as shown in (3).

(3) a. the man [to whom I spoke] b. *the man [to who I spoke] c. the man [whom I spoke to]
d. the man [who I spoke to] e. *the man [to Op (that) I spoke] f. the man [Op (that) I spoke to]

Not only *wh*-pronouns but also the phonetically null operator "Op" appears as a relative pronoun as in (3f), but **unlike *wh*-relatives, Op cannot co-occur with prepositions as in (3e)**. I will demonstrate the parallelism between Japanese case markers and English prepositions regarding phonetically null elements.

Problem Indicating that in Japanese, not only DPs but also PPs can be assigned Case as in (4), Saito (2016) proposes that Japanese lacks φ-feature agreement and any category bears an anti-labeling device called "λ-feature" making constituent invisible for labeling, which can be realized as case markers.

(4) koko-kara-ga huzi-san-ni nobori-yasu-i.
here-from-Nom Mt. Fuji-Dat climb-easy-Pres 'It is from here that one can easily climb Mt. Fuji.'

According to Saito, due to the λ-feature, merging with a DP or a PP does not affect the labeling of the host, whence Japanese allows multiple occurrences of case markers and DP scrambling. However, the analysis does not clarify how anti-labeling *per se* is triggered. Furthermore, Saito does not analyze CMD examples.

According to Donati and Cecchetto's (2011) analysis, in (3a, c, d), the *wh*-relative forms a constituent with the head *man*, which is externally merged as a complement of the preposition *to* and internally merged with the relative clause CP, and *man* is extracted from the constituent leaving the *wh*-relative in SPEC-C and internally merged again with the CP. They assume that operator movement is not involved in (3f), but *man*, which is introduced with a null determiner, is raised from the complement position of the preposition *to* and internally merged with the CP. If their analysis were correct, the deviance of (3e) would be inexplicable because *man* also could be raised from the complement position of *to* in (3e). In other words, they cannot explain the difference between (3a) and (3e). I will explain (1)–(3) by assuming (5).

(5) Ds without phonetic content lack Case/case features. (a converse version of the Case Filter)

Proposal Instead of the λ-feature, I suggest (6) for the structure of a DP with its case marker in Japanese.

(6) $\{DP_{[-Case]}, K_{[+Case]/[-case]}\}$ (Hereafter, "- " indicates unvalued and "+" valued.)

Based on Oba (1987), I assume that **the case marker "K" is an independent lexical item** that bears the valued abstract Case feature [+Case] and the unvalued morphological case feature [-case]. Given that CMD occurs when abstract Case is assigned but morphological case is not (Mihara 1994), I suggest that CMD is induced when K is not included in the derivation. Moreover, I assume that K is a weak head like T in English and feature sharing is required to provide the label for (6), indicating that (6) is not labeled by K but DP and K in (6) can establish an Agree relation. I suggest that DP's [-Case] is valued by K's [+Case], thereby (6) is labeled <Case, Case> (Chomsky 2013, 2015). Zushi (2014) proposes that Case

valuation in terms of Merge, in addition to Agree, is available in UG, and that Merge is chosen as a Case valuation device in Japanese. Adopting her proposal, I assume that in Japanese, [-case] is valued as nominative, accusative, and genitive, by merging with T, *v**, and D, respectively. Consider the case in (7).

(7) $\{_{<Case, Case>}\ DP_{[-Case]\rightarrow[+Case]}, K_{[+Case]/[-case]}\}$ (8) $\{\{_{<Case, Case>}\ DP_{[+Case]}, K_{[+Case]/[-case]\rightarrow[nom]}\}, TP\}$ (9) $\{DP_{[-Case]}, TP\}$

As we have assumed, the label of (7) is not K but <Case, Case>, but K still heads the syntactic object (SO) in (7). Thus, when (7) merges with T(P), [-case] of K is valued as nominative, as in (8). Chomsky (2013) argues that SOs cannot be labeled when SOs are of the form {XP, YP} or {H, H}, but labeling of the form {<feature, feature>, XP} is not clarified. Here I assume that **the label of the form {<feature, feature>, XP} is the label of XP**. This explains multiple occurrences of case markers in Japanese. As suggested, CMD is an example where K is not included in the derivation as in (9). Since Japanese lacks φ-feature agreement, labeling (9) seems impossible because T bears no Case feature, and it is necessary for T to bear a feature that can agree and be shared with DP. According to Miyagawa (2010), a language is either agreement-prominent or focus-prominent; both the φ-probe and the topic/focus feature are postulated at C instead of T. English is an agreement-prominent language and the φ-probe on C percolates down from C to T, whereas Japanese is a focus-prominent language and the topic/focus feature percolates down to T. Given that the null case marker is a null counterpart of the topic-marker *wa* in Japanese (Kuno 1973) and that the subject's CMD is restricted to the matrix CP as in (10), licensing the subject with null case marker is related to the property of C, and I suggest that **the subject with no case marker bears a topic feature** that can only agree with the feature that the matrix C percolates down to T, by which (9) is labeled, and that DP's [-Case] in (9) is valued as a reflex of topic feature agreement like φ-feature agreement in English.

(10) Sensei-wa [boku-*Ø/ga ringo-Ø/o tabeta to] omotteiru yo.
teacher-Top I-Ø/Nom apple-Ø/Acc ate that thinks SFP (Narita 2018: 200)

If we assume that θ-roles are features on predicates (Hornstein 1999), V and DP in $\{V_{[-\theta]}, DP_{[-Case]}\}$ agree and DP's [-Case] can be valued as a reflex, which results in accusative CMD. Note that DP bears no θ-feature. Thus, θ-features cannot label the set {DP, *v**P}, and DP must be raised to SPEC-T, where DP needs a feature that can be shared with T, i.e. [+Top], without K. Otherwise, the set {DP, TP} cannot be labeled.

Now, let us consider (2). Saito (2007) proposes that *pro* is an LF object constructed in the preceding discourse and is void of unvalued features because they have already been valued in the discourse. Saito claims that the Case feature of *pro* is valued, but valued features are usually deleted after Spell-Out. Thus, it is natural to assume that *pro* bears no features except for its interpretable features. On the other hand, (5) expects that *pro* lacks Case features because it is silent and that the subject in (2c) comprises the set in (11).

(11) * $\{pro, K_{[+Case]/[-case]}\}$ (12) $\{pro_{[+Top]}, TP_{[-Top]}\}$

As I proposed, K is a weak head and unable to provide the label without feature sharing, but *pro* bears no Case/case features. Thus, (11) cannot be labeled. Hence, the deviance of (2c). Conversely, in the CMD example, *pro* can appear as in (12). Since *pro* is a typical discourse entity, it is naturally assumed to bear a feature matching the topic feature on T, which labels (12). Hence, CMD is obligatory regarding *pro*.

(5) also accounts for (3). I assume that Ps in English are weak heads that require feature sharing and bear Case features unlike Ts or Vs but like K. I suggest (13a, b, c) for the structures of (3a, e, f), respectively.

(13) a. $[_{\alpha}\ [_{P}$ to$]\ [_{DP}\ [_{D}$ whom$]$ ~~man~~$]]$ b. *$[_{\alpha}\ [_{P}$ to$]\ [_{DP}\ [_{D}$ Op$]$ ~~man~~$]]$ c. $[_{\alpha}\ [_{DP}\ [_{D}$ Op$]$ ~~man~~$]\ [_{CP}$ C I spoke to ~~Op man~~$]]$

In (13a), the Case feature of the relative *whom* and that of the preposition *to* agree, by which α is labeled <Case, Case>. Hence, the deviance of (3b), where the relative does not agree with *to*. I assume that Op, which is D, can select the head noun in relative clauses. However, in (13b), **Op lacks Case features due to (5) and α cannot be labeled**. Hence the deviance of (3e). Conversely, in (13c), *to*, which is reanalyzed with *spoke*, is free from labeling problem. The *wh*-feature of Op and that of C agree, by which α is labeled. This is verified by the fact that **the Case of the relative is not fixed as observed in (3c, d)**. Therefore, we can conclude that Japanese case markers and English prepositions display a similarity against null elements.

IS MORPHOLOGICAL DECOMPOSITION DRIVEN BY SYLLABIFICATION?

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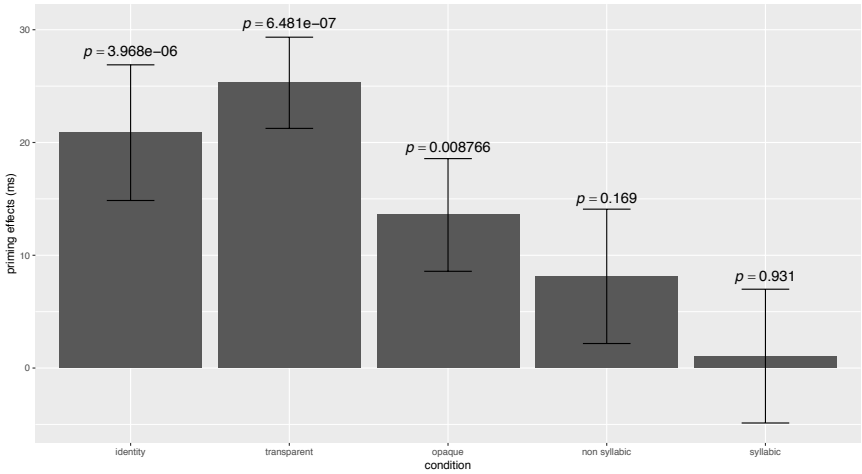
Introduction. A large body of past psycholinguistic research on masked priming has consistently shown that visual recognition of a string of letters (*TARGET*) is speeded by prior presentation of a morphologically related string of letters (*prime*) that cannot be consciously perceived by subjects. For example, Rastle et al. (2004) showed that affixed (e.g. *alarming*) and pseudo-affixed (e.g., *archer*) words prime their roots (i.e., *ALARM* and *ARCH*, respectively), but monomorphemic words (e.g, *brothel*) do not prime the roots contained within them (i.e., *BROTH*). These results suggest that words are decomposed into their morphological units (i.e., their morphemes) at early stages of processing before being accessed (*morphological decomposition*); however, morphological decomposition does not occur if one of the decomposed units of a given word is not a real morpheme: e.g., *brothel* is not decomposed since *-el* is not a real English suffix ('brothel effect'). In this paper, we highlight an apparent contradiction in the morphological priming literature that has been overlooked in the past. In recent visual masked priming studies on both affixal morphology (Morris et al. 2011) and compound morphology (Fiorentino et al. 2015), decomposition was found to occur in morphologically complex words (e.g.,*flexible*,*flagpole*) *and* in pseudo-words containing a real root and a non-suffixal ending (e.g., *flexire*, *slegrack*; 'slegrack/flexire effect'). The slegrack/flexire effect seems to be at odds with the brothel effect described above. On the one hand, the brothel effect suggests that decomposition occurs if and only if all decomposed pieces of a word are real morphemes (*brothel* is not decomposed because *-el* is not an English morpheme). On the other hand, the slegrack/flexire effect suggests that decomposition occurs as long as at least *one* of the pieces of a (non-)word is a real morpheme (*flexire* and *slegrack* are decomposed even though *-ire* and *sleg-* are not English morphemes). Since, the possibility of explaining the contradiction as an effect of lexicality (i.e., *brothel* is a word, and *flexire* and *slegrack* are not) is difficult to entertain under the well-accepted assumption that decomposition occurs before lexical access, this study aims to test an alternative explanation for the contradiction. In all studies reporting the brothel effect, orthographically related pairs like *brothel-BROTH*, in which the non-suffixal ending (*-el*) is a syllabic unit, are presented in the same condition with orthographically related pairs like *against-AGAIN*, in which the non-suffixal ending (*-st*) is not a syllabic unit. It is possible that decomposition relies on an online procedure of syllabification, whereby words are chunked into syllabic, rather than morphological, units. Under this hypothesis, pairs like *brothel-BROTH* should trigger priming (i.e., *brothel* is decomposed) and pairs like *against-AGAIN* should not (i.e., *against* is not decomposed); but these facts have been obscured in previous studies that averaged *brothel-BROTH* together with *against-AGAIN*. We explore this possibility by running a masked priming experiment that separates words like *brothel* and words like *against* into two separate conditions (i.e., syllabic and non-syllabic). We test this in both the visual and auditory modalities.

