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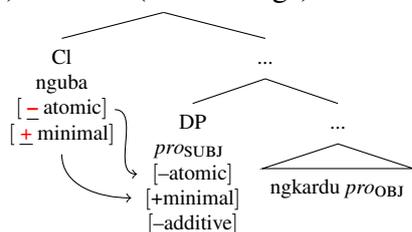
Abstracts

March 18-20, 2022

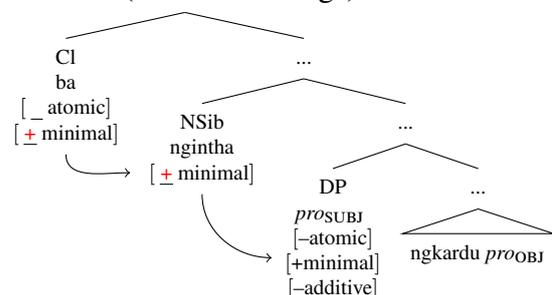
Morphology

not [\pm additive]. More importantly, the non-sibling marker, which only differentiates between dual (*ngintha/nintha*) and paucal (*ngime/neme*), only bears a probe for [\pm minimal], as this is the only feature needed to encode the dual/paucal contrast. This derives the mismatches, as follows. When no non-sibling marker is present, the classifier Agrees directly with the subject, as in (4). But when a non-sibling marker intervenes between the classifier and the subject, the classifier Agrees with the non-sibling marker, as in (5). The classifier must match the number specified by the feature set it receives. Thus in (4) a dual classifier is used, since [-atomic][+minimal] denotes dual; whereas in (5), a singular classifier is used, since [+minimal] denotes singular. (With paucal non-sibling subjects, the classifier head receives [-minimal], which denotes nonsingular, and a dual classifier is used – i.e. the dual is in fact the elsewhere form, with the paucal/plural being more specific. The relative markedness of dual vs. plural morphemes is a known parameter of variation (e.g. Harbour 2014, Smith et al. 2019).)

(4) ‘We (two siblings) will see it.’



(5) ‘We (two non-siblings) will see it.’



In (5), it is crucial that even though the non-sibling marker lacks a [\pm atomic] feature, it still blocks the classifier’s [\pm atomic] probe from Agreeing with the subject. I take this defective intervention effect (Chomsky 2000) to be an instance of disjunctive satisfaction (Roversi 2020): Agree halts as soon as the probing head finds a goal head matching any of its probe features.

Sensitivity to the position of the non-sibling marker. There is one exception to the pattern outlined in (3). The dual non-sibling marker is in fact a mobile affix: although it precedes the verb root by default (as in (2)), it *follows* the verb root if its prefixal slot is otherwise occupied. In (6), the prefixal slot is occupied by 2SG object agreement, so the non-sibling marker is suffixal. (6) nguba- **nhi-** ngkardu -nu **-ngintha** When the dual non-sibling marker appears in 1DU.13.FUT- 2- see -FUT -NSIB.DU this position, there is no mismatch: unlike (2), ‘We (two non-siblings) will see you.SG.’ (6) uses a dual classifier. Nordlinger and Mansfield (2021) propose a novel morphotactic principle to account for this pattern: *positional dependency*, i.e. sensitivity of morpheme insertion rules (in this case, the classifier insertion rule) to the linear position of other, unrelated morphemes (in this case, the non-sibling marker). Not only is this an ad hoc mechanism which adds unneeded power to the model; their account also fails to explain why it is specifically the singular classifier which appears in (2) and the dual classifier which appears in (6) – this is treated as entirely arbitrary. My account, by contrast, provides a principled explanation for why it is precisely these forms which must be used: the pattern follows from a typologically well-motivated featural representation of number (Harbour 2014) alongside learners’ preference to posit as few probe features as possible (Preminger 2019). And as for the lack of mismatched agreement in (6), this follows straightforwardly from the mechanics of Agree, assuming that variable affix order reflects a difference in syntactic position. Verbal suffixes seem generally higher than prefixes: suffixes are mainly TAM markers and adverbials, whereas the prefixes include reflexive, applicative, and object agreement morphemes. I propose that the non-sibling marker in (6) is higher than the classifier, and thus fails to intervene between the classifier and the subject, yielding the non-mismatch. **Select refs:** Harbour 14, Paucity, Abundance, and the Theory of Number. Nordlinger & Mansfield 21, Positional dependency in Murrinhpatha: expanding the typology of non-canonical morphotactics.

Morphophonological epenthesis in Spanish diminutives

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Overview. Suffix realizations have often been studied with a focus on non-suppletive phonologically derived allomorphs that are in complementary distribution. For example, the English plural suffix *-z* is realized as [-s] after non-sibilant voiceless consonants, [-əz] after sibilants, and [-z] elsewhere. The Spanish diminutive (DIM) suffix realizations *-it*, *-sit*, and *-esit* (written as “it”, “cit”, and “ecit”) have also been considered as allomorphs in previous studies (e.g., Crowhurst 1992, Harris 1994, Kenstowicz 2005, Norrmann-Vigil 2012). However, this paper argues against the purely phonologically conditioned allomorphic approach by showing that there is some free variation among the members of the Spanish DIM suffix realizations and that their distribution cannot be fully explained by phonology. (For this reason, I use the term “suffix realizations” rather than “suffix allomorphs”.) This paper instead argues for an epenthetic approach with an assumption that *-it* is the default and the other two realizations *-sit* and *-esit* are derived from the default by inserting [s] or [e]+[s] for morphophonological reasons.

Phenomenon & puzzle. Crowhurst (1992) claims that *-sit* is the default diminutive suffix, and that, for monosyllabic stems, [e] is inserted in order to satisfy the disyllabic foot template $F_{00}[\sigma\sigma]$ for stems (1a-b).

- | | | | |
|--------|-------------|---------------|--------------|
| (1) a. | <i>pan</i> | [pa.n-e]sita | ‘bread-DIM’ |
| b. | <i>madr</i> | [mad.r-e]sita | ‘mother-DIM’ |

Despite the predictability of *-esit* for monosyllabic stems, there are counterexamples, or what is claimed as exceptions: *-sit* is in free variation with *-esit* (2a), or only *-it* is grammatical (2b).

- | | | | | | |
|--------|-------------|--------------------|-------------------------------------|--------------------|-----------------------------|
| (2) a. | <i>flor</i> | * <i>florita</i> , | <i>florsita</i> , | <i>floresita</i> | ‘flower-DIM’ (Harris 1994) |
| b. | <i>mugr</i> | <i>mugrita</i> , | (* <i>mugrsita</i>) ¹ , | * <i>mugresita</i> | ‘dirt-DIM’ (Crowhurst 1992) |

In sum, there is some variation: not only *-esit* but also *-it* and *-sit* do occur after monosyllabic stems. However, there has been no unified account (except the view for exceptions) for their distribution.

Experiment. An online acceptability judgment task was conducted on Qualtrics in order to examine the distribution of the Spanish DIM suffix realizations *-it*, *-sit*, and *-esit* for monosyllabic stems. For stimuli, nine monosyllabic actual Spanish noun stems (e.g., *pan* ‘bread’, *madr* ‘mother’), which were mostly taken from Crowhurst (1992) and Harris (1994), were used. Twenty-six native speakers of Mexican Spanish participated in the task. Participants were presented 27 written pairs of noun phrases that have a stem-final simplex consonant (e.g., “el pan” ‘the bread’) or cluster (e.g., “la madre” ‘the mother’; the final [e] here is not part of the noun stem but what is epenthesized because the stem is *mad<r>* where the <r> is extraprosodic (Crowhurst 1992)) and their potential diminutives with each of the three suffix forms attached (e.g., “el panito,” “el pancito,” “el panecito” ‘the bread-DIM’). Participants were asked to give an acceptability judgement score that ranges from 1 to 7 for each of the diminutives.

Results. Results support the previous analysis, and more crucially, provide new findings. First, Crowhurst’s (1992) claim about *-esit* for monosyllabic stems is supported: *-esit* (the blue bars in Figure 1) was preferred to the other suffix forms (*-it* and *-sit*), whether the stem-final consonant(s)

¹ **mugrsita* is in parentheses because it is not explicitly mentioned in Crowhurst (1992) but can be easily predicted to be ungrammatical due to the phonotactics in Spanish.

are simplex, as in [pa.n-e]sito ‘bread-DIM’ (5.85/7), or complex, as in [mad.r-e]sita ‘mother-DIM’ (6.22/7). Second, even though Crowhurst (1992) would predict the attachment of *-it* and *-sit* to monosyllabic stems to be ungrammatical, our findings show that one of them was consistently preferred to the other: for noun stems with a simplex final consonant, *-sit* (the green bar) was preferred to *-it* (the orange bar) (e.g., *pan-sit-o* (4.37) > *pan-it-o* (2.05)), whereas for noun stems with complex final consonants, *-it* (the orange bar) was preferred to *-sit* (the green bar) (e.g., *madr-it-a* (3.56) > *madr-sit-a* (1.29), see footnote 1).

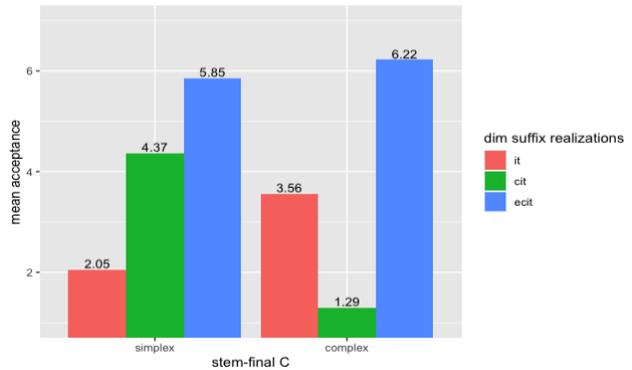


Figure 1. Mean acceptability scores of *-it*, *-sit*, and *-ecit* (range: 1-7)

Analysis. This paper shows that all three Spanish DIM suffix realizations are accounted for by the interactions among phonological and morphological constraints and that different rankings predict different output forms. This is based on an epenthetic approach with an assumption that *-it* is the default and *-sit* and *-ecit* are derived from the default by inserting [s] or [e]+[s] via morphophonological epenthesis. Overall, *-ecit* was most preferable for monosyllabic stems, which supports Crowhurst’s (1992) claim for the disyllabic foot structure. This is required by the constraints $\text{Foot}[\sigma]$ (in order to choose [pa.ne.si.to] over [pa.ni.to]) and ONSET (in order to select [pa.ne.si.to] over [pa.ne.ito]). However, it is at the same time problematic since it does not completely block the occurrences of *-it* and *-sit* for monosyllabic stems, which would be ungrammatical to Crowhurst’s analysis. Our results indicate that *-sit* is preferred to mark a morpheme boundary (indicated as “|”) as long as it does not yield an unparsed consonant, which is required by PARSE-C (Kenstowicz 1994). For example, [pan.|s|-i.to] is relatively tolerable, whereas [mad.<r>|s|-i.ta] is not because /r/ cannot be parsed. While [mad.<r>si.ta] is nearly unacceptable, [mad.ri.ta] is the second most preferred form for /madr-ita/. In order for [mad.ri.ta] to be selected as the optimal output form, DEP should dominate $]\text{stem} =]\sigma$ (the right edge of the stem should coincide with the right edge of the syllable) and Pr=Lex (“morpheme boundaries should coincide with the boundaries of prosodic constituents (i.e., a phonological word)”; Prince & Smolensky 1993).

Contribution. This paper contributes to a line of research on the typology of “morphological” epenthesis, which has been understudied as opposed to “phonological” epenthesis. Additional evidence for morphological epenthesis is found cross-linguistically: Italian compounds (*diet|g|terapia* ‘diet therapy’; Repetti 2012), Korean suffixation (*pap-iran* ~ *pap|g|-iran* ‘rice and’; Kim 2018), and English DIM suffix realizations (*Bettie* ~ *Bet|g|ie* ‘Elizabeth-DIM’; Kim 2021).

References. Crowhurst. 1992. Diminutives and Augmentatives in Mexican Spanish: A Prosodic Analysis. Harris. 1994. The OCP, Prosodic Morphology and Sonoran Spanish diminutives: A Reply to Crowhurst. Kenstowicz. 1994. Syllabification in Chukchee: a Constraints-Based Analysis. Kenstowicz. 2005. Paradigmatic uniformity and contrast. Kim. 2018. Variation in stem-final consonant clusters in Korean nouns. Kim. 2021. *Bettie* vs. *Betsie*: Morphological s-epenthesis in English diminutives. Norrmann-Vigil. 2012. Accounting for variation of diminutive formation in Porteño Spanish. Prince & Smolensky 1993. Optimality Theory: Constraint interaction in generative grammar. Repetti. 2012. Consonant-final loanwords and epenthetic vowels in Italian.

There are two derivations for associative plural (APL) constructions.

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The data. APL constructions can be split, typologically, into two broad groups: those that use the same morpheme as the common additive plural (1) and those that use something else (2).

- | | |
|---|---|
| <p>(1) <u>Manchu</u></p> <p>a. Arana-se
Arana-PL
'Arana and her people'</p> <p>b. gege-se
elder.sister-PL
'elder sisters'</p> | <p>(2) <u>Kanuri</u></p> <p>a. Áli-sò
Ali-COL
'Ali and friends'</p> <p>b. kóró-wa
donkey-PL
'donkeys'</p> |
|---|---|

In a cross-linguistically rare scenario, Turkish allows both options. Most widely discussed in the APL literature is the use of additive plural morphology *-lAr* to mark the associative (Vassilieva 2005, 2008; Görgülü 2011; Daniel and Moravcsik 2013; Cinque 2018) (3). Lewis (1967) and Göskel and Kerslake (2005) note the second option, *-gil*, a suffix indicating “group membership” (Göskel and Kerslake 2005) (4).

- | | |
|--|---|
| <p>(3) Ahmet-ler
Ahmet-PL
'More than one person called Ahmet' or
'Ahmet and his family'</p> | <p>(4) Ahmet-gil
Ahmet-APL
'Ahmet and his family/group'</p> |
|--|---|

On the surface we have what look like two exponents of the same morpheme - the associative plural. However, on closer inspection the two forms do not behave the same and I show that we are not dealing with two exponents of the same head. When the APL construction with *-lAr* contains a possessed noun, the possessor agreement morphology may be first or second person singular, but not first or second person plural.

- | | |
|--|---|
| <p>(5) a. ablamlar
b. ablanlar
c. *ablamizlar
d. *ablanizlar</p> | <p>'my elder sister and her friends'
'your(sg) elder sister and her friends'
'our elder sister and her friends'
'your(pl) elder sister and her friends'</p> |
|--|---|

This number restriction does not arise in the associative plural formed with *-gil*.

- | | |
|--|---|
| <p>(6) a. ablamgil
b. ablangil
c. ablamizgil
d. ablanizgil</p> | <p>'my elder sister and her friends'
'your(sg) elder sister and her friends'
'our elder sister and her friends'
'your(pl) elder sister and her friends'</p> |
|--|---|

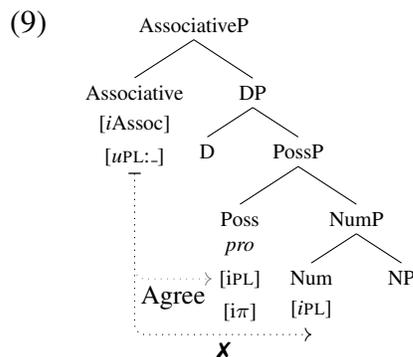
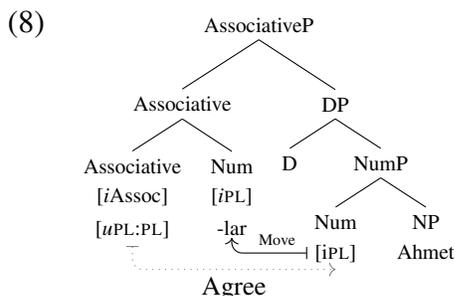
I show that for the existing accounts of APLs, it is a puzzle why (5c-d) are ungrammatical but (6c-d) are not. I propose a new account of APLs that captures the difference.