Materials. 32 pairs of words were selected for each of the following five conditions: (1) *transparent,* with a morphologically and semantically transparent relationship (e.g., *boneless-BONE*). (2) *opaque*, with an apparent morphological relationship (e.g., *belly-BELL*). (3) *syllabic*, with the prime word (e.g., *banjo*) consisting of the corresponding target word (*BAN*) plus an additional syllabic, non-suffixal ending (*-jo*). (4) *non-syllabic*, with the prime word (*starch*) consisting of the corresponding target word (*STAR*) plus an additional non-syllabic and non-suffixal ending (*-ch*). (5) *identity* (e.g., *fuss-FUSS*). We expect to find priming in the identity, transparent, and opaque conditions, as these are standard conditions in the masked priming literature. If decomposition relies on an early, automatic procedure of syllabification, we should find a priming effect for the syllabic condition but not the non-syllabic condition. If decomposition

is a truly morphological procedure that occurs irrespective of syllabic chunking, we should find no priming in either the syllabic or non-syllabic condition.

Procedure & results. Here we present the data collected in the visual modality; data in the auditory modality are currently being collected. 84 English native speakers participated in the visual experiment. The plot below presents the priming effects for each condition; priming effects are calculated as the difference between the mean RT to targets preceded by related primes and mean RT to targets preceded by unrelated primes in each condition (the *p*-values shown are not corrected for multiple comparisons). The results show that word recognition is facilitated in the identity (e.g., *fuss-FUSS*), transparent (*boneless-BONE*) and opaque (*belly-BELL*) conditions as expected, but not in either the syllabic or the non-syllabic conditions. These results suggest that visual decomposition does not rely on phono-orthographic syllabification.



The auditory priming experiment under way (Kuiper & Dupoux, 2005; Schluter, 2013; Ussishkin et al., 2015, 2017) will serve to further explore the possibility that decomposition proceeds differently in each modality (e.g., because syllabification is a phonological process). The results from this experiment will reveal (a) to what extent the brothel vs. slegrack/flexire contradiction is unique to lexical access during reading and (b) to what extent it is a problem for lexical access across modalities.

Conclusions. The goal of the present study is to resolve the apparent contradiction between results reported in the masked priming literature on morphological decomposition (i.e., brothel effect vs. slegrack/flexire effect). The results from the visual experiment described above confirm that morphological decomposition in the visual modality (a) occurs independently of phono-orthographic syllabification, and (b) relies on morpho-orthographic information associated to extant morphemes of the language. In this sense, the apparent contradiction between the brothel and the slegrack/flexire effects is confirmed and therefore continues to demand an explanation. Results from this experiment in the auditory modality may clarify the extent to which modality impacts on the brothel vs. slegrack/flexire contradiction. More generally, cross-comparison of the results of the experiment described above in the two modalities may shed some light on the impact of modality on morphological decomposition.

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Nominal gender and gender alternations in Nafara and Supyire: a DM account

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In the morphosyntax literature on nominal gender, evaluative morphology and gender switch have been described as two distinct phenomena, affecting the value and activity of the gender feature associated to the head noun in a given DP.

On the one hand, evaluative morphology (Maho 1999, Kramer 2015) consists of instances in which a noun is realized with a morpheme that provides additional semantic information about the reality of the object in the world. The most common instances show diminutive and augmentative markers, overtly expressing semantic information related to the size of the object (either physically or figuratively). While some languages show separate diminutive and augmentative markers, in a wide variety of languages, such semantic information is associated with different genders.

On the other hand, gender shifts/switches (Carstens 1997, Mathieu 2012) consist in instances of nouns that may be realized with different gender feature values, in which case the object referred to in the world is different. For instance, gender switch can mark singulativization, in which case the object referred to is one single item in the group denoted by the associated noun in its default form.

Looking at languages in which they co-occur, this paper provides a unified account for the two phenomena, arguing that they are instances of the same morphosyntactic phenomenon. Supyire and Nafara (Senufo, Gur, Niger Congo) both show instances of evaluative morphology as well as gender switches marking mass/count contrasts.

The nominal gender systems found in Supyire (Carlson 1990) and Nafara (Baron 2016) are in many ways similar to the noun class systems typically found in Bantu (Manessy 1996). In both languages, gender is associated with certain semantic properties (listed in Table 1 for Nafara).

Table 1 – Nafara definite nouns, from Baron (2016)

Gender	Singular		Plural		General Properties
1	pi-**u**	*'the child'*	pi-**bɛl**	*'the children'*	humans
2	tʃĩ-**g**	*'the tree'*	tʃĩ-**i**	*'the trees'*	big objects
3	lo-**n**	*'the mango'*	lo-**gɛl**	*'the mangoes'*	small objects
Mass Nouns					
4	ka-**r**		*'the meat'*		mass, abstract
5	sol-**m̩**		*'the salt'*		pourables

The gender assignment of a particular noun is not semantically determined. For instance, it is not the case that all the nouns associated with Gender 3 refer to objectively small objects in the world. While an insect (1a) may easily be considered as a small-sized object, the gender for 'sky' (1b) does not appear to be interpretable, as the referent does not conceptually show a comparable small size.

(1) a.	sarpì	-n	b.	nɩ̃ʔɛ̃	-n	(Nafara)
	bee	-G3.SG		sky	-G3.SG	
	'the bee'			*'the sky'*		

However, in both Nafara and Supyire, gender contrasts are highly productive, and are associated with evaluative morphology as in (2-3) as well as expressions of number/countability as in (4-5).

(2) a.	tʃi	-i	b.	tʃĩ	-gɛl	**Diminutive**
	tree	-G2.PL		tree	-G3.PL	(Nafara)
	'the trees'			*'the small trees'*		
(3) a.	tʃe	-ni	b.	tʃĩ	-ge	**Augmentative**
	calabash	-G3.SG		calabash	-G2.SG	(Supyire)
	'the calabash'			*'the large calabash'*		
(4) a.	lupààn	-ni	b.	lupààn	-re	**Collective**
	mosquito	-G3.SG		mosquito-G4		(Supyire)
	'the mosquito'			*'the many/group of mosquitoes'*		
(5) a.	wyɛɛ	-re	b.	we	-ŋɛ	**Individuative**
	leaf	-G4		leaf	-G2.SG	(Supyire)
	'the foliage'			*'the leaf'*		

In a Distributed Morphology (DM) account, this paper argues that the gender switches attested in both languages are due to the presence in the syntactic structure of Senufo DPs of multiple heads (all labeled *n*) carrying features contributing to gender. While the lowest *n* carries the uninterpretable gender feature of the noun, the one above it carries a semantic feature that is morphologically realized as the gender associated with it. The feature on the highest of the two functional heads is the one getting realized, either by way of Agree (Chomsky 2000, 2001) or Concord (Norris 2014). In other words, this analysis buttresses the Highest Gender Hypothesis (Kramer 2015).

This paper contributes to current linguistic research in multiple way. Theoretically, this paper sheds new lights on evaluative morphology and gender switches by looking at both existing and novel empirical data from two closely related languages. Ultimately, I show that evaluative morphology and gender switch are the result of a single morphosyntactic phenomenon: they are the result of multiple heads entering the syntactic derivation with a feature that contributes to the realization of gender (Ferrari-Bridgers 2008, Kramer 2009, 2015, Mathieu 2012). In this account, while the lower *n* carries an uninterpretable gender feature, the one above it carries a semantic feature that is realized as the gender associated with that feature.

Typologically, this work provides an explanation for widely attested phenomena in the world languages. Namely, it tackles the question of why evaluative morphology and other gender shifts both tend to map onto grammatical gender, as found in a great variety of languages (Romance, Arabic, and Bantu, among others).

Finally, this analysis is a contribution to the classification of Senufo languages. While Nafara and Supyire show great similarities in their gender systems, some crucial differences arise, that are treated in this paper. In a context where Senufo languages are underrepresented in the linguistic literature, this analysis is the initial part of a greater attempt at the documentation of the nominal gender system in an understudied and potentially endangered language (Nafara).

Nominal Incorporation in Tongu Ewe

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Our goal is to examine the properties of incorporation in the nominal system of the Tongu dialect of Ewe (Niger-Congo, Ghana). The general approaches to incorporation primarily focus on nominal incorporation in the verbal domain. Tongu's pattern of incorporation poses a challenge for these because while incorporation is generally disallowed in verbs it is robustly found in nominals:

(1) àmè-*f*ò-lá
person-beat-AG.NMLZ
'person beater'

(2) tsì-lè-lá
water-bathe-AG.NMLZ
'(water) bather'

(3) àmè-*f*ò~*f*ǒ
person-beat~NMLZ
'whipping/beating'

(4) tsì-lè~lě
water-bathe~NMLZ
'bathing'

(5) *àmè-*f*ò
person-beat

(6) *ʋǔ-kù
drive-vehicle

Note the contrast in examples (1), (3) and (5) where apparent object incorporation is allowed into a verb only when such structures are nominalized. Such structures may be quite complex and embed other incorporated structures:

(7) tsì-lè-kpɔ́
water-bathe-enclosure
'bathing room'

(8) tsì-lè-kpɔ́-mè-kplɔ̀-xá
water-bathe-enclosure-in-sweep-broom
'bathing room broom'

This stands in contrast with the compounding structures found in an incorporating language like Tongan, where some simplex incorporation structures are allowed but more complex elements are not:

(9) inu-kava-'anga
drink-kava-NMLZ
'place to drink kava'

(10) *fakama'a-sea-'i-fale-'anga
clean-chair-in-house-NMLZ
Intended: 'place for cleaning chairs from inside the house'

(9-10 from Ball 2005)

We analyze the Tongu facts following the general proposals of compounding as incorporation (Harley 2009, onward). We further contrast the Tongu facts with m-merger-based accounts (Siddiqi 2009, Harðarson 2017). We demonstrate that while Tongu-type incorporation poses a surface problem for both families of analysis because some compounds/incorporations require an unmodified nominal modifier, while others require an adpositional modifier (as in 11 and 12 below).

(11a) àbà-dzì-vɔ̌
bed-on-cloth
'bedsheet'

(12a) àkɔ̀ɖú-tí
banana-tree
'banana tree'

(11b) *àbà-vɔ̌
bed-cloth

(12b) *àkɔ̀ɖú-mè-tí
banana-in-tree

Harley (2009) presents a Distributed Morphology account of compounding wherein all forms of compounds (primary and synthetic) are the result of incorporation (in the sense of Baker 1988). Subsequent work argues for a hybrid approach to compounding: Jackson and Punske (2013) argue that certain modificational relationships that appear to be compound-like are not compounds, but compounding generally is incorporation as in Harley (2009).

Within the compounding-as-incorporation literature, it is typically assumed that the incorporation is restricted via selection (Harley 2009), phasehood (Jackson & Punske 2013), or both (Punske & Jackson 2017). This restriction on the level of functional structure has consequences for the semantics as well. For approaches like Jackson & Punske (2013), "similar functional heads assign similar roles" (McKenzie 2018:6). McKenzie utilizes this feature of Jackson & Punske to introduce a *mediating relation* to capture the complex semantics of incorporated structures. However, the mismatch in "similarity" of functional structure poses a problem for these approaches.

if we combine the insights of Punske & Jackson (2017) with McKenzie's (2018) notion of the *mediating relation* the observations found in Tongu naturally fall out. Preference for adpositional modifier or bare nominal modifiers appears to be largely a selectional preference of the head (as in Punske & Jackson 2017). This is most clearly illustrated through the behavior of the nominal root *lã* which varies in its interpretation based on which type of modifier it co-occurs with.

(13) gbē-mē-lǎ̃
bush-in-ANIMAL
'wild animal'

(14) nyì-lǎ̃
cow-ANIMAL
'cow meat'

(15) gbē-tódzó-lǎ̃
bush-cat-ANIMAL
'wildcat meat'

The combination of McKenzie's (2018) mediating relation with the general approach provided by the compounding-as-incorporation literature from Distributed Morphology gives us the tools we need to capture these seemingly unrelated facts. Incorporation requires a mediating relation. In Tongu, this mediating relation must be *n*, as seen in (1)-(6).

Acquisition of dialectal features in a second language: The case of the Castilian Spanish voiceless interdental fricative

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This study explores how L1 (first language) English speakers learning Spanish as an L2 (second language) acquire the voiceless interdental fricative /θ/ that occurs contrastively only in the Castilian dialect of Spanish. More specifically, our study explores how the use of this sound develops in L2 learners of Spanish who are spending/ have spent time in Spain and aims at elucidating what factors contribute to the use (or not) of this sound by the learners. The study contains a sociolinguistic component as well, since language attitudes by the L1 English speakers towards this sound are considered as a possible factor in the acquisition process.

The Spanish language is spoken in a wide variety of countries, which results in a large number of different dialects with distinct characteristics. For example, in northern and central Spain we find the Castilian dialect, which includes a phoneme only found in this variety, i.e. the interdental fricative: /θ/. This sound is of interest because it exists in very few dialects of Spanish, and contrastively, only occurs in Castilian Spanish. This phenomenon is called *distinción*, by which there is a contrast between an interdental fricative, represented orthographically by the graphemes <ci>, <ce> and <z>, and a voiceless alveolar fricative, /s/. Other dialects tend to have only the phoneme /s/ (a situation called *seseo*; Hualde 2005). This dialectal feature becomes especially interesting when considering second language acquisition of Spanish by English speakers, and interest in this stems from two features. First, English possesses the interdental sound /θ/ but it corresponds with a different grapheme, i.e. <th> such as in *think* and *Cath*. Second, most American English speakers are not necessarily exposed to this Spanish sound in their L2 classes but, rather, they encounter it for the first time, and in a systematic manner, when they study abroad in Spain (Ringer-Hilfinger, K. 2013). Previous studies have focused on the acquisition of the voiceless interdental fricative in participants who have spent eight weeks up to three months in Spain (e.g. George 2014, Knouse 2012), but we include participants who have spent nine months or more in the country. We also explore L2 linguistic attitudes surrounding the sound, which are not considered in previous studies.

First, this study analyzes whether there are any linguistic factors that promote the acquisition of the interdental sound by L2 learners of Spanish. Some of the factors the study considers are the frequency of use of the words that contain the sound and whether the sound appears in word-initial position, word medial position, intervocalic position, or following a certain consonant. Second, we examine how the amount of time spent in Spain influences the acquisition of /θ/, an issue that we also relate to questions of linguistic identity and native English speakers' attitudes towards the Castilian dialect. Consequently, to explore this aspect, we take into account sociolinguistic factors such as amount of time spent learning Spanish, motivation for learning, and the speaker's language competency. We hypothesize that all of these factors influence speaker attitudes of the sound or dialect, which could contribute to whether or not a speaker acquires /θ/.

The study examines two groups of participants: Group 1 is comprised of American university students studying abroad for a period of six to eight weeks (N=4), and Group 2 consists of native speakers of English who have lived in Spain for nine months or longer (N=4) . Participants were recorded while performing three tasks designed to elicit different types of speech: (1) reading of a list of sentences, which elicits careful speech; (2) describing ten pictures of food, which elicits more fluid speech; and (3) an oral interview to elicit spontaneous speech. The sentence list for the first task contained tokens with the target sound in a variety of positions in the word and with different phonemes that represent this sound. For the photos, each was a picture of a food item whose word contains the target sound. We also included two foods whose names do not contain the target sound. In the oral interview, participants were asked about their Spanish education, opinions about Spanish culture, and thoughts about the voiceless interdental fricative in order to gather

information about the sociolinguistic aspect of our study regarding L2 learner language attitudes. Next, we conducted an acoustic analysis using the program Praat, with the objective of finding patterns in the production of the interdental sound. More precisely, each token, i.e. a /θ/ in Castilian Spanish, was perceptually coded for its place of articulation (alveolar or interdental) and acoustically analyzed for its Center of Gravity (CoG). Some tokens of /s/ were also analyzed in this way for comparison purposes. CoG is an acoustic measure that allows that varies depending on the places of articulation of fricatives (Gordon et al. 2002).

After preliminary analysis of the reading task, we observe that participants in Group 2, who have spent nine months or longer in Spain, produce the voiceless interdental fricative for almost all of the tokens presented that included the target sound. We also observe a pattern for participants in Group 1, i.e. American students studying abroad in Spain for six to eight weeks. They produce the target sound more frequently when it is located in an unstressed syllable. Additionally, the graphemes that elicited production of the interdental sound most frequently include <ci, ce, za> as expected, with some cases of overproduction of this sound with the grapheme <s>. The rest of the data will be analyzed to supplement these initial results and to answer our research questions.

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Elided antecedents: sluicing with *except*-phrases

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This paper argues that antecedents for ellipsis can themselves be elided, based on the interaction between sluicing (1) and sprouting (2) (Ross 1969) and *except*-phrases (Reinhart 1991):

(1) Everybody liked the movie, except some boy, but I don't know which boy.

(2) Everybody liked the movie, except John, but I don't know why.

The sluice in (1) asserts ignorance as to which boy didn't like the movie. Assuming sluices to contain unpronounced structure in the ellipsis site, (1) is represented as in (1') (~~elided structure~~):

(1') Everybody liked the movie, except some boy,
but I don't know which boy ~~didn't like the movie~~.

That the only available antecedent for ellipsis in (1') appears to be the first clause – *Everybody liked the movie, except some boy* – is highly problematic for prominent accounts of sluicing: there is no entailment, let alone mutual entailment, between the antecedent and ellipsis (Merchant 2001); while the mismatching polarity, *liked* vs. *didn't like*, means the ellipsis site is not an LF-copy of the antecedent (Chung et al. 1995).

Rudin (to appear) does not consider (1), but his head-based syntactic identity condition on sluicing, distilled in (3), would allow it. Of the elided structure, *like*, *the*, and *movie* have lexically identical correlates in the antecedent; while the mismatching negation originates above vP (cf. sluicing mismatches in tense, modality, etc.):

(3) Elided material must either:
(a) have a lexically identical or coindexed correlate in the antecedent; or
(b) originate above vP.

However, as Rudin recognises, (3) comes unstuck on (2), whose ambiguity is spelled out in (2'):

(2') Everybody liked the movie, except John, but I don't know why …
a. … ~~everybody liked the movie, except John~~. b. … ~~John didn't like the movie~~.

The 'everybody' (a) reading of the sprout is uninteresting, since there is exact identity between antecedent and ellipsis. But the 'John' (b) reading, while still troubling for mutual entailment and LF-copying, is also problematic for Rudin: *John* is elided, originates inside vP, but lacks a correlate, since it mismatches with the subject *everybody* in the first clause.

To account for the interpretation and successful licensing of sluicing in (1) in a way that will generalise to (2), we propose that there is elided structure in *except*-phrases, as in (4). This elided structure then serves as the antecedent for sluicing, as in (1'') and (2''):

(4) a. Everybody liked the movie, except some boy ~~didn't like the movie~~.
b. Everybody liked the movie, except John ~~didn't like the movie~~.

(1'') Everybody liked the movie, except some boy [$_A$ ~~didn't like the movie~~],
but I don't know which boy [$_E$ ~~didn't like the movie~~].

(2'') Everybody liked the movie, except [$_A$ John ~~didn't like the movie~~],
but I don't know why [$_E$ ~~John didn't like the movie~~].

This analysis comes close to bringing (1) and (2) into line with accounts of sluicing: full identity between antecedent and ellipsis means mutual entailment, LF-copying, and syntactic identity to vP (and beyond) are all viable. However, there are two issues outstanding.

First, sluicing is licensed in (1'') and (2'') based on an antecedent which is itself mostly elided. This sits comfortably with accounts that postulate unpronounced structure in ellipsis sites,

over which semantic (Merchant 2001) or syntactic (Rudin to appear) identity is calculated. Such elided antecedents complicate accounts that do not make this assumption, however. For example, ordering would have to be imposed on applications of LF-copying: copying into the *except*-phrase would have to precede copying into the sluice.

Second, in solving the problem of ellipsis licensing for the sluice, we look to have created another one: how is ellipsis of *didn't like the movie* licensed in the *except*-phrases in (4)? With precedents from Spanish (Pérez-Jiménez & Moreno-Quibén 2012), Egyptian Arabic (Soltan 2016), and Malagasy (Potsdam 2017), we claim that the ellipsis in the *except*-phrase takes the first clause as antecedent, as in (4'). We take the ellipsis in the *except*-phrase to be an instance of bare argument ellipsis, or stripping: the subject has been focus-fronted, with TP-ellipsis of the evacuated clause, similar to sluicing (Merchant 2004). The polarity mismatch between *liked* in A and *didn't like* in E remains a problem for mutual entailment or LF-copying accounts, but is grammatical by (3), lending additional support to Rudin's vP syntactic identity account of sluicing:

(4') a. [$_A$ Everybody liked the movie], except some boy [$_E$ ~~t$_{\text{some boy}}$ didn't like the movie~~].
b. [$_A$ Everybody liked the movie], except John [$_E$ ~~t$_{\text{John}}$ didn't like the movie~~].

In support of our analysis in (1'') and (2''), where sluicing is licensed based on an elliptical antecedent in the *except*-phrase, note that the ambiguity from (2') is resolved in (5) with a connected *but*-exceptive (a), and with the addition of *for* (b) – the 'John' reading disappears, leaving only the 'everybody' reading:

(5) a. Everybody but John liked the movie, but I don't know why.
b. Everybody liked the movie, except for John, but I don't know why.

The lack of a 'John' reading in (5) follows from our analysis to the extent that elided structure should be pronounceable. The structure hypothesised to be elided in (1'') and (2'') cannot be pronounced in (5'), suggesting that it is absent entirely. In the absence of elided structure in the *except*-phrase to provide the antecedent for sluicing, the 'John' reading disappears:

(5') a. Everybody but John (*didn't like the movie) liked the movie, but I don't know why.
b. Everybody liked the movie, except for John (*didn't like the movie),
but I don't know why.

In closing, we note that elided antecedents are in evidence beyond *except*-phrases with sluicing (1) and sprouting (2): cases of sloppy VP ellipsis (Hardt 1999, Schwarz 2000) can provide elided antecedents for sprouting. In (6), the elided VP E *want him to clean* in (b) is composed of parts of two different antecedent VPs: A *want him to cook* from (a) and A'' *clean* from (b). Despite never being spoken, the elided VP *want me to clean* is part of the antecedent A-S for the sprout in (c):

(6) a. John will <$_{A'}$ cook > if you [$_A$ want him to <$_{E'}$ ~~cook~~ >]
b. And {$_{A\text{-}S}$ he'll <$_{A''}$ clean > even if you don't [$_E$ ~~want him to <$_{E''}$ clean >~~] }
c. I don't know why {$_{E\text{-}S}$ ~~he'll <$_{A''}$ clean> even if you don't [$_E$ want him to <$_{E''}$ clean>]~~}

Overall, the interaction between sprouting and sluicing and *except*-phrases shows that elided structure can itself serve as the antecedent for ellipsis: the theory of ellipsis must allow for non-pronunciation to be licensed by unpronounced material.

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The Four-way Stop Contrast in Bengali: durational patterns

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Many South-Asian languages descended from Sanskrit exhibit a four-way contrast in stops (and affricates) typically described as combinations of voicing and aspiration: [-voi,-asp], [-voi,+asp], [+voi,-asp] and [+voi,+asp], categories represented here as T, TH, D, DH, respectively. We investigate this contrast in Bengali, and in line with recent studies of related languages, focus on the durational patterns of closure and release portions of the stops. We additionally consider the potential effects of syllable position and focus, and demonstrate that while both factors do affect the durations, the overall patterns, and thus the full set of contrasts, are consistently maintained.