The puzzle. I follow Cinque (2018) in assuming the structure in (7a) for all APLs cross-linguistically, where an associative functional head is situated high, above DP (Cinque 2018 calls this NumberP_{Associative}). This is also similar to Görgülü's 2011 analysis of Turkish associatives – Görgülü calls the Associative Phrase 'GRP', for 'group'.

- | | |
|--|--|
| <p>(7) a. [AssociativeP [DP [Num(ber)P [NP [N <u>noun</u>] Num <u>additive plural</u>] D] Associative <u>assoc. plural</u>]]
b. Ahmet-ler
c. Ahmet-ler
d. Ahmet-gil</p> | <p>'More than one person called Ahmet'
'Ahmet and his friends/others'
'Ahmet and his friends/others'</p> |
|--|--|

On Cinque and Görgülü’s analysis, APL morphology is the realization of features on the associative head, distinct from the (sometimes) identical morpheme that heads the Number Phrase. That is, associative *-lar* and *-gil* are two possible exponents of the same morpheme - associative plural (7c-d) - while additive *-lar* is an exponent of a different morpheme - additive plural (7b). This approach fails to capture the contrast between (5c-d) and (6c-d). Why should the number of a nominal possessor affect which exponent of the APL morpheme is realized?

The analysis. I will show that the contrast between (5c-d) and (6c-d) can be captured if the APL construction with *-lar* is derived differently from the APL construction with *-gil*. In particular, I propose that the APL construction with *-lar* is derived via head movement of Num(ber) to Associative⁰. This movement is driven by a [uPL] feature on Associative⁰ (8): [uPL] Agrees with [iPL] on Num, which subsequently moves. When the noun is modified by a plural possessor, as evidenced by agreement morphology on the noun, I argue that there is a *pro* in the modifying Possessor Phrase with person and number features (9).



pro in (9), bearing [iPL], acts as an intervener for Agree. [uPL] on the Associative⁰ head cannot agree with [iPL] on Num in the presence of [iPL] on a possessor *pro*. Consequently, Num cannot undergo movement to Associative⁰ (which is required when the same morpheme functions for both regular plural and associative) in this configuration. (5c-d) are thus ruled out (I will also discuss why moving *pro* is not a possible derivation (on the immovability of *pro* see e.g. Takahashi 2000)). (5c-d) cannot be ruled out under an analysis that base generates *-lar* in Associative⁰ (i.e. Görgülü 2011, Cinque 2018), because there will be no intervention effect under that approach. Note that no intervention effect arises when the possessor is singular, as expected (5a-b). However, nothing prevents *-gil*, which is not used as a regular plural morpheme, from being base-generated in Associative⁰ as a unique APL marker. In fact, it is correctly predicted that this is the only way to derive an APL that also contains a plural possessor.

Conclusion. I have proposed that there are two ways to derive APL constructions: (i) head movement of Num and (ii) base-generation in Associative⁰. Turkish provides empirical evidence for this, whereby option (ii) is the only option available when there is a plural modifier present on the noun due to an intervention effect that prevents Agree with – and movement of – Num. I will show that these two options are available beyond Turkish, that is, that the two broad typological groups identified in (1) and (2) actually correspond to the two derivational options (i) and (ii), respectively, as part of a larger generalization about APL constructions.

Select references. Takahashi, D. (2000). Move F and raising of lexical and empty DPs. In R. Martin, D. Michaels, J. Uriagereka (Eds.) *Step by step: Essays on Minimalist Syntax in honor of Howard Lasnik*, 297-317. Görgülü, E. (2011). Plural marking in Turkish: Additive or associative? *Working papers of the Linguistics Circle* 21, 70-80. Cinque, G. (2018). On the Merge position of additive and associative plurals. In R. Petrosino, P. Cerrone, and H. van der Hulst (Eds.), *From sounds to structures, Beyond the veil of Maya*, 499-513.

How abstract is the abstract noun? Gender agreement in Russian restrictive relative clauses

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Introduction The Russian interrogative/relative pronoun *kto* ‘who’ shows variable gender agreement. In most cases it triggers default masculine agreement. However, in some contexts, if *kto* ‘who’ restricts a set of feminine individuals, feminine agreement is preferred. This applies to: adjectives in predicative position and finite verbs in relative clauses, but crucially not to finite verbs in non-embedded clauses. This data might seem problematic for Wurmbrand’s (2017) claim that semantic and formal agreement are associated with valuation of interpretable and uninterpretable features, respectively, since the same head (finite T) shows both semantic and formal agreement. I show that in fact, it is not problematic, and both default and “semantic” agreement in Russian relative clauses represent valuation of uninterpretable features on T. The difference is in the gender specification of the null head noun of the relative clause, which comes from the context by virtue of the restrictive operator ‘only’.

The data The interrogative pronoun *kto* ‘who’ triggers default masculine agreement on the finite verb in non-embedded interrogative clauses. This occurs even if the set of alternatives provided by the preceding context consists only of feminine individuals, as in (1):

- (1) *kto pobedi-l-∅* / **pobedi-l-a* v sostyazan-ii?
who win-PST-SG.M win-PST-SG.F in competition-PREP.SG
(Context: Three goddesses, Hestia, Athene, and Artemis, were competing.)
‘Who won the competition?’

If the predicate is an adjective, and the set of alternatives consists only of feminine individuals, both feminine and masculine agreement are possible, with a strong preference to the feminine:

- (2) *kto sama-ya* *krasiva-ya* / *??sam-yj* *krasiv-yj*?
who most-NOM.SG.F beautiful-nom.sg.f most-NOM.SG.M beautiful-NOM.SG.M
(Context: Three goddesses, Hestia, Athene, and Artemis, were competing.)
‘Who of them is the most beautiful one?’

The same pattern as in (2) is present within relative clauses. If the set restricted by the relative operator contains only feminine individuals, feminine agreement is preferred.

- (3) Afina – edinstvenna-ya, *kto pobedi-l-a* / *??pobedi-l-∅* v sostyazan-ii.
Athene only-NOM.SG.F who win-PST-SG.F win-PST-SG.M in competition-PREP.SG
‘Athene is the only one who won the competition.’

The contrast between (1) and (3) shows that finite verbs agree differently depending on whether they are in the embedded or in the main clause. If the set of individuals denoted by the relative clause is not restricted to feminine entities, default masculine agreement is obligatory on the finite verb:

- (4) Anna – edinstvenn-aya, *kto reši-l-∅* / **reši-l-a* étu zadač-u.
Anna only-NOM.SG.F who solve-PST-SG.M solve-PST-SG.F this.ACC.SG.F problem-ACC.SG
(Context: there are 3 male and 4 female students. Anna is the only student who solved the problem.)
‘Anna is the only one who solved this problem.’

The gender of the adjective *edinstvenn-* ‘only’ can be default at least for some speakers. However, this can only be interpreted as the choice from a set of individuals that is not restricted to feminine entities:

- (5) ?Anna – *edinstvenn-yj*, *kto reši-l-∅* ét-u zadač-u
Anna only-NOM.SG.M who solve-PST-SG.M this.ACC.SG.F problem-ACC.SG
a. (Context: there are 3 male and 4 female students. Anna is the only student who solved the problem.)
OK ‘Anna is the only one who solved the problem.’
b. (Context: there are 7 female students. Anna is the only one who solved the problem.)
*‘Anna is the only one who solved this problem’

Surface vs. deep anaphora The contrast in gender agreement in sentences like (4–5) has been used as a distinguishing property between surface and deep anaphora. Wurmbrand (2017) shows that in German deep anaphora constructions, agreement tends to be semantic (6a), while in surface anaphora environment, agreement tends to be formal (syntactic, 6b). She further associates two types of agreement with different specification of targets. The anaphoric null noun \emptyset_N involved in deep anaphora is only visible semantically and only requires

interpretable φ -feature values, hence semantic agreement on its modifiers. Under surface anaphora, the target of agreement has uninterpretable φ -feature values, and the agreement is formal.

- (6) a. Das Mädchen ist **die Einzige, die** blau angezogen ist.
 the.N.SG girl is the.F.SG only.SG who.F.SG blue dressed is
 ‘The girl is the only \emptyset_{+anim} who is dressed in blue.’
 is only felicitous if the set of individuals contains only one girl (deep ellipsis)
- b. Das zweite Mädchen ist **das Einzige, das** blau angezogen ist.
 the.N.SG girl is the.N.SG only.SG who.F.SG blue dressed is
 ‘The girl is the only ~~girl~~ who is dressed in blue’
 is only felicitous if the set of individuals consists of girls (surface ellipsis) (Wurmbrand 2018: 22–23)

The Russian data contrasts with the German data. What is likely to be a deep anaphora context, shows formal agreement on the finite verb and formal/semantic agreement on ‘only’ (4–5). What is likely to be a surface anaphora context, shows semantic agreement both on the finite verb and ‘only’ (3). Thus, I do not analyze the contrast between (3) and (4) as the contrast between surface vs. deep anaphora.

Analysis I suggest that Russian relative clauses with *edinstvenn-* ‘only’ in the head position and *kto* ‘who’ always involve a null noun. However, feature specification of this noun can vary. It can have a $[i\varphi:fem]$ feature, if the context presupposes that ‘only’ quantifies over a set of entities having the same $[+fem]$ gender specification. In this case, feminine agreement arises. The null noun can also have no feature specification, except for $[+anim]$ feature. In this case, the probe does not find interpretable features to match its uninterpretable features, and default masculine agreement arises. The availability of feminine agreement in relative clauses comes from the cyclic nature of long-distance agreement between the head noun and the finite verb within the relative clause. The interpretable gender feature on the null noun is introduced contextually by the ‘only’ operator.

I assume that restrictive relative clauses are complements of NP. Following Heck and Cuartero (2012), I assume that φ -agreement within relative clauses applies cyclically and involves feature sharing. First, T and C establish Agree within the relative clause. Then the head noun values the features of C. Since these features are located at the edge of the CP phase, they are accessible to the head noun. Due to the coalescence on the previous Agree-cycle, this also values the φ -features on T. In this way, the gender-specified null noun triggers gender agreement on the finite verb within the relative clause, while the non-gender-specified null noun does not.

What endows the null noun with interpretable gender? I suppose that this is the restriction of the context to individuals with the same gender specification. It is the ‘only’ operator that is responsible for that. I suggest that *edinstvenn-* ‘only’ is a determiner rather than an adjective, and its semantics includes an explicit contextual restriction:

$$(7) \quad \llbracket edinstvenn \rrbracket^{w.g} = \lambda P. \lambda x. P(x) \ \& \ x \in C \ \& \ \neg \exists y [y \neq x \ \& \ y \in C \ \& \ P(y)]$$

This contextual restriction defines the gender specification of the null anaphoric pronoun. If the contextual set consists of individuals with an interpretable $[+fem]$ feature, the null anaphoric noun inherits it from the context. Otherwise, there is no gender feature on the null noun. In the latter case, default (masculine) agreement arises.

Since it is not *kto* ‘who’ but the null noun that bears gender specification from the context, we do not see semantic agreement in non-embedded interrogative clauses with *kto* ‘who’ even if the set of individuals is gender-specified, as in (1). However, *kto* ‘who’ is needed for agreement to apply cyclically.

These findings contribute to the formal understanding of the Predicate Hierarchy (Comrie 1975, Corbett 2006), which claims that adjectives are less likely to agree formally (“syntactically”) than finite verbs:

- (8) The Predicate Hierarchy
verb – **participle** – **adjective** – **noun**
 syntactic agreement ← – – – – – → semantic agreement

My analysis suggests that “semantic” agreement in the Predicate Hierarchy is in fact *syntactic* agreement with the null noun. This explains why finite verbs in relative clauses and predicative adjectives can agree “semantically”, but finite verbs in independent clauses cannot.

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Phonetics/ Phonology

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Introduction: Latent segments often obey phonological locality restrictions. We document a glaring exception from auxiliary-induced segment-dropping in Iranian Armenian in which the floating segment is licensed by long-distance c-command. Such data needs an articulated syntax-morphology-phonology interface such as in (Kaisse, 1985; Elordieta, 1997; Pak, 2008).

Background: Iranian Armenian is spoken in Tehran. It is SOV, previously un-described, and data is from our fieldwork. The lect is highly periphrastic. For example, the infinitival verb *xəm-e-l* ‘to drink’ has a root *xəm-*, theme vowel *-e*, and infinitival *-l*. In the present tense, the verb is in the imperfective converb form with the suffix *-um* (in bold) while Tense/Agr is on a vowel-initial auxiliary: *e-m* 1SG ‘am’, *e-s* 2SG ‘are’, etc. In the basic SOV word order, the auxiliary is cliticized to the verb. But the auxiliary can shift to the left of the verb and attach to the negation marker, bare objects, and focused elements.

	Present 1SG	Negation	Bare	Focus
Syll.:	<i>xəm-um</i> =em <i>xə.mu.mem</i> drink-IMPF am ‘I am drinking’	<i>tʃ=em</i> <i>xəm-um</i> <i>tʃem</i> <i>xə.mum</i> NEG=am drink-IMPF’ ‘I am not drinking’	<i>tʃur=em</i> <i>xəm-um</i> <i>tʃu.rem</i> <i>xə.mum</i> water=am drink-IMPF’ ‘I am drinking water’	<i>esor=em</i> <i>xəm-um</i> <i>e.so.rem</i> <i>xə.mum</i> today=am drink-IMPF ‘TODAY, I am drinking’

Basic data: In the present perfect, the verb uses the perfective converb with the suffix *-er*. The suffix is *-er* when cliticized with the auxiliary, but *-e* if the auxiliary has shifted leftward. The phenomenon of liquid-deletion is morpheme-specific to this suffix.

	Perfect 1SG	Negation	Bare	Focus
Syll.:	<i>xəm-er</i> =em <i>xə.me.rem</i> drink-PERF am ‘I have drunk’	<i>tʃ=em</i> <i>xəm-e</i> <i>tʃem</i> <i>xə.me</i> NEG=am drink-PERF’ ‘I have not drunk’	<i>tʃur=em</i> <i>xəm-e</i> <i>tʃu.rem</i> <i>xə.me</i> water=am drink-PERF’ ‘I have drunk water’	<i>esor=em</i> <i>xəm-e</i> <i>e.so.rem</i> <i>xə.me</i> today=am drink-PERF ‘TODAY, I have drunk’

Auxiliary specific: The data seem to involve a latent segment *-e<r>*, also called a ghost or floating segment. The question is what exactly licenses the liquid to surface. The above data would suggest that the trigger is simply the presence of an adjacent vowel which syllabifies the liquid into an onset. This is false. the *r~∅* alternation is conditioned **only** by the presence of the auxiliary. Phrasal resyllabification seems possible (*=e.m#a...*) but does not affect the ghost; other clitics (not shown) also can’t license the liquid. If the verb precedes a vowel-initial word that’s not the Aux, we still find liquid-dropping. Phrasal resyllabification doesn’t license the liquid, only the auxiliary does.

Syll.:	<i>dʒonin</i> <i>təv-er=em</i> <i>at^hoɾə</i> <i>dʒo.nin</i> <i>tə.ve.re</i> <i>ma.t^ho.ɾə</i> John.DAT give-PERF=am chair.DEF ‘I have given the chair to John’	<i>dʒonin=em</i> <i>təv-e</i> <i>at^hoɾə</i> <i>dʒo.ni.nem</i> <i>tə.ve</i> <i>(*r)a.t^ho.ɾə</i> John.DAT=am give-PERF chair.DEF ‘to JOHN, I have given the chair’
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Long-distance: In the above, the auxiliary licenses the liquid and is *adjacent* to the liquid. However, data from coordination shows that the auxiliary can be non-adjacent to the verb but still license the liquid, as long as the auxiliary *scopes* over the perfect. Below, two perfect verbs are coordinated. On the left sentence, each verb has its own cliticized Aux. The liquid is licensed in both verbs. However, these coordinated phrases can omit the first Aux. When the first Aux is omitted, the first perfect still keeps its liquid. It does not matter whether

the intervening coordinator is consonant-initial *kam* ‘or’, or vowel-initial *u* ‘and’. Thus, what licenses the liquid on Verb1 is the auxiliary on Verb2.