Articulatorily, the free combination of voicing and aspiration poses a conundrum, especially for the DH stop category, since voicing requires that the vocal folds be close enough to produce regular vibration, but aspiration requires that they be pulled apart. Unsurprisingly, descriptions of these sounds differ somewhat across languages, including observations of variability and a "murmured" quality. Thus, recent studies of related languages investigate, instead, the durations of different aspects of the closures and releases of the four stop types (e.g., Hindi[1,2], Marathi[3], Punjabi[4], Bengali[5]), and suggest that the contrast rests primarily on durational relationships, rather than combinations of voicing and aspiration. In this context, we examine the closure and release durations of the four stop types in a large corpus of systematically collected Bengali data.

Our corpus consists of recordings of 10 university educated speakers of Bengali, recorded in Shantiniketan, West Bengal, India, by a speaker of the same variety of Bengali. The stimuli are real three-syllable words known by the average Bengali speaker. In Syllables 1 and 2, all 4 types of consonants were followed by 10 instances of each of three vowels (/i, u, a/). In Syllable 3, most of the consonant and vowel combinations are not available, so only voiceless unaspirated stops are examined (10 before /a, i /). The stimuli appeared in two short dialogues, priming a reading with focus on the target (Focus Condition) or on a word following the target (Non-Focus Condition): 520 targets per speaker. See Table 1; the focused items are bolded. Only the target word appearing in the answer of the dialogue was used for the analysis.

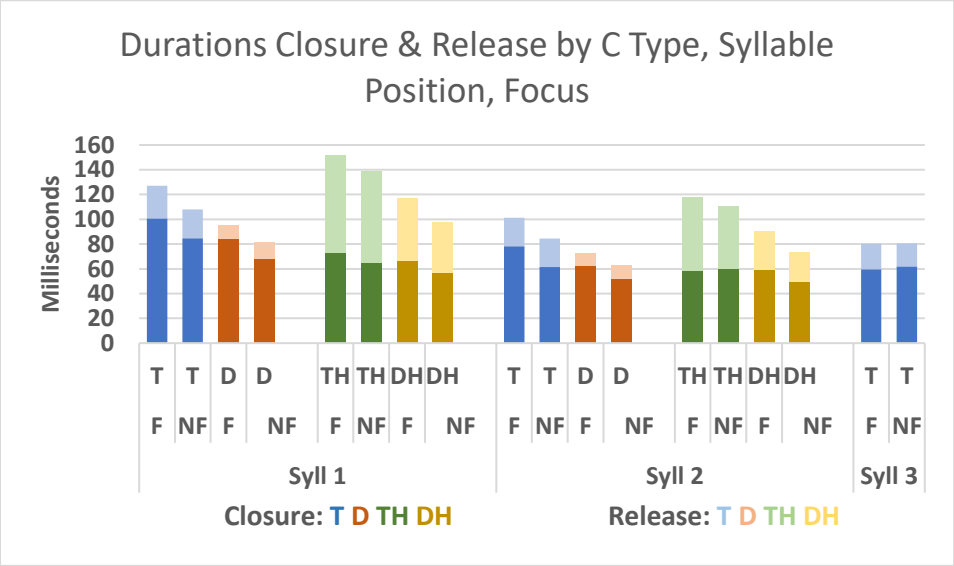
Table 1. Carrier Dialogues

Focus Condition	Q: Dipa ki boletʃʰilo? 'What did Dipa say?'	A: Dipa "**katʰit̪e**" boletʃʰilo. 'Dipa said "**katʰit̪e**".
Non-Focus Condition	Q: Dipa ki "katʰit̪e" **likhetʃʰilo**. 'Did Dipa **write** "katʰit̪e"?	A: Na, Dipa "katʰit̪e" **boletʃʰilo**, lekheni. 'No, Dipa **said** "katʰit̪e", she did not write it.

The recordings were segmented manually using Praat, and duration measurements were made for each consonant for: i) the closure portion (from beginning of closure to beginning of release), and ii) the release portion (from beginning of release to onset of following vowel, determined by clear formant structure, especially F2 plus a higher formant, and consistent waveform). The following vowels were also labeled, but remain to be examined in follow-up research.

Figure 1 presents the closure and release durations of the different stop categories in an initial analysis, based on the 520 stops produced by one male speaker. As can be seen in Syllable 1, the aspirated stops (TH, DH) are longer, overall, than their respective unaspirated stops (T, D). The pattern of closure and release durations further distinguishes these categories: the closure of the

unaspirated stops is longer than that of the aspirated ones, while the release of the unaspirated stops is shorter than that of the aspirated stops, where the two portions show quite similar durations. We also find an effect of focus: in the Focus Condition, all of the duration measures are longer than in the Non-Focus Condition. Syllable position also affects the durations: all measures are shorter in Syllable 2 than in Syllable 1, but crucially, the basic durational relations associated with stop type, and focus condition, remain essentially the same, retaining a clear distinction among all four stop types. The longer durations in Syllable 1 may be due to a left edge boundary phenomenon and / or the possibility of stress in that position, options that may be additionally assessed with a follow-up analysis of the adjacent vowels. In Syllable 3, only voiceless unaspirated stops were tested, and these show durations even shorter than those of Syllable 2 in the Focus Condition, but the same in the Non-Focus Condition. Again, analysis of the following vowel properties may yield additional insight into the patterns observed here.



In sum the closures and releases differ among the four consonant types, but these are maintained despite focus and syllable position. It was also noted (not measured) that the voicing during the closures and releases was not consistent. While we saw it during some "voiceless" closures,

Figure 1. Durations in Four Stop Types: T = voiceless, unaspirated; D = voiced, unaspirated; TH = voiceless, aspirated; DH = voiced aspirated. F = focus condition; NF is non-focus condition.

it was interrupted in some "voiced" stops, especially before and during releases. We thus lend support to proposals for other languages, whereby, instead of voicing and aspiration properties, a more robust distinction rests on longer closure/release durations of "voiceless" (vs. "voiced") stops, and the longer releases (and shorter closures) of "aspirated" (vs. "unaspirated") stops.

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Vowel Lengthening and the Syntax-Phonology Interface in Malawian CiTonga

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1 Overview

Malawian CiTonga is a Bantu language spoken in Malawi. Although much work has been done on the Zambian variety of CiTonga, documentation on the Malawian variety is sparse. Malawian CiTonga, henceforth referred to as CiTonga, does not have a lexical vowel length contrast, but vowel length has an important grammatical function, as shown in (1) and (2).

(1) M**àá**-sù ng-àángò
C6-eye COP.C6-1SG.POSS
'The eyes are mine.'

(2) m**à**-sú ng-àángò
C6-eye C6-1SG.POSS
'my eyes'

In some cases, the lengthening of vowels in the penultimate syllable can distinguish between full phrases and DPs that are segmentally identical. I show that vowel lengthening is predictable as it occurs on the penultimate syllable of the phonological phrase, a pattern that is analogous to H tone placement and vowel lengthening in other Bantu languages (see Selkirk (2011) and references therein). I examine the occurrence of vowel lengthening in various syntactic constructions of CiTonga and analyze phonological phrasing according to Match Theory (Selkirk, 2011).

2 Data

Overt subjects have long penults, and in the case of intransitive verbs, the objects have long penults while the verb does not. Intransitive verbs have long penults. Examples of these are shown below.

(3) M**ùù**-ntù wà-**túù**-mb-à
C1-man C1-PRES-sing-FV
'The man sings'.

(4) Mw-**àá**nà wà-tú-ly-á ø-làl**àá**njè
C1-child C1-PRES-eat-FV C5-orange
'The child eats an orange'.

In the case of embedded clauses and CP complements, only the right-most embedded verb phrase will have a long vowel in the penult.

(5) Ndì-gómézg-á (kùtí) mw-àánà wà-**túù**-ly-à
1SG-hope-FV COMP C1-child C1-PRES-eat-FV
'I hope (that) the child is eating'.

(6) Mw-àánà wá-kùmb-à kù-vélèng-à ø-b**ùú**kò.
C1-child C1-want-FV C15-read-FV C5-book
'The child wants to read the book'.

When a nominal phrase has a modifier, the head noun does not show prominence through a long vowel in the penult, but the modifier does. This is true of all modifiers; including adjectives, demonstratives, numerals, and possessives. If there are multiple modifiers, all have long penults.

(7) mw-àná mù-m**áá**nà
C1-child C1-small
'small child'

(8) mà-bùkó ngá-t**áà**tò ng-**áà**ngò
C6-book C6-three C6-POSS
'my three books'

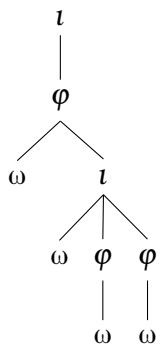
3 Analysis

There are clear phonological boundary markings in which phonological phrases in CiTonga correspond to XPs, as evidenced below.

(9) [[$_{DP}$Mw-àánà])φ [[$_{VP}$wà-tú-ly-á [[$_{DP}$ø-làlàánjè]]])φ
C1-child C1-PRES-eat-FV C5-orange
'The child eats an orange'.

The distribution of long vowels in embedded clauses and clauses with CP complements is a strong indication that CiTonga does not necessitate a high ranking of the STRONG START constraint, because it allows for prosodic hierarchies such as the one generated from (10) below, where the left sister can be lower in the prosodic hierarchy than the right sister(s).

(10) [$_{CP}$Ndì-gómézg-á [$_{CP}$(kùtí) [$_{DP}$mw-àánà])φ [$_{VP}$wà-túù-ly-à.])φ]]
1SG-hope-FV (COMP) C1-child C1-PRES-eat-FV
'I hope (that) the child is eating'.



This low ranking of the STRONG START constraint deviates from other Bantu languages with prominence marking on the phonological phrase, such as Rutooro (Bickmore & Clemens, 2016) and Xitsonga (Selkirk, 2011), possibly indicating a new typology.

Occasionally, vowel lengthening will occur on final syllables rather than the penultimate syllable, as in (11).

(11) kù-kóò
C15-catch
'to catch'

This irregularity can be accounted for with an underlying representation of /kù-kólà/. CiTonga avoids [l] in the final syllable of verbs and so the final syllable is deleted after penultimate lengthening has occurred, leaving a verb stem with a long vowel in the final syllable.

In conclusion, Malawian CiTonga has a vowel lengthening process on the penultimate syllable of phonological phrases that mirrors similar processes in other Bantu languages indicative of a prosodic hierarchy. This prosodic hierarchy serves as a diagnostic tool for the underlying structure of phrases.

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Alternations between regular and athematic participles in Brazilian Portuguese

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1. Introduction. In BP, there are three constructions where a participle can be used:

(1) a. Essa camisa foi **pass-a-d-a** pelo João.
this shirt was iron-THV-PTC-AGR by.the João
'This shirt was ironed by João.' ***Verbal passive***

b. Essa camisa está **pass-a-da**.
this shirt is iron-THV-PTC-AGR
'This shirt is ironed.' ***Adjectival passive***

c. [**Pass-a-da** a última camisa], o João pôde descansar.
[iron-THV-PTC-AGR the last shirt] the João could rest.INF
'Having ironed the last shirt (Lit.: Ironed the last shirt), João could go rest'. ***Absolute participle***

In its regular form, the participle is exponed by /*-d*/; it is preceded by a theme vowel and followed by agreement morphology. Besides a regular participial form (leftmost column in (2)), some verbs allow for a form that lacks /*-d*/ and a THV (3rd column) – the same is true in other Romance languages, *e.g.* Italian (Calabrese:2015). These are called *athematic participles* (Lobato:1999; Chagas:2011; Scher *et al.*:2013; 2014; Nevins *et al.*:2014, *i.a.*).

(2) a. *ganh-a-d-o/a(s)* 'win-THV-PTC-AGR' *ganh-o/a(s)* 'win-AGR'
b. *limp-a-d-o/a(s)* 'clean-THV-PTC-AGR' *limp-o/a(s)* 'clean-AGR'

The participial constructions in (1) differ in which participle(s) they may take. Verbal passives allows for either participial form (3a), adjectival passives only allow for the athematic participle (3b), and absolute participles only allow for the regular participle (3c).

(3) a. O armário foi **limp-a-d-o** / **limp-o** (pelo João).
the wardrobe was clean-THV-PTC-AGR / clean-AGR (by.the João)

b. O armário permanece/está ***limp-a-d-o** / **limp-o**.
the wardrobe remains/is *clean-THV-PTC-AGR / clean-AGR

c. [**Limp-a-d-o** / ***Limp-o** o armário], o João foi descansar.
[clean-THV-PTC-AGR / *clean-AGR the wardrobe] the João went rest.INF

While it is not unusual for there to be more than one participle available (*cf.* Embick:2004, 2003), each form is usually restricted to a particular environment. Our goal is to explain why *either* participle is possible in verbal passives (3a) in BP, an alternation that, to the best of our knowledge, has not been addressed. (3b) and (3c) are boundary cases that the analysis must also account for.

2. Three classes of participles. Only verbal passives can license a *by*-phrase (3a); adjectival passives (4a) and absolute participles (4b) cannot.

(4) a. O armário permanece/está limp-o (***pelo João**).
the wardrobe remains/is clean-AGR (*by.the João)

b. [Limp-a-d-as as gavetas (***pelo João**)], . . .
[clean-THV-PTC-AGR the drawers (*by.the João)] . . .

Absolute participles (5c) are still different from adjectival passives (5b) (and similar to verbal passives (5a)) in that they can be modified by manner adverbs.

(5) a. O armário foi limp(-a-d)-o **cuidadosamente / rapidamente**.
the wardrobe was clean-PTC-AGR carefully / quickly

b. O armário permanece/está aber-t-o (***cuidadosamente** / ***rapidamente**).
the wardrobe remains/was$_{estar}$ open-PTC-AGR (*carefully / *quickly)

c. [Aber-t-o o armário **cuidadosamente / rapidamente**], . . .
[open-PTC-AGR the wardrobe carefully / quickly] . . .

3. Analysis. Following Oltra-Massuet:1999, *i.a.*, I assume that theme vowels are dissoaciative morphemes. I propose that they are inserted to the right of the root in [+V] environments.

(6) *Theme Vowel insertion*: $\emptyset \rightarrow$ THV/__[+V] *(where* THV $= \{$*-a, -e, -i*$\}$*)*

I propose the following system of [±V(ERBAL), ±A(DJECTIVAL)] features:

(7) a. Participle: [+V, +A] b. Adjective: [−V, +A] c. Verb: [+V, −A] d. Noun: [−V, −A]

Inspired by Kučerová:2018's treatment of class markers in Italian, I propose that roots determine which PTC is inserted. Roots like those in (2) select for a PTC that lacks a [±V] feature (8)-a; such a feature will be supplied by the context. Other roots select for a fully specified PTC (8)-b.

(8) a. PTC $\rightarrow$ [__, +A] / $\sqrt{limp}$, $\sqrt{ganh}$, . . . __ b. PTC $\rightarrow$ [+V, +A]

The Vocabulary Entries that expone PTC are as follows:

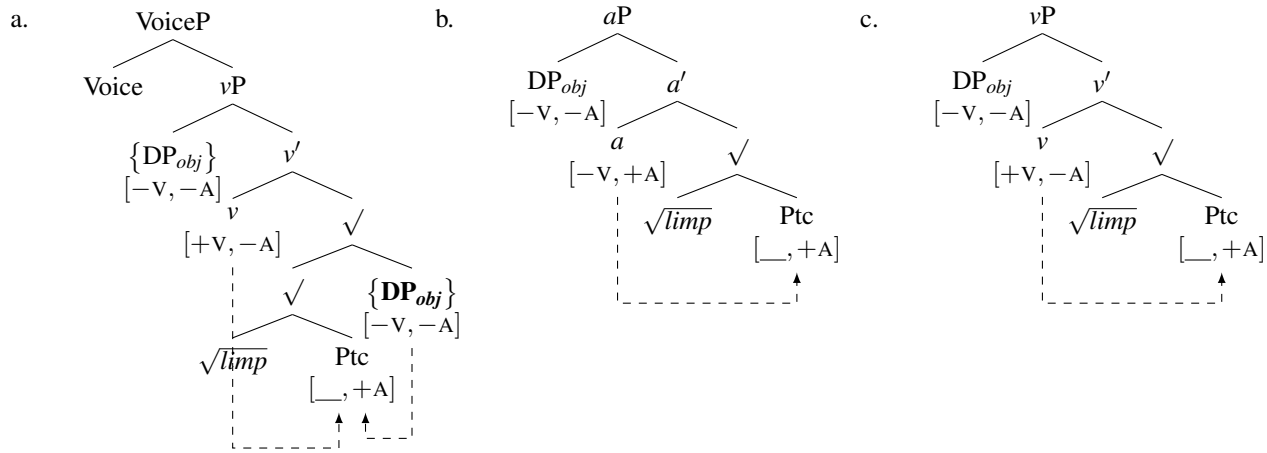
(9) a. $[+\text{A}]_{Ptc} \leftrightarrow /\varnothing/$ b. $[+\text{A}, +\text{V}]_{Ptc} \leftrightarrow /\text{-}d/$

I propose that verbal passives have two object positions. The verb *perguntar* 'ask' can only be used in verbal passives; it cannot be used in adjectival passives nor absolute participles (not shown). I attribute this possibility to the availability of an additional object position in verbal passives. Since *a Maria* is a goal argument in (10), I assume this is a lower position (Larson:1988; *cf.* (11a)).

(10) A Maria foi **pergunt-a-d-a** se já foi assaltada alguma vez.
the Maria was ask-THV-PTC-AGR if already was robbed some time

I propose that verbal passives (11a), adjectival passives (11b), and absolute participles (11c) have the following structures, illustrated with *limp(-a-d)-as* '$\sqrt{clean}$-(THV-PTC)-AGR':

(11)



$\sqrt{limp}$ requires the [±V]-less PTC (8)-a. In **adjectival passives** (11b), what supplies this feature is *a*, which is [−V]. As such, PTC is going to be exponed as /∅/ (9a) and a THV is not going to be inserted. The net result is the athematic participle *limp-o*. If the root requires a fully specified PTC (8)-b, a THV *is* inserted and the VI chosen for PTC is /*-d*/ (9b). The second case holds for all participial constructions. In **absolute participles** (11c), a *v* provides a [+V] feature to the [±V]-less PTC. As a result, PTC is going to be exponed as *-d* (9b) and a THV is going to be inserted even though PTC starts out defective. The result is a regular participle *limp-a-d-o*. In **verbal passives** (11a), if the object occupies a lower position (**DP**$_{obj}$), it is this DP that supplies a [−V] feature to PTC. The result is an athematic participle. If the object occupies the higher position, the closest element that can supply a [±V] feature to PTC is *v*. In that case, PTC is going to be exponed as /*-d*/

and a THV will be inserted. The optionality between athematic and regular participles in verbal passives is the reflex of the two structures proposed for them.

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Goal-Oriented Location Commands

In this paper I introduce the previously unstudied construction *Goal-Oriented Location Commands* (GOLCs), which can be seen below in (1). These are fragment commands consisting of a noun and a goal-oriented location modifier, with emphatic prosody that denotes a command.

(1) Feet on the floor! / Hands where I can see them!

This construction is quite robust crosslinguistically, with examples found in at least Turkic, Semitic, Quechuan, and Germanic languages.

(2) Qo'l-lar stol-da!
HAND-PL TABLE-LOC
'Hands on the table!' (Uzbek)

(3) Lichi-ta refrigeradura-pi!
MILK-ACC FRIDGE-LOC
'Milk into the fridge!'(Quechua)

(4) al-kutub ala al-tawla!
THE-BOOK.PL ON THE-TABLE!
'Books on the table!' (Najdi Arabic)

(5) bøk-ene på bord-et!
BOOK-PL.DEF ON TABLE-DEF
'Books on the table!' (Norwegian)

Based on the overt material in GOLCs, it would be natural to suggest that GOLCs are simply a small clause consisting of an NP and a PP with no additional material. However, binding data shows a 2nd person subject in GOLCs, similar to morphological imperatives (IMPs) (as shown by Zwicky 1988, among others). 1P and 3P reflexive pronouns produce a Condition A violation, and non-reflexive 2P pronouns produce a Condition B violation.

(6) Hands off yourselves/*myself/*himself/*themselves!

(7) Hands off *you / me!

Tags provide additional evidence that GOLCs pattern with IMPs in having a 2P subject.[1]

(8) Take out the trash, won't you? / *won't I? / *won't he? / *isn't there? / *isn't it?

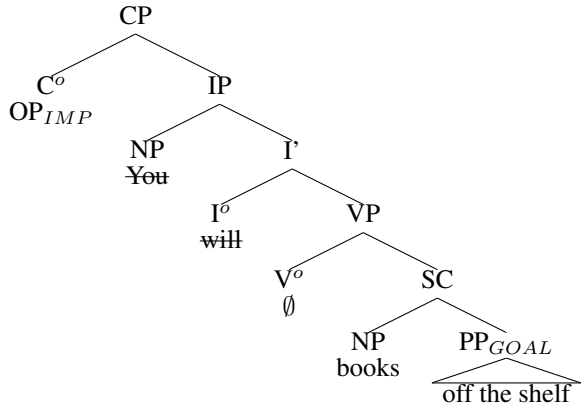
(9) Hands off the table, will you? / won't you? / *won't I? / *won't he? / *isn't it?

Additionally, neither IMPs nor GOLCs are easily compatible with embedded environments[2], which is typical of IMPs crosslinguistically (Aikhenvald 2010).

(10) *I think feet on the floor! / *I think stop!

If GOLCs consist only of a small clause with no additional material, it is unclear where the second person subject could be situated, or why embedding is impossible. It is notable, however, that their covert second person subject is analogous to IMPs. Given that GOLCs are used as commands, these similarities are striking. Given that both GOLCs and IMPs have an addressee-restricted subject, this morphosyntactic similarity lead to consideration of an analysis of a verbless IMP clause, (11) below.

(11)



[1] See Bolinger 1967 for other tag data for English IMPs.

[2] The exception to this in English is under verbs of saying, as noted by Crniĉ and Trinh (2008).

I include an IMP operator (see Han 2000 for detailed discussion), as is standardly assumed for IMP clauses, as well as 2P and 'will' overtly to explain data from tag questions, as tags are typically taken to be direct copies of the material present in spec-IP and I^o.[3]

Many GOLCs are re-statable with as IMPs with "get." I leave the verbal head null in (11) however, rather than eliding "get." While it is true that virtually all GOLCs can be restated as IMPs with "get," there are some IMPs with "get" that cannot be restated as GOLCs. If "get" deletion were correct, we would expect 2P reflexives to appear in GOLCs, but they are impossible.

(12) Get yourself out of here! / *Yourself out of here!

I propose a left-edge deletion of a non-constituent string of everything to the left of the head noun (seen in Weir 2012), triggered by the presence of the IMP operator.[4] This ellipsis deletes everything up to the N head, including determiners.

(13) *The/Your books off the shelf!

Focused determiners can appear in GOLCs. F-marked elements are well-known to be able to "survive" ellipsis. (Rooth 1992, Merchant 2001)

(14) THOSE books off the shelf, THESE books onto the shelf!

This type of left-edge ellipsis helps explain an otherwise curious fact. Bare singulars are possible in GOLCs, but are typically ungrammatical in other contexts (Carlson 1977).

(15) Book onto the table, now! / *I like book.

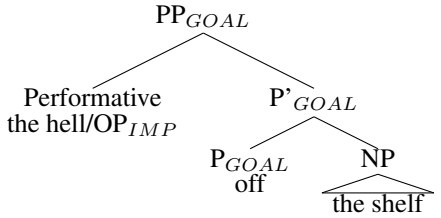
(16) $[_{CP}$ $[_{C}$ $\text{OP}_{IMP}]$ ~~$[_{IP}$ $[_{NP}$ You ~~$][_{I'}$ $[_{I^o}$ will ~~$][\text{VP}$ $[\text{V}^0$ $\emptyset]$ ~~$[_{SC}$ $[_{NP}$ $[_{Det}$ the~~$][_{NP}$ books$]]][_{PP}$ off the table$]]]]]$

This structure, on its own, is not sufficient to explain some of the restrictions on GOLCs, however. The structure above in (11) would permit other types of modifiers, such as the ones shown below in (17).

(17) *Books [about Rome]! / *Hands [that I can't see]!