Verb1=Aux1	Coor	Verb2=Aux2	Verb1	Coor	Verb2=Aux
<i>xəm-er =em</i>	<i>kam/u</i>	<i>ker-er =em</i>	<i>xəm-er</i>	<i>kam/u</i>	<i>ker-er =em</i>
drink-PERF=am	or/and	eat-PERF=am	drink-PERF	or/and	eat-PERF=am
‘I have drunk, or/and I have eaten’			‘I have drunk or/and eaten’		

In the above, the single auxiliary has scope over the two coordinated perfect verbs. It licenses the liquid on both verbs. Constituency matters. If we use two Aux’s, but the first is negated, then the first Aux shifts leftward and causes Verb1 to lose its liquid; the second Aux however stays constant and still licenses the liquid of V2. In contrast, if the coordination used only one Aux, then negation would shift this Aux and cause both verbs to lose their liquid.

Neg=Aux	Verb1	Coor	Verb2=Aux	Neg=Aux	Verb1	Coor	Verb2
<i>tʃ =em</i>	<i>xəm-e</i>	<i>kam/u</i>	<i>ker-er =em</i>	<i>tʃ =em</i>	<i>xəm-e</i>	<i>kam/u</i>	<i>ker-e</i>
NEG=am	drink-PERF	or/and	eat-PERF=am	NEG=am	drink-PERF	or/and	eat-PERF
‘I have not drunk or/and, I have eaten’				‘I have not drunk or/and eaten’			

Analysis: Thus the actual generalization for $/-e<r>/$ is that the latent segment is licensed not phonologically, but morphosyntactically by the presence of an auxiliary that bears Tense/Agreement, i.e., a to v-T feature chain (Elordieta, 1997). This auxiliary must linearly follow the verb and scope over the verb, i.e., be within the same vP/CP constituent based on c-command.

Rule: $\langle C \rangle \rightarrow C / [_ \dots \text{AUX}]$

Over the linear segmental string this scopal dominance can manifest either locally or non-locally. Locally, the context is that perfect is encliticized by the verb; non-locally, the perfect is coordinated with another verb such that both are dominated by the auxiliary. I illustrate a derivation for the above coordination sentences. The $\{ \}$ mark constituents based on c-command.

	‘I have drunk or have eaten’	‘I have not drunk or have eaten’
Input	$\{ xəm-e<r> =em \}$ kam $\{ ker-e<r> =em \}$	$\{ tʃ^h xəm-e<r> \}$ kam $\{ ker-e<r> =em \}$
Movement		$\{ tʃ^h =em xəm-e<r> \}$ kam $\{ ker-e<r> =em \}$
Docking	$\{ xəm-er =em \}$ kam $\{ ker-er =em \}$	$\{ tʃ^h =em xəm-e \}$ kam $\{ ker-er =em \}$
	‘I have drunk or eaten’	‘I have not drunk or eaten’
Input	$\{ xəm-e<r> kam ker-e<r> =em \}$	$\{ tʃ^h xəm-e<r> kam ker-e<r> =em \}$
Movement		$\{ tʃ^h =em xəm-e<r> kam ker-e<r> \}$
Docking	$\{ xəm-er kam ker-er =em \}$	$\{ tʃ^h =em xəm-e kam ker-e \}$

There is also a suffix *-alis*. For a handful of irregular verbs, these verbs use the suffix *-alis* to form the imperfective converb instead of *-um*. This suffix also has a latent *s* segment $/-ali(s)/$. This latent segment is licensed in the **exact** same conditions as for $-e<r>$. Furthermore, we document effects of code-switching and register on licensing.

Conclusion: In sum, Iranian presents a rare case of a floating segment getting licensed via syntactically-conditioned relationships, as has been proposed for phrasal tone (McPherson and Heath, 2016) and syntax-sensitive segmental phonology (Kaisse, 1985; Pak, 2008).

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L1 Influence on Initial Stop Consonants in Malaysian-English Bilingual Speakers

As many postcolonial countries retain English for internal use following their independence, a “new” English is formed with the influence of local varieties. Malaysian English is one of the Southeast Asian Englishes that has experienced long-term language contact and linguistic integration. Nevertheless, a lack of contribution in the phonological aspect of Southeast Asian Englishes is noticed. Thus, the present study aims to investigate the L1 influence on the English initial stop consonants produced by the three major ethnic groups in Malaysia and the extent of cross-linguistic influence. Voice onset time (VOT) and closure duration are investigated in four groups: Malay-English bilinguals (n=10), Mandarin-English bilinguals (n=10), Tamil-English bilinguals (n=10) and British monolinguals (n=9). The bilinguals’ English results are compared with their L1s and British English. Findings show the data distribution of English initial stop consonants produced by the bilingual groups lie at an intermediate position between L1s and British English, indicating cross-linguistic influence. While all bilingual groups reflect weaker voicing contrast in the English initial stop production, Malay-English bilinguals and Tamil-English bilinguals show smaller data variability and greater resemblance to respective L1s whereas Mandarin-English bilinguals display greater data variability and greater resemblance to L2. A linear mixed effects model analysis confirms the findings as well. The contrast of closure duration between two voicing categories is nevertheless evident in all bilingual groups although it is less noticeable in the findings of the British monolinguals. Hence, while the findings show evident L1 influence on the English initial stop production among the bilingual speakers, they lead us to the next question on the role of VOT and closure duration as an acoustic cue or perceptual cue in the English initial stop production of these bilingual speakers.

Keywords: Malaysian English, Bilingual Speakers, Cross-Linguistic Influence, VOT, Closure Duration

Emphatic ('Type-C') reduplication in Sakha

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Sakha (Yakut) is a Turkic language spoken in the Republic of Sakha (Yakutia). Like many other Turkic languages, Sakha allows reduplication. One pattern is a reduplicative prefix CVp-, which intensifies adjectives (e.g. *kirdex* 'dirty' → *kip-kirdex* 'very dirty'). It involves fixed segmentism of /p/ and is described in the literature as emphatic or 'Type-C' reduplication. This pattern is the focus of the present work. Data obtained from the existing literature (Stachowski, 2015) show that there are occasional alternatives to the fixed /p/ segment, partially conditioned by the OCP. This OCP effect is optional, as data from a consultant show that /p/ does not undergo place or voicing alternations. Using data from both sources, this study aims to capture: (i) the general pattern of fixed segmentism in type-C reduplication, (ii) optional OCP effects, and (iii) monophthongization or vowel shortening effects in the reduplicant. A traditional OT (Prince & Smolensky, 1993) approach will be used to formalize these generalizations.

Phonological distribution of /p/. We first examine the phonological distribution of /p/ in Sakha. The singleton voiceless /p/ does not occur intervocalically in Sakha words, although voiced /b/ and geminate /p:/ occur there. /p/ also does not occur word initially in native vocabulary, apart from onomatopoeically (Krueger, 1962). Word finally, it has been argued that /p/ only occurs as devoicing of underlying /b/ (Krueger, 1962).

<i>saba</i>	his thread	<i>tabar</i>	he hits	<i>sippax</i>	blunt, dull	<i>sibax</i>	plaster
<i>sap</i>	thread	<i>tap</i>	to hit	<i>xappax</i>	cover, lid	<i>xabax</i>	bladder

Phonological status of fixed /p/. When the prefix /CVp/ precedes a root with a consonant onset, /p/ does appear between two vowels. But this contradicts the word-internal observations, and spectrographic analysis shows that the fixed segment /p/ has properties of a coda consonant. We argue that the reduplicant and root behave as two phonological words, with the /p/ in the coda, with syllabification across the two words prohibited. Formally, this suggests that *C[+VOICE]]σ is ranked higher than *VPV.

<u>Word</u>		<u>Reduplicated form</u>	<u>Meaning of root</u>
<i>uhun</i>	→	<i>up-uhun</i>	long
<i>uraas</i>	→	<i>up-uraas</i>	clean
<i>uraax</i>	→	<i>up-uraax</i>	far
<i>æjɖææx</i>	→	<i>æp-æjɖææx</i>	smart
<i>atʃʃiuk</i>	→	<i>ap-atʃʃiuk</i>	hungry

RED-uhun	*C[+VOICE]]σ	*VPV
up-uhun		*
ub-uhun	*!	

Morphological status of /p/. Previous literature has analyzed fixed segmentism in a constraint-based approach as (1) default segmentism or (2) melodic overwriting (Alderete et al, 1999), both under correspondence theory. We argue that the former analysis cannot explain the fixed-/p/ for several reasons. (i) There is no independent evidence for /p/ as an unmarked segment; on the contrary, the distribution of /p/ is highly restricted as explained above. Furthermore, under a place-markedness hierarchy (Prince & Smolensky 1993, Lombardi 1997), *PL/LAB is high ranked (see also de Lacy, 2006), providing further support that /p/ does not have default status. (ii) The reduplicative affix requires /p/ to be a coda, which is a marked position. It is insufficient to rank NOCODA low, as it fails to account for why the presence of /p/ is preferred over the lack of /p/. Although /p/ is part of the Sakha inventory, and *C[+VOICE]]σ is also a general property of Sakha phonology, a reduplicative TETU analysis fails to account for fixed /p/; even with ALIGN(PrWd, R; C; R), the place of articulation of the coda is still not predicted. Instead, we argue for an overwriting analysis of fixed segmentism for two additional reasons. (i) Data from the literature show that contrasts among overwriting strings are possible. This suggests that the fixed segment is not unmarked, but obeys FAITH-IO constraints. (ii) The fixed /p/ is consistently right aligned to the reduplicative morpheme, which could be captured by ORDERING, which states that the underlying order

of morphemes should be maintained. Consequently, when the fixed segment is treated as an affix, ranking Max-IO above Max-BR would correctly capture the effect of fixed /p/ in type-C reduplication.

<i>kuhuul</i>	→	<i>kup-kuhuul</i>	red
<i>xara</i>	→	<i>xap-xara</i>	black
<i>tʃugas</i>	→	<i>tʃup-tʃugas</i>	close
<i>tastuŋ</i>	→	<i>tas-tastuŋ</i>	outer, outsider
<i>soŋuu</i>	→	<i>soj-soŋuu</i>	a cry, weep
<i>siikej</i>	→	<i>sin/p-siikej</i>	crude, raw

RED-p-uhun	ORDERING	Max-IO	Max-BR
☞ up-uhun			***
uh-uhun		*!	**
pu-uhun	*!		***

Optional OCP effects. An additional property of overwriting affixal strings is that they may alternate by suppletion or allomorphy, which is the case for Sakha when an optional OCP effect prevents /p/ before another labial consonant. These emerge from either irregular contrasts or phonological conditioning, which may be captured by ranking OCP-LABIAL above or below IDENT-(AFFIX)IO.

From Stachowski (2015)

<i>budaan</i>	→	<i>bus-budaan</i>	misty, foggy
<i>buurtax</i>	→	<i>buis-buurtax</i>	unclean
<i>maŋan</i>	→	<i>mak/t-maŋan</i>	white

From our consultant

<i>bæwæ</i>	→	<i>bæp-bæwæ</i>	strong, firm, sturdy
<i>bergen</i>	→	<i>bep-bergen</i>	accurate, well aimed
<i>maŋan</i>	→	<i>map-maŋan</i>	white

We explore an alternative approach to capturing OCP effects, namely as ‘phonologically conditioned suppletive allomorphy’ (PCSA), since there is no synchronic rule that alters $p \rightarrow s, k, t$ in Sakha. We attempt to capture Sakha OCP effects under both (a) the ‘P>>M’ schema, which states that phonological constraints outrank morphological constraints (McCarthy & Prince, 1993); and (b) the subcategorization model proposed by Paster (2006). We show that the former may only partially captures OCP in Sakha reduplication by ranking OCP >> LINKER = /P-/ (>> MORPHEXP), as it makes no predictions on what segment replaces /p/. On the other hand, a subcategorization model may better capture OCP in Sakha because the model does not require phonological optimization, and it is input-conditioned.

Construction A

[t/k- [#C[LAB, +nas]]_{adj base}]_{linker}

Construction B

[s- [#C[LAB]]_{adj base}]_{linker}

Construction C

[p- []_{adj base}]_{linker}

A subcategorization model predicts required adjacency between allomorphs and phonological elements from the stem that condition their distribution; we discuss the status of /p/ as a prefix or infix under the Generalized Determinant Focus Adjacency Condition (henceforth GDFAC) (Inkelas, 1990).

The reduplicant. The remainder of the reduplicant only copies the leftmost mora and the consonant onset if present, even if the root begins with a diphthong. We show that this pattern can be accounted for with TETU, where MAX-IO ranks above *VV, which ranks above MAX-BR.

<i>kien</i>	→	<i>kip-kien</i>	wide
<i>siijes</i>	→	<i>sip-siijes</i>	thin
<i>tuustaax</i>	→	<i>tup-tuustaax</i>	salted

/RED-p-kien/	MAX-IO	*VV	MAX-BR	DEP-BR
(a) ☞ <u>kip-kien</u>		*	e, ŋ	p
(b) <u>kien-kien</u>		***!	ŋ	p
(c) <u>kien-kien</u>	p!	**		

Conclusion. Overall, Sakha type-C reduplication provides support for both TETU and melodic overwriting. Further work may explore whether a uniform approach may account for other forms of Sakha reduplication, such as CVC reduplication.

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Morphophonological epenthesis in Spanish diminutives

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Overview. Suffix realizations have often been studied with a focus on non-suppletive phonologically derived allomorphs that are in complementary distribution. For example, the English plural suffix *-z* is realized as [-s] after non-sibilant voiceless consonants, [-əz] after sibilants, and [-z] elsewhere. The Spanish diminutive (DIM) suffix realizations *-it*, *-sit*, and *-esit* (written as “it”, “cit”, and “ecit”) have also been considered as allomorphs in previous studies (e.g., Crowhurst 1992, Harris 1994, Kenstowicz 2005, Norrmann-Vigil 2012). However, this paper argues against the purely phonologically conditioned allomorphic approach by showing that there is some free variation among the members of the Spanish DIM suffix realizations and that their distribution cannot be fully explained by phonology. (For this reason, I use the term “suffix realizations” rather than “suffix allomorphs”.) This paper instead argues for an epenthetic approach with an assumption that *-it* is the default and the other two realizations *-sit* and *-esit* are derived from the default by inserting [s] or [e]+[s] for morphophonological reasons.

Phenomenon & puzzle. Crowhurst (1992) claims that *-sit* is the default diminutive suffix, and that, for monosyllabic stems, [e] is inserted in order to satisfy the disyllabic foot template $F_{00}[\sigma\sigma]$ for stems (1a-b).

- | | | | |
|--------|-------------|---------------|--------------|
| (1) a. | <i>pan</i> | [pa.n-e]sita | ‘bread-DIM’ |
| b. | <i>madr</i> | [mad.r-e]sita | ‘mother-DIM’ |

Despite the predictability of *-esit* for monosyllabic stems, there are counterexamples, or what is claimed as exceptions: *-sit* is in free variation with *-esit* (2a), or only *-it* is grammatical (2b).

- | | | | | | |
|--------|-------------|--------------------|-------------------------------------|--------------------|-----------------------------|
| (2) a. | <i>flor</i> | * <i>florita</i> , | <i>florsita</i> , | <i>floresita</i> | ‘flower-DIM’ (Harris 1994) |
| b. | <i>mugr</i> | <i>mugrita</i> , | (* <i>mugrsita</i>) ¹ , | * <i>mugresita</i> | ‘dirt-DIM’ (Crowhurst 1992) |

In sum, there is some variation: not only *-esit* but also *-it* and *-sit* do occur after monosyllabic stems. However, there has been no unified account (except the view for exceptions) for their distribution.

Experiment. An online acceptability judgment task was conducted on Qualtrics in order to examine the distribution of the Spanish DIM suffix realizations *-it*, *-sit*, and *-esit* for monosyllabic stems. For stimuli, nine monosyllabic actual Spanish noun stems (e.g., *pan* ‘bread’, *madr* ‘mother’), which were mostly taken from Crowhurst (1992) and Harris (1994), were used. Twenty-six native speakers of Mexican Spanish participated in the task. Participants were presented 27 written pairs of noun phrases that have a stem-final simplex consonant (e.g., “el pan” ‘the bread’) or cluster (e.g., “la madre” ‘the mother’; the final [e] here is not part of the noun stem but what is epenthesized because the stem is *mad<r>* where the <r> is extraprosodic (Crowhurst 1992)) and their potential diminutives with each of the three suffix forms attached (e.g., “el panito,” “el pancito,” “el panecito” ‘the bread-DIM’). Participants were asked to give an acceptability judgement score that ranges from 1 to 7 for each of the diminutives.

Results. Results support the previous analysis, and more crucially, provide new findings. First, Crowhurst’s (1992) claim about *-esit* for monosyllabic stems is supported: *-esit* (the blue bars in Figure 1) was preferred to the other suffix forms (*-it* and *-sit*), whether the stem-final consonant(s)

¹ **mugrsita* is in parentheses because it is not explicitly mentioned in Crowhurst (1992) but can be easily predicted to be ungrammatical due to the phonotactics in Spanish.

are simplex, as in [pa.n-e]sito ‘bread-DIM’ (5.85/7), or complex, as in [mad.r-e]sita ‘mother-DIM’ (6.22/7). Second, even though Crowhurst (1992) would predict the attachment of *-it* and *-sit* to monosyllabic stems to be ungrammatical, our findings show that one of them was consistently preferred to the other: for noun stems with a simplex final consonant, *-sit* (the green bar) was preferred to *-it* (the orange bar) (e.g., *pan-sit-o* (4.37) > *pan-it-o* (2.05)), whereas for noun stems with complex final consonants, *-it* (the orange bar) was preferred to *-sit* (the green bar) (e.g., *madr-it-a* (3.56) > *madr-sit-a* (1.29), see footnote 1).

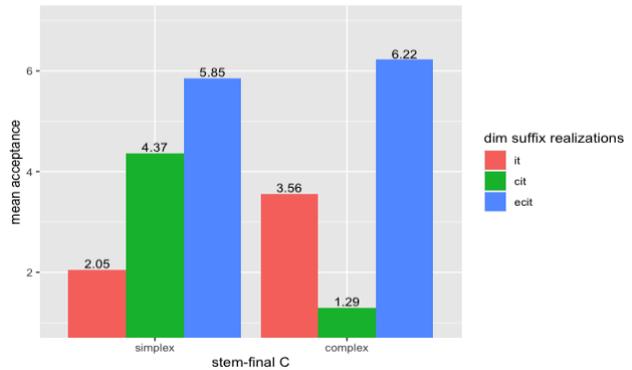


Figure 1. Mean acceptability scores of *-it*, *-sit*, and *-ecit* (range: 1-7)

Analysis. This paper shows that all three Spanish DIM suffix realizations are accounted for by the interactions among phonological and morphological constraints and that different rankings predict different output forms. This is based on an epenthetic approach with an assumption that *-it* is the default and *-sit* and *-ecit* are derived from the default by inserting [s] or [e]+[s] via morphophonological epenthesis. Overall, *-ecit* was most preferable for monosyllabic stems, which supports Crowhurst’s (1992) claim for the disyllabic foot structure. This is required by the constraints $\text{Foot}[\sigma]$ (in order to choose [pa.ne.si.to] over [pa.ni.to]) and ONSET (in order to select [pa.ne.si.to] over [pa.ne.ito]). However, it is at the same time problematic since it does not completely block the occurrences of *-it* and *-sit* for monosyllabic stems, which would be ungrammatical to Crowhurst’s analysis. Our results indicate that *-sit* is preferred to mark a morpheme boundary (indicated as “|”) as long as it does not yield an unparsed consonant, which is required by PARSE-C (Kenstowicz 1994). For example, [pan.|s|-i.to] is relatively tolerable, whereas [mad.<r>|s|-i.ta] is not because /r/ cannot be parsed. While [mad.<r>si.ta] is nearly unacceptable, [mad.ri.ta] is the second most preferred form for /madr-ita/. In order for [mad.ri.ta] to be selected as the optimal output form, DEP should dominate $]\text{stem} =]\sigma$ (the right edge of the stem should coincide with the right edge of the syllable) and Pr=Lex (“morpheme boundaries should coincide with the boundaries of prosodic constituents (i.e., a phonological word)”; Prince & Smolensky 1993).

Contribution. This paper contributes to a line of research on the typology of “morphological” epenthesis, which has been understudied as opposed to “phonological” epenthesis. Additional evidence for morphological epenthesis is found cross-linguistically: Italian compounds (*diet|g|terapia* ‘diet therapy’; Repetti 2012), Korean suffixation (*pap-iran* ~ *pap|g|-iran* ‘rice and’; Kim 2018), and English DIM suffix realizations (*Bettie* ~ *Bet|g|ie* ‘Elizabeth-DIM’; Kim 2021).

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Psycholinguistics

Pragmatic Skills and Language Modeling in Children with Complex Communication Needs

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Introduction: Language modeling is an imperative approach to promote language acquisition in children with complex communication needs (CCN). It provides children with access to rich natural examples of language and a clear picture of how to use the language. For children with CCN resulting from a variety of disabilities, it is difficult for them to rely on their speech. As a result, using augmentative and alternative communication (AAC), which refers to the multimodal communication including vocalizations, gestures, facial expressions, body movements, eye gaze, and aided communication, for expressive language is imperative in children with CCN (Binger & Light, 2007). AAC provides these children with alternative modes for language input and output. Children with CCN usually have difficulties in responding to language models and stimuli provided in spoken language alone. Thus, language modeling that combines both spoken and AAC-based language is vital to support language learning in children with CCN. AAC-based language modeling benefits these children through converting spoken models into AAC symbols to enhance comprehension and showing children how to use AAC for language production. It has been demonstrated that AAC modeling is an effective instructional approach in facilitating the development of semantics (e.g., Ronski et al., 2010), syntax (e.g., Binger & Light, 2007), morphology (e.g., Binger et al., 2011), and pragmatic skills (e.g., Rosa-Lugo & Kent-Walsh, 2008) in children with CCN.

Findings in prior studies indicated several issues related to language acquisition in children with CCN. First, the language skills of children with CCN usually could not be fully developed because of the lack of appropriate support and resources in language acquisition for this population (Basil & Reyes, 2003). Furthermore, children with CCN have fewer opportunities to be involved in communication activities compared to their peers without disabilities which negatively affects the development of pragmatic skills (Kaiser et al., 2001). Pragmatic skills are integral as well as challenging for children with CCN. It is integral because cognitive and motor disorders significantly restrict the resources they can access. Pragmatic language skills and willingness to communicate is important for these children to be included in social activities. It is also challenging for children with CCN because it requires the use of various skills such as recognizing the demands of communication partners, using appropriate language within the context to respond to the demands, using various channels to deliver information (e.g., vocabulary, different structures of sentences, intonation), and being able to respond to the constant change of contexts (Prutting, 1982). However, the development of pragmatic skills in children with CCN, particularly resulting from significant disabilities, has received little attention in both research and educational practice (Senner, 2011). In addition, children with CCN have limited access to language models provided in both spoken language and AAC symbols. Effective language modeling requires instructors or partners to provide models that are in concert with the learners' expressive language systems. For children with CCN who employ alternative modes for output (e.g., AAC), it is pivotal to provide language models in the form of AAC symbols in addition to natural spoken models (Binger & Light, 2007). Thus, this study centers on how AAC language modeling is provided during story reading activities for children with CCN in home settings and its effect on the development of pragmatic skills (particularly focusing on communicative turn-taking) in this underrepresented population of learners.

Method: A single case of a child with Rett syndrome, a rare genetic neurodevelopmental disorder, who uses an eye-tracking AAC device (Tobii i-13) was investigated. Multiple data resources were collected and analyzed to examining AAC language modeling and its effect on the increase of pragmatic skills including participant observation of story reading activities between a caregiver and the participant, a semi-structured open-ended interview with the caregiver, and Tobii heat map (which helps to understand the participant's communication attempts). Examples of the core themes identified in the coding process were the caregiver's approaches of language modeling using the child's AAC device, the factors that may influence the modeling process, the participant's reaction and linguistic responses to the modeling approach, the appropriate communicative turns taken by the participant, etc.

Results and implications: Language modeling using AAC devices is an effective instructional approach in promoting communicative turn-taking and the acquisition of pragmatic skills in children with language impairments. The participant in this study demonstrated increases in taking communicative turns. Particularly, the participant made appropriate context-based responses such as greetings, making jokes, and sharing thoughts. In addition, the preliminary findings also indicate some essential techniques in effectively implementing AAC language modeling. For example, incorporating pause time, being responsive, attributing meanings to children's communication behaviors, modeling AAC symbols repeatedly, and adjusting environment. The findings of this study highlight the essential role of modeling AAC symbols in addition to natural spoken models in language learning of children with CCN and its effectiveness on the development of pragmatic skills in these children. This study also provides implications of instructional approaches to effectively support language acquisition in this underrepresented population of learners in future educational practice.

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Online processing effects of Pseudo Relative Clause Availability in Italian Attachment Ambiguity

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[Introduction] It is well-known that the interpretation of attachment preferences in ambiguous relative clauses (RC) varies cross-linguistically (Cuestos & Mitchell 1999; Dussias 2003; a.o.). Consider (1):

- (1) I saw the **son** of the **doctor** that was running.
 a. LA interpretation: ‘The doctor was the person who was running.’
 b. HA interpretation: ‘The son was the person who was running.’

Given the complex DP [the son of the doctor], this sentence is ambiguous between a low attachment (LA) interpretation preference for which is exhibited in Mandarin Chinese (Shen 2006), English (Frazier & Clifton 1996), and Romanian (Ehrlich et al. 1999), a.o. and a high attachment (HA) interpretation preference for which is seen in Dutch (Mitchell et al. 2000), French (Colonna et al. 2000), Spanish (Gibson et al. 1999), and Italian (De Vincenzi and Job, 1998). These results have been subjects of numerous studies, and they raise questions about the universality and/or variability of processing strategies across languages.

In this sense, Grillo & Costa (2014) have argued that RC attachment ambiguity resolution is largely dependent on whether a language allows for Pseudo-Relative Clauses (PR). They argue that what looks like a HA preference in some languages is a parsing preference for constructing a PR clause (necessarily modifying the HA NP) over a RC. Under this *pseudo-relative first* hypothesis, in PR languages (1) is ambiguous between three structures: a PR structure, a HA RC structure, and a LA RC structure. Since PRs can only structurally modify the highest NP, committing to a PR parse then gives rise to what looks like an HA preference. In unambiguous cases in which the PR interpretation is made unavailable, “HA” languages then show a LA preference (Grillo & Costa, 2014). In this study, we investigate the online effects of the availability of a PR structure on the processing of RC attachment in Italian.

[Experiment] We conducted a self-paced reading experiment with two factors crossed: the type of matrix verb (PR taking verbs: perceptual verbs (e.g. see) vs RC only verbs: non-perceptual verbs (e.g. meet)) and interpretation (HA vs LA). Our stimuli are temporarily ambiguous. When the parser encounters the relative clause verb, the ambiguity is resolved by number feature matching between the noun and the verb. According to Grillo & Costa’s hypothesis, when we force LA interpretation in PR-compatible contexts, we should observe a cost of integrating the disambiguating word because PRs can only take the first DP as the subject of the embedded clause. Thus, LA sentences are expected to be harder to parse than HA sentences in conditions with perceptual verbs. In contrast, in RC-only contexts, the opposite pattern is expected.

(2)	Verb	Interpretation		before	target	after	
a.	PR/RC (Perceptual)	LA	Gianni vide il figlio dei medici che Gianni saw the son-SG of the doctors-PL	che who	correvano were running-PL	la the	maratona marathon
b.	PR/RC (Perceptual)	HA	Gianni vide il figlio dei medici Gianni saw the son-SG of the doctors-PL	che who	correva was running-SG	la the	maratona marathon
c.	RC only	LA	Gianni viveva con il figlio dei medici Gianni lived with the son-SING of the doctors-PL	che who	correvano were running-PL	la the	maratona marathon
d.	RC only	HA	Gianni viveva con il figlio dei medici Gianni lived with the son-SING of the doctors-PL	che who	correva was running-SG	la the	maratona marathon

An example set of stimuli is in (2). We created 24 item sets distributed across four conditions with 48 fillers. We counterbalanced the number feature matching (singular vs plural) between first and second NP. The experiment was run on the web-based platform Ixet Farm using a self-paced, non-cumulative moving window design. The presentation of each sentence was followed by a comprehension task asking participants to identify an LA or an HA interpretation (e.g., *Who ran?*). The order of the given answer choices (NP1 vs NP2) on the screen was counterbalanced.

[Results] A summary of the responses from 74 native speakers of Italian are in Figure 1, Figure 2, and Table 1. The target region of the analysis was the relative clause verb, where the temporal ambiguity was resolved. **Figure 1** shows the average word-by-word reading times for the critical regions: the region right before the target region (1_before), the target region (2_target), and the region right after the target region (3_after). The exact average reading time on the target region is in **Table 1**. We used a two-way ANOVA for the analysis with two factors (a verb type and an attachment type) and found that there is a significant interaction effect ($p < 0.05$). HA sentences showed significantly slower reading times with non-perceptual verbs. Additionally, even though non-statistically significant, LA sentences showed slowdown tendencies with perceptual verbs within the target region. Accuracy rates for the answer to the comprehension question were above 83% for all participants (logistic regression model: $p > 0.05$).

[Discussion] Our results provide additional evidence from Italian in support of Grillo & Costa (2014)'s PR first hypothesis even in online processing. Particularly, the significant slowdown at the target region in the HA condition with RC-only verbs supports the idea that Italian speakers prefer LA over HA interpretation when there is no additional structural ambiguity. This suggests that, even in so-called HA languages, the parser prefers to initially build local relations between the RC and nearest DP very early on, which supports the universality of principles of locality in sentence processing. Building on the slower reading times for LA sentences with PR-licensing verbs, we conclude that although the ambiguity resolution process may involve the interaction of different factors, PR-availability plays a crucial role in modulating these effects and can (at least partly) explain cross-linguistic variation.

	HA	LA	<i>p</i> -value: (ANOVA Post Hoc Test: Fisher's LSD)
PR/RC (Perceptual)	647.58	709.45	0.18
RC only (Non-perceptual)	706.15	619.74	< 0.05

Table1. Reading time (*ms*) average on the target region

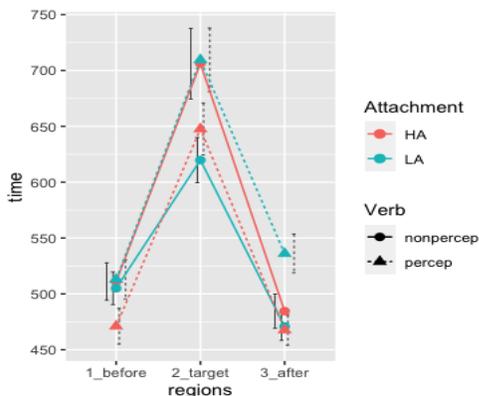


Figure 1. By-region reading time (*ms*) average

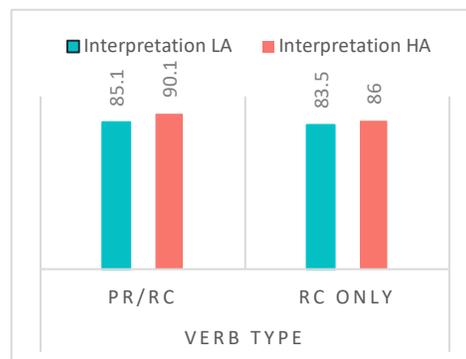


Figure 2. The results of the comprehension test

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Title: Prediction in Reading: Line Break and Clause Boundary Mismatch Effects

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Background: Previous research ^[1, 2] has demonstrated that sentences containing optionally transitive verbs such as “While Anna *dressed* the baby played in the crib” are initially misparsed when presented visually and without a comma to mark the end of the clause. While misanalysis effects of direct object/subject garden path sentences have mainly been achieved through the omission of punctuation, much less is known about the role of lineation. If a line break coincides with a clause boundary, the reader may be aided when processing such garden paths. On the other hand, the “scissoring” of a clause at the end of a line (enjambment) may have adverse effects on reading behaviour and comprehension ^[3].