These restrictions can be explained if there is a performative modifier that is compatible with locative PPs. Thus, the structure given in (11) above is only compatible with the goal-oriented PPs seen in (18) below, and not other modifiers. This achieves the desired result, GOLCs can only co-occur with Goal PPs.

(18)



This structure has an added benefit outside of GOLCs. Allowing for Location-PPs to have a performative specifier solves a long-standing problem on the distribution of *the hell* in English in non-wh contexts (Bruening 2011).

(19) Get the hell into bed! / The fox ran the hell out of the room.

Furthermore, *the hell* is not compatible with GOLCs. This falls out naturally if it is in complementary distribution with an IMP operator in a performative specifier slot, as the structure in (18) predicts. This restriction does not apply to IMPs that are not GOLCs (seen in 20).

(20) Get those books the hell off the shelf!

(21) *Books the hell off the shelf!

The best explanation for the distribution of "the hell" in (20) and (21) is a performative PP specifier that is present in goal-oriented PPs only. This specifier allows goal-oriented PPs to participate in GOLCs, whereas other PPs never participate in GOLCs. Positing only a small clause or "get" deletion, without appealing to the nature of goal-oriented PPs, cannot explain the facts.

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[3] c.f. Han (2000) and Kaufmann (2011) for a more complete and dedicated analysis of the IMP clause.

[4] Weir 2012 utilizes this analysis to explain diary entry effects for informal registers, "Walked the dog yesterday."

The Distribution of Parentheticals and the Sensorimotor Interface

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Issues: Parentheticals (*P*s) appear to be syntactically independent in a number of ways; e.g. they are "invisible to c-command" (see de Vries, 2007), suggesting that *P*s are syntactically "unintegrated" in some sense. At the same time, *P*s are pronounced and interpreted, meaning they *are integrated* at the Conceptual-Intentional and Sensorimotor (SM) interfaces.

There exist two broad hypotheses addressing this puzzle, (i) the "unintegrated" approach (e.g. Haegeman, 2009), which considers *P*s to essentially be interpolated separate sentences, unconnected syntactically with their Hosts (*H*s), and (ii) the "integrated" approach, which holds that *P*s are integrated in Narrow Syntax (NS) via the application of special mechanisms (e.g. de Vries, 2007; 2012). Ott (2016) argues that integrated approaches should be rejected on conceptual grounds. For example, de Vries proposes that *P*s are integrated with their *H*s via a *P*-specific version of Merge (which he terms "par-Merge") having the property of blocking c-command relations. Ott argues that this is an *ad hoc* syntactic device which does little to "reduce the complexity of the original problem in an enlightening way" (p.37). Nonetheless, any unintegrated approach will suffer its own conceptual problem; namely, how can a *P*, *unintegrated* in NS, become *integrated* at the interfaces? Griffiths & de Vries, (in press) claim that this problem is insurmountable for the unintegrated approach. Here, I propose a formal, and I believe parsimonious, solution to the problem confronting the prosodic integration of *P*s required by any non-integration model.

Empirical Contribution: The empirical focus of this paper is the distribution of *P*s in their *H*s. Traditionally, the distribution of *P*s has been characterized in syntactic terms. Here, I instead characterize the distribution of *P*s in terms of the syntax-phonology interface. I present data showing that a *P* is licensed in any position in its *H* that doesn't interrupt a *phonological phrase* (φ, a constituent of the *Prosodic Hierarchy*). i.e. I propose the simple and natural generalization:

(1) *P*s are acceptable at all and only φ boundaries.

This is best illustrated by the fact that a *P* can appear between a verb and object only if the object is "heavy" (Peterson, 1999; Kaltenböck, 2007), as in 2. In 2b, the "heavy" object licenses a φ boundary between verb and object, where one wouldn't normally appear (Truckenbrodt, 2007).

(2) a. *(Terry)φ(pushed _^_ a bicycle)φ(into the street)
[$_{Par}$ they claimed]

b. (Terry)φ(pushed)φ _^_ (a red bicycle with a new set of wheels)φ(into the street)φ
[$_{Par}$ they claimed]

2 is an example of a prosodic manipulation which can license *P*s in otherwise unlicensed positions. I also analyze and present evidence regarding prosodic emphasis and pause-duration, whose similar effects on prosodic structure (Truckenbrodt, 2007) also have a *P*-licensing effect.

Proposal: Next, I show how this distribution is predicted if one adopts a derivational approach to *P*s' syntax which takes into account *the syntactic workspace* (WS). In particular, I argue that *P*s are (naturally) constructed in a separate WS, remaining unintegrated with their *H*s in NS, but are linearly/phonologically integrated with *H* at SM when both the *H*'s WS and the *P*'s WS are terminated. I argue that the *P* is integrated with the *H* at SM in a manner that is constrained by the principles in 3 below, but is otherwise free.

(3) *Properties of the syntactic WS:* [**a**. A secondary WS can be initiated freely; **b**. A secondary WS must be terminated before operations can target the primary WS; **c**. A secondary WS can be terminated (i) by being consolidated with the primary WS, or (ii) by Transfer of the root] *Consequences of NTC applying at SM:* [**d**. Prosodic constituents cannot be altered once established at SM; **e**. Precedence relations cannot be altered once established at SM] *Properties*

of the syntax-phonology mapping (Dobashi, 2004; 2018): [**f**. A φ is established at SM when Transfer targets a phase in NS; **g**. A ι is established at SM when Transfer targets the root in NS] In summary, I argue that *P*s are constructed in a secondary WS (*2*WS), as complex specifiers are (Nunes & Uriagereka, 2000). Portions of the primary WS (*1*WS) may have already been sent to the interfaces by the point when the *2*WS is initiated (3a). Instead of being consolidated with the *1*WS, this *2*WS is terminated by transfer of the root (3c). Because any material from the *H* already present at SM will have been assigned to a φ (3f), the *P* will be placed between the φs of the *H* already present at SM, so as not to interrupt an already-established φ, which would be a violation of NTC (3d). The derivation then continues in the *1*WS (3b). WS termination encapsulates the transferred material within an intonation phrase (ι) at SM, meaning the *P* forms its own ι when the *2*WS is terminated (3g). NTC will thus prevent material from the *H* from intervening in the *P* after such material has been transferred (3d). In this way, my proposal predicts that *P*s are acceptable at φ boundaries in the *H*.

Conceptual Advantage: This phonosyntactic approach captures the phenomenon of "niching" (Ross, 1973), the observation that some syntactically-defined positions are more susceptible to *P*-insertion than others (e.g. *P*s are generally acceptable between subject DP and the VP, not between a D head and its NP complement), while simultaneously capturing the fact that *P*s *can*, under the right circumstances, occupy *any* position (e.g. a *P can* occur between a D and NP, see e.g. Espinal, 1991, fn17; Dehé, 2014, ex1.29b)). Under my approach, the positions available to *P*-insertion are determined by prosodic structure. The syntax-phonology mapping exhibits strong tendencies for φ boundaries to correlate with XP boundaries, which explains why certain syntactically-defined positions are more often than not available for *P*-insertion. However, these tendencies are not strict; non-syntactic considerations can lead to deviations from the most common mapping (Selkirk, 2000; 2005). It therefore makes sense that *P*s can sometimes be inserted in otherwise odd positions, because non-syntactic properties (e.g. prosodic heaviness, emphasis, and pause-insertion (and pragmatic properties, which I do not discuss)) can modify prosodic constituent structure in such a way as to make *P* insertion possible in those positions.

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TONE_MELODY ALIGNMENT IN VIETNAMESE CHRISTMAS CAROLS

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Vietnamese is a tonal language, and the standard Northern dialect has six tones represented in the table below, with representations A1-C2 used in the analysis below.

Tone	Ngang	Huyền	Sắc	Nặng	Hỏi	Ngã
Example	Ba	Bà	Bá	Bạ	Bả	Bã
Description	Level	Mid-falling	Rising	Checked	Low falling	Broken
Representation	A1	A2	B1	B2	C1	C2

Table 1. Northern Vietnamese Tones

Kirby and Ladd (2016) discussed the tone-melody correspondence of 20 songs in Vietnamese composed between 1946 and 1957, concluding that similar transitions between tone and melody are favored and contrary ones disfavored. Kirby and Ladd decided the tone order for analysis to be (C2=B1)>A1>A2>(B2=C1), noting that the most important order is C2,A1,B1>A2,C1,B2. This paper looks at two Vietnamese Christmas carols, *Đêm Thánh Vô Cùng (Silent Night)* and *Tiếng Chuông Ngân (Jingle Bells),* with foreign melodies and undated but standardized text-setting. Research questions include: Does the subsequent text-setting apart from melody composition prove more restricted, affecting the similar and contrary rates in motion between tone and tune? Is Kirby and Ladd's tone order applicable for all analyses of tone-tune alignment of Vietnamese songs?

Method: The analysis method resembles Kirby and Ladd's in the separation of tone and melody into sequential pairs. Sequential pairs across the musical phrase boundaries are not calculated. Calculations are made using Kirby and Ladd's order (C2=B1)>A1>A2>(B2=C1).

Similar motions are movements of tone and melody in the same direction (up-up, down-down, same-same). Contrary motions are such movements in the opposite direction (up-down, down-up) and oblique motions are instances when the tone or melody stays constant but the other goes up or down. Fig. 5 shows oblique motion in verse 2 when the tone stays constant (A2) and contrary motion in verse 3 when the tone goes up (B2 to A2), both when the melody goes down.

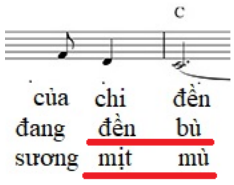

Fig.5 Oblique and contrary motions in *Silent Night*

Results: Table 2 and 3 shows tone-tune alignment in each song, with similar motions shaded and contrary motions underlined. In total, there were 187 similar motions (85.4%) and only 4 contrary motions (1.8%) out of 219 total instances, compared to Kirby and Ladd's final results of 77% similar motions and 4% contrary motions.

	Melodic sequence			
Tone sequence		Up	Down	Same
	Up	24 (89%)	0 (0%)	2 (4%)
	Down	1(4%)	26 (63%)	3 (6%)
	Same	2(8%)	15 (37%)	44 (90%)

Table 1. Tone-tune alignment in *Jingle Bells*

	Melodic sequence			
Tone sequence		Up	Down	Same
	Up	26 (96%)	3 (5%)	1 (7%)
	Down	0 (0%)	54 (90%)	1 (7%)
	Same	1 (4%)	3 (5%)	13 (87%)

Table 2. Tone-tune alignment in *Silent Night*

The intention to maximize similar motions can be seen in Fig. 4 showing instances of "Chúa", meaning God in *Silent Night*, attributable to the religious content of the lyrics. "Chúa" is placed

at the note with higher pitch than the ones immediately before or after. Words before and after “Chúa” have either A1 or A2 tones, with which “Chúa” can form similar motions thanks to its B1 tone.

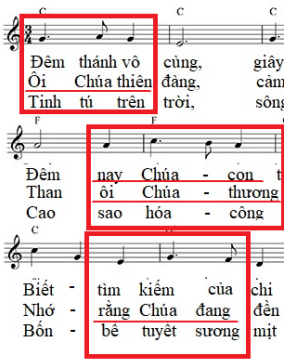

Fig. 4. "Chúa" (God) in *Silent Night*

Discussion: Tone order reconsideration

Like Kirby and Ladd (Fig.1), Brunelle and Jannedy (2013) also measured the frequencies of Northern and Southern Vietnamese tones (Fig. 2 and 3). Since all three are based on individual speakers, personal differences in pronunciation are inevitable. Notably, although Kirby and Ladd’s proposed order is (C2=B1)>A1>A2>(B2=C1), Fig. 1 shows B2 with a higher frequency than A2. A new order such as (C2=B1)>A1>B2>A2>C1 which accommodates for this would eliminate two contrary motions (one shown in Fig. 5) and convert them to similar motions.

Although Fig.1 and Fig.2 both depict Northern Vietnamese tones, sharp distinctions are present, namely A1>B1 and C1>A2 in Fig.2. Making A1≥B1 would not violate C2,A1,B1>A2,C1,B2 but still create many more contrary motions and oblique motions since almost all [B1, A1] sequential pairs are located in falling melodic sequences.