Aims and Hypotheses: We explored whether line breaks can act as a “secondary system of punctuation”: much like a comma, the prosodic break at the end of a line may stand in for a “separator” of clauses. In line with this hypothesis, we expected the intransitive reading of a line-final optionally transitive verb to be facilitated compared to a transitive reading.

Our second aim was to examine whether the reader can form predictions based on preceding context as to whether an optionally transitive verb would be transitive or intransitive. To that end, we exposed readers to poem-like 5-line texts where successive lines were either syntactically complete or incomplete (recurring enjambments). In the latter case, the 1st, 2nd and 4th line would be syntactically incomplete; yet, we manipulated the transitivity of the verb positioned at the end of the 3rd line. Texts remained temporarily ambiguous in all conditions until the final line; if the verb was transitive, a disambiguating pronoun was present on the 5th line to be the subject of a new main clause. We hypothesized that cases of mismatch (e.g. preceding context signalling incompleteness but verb being intransitive) would lead to processing costs.

Methods: 39 native speakers of English participated in a self-paced line-by-line moving-window reading study. Using a Latin-square design, we manipulated Transitivity (transitive VS intransitive verbs) and Line Completeness (complete VS incomplete); for each one of the resulting 4 conditions, subjects read 8 items:

Lines:	TR-COM (Transitive – Line Complete)	TR-INCOM (Transitive – Line Incomplete)
1)	<i>Alice attended a talk</i>	<i>Alice once attended a [<- enjambment]</i>
2)	<i>that the speaker named James gave</i>	<i>talk that the speaker named James [<- enjambment]</i>
3)	<i>and because Alice heckled</i>	<i>gave and when Alice heckled [<- enjambment]</i>
4)	<i>James who was sickly and frail</i>	<i>James who was sickly and quite [<- enjambment]</i>
5)	<i>she was truly mortified</i>	<i>frail she was so mortified</i>
1)	INT-COM (Intransitive – Line Complete)	INT-INCOM (Intransitive – Line Incomplete)
1)	<i>Alice attended a talk</i>	<i>Alice once attended a [<- enjambment]</i>
2)	<i>that the speaker named James gave</i>	<i>talk that the speaker named James [<- enjambment]</i>
3)	<i>and because Alice heckled</i>	<i>gave and when Alice heckled</i>
4)	<i>James who was sickly and frail</i>	<i>James who was sickly and quite [<- enjambment]</i>
5)	<i>was a little mortified</i>	<i>frail was a bit mortified</i>
	Comprehension Question: <i>Who was it that was mortified? Options: Alice / James / Other(s)</i>	

* Coloured cells indicate line break and clause boundary mismatch.

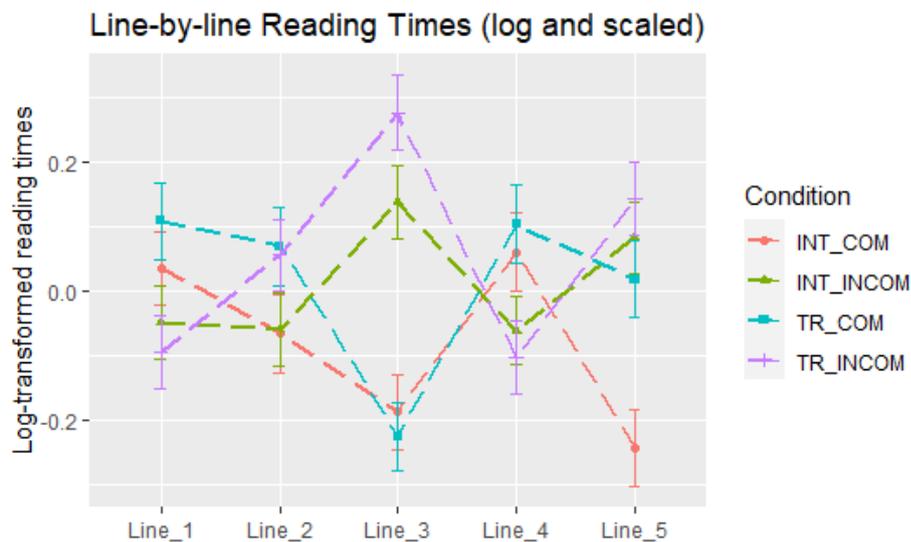
** Stimuli modelled on items from two previous studies ^[4, 5].

*** Line syllable count remained constant (n = 7) across all items and within-item conditions.

Results: Regarding our first hypothesis, reading time results suggest that the INT-COM condition where all line breaks coincided with clause boundaries was read the fastest at the critical disambiguating region (Line 5) compared to other conditions (p 's < 0.05). Regarding our second hypothesis (i.e. parsers making predictions re transitivity based on completeness of preceding lines), results suggest that subjects were first and foremost sensitive to enjambments and adapted their reading behaviour in their presence; the presence of line incompleteness slowed down reading rate on the 3rd line containing the verb (p < 0.01). On the 5th line, both conditions involving enjambments as well as the TR-COM one - where the verb is transitive but readers were primed with completeness - were processed significantly slower than the INT_COM one (p 's < 0.05).

In terms of comprehension question performance, the presence of the gendered pronoun on the last line clarifies the referent in both transitive conditions; as such, accuracy was high in these two conditions (TR-COM: 87.5%; TR-INCOM: 85.9%). However, in the intransitive conditions, a significant decrease in accuracy was observed (p < 0.05) when the reader was primed with preceding incomplete lines (INT-INCOM: 74.7%) compared to complete lines (INT-COM: 86.5%).

Conclusions: Based on these results, it can be concluded that readers benefit from having line breaks coincide with clause boundaries. When clauses are repeatedly scissored by line endings, the reader *may form an expectation of structural incompleteness*. We consider the relatively lower accuracy observed in the intransitive and incomplete condition to be a consequence of prediction error, although further research is needed to confirm this effect.



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How much and how does ungrammaticality differ from variation? A psycholinguistic study of verbal agreement in the Portuguese spoken in the city of Rio de Janeiro

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This study brings empirical evidence of gradual processing costs in reading between linguistic variation and ungrammatical constructions in the Brazilian Portuguese (BP) spoken in the city of Rio de Janeiro, within undergraduate students. Its departure point is in the fact that morphosyntactic violation using ‘ungrammatical’ stimuli is a common experimental paradigm in psycholinguistics and cognitive neuroscience to investigate agreement processing. Perhaps due to the lack of interdisciplinary studies, involving both socio and psycholinguistics (THOMAS, 2011), often *if* and *how* the processing these ungrammatical forms differ from linguistic variants is not considered. This is especially true for intra-subject variation and morphosyntactic variation (SOTO; ALMEIDA, 2021), which are both phenomena abundantly available in BP spoken in Rio de Janeiro, even among more literate subjects.

In recent literature, one topic that has been explored is the processing costs associated with the variation of third-person plural verb agreement, a phenomenon amply studied in Brazilian sociolinguistics given that verb agreement is a variant phenomenon in BP (cf. SCHERRE, 1994; BORTONI-RICARDO, 2008; MARCILESE et al., 2015; MOLINA, 2018; JAKUBÓW, 2018). In BP variation in agreement can be observed both in verbal and nominal phrases. Roughly, this phenomenon can be described as presenting variable rules: (i) redundant agreement, supported by Brazilian prescriptive grammars, in which all the phrasal elements receive an explicit number marking (e.g. eles moram, ‘they live’); (ii) non-redundant agreement, considered “incorrect” by prescriptive grammars, in which the explicit number morpheme is not applied to all phrasal elements (usually only the first element) (e.g. eles mora-Ø, ‘they live’). Although widespread, the non-redundant variant is often considered to be what Labov (2008; 1972) would call a sociolinguistic stereotype. Psycholinguistic studies on this topic in Brazil have shown that, among undergraduate students, reading or listening to sentences with the non-standard non-redundant agreement in the verb phrase demands more than reading or listening to sentences with the standard redundant agreement (MARCILESE, 2015; MOLINA, 2018).

One could interpret these increased processing costs for ‘non-standard’ agreement as a reflection of a dichotomy between “correct” and “incorrect” agreement, thus running the risk of not distinguishing between variation and ungrammaticality. Empirical data on whether there is a difference between processing variation versus ungrammaticality is currently lacking. The present study, then, seeks to understand *if* and *how* linguistic variation is different from ungrammaticality, using data collected from a self-paced reading experiment in which excerpts of made-up interviews are shown in three conditions: redundant agreement, non-redundant agreement, and ungrammatical agreement. Participants read, beyond 20 fillers, 15 stimuli of two sentences with three subject + verb occurrences each, as the example in (1). For each stimulus and filler there was a *prompt* that would work as the question asked in the interview. For the ungrammatical agreement, we combined third-person plural subjects with first-person singular verbs.

(1)¹ [Prompt: Você gosta de ir à praia?] Eu gosto, sempre vou com um amigo e uma amiga. Eles **gostam** (redundant) | **gosta** (non-redundant) | **gosto** (ungrammatical) de praia longe então **eles acabam** (redundant) | **acaba** (non-redundant) | **acabo** (ungrammatical) preferindo ir de carro. Daí na volta, eles **visitam** (redundant) | **visita** (non-redundant) | **visito** (ungrammatical) a família que mora numa cidade que fica no caminho.

To collect data remotely, the module PennController of the online platform PCIBEX was used and subjects (N=72), undergraduate students between 18 and 30 years old, were recruited through social media. A linear mixed effect model with reading times (RTs) of the post-verbal segment as dependent variable, condition and occurrence as fixed effects, and item and subject as random effects, was significant ($X^2=26.85$, $p < 0.000$). Post-hoc analyses show that RTs are overall fastest for redundant

¹ [Prompt: Do you like to go to the beach?] I like it, I always go with a male and a female friend of mine. They like going to distant beaches, so they end up going by car. Then when coming back they visit the family that lives in a city on the way. (This is the same sentence used as example in Fig. 1).

agreement and slowest for ungrammatical stimuli for all occurrences; whereas RTs for non-redundant agreement are only slower than redundant agreement the first occurrence, but are just as fast in the second and third occurrence, and are always significantly faster than ungrammatical stimuli (see Table 1 and Fig. 1).

Table 1: Average reading times, in milliseconds, for redundant, non-redundant and ungrammatical stimuli in the first spill-over segment (first word after the critical verbs)

Cond: Occ:	1	2	3
Redundant	357.3	359.2	364.2
Non-redundant	451.2	395.7	402.8
Ungrammatical	520.1	451.6	459.9

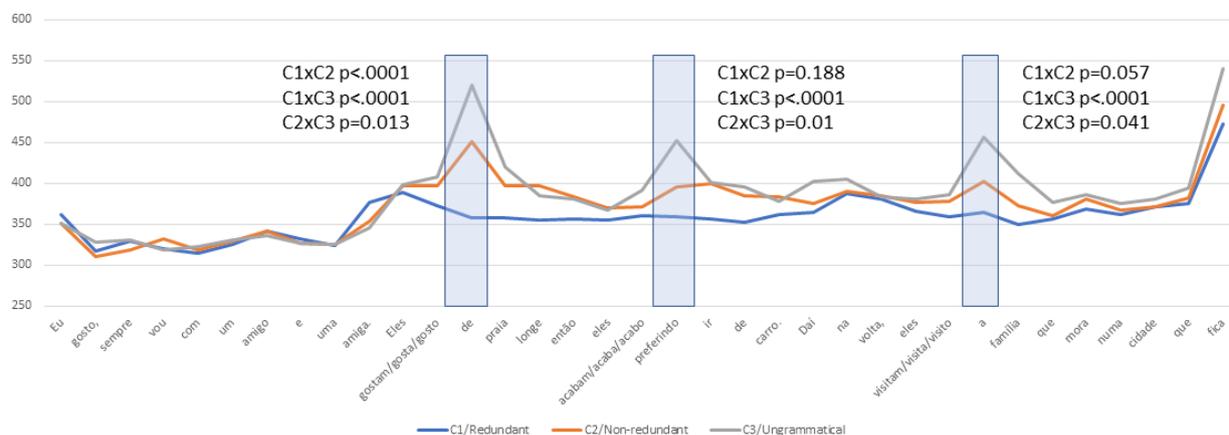


Figure 1 - Graph of reading timelines for the three conditions with p values of post-hoc analysis (Tukey) of RTs for the first spill-over segment (first word after the critical verb)

These results suggest, then, that speakers perceive and process ungrammaticality differently from linguistic variation, the former considerably more costly than the latter. And that non-standard variant processing is only more significantly costly than standard agreement in the first occurrence. Our claim is that it suggests a representation of a variable grammar in the speakers' mind, similar to what Adger and Smith (2007) and, specifically for BP, Jakubów (2018) suggest. We are aware, however, that our experiment is placing a variable extensively more common in orality into a self-paced reading experiment and that it may turn the variant more salient to the participants (i.e. the difference among conditions can be even stronger). Using other, more fine-grained temporal measures, such as EEG, and presenting the auditory stimuli, can help us investigate our claims further.

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Semantics

Gèng: A super flexible comparative morpheme

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Synopsis Mandarin Chinese *gèng* (*even more*) has been argued to be a comparative morpheme by Liu (2010) (see also Lin2014, Yang2017). This paper shows that *gèng* is compatible with various types of predicate, and expands Liu's proposal to cover such cases.

Previous Study Liu distinguishes a phrasal-*gèng* (1) and a clausal-*gèng* (2), and we are concerned with the latter. He proposes that the clausal-*gèng* takes two degree intervals as its arguments (the degree interval between *LS* and the norm on the happiness scale and the degree interval between *ZS* and this norm); *gèng* asserts the former is larger than the latter and presupposes that both *ZS* and *LS* are above the norm on the happiness scale. A crucial covert assumption of Liu(2010) is the presence of some overt grammatically gradable predicate to which *gèng* has access (all his examples involve overtly accessible adjectives). We will illustrate that this is not necessarily the case.

- (1) *Zhangsan bi Lisi gèng kaixin.* (2) *Zhangsan hen kaixin, Lisi gèng kaixin.*
Zhangsan than Lisi gèng happy *Zhangsan very happy Lisi gèng happy*
“*Zhangsan is even happier than Lisi.*” “*Zhangsan is happy; Lisi is even happier.*”

Core empirical observations a) *Gèng* is compatible with grammatically non-gradable but conceptually graded predicate, e.g. the denotic modal *bixu/must* (Lassiter2017) (3). b) *Gèng* is felicitous in the absence of any grammatically gradable or conceptually graded predicate, e.g. *sha-le-ren/kill-ASP-person* in (4). But note that the two predicates (*hit the person* vs. *killed the person*) can be compared along some pragmatic scale. c) If the predicate is grammatically non-gradable and conceptually non-graded and there is no salient pragmatic scale, *gèng* is infelicitous, e.g. incompatibility with the predicate “*be an odd number*” in (5).

- (3) “*Jihua de shidai, shi suoyou ren bixu xuanbian-zhandui de shidai, xiang Hu Shih zheyang youzhe juda yingxiangli de ren, gèng bixu xuanbian-zhandui.*” (from Internet)
polarized DE epoch be all person must take-side DE epoch like Hu Shih this have enormous impact DE person gèng must take-side

“*In a polarized epoch, everyone must take side; an influential figure like Hu Shih gèng must take side./it is even more so that an influential figure like H-S must take side.*”

- (4) “*Tamen liang, yi-ge da le ren, yi-ge gèng sha le ren.*” (Liu2010,fn.9, my translation)
they two one-CL hit ASP person one-CL gèng kill ASP person
“*Of the two, one hit the person, and the other one even killed the person.*”

- (5) #“*7 shi ji shu, 9 gèng shi ji shu.*”

7 COP odd number 9 gèng COP number

“*7 is an odd number; 9 is gèng an odd number./ 9 is even more of an odd number.*”

We observe that (4) is redolent of English *even* or its Chinese counterpart *shènzhì* under the gradability-based account (Greenberg 2018) given that both seem able to operate on some contextually supplied gradable predicate. If we tentatively equate *gèng* with *even* following Greenberg(2018), (3) would receive this interpretation: it is presupposed that a) *gèng* operates on some contextually supplied gradable predicate (say guilty); b) in the w_1 worlds where p (“the other one killed the person”) holds, “the other one” is POS guilty, and in the w_2 worlds where p 's salient alternative q (“one hit [but didn't kill] the person”), “one” is POS guilty; c) “the other one” in w_1 is more guilty than “one” in w_2 . We just need to make one tweak: the underlined c) is not part of *gèng*'s presupposition but assertion. But crucially, *gèng* is distinct from *even/shènzhì* w.r.t the scale ordering. In (6), both *gèng* and *even/shènzhì* stay with the logically stronger proposition (*syntactician* \subseteq *linguist*) whereas in (7) *gèng* but not *even/shènzhì* can stay with the logically weaker proposition (*non-syntactician* $\not\subseteq$ *non-linguist*).