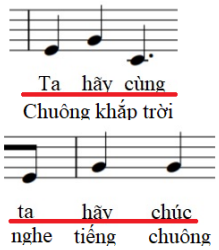

Fig. 6. "Hãy" (Let's) in *Jingle Bells*

Southern Vietnamese as shown in Fig. 3 illustrates an assimilation of tone C2 to C1 (lower than B1, A1, A2) to make 5 tones. A new order of B1>A1>A2>(B2=C1=C2) in *Jingle Bells* would produce 3 contrary motions and 1 oblique motion instead of 4 similar motions and is highly disfavored (Fig. 6). It can be surmised that text-setting for these two songs were carried out according to Northern Vietnamese conventions.

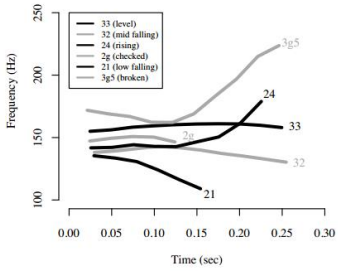

Figure 1: *Northern (Hanoi) Vietnamese tones (after [21]).*

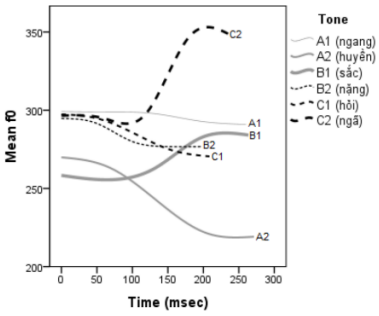

Fig.2: The tone system of the northern speaker (NVN)

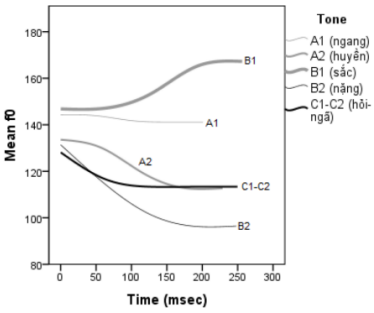

Fig. 3: The tone system of the southern speaker (SVN)

Conclusion: Vietnamese versions of *Jingle Bells* and *Silent Night* follow the general rule of tone-tune alignment, and their high similar motions and low contrary motions compared to Kirby and Ladd (2016)’s analysis indicate that the subsequent text-setting apart from melody composition did not hinder but put greater focus on tone-tune alignment, most likely to create Christmas carols easily sung by many people. Although Kirby and Ladd’s order remains useful as a starting point in its focus on standard Northern Vietnamese tones, it is not always applicable and a more optimal order for these two songs is (C2=B1)>A1>B2>A2>C1. The tone order for use in tone-melody correspondence analysis in Vietnamese songs must remain flexible, depending not only on experimental results on tone frequencies but also on the lyrics themselves.

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Verb mismatches in Japanese verb-stranding verb phrase ellipsis

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Introduction: This paper argues that Japanese permits verb mismatches in verb-stranding verb phrase ellipsis (VSE). Evidence for this is drawn from i) the availability of null adjunct readings only when the direct object is also elided (Funakoshi 2016), ii) ellipsis of non-constituent disjunctions (Gribanova 2013), and iii) the possibility of anaphora to elements within the ellipsis site (Grinder & Postal 1971; Landau 2018). These facts have several important implications for syntactic theory. First, they further support the claim that Japanese possesses VSE, an analysis that has been much debated in the literature (Otani & Whitman 1991; Funakoshi 2016). Second, the fact that Japanese VSE permits verb mismatches shows that VPs may count as semantically identical if the verb has evacuated the ellipsis site, offering support for treating head movement as syntactic (Gribanova 2017; Harizanov & Gribanova 2018). Second, although the possibility of verb mismatches have been used as arguments in favor of an analysis of null objects as argument ellipsis, the facts we present here demonstrate the inadequacy of this test for distinguishing VSE and argument ellipsis in Japanese.

Null adjunct readings: Funakoshi (2016) demonstrates that adjuncts may be interpreted within the ellipsis site of Japanese VSE only when the direct object is also elided. This is also the case when the verbs in the antecedent and ellipsis-containing clause mismatch, as demonstrated in (1-2b). Crucially, if the object is not also elided, the null adjunct reading is no longer available (1-2c).

1) a. Taro-wa kyandii-o kyuuni nomikon-da
Taro-Top candy-Acc suddenly swallow-Pst
'Taro swallowed candy suddenly.'

b. Hanako-wa kan-da
Hanako-Top chew-Pst
'Hanako chewed (candy suddenly)'

c. Hanako-wa kyandii-o kan-da
Hanako-Top candy-Acc chew-Pst
'Hanako chewed candy' (not communicated: suddenly)

2) a. Taro-wa kooen-de sensei-ni at-ta
Taro-Top park-at teacher-Dat meet-Pst
'Taro met the teacher at the park.'

b. Hanako-wa mikake-nakat-ta
Hanako-Top see-Neg-Pst
'Hanako didn't see (the teacher at the park)'

c. Hanako-wa sensei-o mikake-nakat-ta
Hanako-Top teacher-Acc see-Neg-Pst
'Hanako didn't see the teacher' (not communicated: at the park)

Non-constituent disjunctions: Gribanova (2013) uses the possibility of eliding non-constituent disjunctions as a diagnostic for VSE in Russian. Japanese also permits VSE with such interpretations, and further allows these interpretations even when the verb in the clause containing the ellipsis site does not match the verb in the antecedent clause.

3) a. Taro-ga Hanako-ni ringo-o matawa Masako-ni banana-o age-ta
Taro-Nom Hanako-Dat apple-Acc or Masako-Dat banana-Acc give-Pst
'Taro gave Hanako an apple or Masako a banana.'

b. Iya, Taro-wa _ nagetsuke-ta
No Taro-Top throw-Pst
'No, Taro threw (Hanako an apple or Masako a banana).'

This would be difficult to explain on an AE or *pro* analysis, as Japanese does not possess a process of disjunction drop, and neither would be able to account for the disjunctive interpretation in (3b).

Missing antecedent phenomena: Landau (2018) makes use of missing antecedent phenomena (Grinder & Postal 1971), in which the antecedent of a pronoun in a subsequent sentence lies within an ellipsis site, in combination with the presence of an adjunct in the antecedent to demonstrate that such anaphoric

dependencies are illicit in Hebrew, and to argue therefrom that Hebrew lacks VSE. In contrast, Japanese permits such readings, even in the presence of verb mismatch, as (4) demonstrates.

4) a. Taro-wa resipi-ni sotte keeki$_i$-o yai-ta. Sore$_i$-wa subarashikat-ta
Taro-Top recipe-to according cake-Acc bake-Pst It-Top fabulous-Pst
'Taro baked the cake$_i$ according to the recipe. It$_i$ was fabulous.'

b. Jiro-wa ~~[resipi-ni sotte keeki$_j$-o~~] tsukura-nakat-ta. Sore$_j$-wa hidokat-ta.
Jiro-Top recipe-to according cake-Acc make-Neg-Pst It-Top terrible-Pst
'Taro didn't make (the cake$_j$ according to the recipe). It$_j$ was terrible.

Although Merchant (2018) argues that the impossibility of anaphora in such cases is not a definitive argument against VSE, its possibility in Japanese provides a further argument in favor of the availability of verb-mismatching VSE in the language.

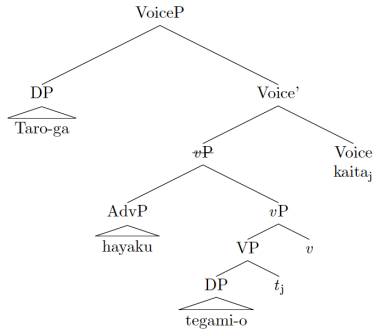
Discussion: The observations discussed above point to the possibility of verb mismatches in Japanese VSE, a property not previously noticed for Japanese, but found in some other languages, such as Russian (Gribanova 2013) Hungarian (Liptak 2017), and Greek (Merchant 2018). The facts thus support an analysis of head movement as a syntactic phenomenon, as argued by Harizanov & Gribanova (2018), in which the verb vacates the VP in both the antecedent and the ellipsis site, and these two constituents therefore count as semantically identical. This head movement may be very local, as VSE is possible even when the verb is prevented from moving to T, as occurs when contrastive *-wa* is attached to the verb (Miyagawa 2003).

5) a. Taro-wa Word-de ronbun-o kak-u
Taro-Top Word-Inst paper-Acc write-Prs
'Taro writes papers with Word.'

b. Hanako-wa kaki-wa si-na-i. Itsumo Latex-de kak-u
Hanako-Top write-Top do-Neg-Prs always Latex-Inst write-Prs
'Hanako doesn't write (papers with Word). She always writes with LaTeX.'

We propose that head movement must vacate the ellipsis site, with syntactic head movement at least out of the VP up to *v* or Voice, remaining agnostic about the syntactic or post-syntactic status of further displacement up to T (Harizanov & Gribanova 2018).

6) Syntactic head movement of verb out of the *v*P, with ellipsis of *v*P (VoiceP shown only)



These facts also have implications for arguments for the availability of argument ellipsis in Japanese. In particular, the possibility of verb mismatches have been used as arguments against VSE analyses of apparent object drop in Japanese as well as in a variety of other languages (Takahashi 2013; Sato 2014; Sato & Karimi 2016). This paper suggests that verb mismatches cannot be used to distinguish between argument ellipsis and VSE. This, along with the fact that other diagnostics, such as the availability of sloppy/quantificational readings, do not necessarily distinguish between argument ellipsis, VSE, and *pro* (Tomioka 2015), leaves the treatment of null NPs as argument ellipsis less certain.

Licensing Conditions of Singular *they*

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The use of singular *they* with quantified antecedents, in reference to an individual of unknown gender, or in reference to a non-specific antecedent dates back to the 1400s [1]. More recently, a subset of English speakers seems to show acceptance of singular *they* when bound to a specific, definite antecedent of known gender; additionally, singular *they* has emerged as a personal pronoun of reference for individuals who identify as gender non-binary. The expanding distribution of singular *they* use among English speakers has raised questions regarding the grammatical features of singular *they*, and the syntactic representation of gender features in English pronouns. Based on informant intuitions, [2] claimed there are two groups of singular *they* users. Users who accept *they* with singular definite antecedents ("My friend forgot *their* jacket") are considered innovative, while those who reject it in that context are considered non-innovative. Konnelly and Cowper [3] proposed a third group for whom gender features are completely optional and non-contrastive, allowing *they* to be used even with grammatically gendered antecedents. In both of these theories, acceptance of singular *they* is explained by reference to the specific grammatical gender features that singular *they* holds for different groups of users. An additional potential factor is pragmatic. In particular, if singular *they* is used when the biological gender of the antecedent is not salient to the speaker, we should anticipate that socially close antecedents (family members or friends) would be less likely to be felicitously referred to with *they*.

The present study used a cluster analysis approach to experimentally investigate whether there are different uses of singular *they* across speakers, and to what extent their acceptance of singular *they* is mediated by grammatical gender and social distance. Participants (N=148) were asked to judge sentences containing a variation of the pronoun *they* and one of nine antecedent conditions (Table 1). Critical conditions (1-8) were pseudorandomly intermixed with 15 controls where the antecedent was inanimate (9). Each participant saw 40 items, 5 of each experimental condition distributed using a Latin square design. To investigate how individual differences between speakers influenced acceptance of singular *they*, participants completed a survey of demographic information, such as age and gender identity, as well as measures of familiarity with and openness to non-binary individuals.

If the presence of grammatical gender on the antecedent influenced acceptability of singular *they* use, then ratings for conditions in which the antecedent a grammatical gender (conditions 4, 6, 8) should be lower than those without an explicit grammatical gender (3, 5, 7). If social distance between the speaker and the antecedent influenced acceptability, ratings of conditions in which the distance between the speaker and antecedent is closer (5, 6, 7, 8) should be lower than conditions in which the social distance is farther apart (3, 4).