(Context for 6-7: Adam asks Bill whether Joe can solve some syntax puzzle. Bill replies:)

- 6) “*Ta shi yuyanxuejia, gèng/shènzhì shi jufaxuejia, kending neng*”

He COP linguist gèng/even COP syntactician certainly can

“*He is a linguist; he is even a syntactician. He can certainly (solve it).*”

7) “*Ta bu shi yuyanxuejia, gèng/#shènzhì bu shi jufaxuejia, kending bu neng*”
he NEG COP linguist gèng/even NEG COP syntactican certainly NEG can
“he is not a linguist; he is gèng/#even not a syntactician. He certainly cannot (solve it).”/“he is not a linguist, let alone a syntactician. He certainly cannot (solve it)”

Proposal & Accounting for Data We agree with Liu(2010) that *gèng* is a comparative morpheme but propose that it can operate on any conceptually graded predicate, covert or overt, and crucially, that it operates on a predicate but not propositional level. Assuming the Interpretive Economy (Kennedy2007), we suggest the following interpretation hierarchy for *gèng*: a) with access to any overt grammatically gradable predicate (e.g. (2)), *gèng* simply adopts it as the dimension of comparison; b) lacking (a), *gèng* seeks overtly accessible grammatically non-gradable but conceptually graded predicates (e.g. (3)); (c) lacking (a) and (b), *gèng* turns to the context for some salient gradable predicate (e.g. (4)); d) lacking (a), (b) and (c), *gèng* is infelicitous (e.g. (5)). For cases (a) and (c), *Entry 8* is proposed for *gèng*.

8) $\|gèng\|^{c, g} = \lambda G \lambda x \lambda y. \forall w_2 R w_0 \forall w_1 R w_0: \max(\lambda d_1.(G)(d_1)(x)(w_1)) > Stand_G \wedge \max(\lambda d_2.(G)(d_2)(y)(w_2)) > Stand_G. \max(\lambda d_1.(G)(d_1)(x)(w_1)) > \max(\lambda d_2.(G)(d_2)(y)(w_2))$ where $w_1 \in p_{<s,t>}$ (e.g. “the other one killed the person” in (4)) and $w_2 \in q_{<s,t>}$ (e.g. “one hit the person” in (4)); R is the accessibility relation and $G_{<d,<e, st>}$ is a contextually supplied gradable property; $Stand_G$ is the norm on the scale related to G ; x is the subject in p and y the subject in q .

Entry 8 easily captures (2), (4) and (6) but seems unable to capture (7). We suggest *gèng*’s infelicity in (7) is due to *gèng*’s proposed nature, i.e. operating on a below-propositional level. Thus, the negator “*bu*”, within *gèng*’s scope, is not a sentential negation. We propose that the copula verb *shi* is bi-functional: a) serving as the main verbal predicate marking membership and b) providing the comparison dimension, i.e. truth/verum. The negator “*bu*” negates “*shi*”, yielding the new predicate “not true/incorrect” serving as *gèng*’s argument. Hence, (7) would be interpreted this way: it is incorrect to say he is a linguist; it is even more incorrect to say he is a syntactician. The QUD in (7) is indirectly addressed. (6) can also be parsed this way. A piece of evidence to support our suggestion that *gèng* operates below a propositional level is that in (9) *shènzhì* but not *gèng* can be placed sentence-finally to take the propositional focus.

9) “*Ta shi yuyanxuejia; ta shi jufaxuejia, # gèng/shènzhì.*”
he COP linguist he COP syntactician gèng/even

Entry 8 cannot be applied to (4) given that the deontic modal *bixu* is not grammatically gradable: unlike epistemic modal *keneng/may* or deontic modal *yinggai/should*, *bixu* is not compatible with degree intensifiers like *feichang/much* or *bi/than* comparatives. This means there is no degree argument. We suggest what is manipulated by *gèng* is the standard of how it is incumbent upon the agent to undertake the predicate-denoted task following the deontic modal. *Entry 10* is proposed for such cases. Note the measure function *Obligation* can be replaced with corresponding grammatically non-gradable but conceptually graded predicates.

10) $\|gèng\|^{c, g} = \lambda P \lambda x \lambda Q \lambda y. : Obligation(P(x)) > \theta_1 \geq \theta \wedge Obligation(Q(y)) > \theta_2 \geq \theta. \exists \theta_3. \theta_1 > \theta_3 > \theta_2 \wedge Obligation(P(x)) > \theta_3 \wedge \neg(Obligation(Q(y)) > \theta_3)$ where *Obligation* is a measure function marking how incumbent it is on the agent in p/q (i.e. x, y) to undertake the predicate-denoted action. θ_1 is the standard of obligation in the $P(x)$ world, θ_2 is that in $Q(y)$ world, θ is the general standard on an obligation scale across worlds. P and Q , x and y can be identical.

One might wonder whether *gèng* in (5) could possibly operate on some contextually provided property, e.g. some epistemic property, i.e. how certain the speaker is about the propositions’ truth. The answer seems negative given that *gèng* operates on a below-propositional level and requires the comparison dimension within its c-command, covert or overt, whereas the epistemic modal as evidentials operate on extra-propositional levels (Drubig 2001, Lin2012).

Directions We focused on the so-called clausal-*gèng* but how well our proposal fares with the phrasal-*gèng* (1) remains to be explored, especially how our proposal can explain the long-standing puzzle of why phrasal-*gèng* is incompatible with measure phrases.

The Syntax and Semantics of SAY in the Quotative Complement in Japanese

Koji Shimamura

Introduction: This talk provides a novel syntactic and semantic analysis of quotation in Japanese, where both directly and indirectly quoted clauses are introduced by the reporting particle, *-to*:

- (1) a. John₁-wa [kare₁-wa nihongo-o hanas-e-nai-to] it-ta.
 John-TOP he-TOP Japanese-ACC speak-CAN-NEG.PRES-REP say-PAST
 ‘John said that he couldn’t speak Japanese.’
 b. John-wa [“aɪkæntsɪ:kɔʒəpəni:z”-to] it-ta.
 John-TOP I can’t speak Japanese-REP it-PAST
 ‘John said, “I can’t speak Japanese.”’

(1a) illustrates a case of indirect quotation, whereas a sentence of English, a foreign language to Japanese, is embedded in (1b), hence a case of direct quotation; *-to* can quote various items indirectly:

- (2) a. Sono sensei-wa seito-ni [nani-o si-nasai-to] it-ta-no.
 the teacher-TOP student-DAT what-ACC do-IMP-REP say-PAST-Q
 Lit. ‘What₁ did the teacher said to her students do. IMPERATIVE t₁?’
 b. Taroo₁-wa [zibun₁-wa nani-o su-ru-beki-ka-to] omot-ta.
 Taro-TOP self-TOP what-ACC do-PRES-MOD-Q-REP think-PAST
 ‘Taro wondered what he should do.’
 c. Taroo-wa zibun-no musume-ni nan-to nazuke-ta-no.
 Taro-TOP self-GEN daughter-DAT what-REP name-PAST-NO
 ‘What did Taro name his daughter?’

In (2a), an imperative sentence is indirectly quoted, which is clear from the availability of a long-distance *wh*-dependency. In (2b), the embedded clause is an interrogative, and the matrix subject binds the embedded *self* anaphor, so it is also indirectly quoted. Finally, (2c) illustrates a case of the naming construction, and *-to* directly attaches to the name which is questioned (cf. Fujita 2000, Shimamura 2018). This shows that *-to* doesn’t have to attach to a clausal item. Then, following the spirit of Major (2021) and Shimamura (2018), I will propose a way to render the syntactic and semantic composition of Quotative Complement (QC).

Covert SAY in QC: There are many languages that have complementizers derived from some sort of *verbum dicendi*, which I dub SAY. Even English has SAY as Major (2021) claims; according to him, *say* can be stative or eventive and the former doesn’t allow an agentive subject, a goal/indirect argument, manner adverb modification, past tense, progressive aspect, passivization etc. For instance:

- (3) I ran into Katie yesterday and she gave me some excellent news! She (#excitedly) says (#to me) that she’s coming tonight! (Major 2021: 42).

Major proposes that *say* in (3) results from the merger of SAY and *v_{BE}*. When *say* is eventive, SAY is merged with *v_{DO}* and Voice. Details aside, Japanese also shows this contrast:

- (4) a. Taroo-wa (happyoosya₁-ni) (hakkirito) [kanozyo₁-no bunseki-wa matigai-da-to]
 Taro-TOP presenter-DAT frankly she-GEN analysis-TOP WRONG-COP.PRES-REP
 it-ta.
 say-PAST
 ‘Taro said (to the presenter) (frankly) that her analysis was wrong.’
 b. Kono ronbun-wa (*happyoosya₁-ni) (*hakkirito) [kanozyo₁-no bunseki-wa
 this paper-TOP presenter-DAT frankly she-GEN analysis-TOP
 matigai-da-to] {iw/*it-ta} (no-da).
 WRONG-COP.PRES-REP say.PRES/say-PAST NMLZ-COP.PRES
 ‘(It is that) this paper says (*to the presenter) (*frankly) that her analysis is wrong.’

Concerning the contrast between (4a) and (4b), there is another interesting fact: i.e. only *iw*- ‘say’ in (4a) can be written with *Kanji* ‘Chinese character’ (i.e. 言). Note that all the functional words in Japanese must be written in mora-based *Hiragana*. Since *iw*- ‘say’ in (4b) must be given in *Hiragana* (i.e. いわ/*言), it is quite plausible that it is not a lexical verb, but a functional one. Then, following Major (2021), I assume that *iw*- in (4b) is an overt realization of SAY. As Major (2021) discusses, SAY is concealed if a more semantically specified verb is employed, e.g. a verb of speech manner:

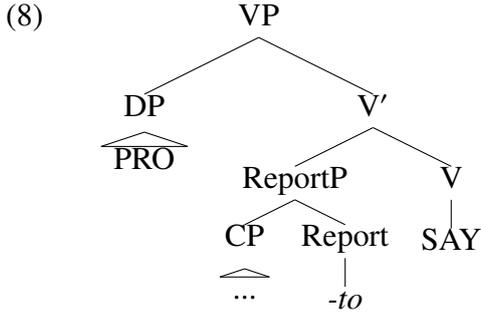
- (5) Taroo-wa [zibun-no bunseki-ga matigai-dat-ta-to] saken-da.
 Taro₁-TOP self₁-GEN analysis-NOM WRONG-COP-PAST-REP scream-PAST
 ‘Taro screamed that his analysis had been wrong.’

Then, (4a), (4b) and (5) are, under Major’s analysis, analyzed as (6a), (6b) and (6c), respectively. SAY introduces both QC and the source argument. Given (6), QC is always introduced by SAY, whether it

is overt or covert as Shimamura (2018) proposes. Note that lexical *iw-* exists independently of SAY in (6a), which is supported by Okayama Japanese where doubling ‘say’ is possible as in (7); the first instance of *iw-* (SAY) must be written in *Hiragana*, but the second one is possible with *Kanji*. SAY does not have to involve an actual utterance since it is compatible with *omow-* ‘think’.

- (6) a. [VoiceP Taro_{agent1} [Voice' [vP [VP PRO_{source1} [her analysis was wrong] SAY_{covert}] $\sqrt{\text{say-v}_{DO}}$] Voice]
 b. [vP [VP this paper_{source} [V' [her analysis was wrong] SAY]] v_{BE}]
 c. [VoiceP Taro_{agent1} [Voice' [vP [VP PRO_{source1} [V' [his analysis had been wrong] SAY_{covert}]] $\sqrt{\text{scream-v}_{DO}}$] Voice]
- (7) *pro* [sora sukunee-wa] yuu-te {yuu/omow}-ka-mo sira-n-kedo ...
 that few.COP.PRES-SFP SAY-CONJ say.PRES/think.PRES-Q-also know-NEG-but
 ‘You may {say/think}, “that is not enough”, but ...’

The Compositional Semantics of QC: Let’s calculate the meaning of SAY’s VP in (6a). Assuming the structure in (8), I propose that its meaning is computed as in (9), where I assume with Potts (2007) that utterance type *u* (its variable notation given as $\lceil S \rceil$) is available in our ontological inventory of semantic types, and the semantic function of *-to* changes anything quotable into an item of type *u*. This includes usual linguistic objects like declarative/interrogative/imperative sentences as well as names plus gibberish expressions, gestures or foreign languages; in (9), a propositional clause is indirectly quoted. I assume that SAY, after taking ReportP/PRO, denotes a set of contentful eventualities (that can be eventive or stative) (cf. Hacquard 2010), and this covert verb also introduces a new utterance context of type *k* since indexical shifting is possible in QC (Sudo 2012). We also need to look into the semantic content of $\lceil S \rceil$, which should be an appropriate type for taking *c'*. Since in (9) a proposition has been changed into an utterance, we need to retrieve its original propositional type. I thus assume with Potts (2007) that this job is done by *SEM*, which takes an utterance, giving its original semantics.



- (9) a. $\llbracket \text{Report} \rrbracket^{c,g} = \lambda\sigma. \llbracket \lceil \sigma \rceil \rrbracket^{c,g}$, where σ can be any type (or type-agnostic), and $\lceil \sigma \rceil$ is $\lceil S \rceil$
 b. $\llbracket \text{ReportP} \rrbracket^{c,g} = \llbracket \lceil \text{her analysis was wrong} \rceil \rrbracket^{c,g}$
 c. $\llbracket \text{SAY} \rrbracket^{c,g} = \lambda \lceil S \rceil \in D_u. \lambda x. \lambda e. \text{SOURCE}(x)(e) \wedge e \text{ in } w^* \wedge \forall c' \in \text{CON}(e) : (\llbracket \text{SEM}(\llbracket \lceil S \rceil \rrbracket^{c,g}) \rrbracket^{c,g})(c')$
 d. (i) $\llbracket \text{VP} \rrbracket^{c,g} = \lambda e. \text{SOURCE}(\text{PRO})(e) \wedge e \text{ in } w^* \wedge \forall c' \in \text{CON}(e) : (\llbracket \text{SEM}(\llbracket \lceil \text{her analysis was wrong} \rceil \rrbracket^{c,g}) \rrbracket^{c,g})(c')$
 (ii) $\llbracket \text{VP} \rrbracket^{c,g} = \lambda e. \text{SOURCE}(\text{PRO})(e) \wedge e \text{ in } w^* \wedge \forall c' \in \text{CON}(e) : (\llbracket \text{her analysis was wrong} \rrbracket^{c,g})(c')$
 (iii) $\llbracket \text{VP} \rrbracket^{c,g} = \lambda e. \text{SOURCE}(\text{PRO})(e) \wedge e \text{ in } w^* \wedge \forall c' \in \text{CON}(e) : (\lambda c. \llbracket \text{her analysis was wrong} \rrbracket^{c,g})(c')$ (Abstraction over contexts; cf. Sudo 2012)
 (iv) $\llbracket \text{VP} \rrbracket^{c,g} = \lambda e. \text{SOURCE}(\text{PRO})(e) \wedge e \text{ in } w^* \wedge \forall c' \in \text{CON}(e) : (\lambda c. \text{wrong}(\text{her.analysis})(c))(c')$
 (v) $\llbracket \text{VP} \rrbracket^{c,g} = \lambda e. \text{SOURCE}(\text{PRO})(e) \wedge e \text{ in } w^* \wedge \forall c' \in \text{CON}(e) : \text{wrong}(\text{her.analysis})(c')$

SEM is however unnecessary for direct quotation, so that following Potts (2007), SAY in direct quotation signifies an abstract uttering event (with or without sound):

(10) $\llbracket \text{SAY} \rrbracket = \lambda \lceil S \rceil \in D_u. \lambda x. \lambda e. \text{SOURCE}(x)(e) \wedge \text{UTTER}(\lceil S \rceil)(e)$

(10) is basically similar to Potts’s (2007) semantics of **utter** encoded in the English direct-quotative verb, *say_q*. He argues that the meaning of *say_q* is two-dimensional, which I won’t follow here. With (10), the difference between direct and indirect quotation resides in the semantics of SAY, but we have the same semantics of *-to*, which explains not only why we use *-to* for both direct and indirect quotation but why it can embed various types of linguistic items as indirectly quoted.

Selected References Major, T. 2021. *On the nature of “say” complementation*. Ph.D Thesis, UCLA.
 Shimamura, K. 2018. *The theory of quotative complementation in Japanese semanticosyntax*. Ph.D Thesis, UConn.

(ii) The lack of a future-in-the-past reading One constraint on evaluation time shift concerns the initial shift in free-standing clauses (Anand and Toosarvandani 2018; Pancheva and Zubizarreta 2021; but also see Toosarvandani 2021 for a different approach). The constraint in (6) precludes a future-in-the-past reading when evaluation time shift is applied.

(6) Initial EvalT shift in a free-standing clause may not precede the time of the event in that clause. If the past reading in Cantonese is derived from evaluation time shift with the restriction in (6), we predict the lack of a future-in-the-past reading. In contrast, if Cantonese possesses a [past] tense like English, we expect the opposite (cf. English translations in (7) and (8)). The former is borne out.

(7) ??Aaming camjat jatdim **wui** coenggo (8) ??po syu camjat **jiu** lam laa3
 Aaming yesterday 1pm will sing CL tree yesterday want fall SFP
 ‘Yesterday at 1pm, Aaming was going to sing.’ ‘The tree was going to fall yesterday.’

(iii) The lack of backtracking in narratives In narratives, a backtracking reading is disallowed when narrative present is used, as in (9b), in contrast with clauses with past tense marking in (9a) (Anand and Toosarvandani 2018). (< indicates a precedence relation between events.)

(9) a. σ_1 Max fell. σ_2 John **pushed** him. Past tense: ^{OK}fall < push ; ^{OK}push < fall
 b. σ_1 Max falls. σ_2 John **pushes** him. Narrative present: ^{OK}fall < push ; *push < fall

It is thus suggested that, in a narrative $\sigma_1\sigma_2$, the shifted evaluation time in σ_2 may not precede the time of the event in σ_1 , hence disallowing a backtracking reading. We assume the same applies to future narratives in Cantonese. In (10), if the future reading of σ_2 is due to (forward) evaluation time shift, then σ_1 must precede σ_2 . In contrast, if it is due to a null (future) morpheme, which could in principle re-order eventualities, and σ_2 can precede σ_1 . The former is borne out, as shown by the lack of a backtracking reading in (10). (11) shows that a backtracking reading is possible with *wui* ‘will’.

(10) σ_1 Aafan tingjat seijyufeiming. σ_2 jat-gaa foce **satsi** zin-gwo keoi
 Aafan tomorrow die.an.untimely.death one-CL truck lost.control run.over her
 ‘Aafan (will) die an untimely death tomorrow. Then/*Because a truck loses control and runs over her.’

(11) σ_1 Aafan tingjat seijyufeiming. σ_2 jat-gaa foce **wui** **satsi** zin-gwo keoi
 Aafan tomorrow die.an.untimely.death one-CL truck will lost.control run.over her
 ‘Aafan (will) die an untimely death tomorrow. Then/Because a truck will lose control and run over her.’

(iv) The lack of back-shifting reading in embedded clauses Null tense approaches predict that a back-shifting reading is possible in embedded clauses (with a [past] morpheme). However, (12) shows that such a reading is unavailable with the bare predicate *beng-ngai* ‘sick’. Even with perfective marking *beng-zo*, a back-shifting reading is not available either, challenging a tense-aspect bundling account proposed in Lin (2006), where past tense semantics is encoded in (perfective) aspect markers.

(12) Context: Aaming’s sister was no longer sick yesterday when Aaming told you about her.
 # camjat Aaming tung ngo gong [keoi saimui **beng-ngai/ beng-zo**]
 yesterday Aaming to me say his sister sick-danger/ sick-PERF
 ‘Yesterday Aaming told me that his sister was (very) sick.’ (Simultaneous reading only)

A tenseless approach suggests that attitude complements are evaluated with regard to the time of the matrix event, and thus only simultaneous reading is allowed.

Implications Temporal interpretations in Cantonese do not require the presence of tense, and even require its absence. This implicates that (semantic) tense may not be a universal semantic notion.

How various frame setters restrict interpretations of contextual comparison

Toshiko Oda

Goal: Contextual comparisons such (1) have received much less attention than traditional more-than-comparisons with ‘than’-phrases/clauses, partly because their semantics is hard to capture. To my knowledge, Hohaus (2015) provides the most explicit analysis of contextual comparison. She argues that *Compared to Jiro* in (1) is a frame setter, which contributes presupposition. The comparison *Taro is taller* in the main clause holds when the presupposition is met.

(1) *Compared to Jiro, Taro is taller.*

However, Hohaus discusses only one type of frame setter in detail, namely *compared to* and its cross-linguistic equivalents. Thus, her analysis is yet to be supported by more empirical data. The goal of this study is to show how various types of frame setters restrict the interpretations of contextual comparison. Relevant data comes from Japanese.

Background: According to Hohaus, *Compared to Jiro* in (1) contributes a set of minimal situations where some kind of comparison holds with Jiro, as shown in (3). The semantics of (1) is given in (4), where *Compared to Jiro* contributes a presupposition, and the main clause makes a comparison between Taro’s height and the value that is assigned to the free degree variable d_5 in the LF in (2). Crucially, the value of $g(5)$ is understood as Jiro’s height, because that is the only value that satisfies the presupposition.

(2) LF of (1): $[[_{\text{FrameP}} \textit{Compared to Jiro}] [[_{\text{DegP}} \textit{-er } d_5] [1[\textit{Taro is } t_1\textit{-tall}]]]]$

(3) $[[_{\text{FrameP}} \textit{Compared to Jiro}]] = \lambda s: s \in \text{MIN}(\lambda s^*. \exists x_{\langle e \rangle}, \exists \mu_{\langle s, \langle e, d \rangle} [\mu(s^*)(x) \geq \mu(s^*)(\textit{Jiro})])$

(4) $\lambda s: s \in \text{MIN}(\lambda s^*. \exists x_{\langle e \rangle}, \exists \mu_{\langle s, \langle e, d \rangle} [\mu(s^*)(x) \geq \mu(s^*)(\textit{Jiro})]). \text{MAX}(\lambda d. \textit{Taro is } d\textit{-tall}) > g(5)$

There is another type of contextual comparison that was not discussed in Hohaus (2015). In implicit comparisons exemplified in (5), adjectives in main clause are in positive forms, e.g., *tall*. Sawada (2009) points out that implicit comparisons like (5) come with implications described in (6), and he explains how the implications arise by a notion of economy. In a nutshell, he argues that if Taro were a tall person, the speaker would simply say *Taro is tall* and would not add *Compared to Jiro*, because having such an extra phrase is un-economical. The speaker adds it to imply that the standard degree to be a tall person is set very low. What is important for us is that implications exemplified in (6) are a sign of implicit comparison.

(5) *Compared to Jiro, Taro is tall.* (implicit comparison)

(6) Implications of (5)

- a. Jiro is short. b. Taro is not definitely tall, possibly a borderline.

I apply Hohaus’s analysis to implicit comparison. The semantics of (5) is given in (8). In this case, the comparison in the main clause is made via POS operator. Thus, the standard degree is simply a contextually given standard of tallness. No free variable of degree is involved.

(7) LF of (5): $[[_{\text{FrameP}} \textit{Compared to Jiro}] [\textit{Taro is POS tall}]]$

(8) $\lambda s: s \in \text{MIN}(\lambda s^*. \exists x_{\langle e \rangle}, \exists \mu_{\langle s, \langle e, d \rangle} [\mu(s^*)(x) \geq \mu(s^*)(\textit{Jiro})]). \text{MAX}(\lambda d. \textit{Taro is } d\textit{-tall}) > c$, where c is a contextually given standard of tallness

In English, the distinction between comparative and positive forms of gradable adjectives is morphologically visible, e.g., *taller* and *tall*. However, Japanese does not have morphologically visible comparative morpheme, thus *takai* could mean either *taller* or *tall* depending on its environment. Thus, Japanese provides a good empirical testing ground to examine context-dependent analyses of comparison.

Data: Given in (9) cannot be a standard more-than-comparative, because its literal English translation **The test score that Mary obtained is higher than John* is nonsense. Oda (2021) argues that it is a contextual comparison, where the *yorimo*-phrase acts as a frame setter like a *compared to*-phrase. (9) does NOT come with implications like the ones in (6). It means that

(9) is explicit more-than-comparison, and *takai* means ‘higher’.

(9) [[_{RC} *Mary-ga totta*] *tennsuu*]-*wa* [_{FrameP} *John yorimo*] *takai*.
Mary-NOM obtained test.score-TOP John-YORIMO high
‘Compared to John, the test score that Mary obtained is higher.’

Another relevant data comes from implicit comparison in Japanese discussed in Sawada (2009). When frame setters are if-clauses, their main clause comparisons turn to be implicit ones. For example, *takai* in (10) means ‘tall’, and (10) has implications in (11). Contextual comparisons with if-clauses can be explicit more-than-comparison only when forced by differential degrees. *Takai* in (12) means ‘more expensive’ because of the differential degree *350 yen*.

(10) [_{CP} *Jiro-ni kurabe*-{*tara/ruto/reba*}] *Taro-wa se-ga takai*.
Jiro-to compare-COND Taro-TOP height-NOM tall
‘If (he is) compared to Jiro, Taro is tall.’ (based on Sawada 2009)

(11) Implication of (10): a. Jiro is short. b. Taro is not definitely tall, possibly a borderline.

(12) *Sono kome-to kurabe*-{*tara/ruto*}, *kono kome-wa 5kg-de 350 yen takai*.
that rice-to compare-COND, this rice-TOP 5kg-per 350yen expensive
‘If (it is) compared to that rice, this rice is 350yen more expensive per 5kg.’

Analysis: The examples in (9)(10)(12) are evidence for the mechanism of contextual comparison. I assume that *yorimo*-phrases contribute > (explicit more-than-relation) to presupposition, whereas if-clauses with *kuraberu* ‘compare’ simply contribute R (relation in general). The semantics of more-than-comparison (9) is given in (13). The adjective *takai* in the main clause needs to mean ‘higher’ to satisfy > (explicit more-than-relation) in the presupposition. Implicit comparison of ‘high’ is not possible, because having such a vague relation fails to satisfy the presupposition of >. As for the semantics of implicit comparison (10) in (14), the if-clause contributes just R (relation in general). Thus, the adjective *takai* does not have motivation to mean ‘taller’ and it remains to be ‘tall’. (This implies that POS is preferred. I would replace \geq in (8) with R to provide the same analysis.) The semantics of (12) given in (15). The gradable adjective *takai* in the main clause means ‘more expensive’ due to the presence of the differential degree *350 yen*. The > (explicit more-than-relation) implied in the assertion of (15) easily satisfies R (relation in general) in its presupposition.

(13) For more-than-comparison (9): $\lambda s:s \in \text{MIN}(\lambda s^*.\exists x_{\langle e \rangle}.\exists \mu_{\langle s, \langle e, d \rangle \rangle} [\mu(s^*)(x) > \mu(s^*)(\text{John})])$.

MAX(λd . the test score that Mary obtained is d-point in s) > g(5)

(14) For implicit comparison (10): $\lambda s:s \in \text{MIN}(\lambda s^*.\exists x_{\langle e \rangle}.\exists \mu_{\langle s, \langle e, d \rangle \rangle}$

$[\text{R}(\mu(s^*)(x))(\mu(s^*)(\text{Jiro}))])$. MAX(λd . Taro is d-tall in s) > $c_{\text{contextually given standard of tallness}}$

(15) For more-than-comparison (12): $\lambda s:s \in \text{MIN}(\lambda s^*.\exists x_{\langle e \rangle}.\exists \mu_{\langle s, \langle e, d \rangle \rangle}$

$[\text{R}(\mu(s^*)(x))(\mu(s^*)(\text{that rice}))])$. MAX(λd . this rice is d-yen per 5kg in s) = g(5) + 350 yen

The data suggests that the degree relation in a main clause assertion is a subset of that of its presupposition. Another example: For a frame setter ‘if Taro and Jiro are compared’ in Japanese, ‘Taro is taller’ for its main clause is ok, most natural with *hoo* that presupposes two items in comparison. ‘Taro is tall’ is a little odd unless followed by ‘whereas Jiro is not.’

Conclusion: The variation of frame setters and their interactions with their main clauses provide empirical support for the framework of Hohaus (2015). The data suggests contextual comparison has mechanism that is far richer than previously thought.

Selected references: [1]Hohaus. 2015. *Context and composition: How presuppositions restrict the interpretation of free variables*. Ph.D. diss., U. of Tübingen. [2]Oda. 2021. Indirect comparison as a last resort by Interpretive Economy. *JK* 28, 1-14. [3]Sawada. 2009. Pragmatic aspects of implicit comparison: An economy-based approach. *J. of Pragmatics* 41, 1079-1103.

L2 acquisition of scope of negation and conjunction in Mandarin Chinese

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For sentences like *the elephant did not eat the carrot and the pepper*, negation and conjunction may interact in two ways (Szabolsci, 2002): the elephant did not eat the carrot AND/OR did not eat the pepper. The two interpretations are not equally accessible in different languages: negation has scope over conjunction (Not (A and B)) in English (e.g., Gruter et al., 2010) whereas conjunction has scope over negation ((Not A) and (Not B)) in Chinese. Note that the Chinese interpretation entails the English interpretation in logic. Our research question is: is it possible for L1 English L2 Chinese learners to acquire the knowledge that Chinese is more restrictive than English regarding the interpretation of negation and conjunction sentences? This is a learnability issue for L1 English L2 Chinese learners because this knowledge cannot be derived from input and is not taught in Chinese language classrooms.

Our task was adapted from Goro & Akiba (2004), where participants first read a story about an eating contest for a group of animals. There is one cake, one carrot, and one pepper. If an animal eats both vegetables, it receives a crown. If it does not eat any vegetables, it receives a warning sign. If it eats only one vegetable, it receives a star. For each experimental trial, participants read Minnie's sentence and judged whether her sentence was true or false for the given picture. Our critical items are those involving the conjunction/disjunction and negation in the star (one vegetable) situation. There is one factor (whether the logical operator is *and* or *or*) with two conditions: a. *and-one-veg* (AO); b. *or-one-veg* (OO). Each condition has 8 different sentences. There are 32 animals, each of which involves 3 sentences as a set so there are 96 sentences in total. Eighty sentences are fillers. Sixteen animals have a star, 8 have a crown and 8 have a warning sign. A Chinese proficiency test (Wen, 2015) was used to measure L2 participants' Chinese proficiency.

The data collection still continues but so far 12 L1 English L2 Chinese learners and 15 Chinese natives have participated in the experiment. The group results are summarized in Figure 1. Since there were 8 items in each condition, based on the binomial distribution, if a participant accepted/rejected 7 items or more in one condition, she is considered to have consistently accepted/rejected the items in that condition. The L1 Chinese natives' individual results showed that 11 of 15 (73.3%) participants consistently rejected AO, which confirms that conjunction must have scope over negation ((Not A) and (Not B)) in Chinese. The L2ers' individual results revealed that 8 (66.7%) participants consistently accepted AO in both English and Chinese, which implicates L1 transfer. Two (16.7%) participants consistently rejected AO in Chinese, which suggests that it is possible for L1 English L2 Chinese learners to acquire the knowledge that Chinese is more restrictive in negation and conjunction sentences.