Results were consistent with the prediction that both grammatical gender and social distance influence acceptability judgments of singular *they*, the former having a greater effect than the latter (Figure 1). Measures of individual differences found that factors such as age and acceptance of non-binary individuals were correlated with rating: Younger participants and participants who were more accepting of/familiar with non-binary individuals rated singular *they* as more acceptable in gender marked and name conditions (Table 2). Additionally, three distinct clusters best accounted for variation within our data (according to a majority of 30 metrics for determining the optimal number of clusters using the nbclust package in R). Figure 2 shows a gap statistic comparison of intracluster variation for *k* clusters. Preliminary analyses of these clusters appear to mirror the predicted distribution of responses outlined in Konnelly and

Cowper's three stages of singular *they* users (Figure 3). Extending beyond Konnelly and Cowper's predictions, our findings also indicate that the pragmatic factor of social distance plays an influential role in determining within group and possibly within speaker differences in singular *they* acceptance.

These findings suggest that there are in fact three coherent groups of speakers with separate grammars for singular *they*. Further, correlations between rating and individual differences, seem to indicate a general trend for younger individuals and individuals who have more familiarity and experience with people of non-binary genders to accept singular *they* in more situations; this could be indicative of a larger shift in the acceptability of singular *they* in future generations of English speakers.

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Table 1: Experimental conditions and sample item.
My friend said that they would be coming late to dinner.
How naturally does "they" refer to "*my friend*" on a scale of 1 (not naturally at all) to 7 (completely naturally)?

Condition	Example
1 Plural NP	*the dentists*
2 Quantified NP	*every dentist*
3 Non-gendered Noun	*the dentist*
4 Gendered Noun	*the stewardess*
5 Speaker Knows	*my friend*
6 Gendered Family Member	*my sister*
7 Non-gendered Name	*Taylor*
8 Gendered Name	*Sophia*
9 Inanimate NP	*the cup*

Table 2. Effect of individual difference measures.

Correlation coefficients for condition vs. individual difference measures

Condition	Trans-prejudice score	Gender Essentialism Score	Gender Identity	Acceptance of Non-Binary/ Transgenderism	Age
Plural Noun Phrase	0.081	0.041	-0.037	-0.025	-0.06
Quantified Noun Phrase	-0.018	0.122	0.010	-0.013	-0.009
Non-gendered Noun	-0.142	-0.026	0.088	* 0.163	-0.119
Gendered Noun	-0.014	0.106	0.141	0.065	*-0.192
Speaker Knows	-0.148	-0.009	0.104	* 0.185	***-0.284
Gendered Family Member	-0.04	0.013	*0.174	*0.172	* -0.177
Non-gendered Name	-0.083	0.009	*0.208	*0.187	**-0.230
Gendered Name	-0.038	-0.016	**0.247	*0.201	*-0.208
Inanimate Noun Phrase	**0.214	0.107	-0.099	-0.138	-0.061

* for p<.05, ** for p<.01, or *** for p<.001

Figure 1. Mean naturalness ratings for all participants.

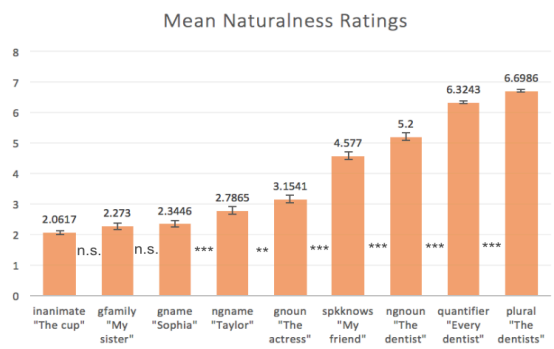


Figure 2. Gap statistic for number of clusters

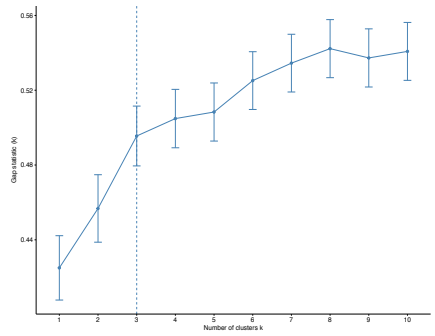
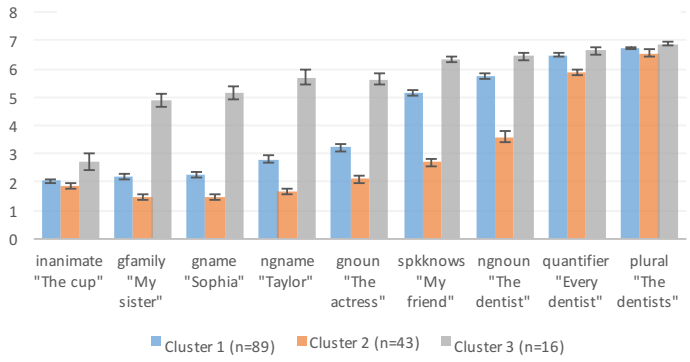


Figure 3. Mean naturalness for three clusters.



The Interaction Between Aspect Markers and Verbal Complements in Mandarin: an OT Account

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Aspect markers in Mandarin have received much attention in the literature. Verbal *le* (shown in (1a)) is argued to encode either perfective aspect (Lin 2000; Xiao & McEnery 2004; Wu 2005; de Swart 2012) or realis modality (Klein, Li, & Hendriks 2000). Conversely, Sybesma (1997) argues that *le* is a resultative predicate. *Guo* (shown in (1b)) also encodes perfective aspect, but *guo* and *le* are semantically distinct. While both encode perfectivity, in *guo* constructions the final state of the situation no longer obtains in relation to a reference time, whereas in *le* constructions the final state continues to obtain (Pan & Po-lun 2004; Xiao & McEnery 2004; Lin 2007). *Zhe* (shown in (1c)), on the other hand, encodes durative aspect (Xiao & McEnery 2004).

(1) a. wo zuo **le** kuaiji
I do **le** accountant
'I became an accountant.'

b. wo zuo **guo** kuaiji
I do **guo** accountant
'I used to be an accountant.'

c. ?wo zuo **zhe** kuaiji
I do **zhe** accountant
'I am an accountant.'

d. ?wo zuo kuaiji
I do accountant
'I am an accountant.'

Despite debate over the exact nature of the semantic contributions made by each aspect marker, none of the existing proposals predicts that any of them should interact with DPs. Yet, we find that some speakers prefer that *le* and *guo* co-occur with a DP complement, illustrated by the contrast between (1a/b) and (1c/d).

Our study investigates the degree to which our intuitions about the required co-occurrence of *le/guo* and object DPs extend to other speakers. We focus on transitive verbs since *guo* and *zhe* are generally incompatible with intransitives. While *le* can attach to intransitive verbs, it is controversial whether in such sentences it is an aspect marker or a potentially different sentential marker, since both *le*'s appear post-verbally (Sybesma 1997). We report the findings of recent experimental work which tested the acceptability of *le/guo/zhe* with both DP and CP objects. While the overall trend is consistent with our judgments (in line with the findings reported in Sprouse, Schütze, & Almeida 2013), there is a great deal of variation. We provide an OT analysis which accounts for variation across aspect markers and across speakers. Our work is in line with the growing practice of using experimental data to inform work in theoretical syntax and semantics (Eddington 2009) and with the growing practice of analyzing variation (Walker 2010). To our knowledge, no previous investigation of aspect in Chinese incorporates both of these elements.

Thirty-two native Mandarin speakers participated in an electronic survey distributed in November 2018. The verbs tested range from punctual verbs such as *wen* 'to ask' to durative verbs such as *xiangxin* 'to believe.' Using a 1 to 5 likert scale, participants rated the acceptability of constructions such as those given in (2)-(4). Our results are listed in (5).

(2) *phonologically light DP complement with/without aspect marker*

a. wo xiangxin **le** ta
I believe **le** her
'I've believed in her.'

b. wo xiangxin ta
I believe her
'I believe in her.'

(3) *phonologically heavy complement DP with/without aspect marker*

a. wo xiangxin **le** nage guanyv wo zuxian de chuanshuo
I believe **le** that concerning my ancestors poss. legend
'I've believed the legend about my ancestors.'

b. wo xiangxin nage guanyv wo zuxian de chuanshuo
I believe that concerning my ancestors possessive legend
'I believe the legend about my ancestors.'

(4) *CP complement with/without aspect marker*

a. wo xiangxin **le** ta hui huilai
I believe **le** he will return
'I've believed that he will be back.'

b. wo xiangxin ta hui huilai
I believe he will return
'I believe that he will be back.'

(5) a. Light DP acceptability (average): *le* (1.69) > *guo* (1.95) > *null* (2.53) > *zhe* (2.97)
b. Heavy DP acceptability (average): *le* (1.66) > *guo* (2.39) > *zhe* (2.63) > *null* (3.0)
c. CP acceptability (average): null (1.78) > *guo* (2.28) > *le* (3.02) > *zhe* (3.34)

A t-test was conducted on each pair and there are several implications of our findings. First, *le/guo* appears to interact with DP complements; this is suggested by the results in (5a) and (5b), in which speakers rated constructions with *le/guo* higher than constructions with *zhe* or without an aspect marker ($p < 0.01$). Second, the contrast between (5a/b) and (5c) indicates that *le/guo* does not interact with complements in general, but with DPs specifically. Speakers prefer no aspect marker when the complement is a CP rather than a DP, suggesting that *le/guo* is sensitive to argument structure ($p < 0.01$). The contrast between (5b) and (5c) specifically shows that phonological heaviness does not militate against the insertion of additional morphemes, further supporting a syntactic motivation for speaker preference for inserting *le/guo* in DP complement constructions. Third, the contrast between *le* and *guo* with DPs, as seen in (5a) and (5b), suggests that *le* is more acceptable with DP complements than *guo* is ($p < 0.001$). This provides support for the observation that *le* and *guo* are semantically distinct, despite both encoding perfectivity.

In order to account for these findings, we propose the analysis in (7) based on the constraints in (6). Among them, CONSISTENCY is adapted from a constraint with the same name proposed by Zeevat (2000).

(6) a. CONSISTENCY: The semantics of the output must be compatible with a subset of the semantics of the verb.
b. *AMBIGUITY: The output must have an unambiguous aspectual interpretation.
c. DEP: Do not insert additional material.

(7) a.

V, DP		CON	*AMB	DEP
a.	*V+Asp+DP*	*!		*
b. ☞	*V+DP*		*	

b.

V, DP		CON	*AMB	DEP
a. ☞	*V+Asp+DP*			*
b.	*V+DP*		*!	

c.

V, DP		CON	*AMB	DEP
a. ☞	*V+Asp+DP*			*
b. ☞	*V+DP*		*	

Speaker variation arises from variation in constraint rankings. In (7a), the aspectual marker conflicts with the meaning of the verb and CONSISTENCY is violated. This occurs in three situations. First, for verbs that denote a state, such as *xiangxin* 'to believe,' *guo* and *le* violate CONSISTENCY for some speakers. Second, for verbs that denote an instant action, such as *wen* 'to ask,' *zhe* violates CONSISTENCY. Third, for verbs that entail that a state still obtains at the time of reference, such as *fouren* 'to deny,' *guo* violates CONSISTENCY. In (7b), the aspectual marker not conflicting with the meaning of the verb, ranking *AMBIGUITY higher than DEP excludes the candidate without the aspectual marker. In (7c), the aspectual marker not conflicting with the meaning of the verb, ranking *AMBIGUITY and DEP equally high means that both candidates are optimal. The constraints in (6) have further implications. Sentences that violate CONSISTENCY are self-contradictory and those that violate *AMBIGUITY or DEP allow multiple aspectual interpretations. Based on Zeevat (2000), we predict CONSISTENCY will have a high ranking cross-linguistically.

This study suggests an interaction between aspect markers and verbal complements in Mandarin, two distinct constituents which so far have not been considered together. Our findings identify the presence of a specific aspect marker as the locus of well-formedness in some sentences with DP verbal complements. Crucially, our findings also reveal speaker variation in well-formedness judgments, reinforcing the importance of experimental data in providing a comprehensive account of a language's grammar. Finally, the re-ranking of constraints within OT allows for analysis of both intra-language and inter-language variations.

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