Examples

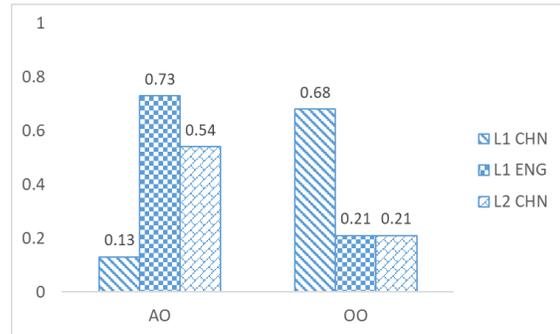
1. *and-one-veg* (AO)



2. *or-one-veg* (OO)



Figure 1. Mean proportion of 'Yes' in each condition



Stronger Additivity Derives Concessivity

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Synopsis: It is cross-linguistically observed that an additive particle, when combined with conditionals, induce not only an additive meaning but also a concessive conditional meaning.

ADDITIVE: ‘It is **also** the case that If Alex comes, I’ll be happy.’

CONCESSIVE: ‘**Even** if Alex comes, I’ll be happy.’

- (1) Japanese (2) Mandarin
(Mosi) *Alex-ga ki-te-mo, uresii.* (ruguo) *Alex lai, wo ye gaoxing.*
(if) Alex-NOM come-GER-**also**, happy. IF Alex come, I **also** happy.
- (3) Italian
Sarei contento anche se venisse Alex.
be.1SG.COND.PRES happy also if come.3SG.SUB.PRES Alex

The concessivity is more clearly observed in (4b). It implies that, comparing to the conditional antecedent in (4a), the one in (4b), ‘Alex comes’, is considered to be ‘less likely’ or **ranked lower** w.r.t. a contextually determined scale to lead to the truth of the consequent (Karttunen and Peters 1979, Giannakidou 2007, a.o.).

- (4) a. *Ethan-ga ki-tara uresii.* b. *Alex-ga ki-te-mo uresii.*
Ethan-NOM come-if happy. Alex-NOM come-GER-**also** happy.
‘If Ethan comes, I’ll be happy. Even if Alex comes, I’ll be happy.’

The aim of this study is to offer a unified explanation for this pattern by deriving the concessive meaning from additivity. We claim that concessivity results from an interaction of a stronger additivity proposed below and **scalar monotonicity** of conditionals (Berends and Kaufmann 2009).

Background: Berends and Kaufmann (2009) discuss the inference in (5), where the conditional with *only* licenses an inference to the *only*-less conditional. ($[]_F$ marks a focus.) This inference is not trivial because of the *non-monotonicity* of natural language conditionals (e.g., Heim 1984).

- (5) If Chris only [does his homework] $_F$, he will pass the class.
 \rightsquigarrow If Chris does his homework, he will pass the class.

They account for this pattern using the notion of **scalar monotonicity**. In conditionals ‘if p , r ’, the consequent r is (upward) monotonic with respect to a set of p ’s alternatives Φ and a scale ordered by \succ (‘the ranked higher than’ relation) iff for all $q \in \Phi$, if $q \succ p$, ‘if q , r ’ also holds. In this way, they formalize the intuition that ‘the *more* effort you put, the *more* likely it is to pass the class.’ (It is further formalized with a particular requirement on the modality of conditionals, though we omit it for a reason of space.) In (5), alternatives of the antecedent are ranked in the ‘effort’ scale as in (6), relative to which the consequent ‘pass the class’ is upward monotonic.

- (6) ... \succ get a good grade in final \succ doing his homework \succ only doing his homework \succ ...

For the basics of additive particles, we follow the proposal by Rooth (1985) and Krifka (1991). There, focus particles like *also* are sensitive to a focused item and invoke a set of alternatives. *Also* takes an X of some type σ as its first argument and Y of type $\langle \sigma, t \rangle$ as its second argument, requiring that $Y(X)$ is true and there is some X ’s alternative X' such that $Y(X')$ is true.

- (7) a. [Alex]_F also came.
 b. $also := \lambda X_{\sigma}. \lambda Y_{\langle \sigma, t \rangle}. Y(X) = 1 \wedge \exists X' \in \text{Alt}_X [X' \neq X \wedge Y(X') = 1]$
 c. $\text{Alt}_X = \{\text{Alex, Beth, Cathy, Dave, ...}\}$, where Alt_X is a set of alternatives of X .

Proposal: Our proposal is twofold: (i) the additive particles in (1-3) are subject to a stronger requirement than (7); (ii) when a context evokes a scale relative to which a conditional consequent is upward monotonic, the conditional plus the additive particle results in concessivity.

Starting with (i), the additive particles require that the preajcent proposition **should not be inferred from the context**. The underlying idea is clear: since the additive particles are specifically used to add information to the context, the added information should not already be inferred from the context. This can be taken as a stronger requirement of additivity, and we will call it *anti-inference*. The idea is implemented as follow. A context c is formalized following Stalnaker's (1978) context set, which is a set of worlds obtained by intersecting propositions that the participants of a conversation believe to be true, i.e., $c = \bigcap \{p \mid \text{the participants believe } p \text{ is true}\}$. Then, the additive particles ADD in the above languages have an additional requirement underlined in (8). $c \not\sim Y(X)$ should be read as ' $Y(X)$ is not inferred from c '.

- (8) $\text{ADD} := \lambda X_{\sigma}. \lambda Y_{\langle \sigma, t \rangle}. Y(X) = 1 \wedge \exists X' \in \text{Alt}_X [X' \neq X \wedge Y(X') = 1] \wedge \underline{c \not\sim Y(X)}$

We will illustrate how the anti-inference derives the concessivity. For the composition of conditionals, I follow Kratzer (1991) and assume that the antecedent is taken by the consequent as an argument. Also we assume an additive particle is attached to the conditional antecedent, evoking a set of alternatives of the antecedent. Now consider the sequence of sentences in (4) under a context in which there is a scale of 'likeliness of making the speaker happy'. The set of alternatives of the conditional antecedent are ranked w.r.t. this scale as in (9).

- (9) Cathy comes \succ Beth comes \succ Ethan comes \succ Alex comes \succ David comes \succ ...

The conditional consequent in (4), 'I'll be happy', can be scalar monotonic relative to these alternatives and the scale. Suppose then that we are to assert (4b). The additivity of ADD would require that there is at least one alternative antecedent somewhere in the scale of (9) such that the alternative makes the conditional true. This is satisfied by the preceding utterance in (4a). Note that the utterance of (4a) updates the initial context c into a new context c' such that $c' = c \cap \llbracket (4a) \rrbracket$. Since the consequent 'I'll be happy' is scalar monotonic relative to scale (9) and c' presupposes the truth of (4a), c' make an inference that the higher-ranked alternatives, namely '*Beth/Cathy comes*', also make the conditional true. The anti-inference then would be satisfied only if '*Alex comes*' is ranked **lower** than all of these alternatives in the scale. This is the cause of concessivity observed in (4b).

When it is uttered without a preceding conditional statement, as in (1-3), we argue that the additivity requirement is satisfied by alternatives that are ranked high enough to be assumed to be true. Given the scale of (9), for instance, the higher ranked alternatives '*Cathy/Beth comes*' can be assumed to make the conditional true. Through the same reasoning above, in (1-3) the antecedent '*Alex comes*' should be ranked lower than any of such alternatives. It in turn requires the antecedent to be ranked **low enough**, resulting in concessivity again.

If there is no such scale available, the effects of the scalar monotonicity and the anti-inference become vacuous and result in the mere additive meaning. It happens, for instance, when a relevant scale is not evoked. Such a case is illustrated in the Japanese example below. Suppose that in the

context the speaker is determined to eat two apples. Then there is no scale that ranks ‘the likeliness of making the speaker eat two apples’, because s/he will eat two apples anyway. Without a scale, no effect of the anti-inference is observed and the sentence only has the canonical additive reading.

(10) (‘If Beth comes, I’ll eat two apples. And...’)

Alex-ga ki-te-mo ringo-o futatu taberu.

Ale-NOM come-GER-**also** apple-ACC 2.CL eat.

‘Also, If Alex comes, I’ll eat two apples.’

Selected Reference: Berends, M. and Kaufmann, S. 2009. ‘Only’ and Monotonicity in Conditionals. In Proceedings of Sinn und Bedeutung 13. Giannakidou, A. 2007. The landscape of EVEN. Natural Language & Linguistic Theory.

Response-stance predicates with two types of finite CPs in Bangla

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Introduction. Cattell’s (1978) notion of ‘stance’ verbs classifies verbs like *deny*, *accept*, *agree*, etc. as *response stance* verbs whose complements are familiar to discourse, but not necessarily true in actual reality. That their complements refer to familiar discourse referents can be dubbed as the familiarity criterion associated with this class of verbs. This paper investigates the compositional nitty-gritty of how ‘response stance predicates’ (henceforth, RSPs) select two types of finite clausal complements in Bangla (a.k.a. Bengali; Indo-Aryan). Bangla RSPs can embed two types of finite complements, *viz.* nominal-like CPs and adverbial-like CPs. In this paper, we provide detailed compositional analyses of these two types of clausal embedding by Bangla RSPs, where the familiarity criterion is reflected in the combinatorics.

Empirical landscape. Consider the following:

- (1) robi [CP onu dofi **bol-e**] oʃfikar koretʃ^{he}/ mene nietʃ^{he}.
 Rabi Anu guilty say-PTCP deny do.PRF.PRS.3/ accept take.PRF.PRS.3
 ‘Rabi has denied/accepted that Anu is guilty.’
- (2) robi oʃfikar koretʃ^{he}/ mene nietʃ^{he} [CP **ɕe** onu dofi].
 Rabi deny do.PRF.PRS.3/ accept take.PRF.PRS.3 that Anu guilty
 ‘Rabi has denied/accepted that Anu is guilty.’

On one hand, the clausal complement in (1) carries a complementizer which looks like the adverbial form of the verb ‘say’ (*i.e.*, the verbal root *bol-* ‘say’ and the participle *-e*). On the other hand, the embedded CP in (2) bears a complementizer which is homophonous to the nominal relativizer. But both instantiate such complements which are familiar to discourse, though not necessarily true in the actual world. This is why (3) sounds odd after both of them, while (4) sounds acceptable after both.

- (3) kinu, keu age robi-ke bole ni ɕe onu dofi.
 but no one before Rabi-ACC tell.3 PRF.PST.NEG that Anu guilty
 ‘But, no one told Rabi before that Anu is guilty.’ [# after (1), (2)]
- (4) ɕodio, onu adote dofi noj.
 although Anu in fact guilty NEG
 ‘Although, Anu is not guilty in fact.’ [✓ after (1), (2)]

It validates the claim that the Bangla RSPs like *oʃfikar kor-* ‘deny’, *mene newa* ‘accept’ are pointers towards familiar discourse referents. But, they are not factive necessarily.

Two types of Bangla embedded CPs. The clause-final *bole* is a quotative complementizer, because it sets the previous discourse in quote (Bayer, 2001).¹ Following Moulton’s (2019) insight, we are assuming that this complementizer is built on contentful eventualities (à la Kratzer, 2013). Thus, the embedded clause in (1) is interpreted as:

- (5) [[Anu is guilty *bole*]]^w = $\lambda e_v. \text{CONT}_w(e) = \lambda w'. \text{Anu is guilty in } w'$

As opposed to it, like English *that*, the clause-initial *ɕe* is built on contentful individuals of type *e* instead of on *v*-type contentful eventualities (see Moulton, 2019). Due to this complementizer being morphologically based on nominal elements, the *ɕe*-clause in (2) denotes predicate of contentful entities. The interpretation of the *ɕe*-CP in (2) is in (6):

- (6) [[*ɕe* Anu is guilty]]^w = $\lambda x_e. \text{CONT}_w(x) = \lambda w'. \text{Anu is guilty in } w'$

This path of difference between these two types of finite complement clauses gets its empirical validation from the fact that a *bole*-clause can neither have a DP-correlate nor be modified by a content nominal, while a *ɕe*-clause is fine with both of them (see Bayer, 1999, 2001, a.m.o.). Accounting for it, an $\langle e, t \rangle$ -type CP can modify an $\langle e, t \rangle$ -type noun,

¹There are several reports on conversion of verbs of saying into quotative complementizers (Lord, 1976; Crowley, 1989; Klamer, 2000, a.m.o.).

whereas a *bole*-CP of type $\langle v, t \rangle$ cannot do so (cf. Moulton, 2019).

Viewing the Bangla RSPs. We embrace a neo-davidsonian standpoint (Castañeda, 1967; Parsons, 1990) in viewing the Bangla RSPs as sets of v -type eventualities. All the arguments are introduced via separate functional heads. We argue that the RSPs in (1,2) always refer to contentful eventualities. Even when they take non-content nouns like *daughter-in-law*, *wife*, they denote contentful events. See the following:

- (7) $g^h oSbabu \quad \ddot{t}ar \quad putrob\ddot{d}^h u-ke/ \quad s\ddot{t}ri-ke \quad \ddot{o}ffikar \quad korlen./ \quad mene \quad nilen.$
 Ghoshbabu his daughter-in-law-ACC/ wife-ACC deny did.H/ accept did.H

(7) means ‘Ghoshbabu denied/accepted that the individual x is his daughter-in-law/wife.’ In other words, the content of the RSPs in (7) refers to some proposition. Those non-content nouns, we argue, compose with a content-introducing operator, **Kont** as in (8):

- (8) $[[\mathbf{Kont}]] = \lambda y_e \lambda x_e. \text{CONT}(x) = \lambda w'. \exists! z [z = y \text{ in } w']$

After composing the non-content nouns with **Kont**, the resultant becomes the unique contentful individual as in (9). This can now compose with the RSPs via their Theme.

- (9) $\lambda x_e. \text{CONT}(x) = \lambda w'. \exists! z [z = \iota y_e. \text{his daughter-in-law/wife}(y) \text{ in } w']$

It can also be shown that *deny* is contentful too in examples like ‘John denied [_{DP} the petitioners]’. In this example, it is meant that John denied the claim of the petitioners. Thus, the DP here can be seen as the source DP of some proposition (Djärv, 2019). And, the procedural steps for composition can then be executed along the line of Roberts (2020) who proposes a CLAIM operator that composes with the source DP. After exhibiting that the Bangla RSPs in (1) or (2) are sets of contentful events, we can now propose the following interpretation in (10) which denotes the set of contentful eventualities. And, it is defined if the content of the eventualities is already existing in the Common Ground (CG) (Stalnaker, 2002) of the interlocutors. It is well established that the complements of RSPs refer to the already-existent discourse referents in the CG (Kastner, 2015).

- (10) $[[\ddot{o}ffikar \quad k\ddot{a}r-/mene \quad ne-]]^w = \lambda e_v : \underline{\text{CONT}_w(e) \in \text{CG}}. \mathbf{deny}_w / \mathbf{accept}_w(e)$

Composing with both the CP-types. We argue that the $\langle v, t \rangle$ -type *bole*-clause composes with the RSPs, of type $\langle v, t \rangle$, by modifying the eventualities via Predicate Conjunction. The resultant is like (11), relative to a world w . It has the defining criterion that the content of the denying or accepting events is already existent in the CG.

- (11) $\lambda e_v : \underline{\text{CONT}_w(e) \in \text{CG}}. \mathbf{deny}_w / \mathbf{accept}_w(e) \wedge \text{CONT}_w(e) = \lambda w'. \text{Anu is guilty in } w'$

As opposed to that, we argue that a $\ddot{c}e$ -clause composes with the RSPs via their Theme or internal argument, because a $\ddot{c}e$ -CP is nominal-like in nature (property of contentful individuals, not events) and nominals can qualify as Themes. The Theme of the RSPs can be interpreted as (12) which encodes the *pre-existence presupposition* (Bondarenko, 2019). It says that the left boundary (LB) of the interval denoting the life span of the Theme precedes ($<$) the LB of the running time of the event. Now we argue that the $\ddot{c}e$ -CP **restricts** (Chung and Ladusaw, 2004) the Theme argument x , resulting in (13).

- (12) $[[\ddot{o}Th]]^w = \lambda P_{\langle v, t \rangle} \lambda x_e \lambda e_v : \underline{\text{LB}(\tau(x)) < \text{LB}(\tau(e))}. P_w(e) \wedge \mathbf{Theme}_w(e) = x \text{ (P=RSP)}$

- (13) $\lambda x_e \lambda e_v : \underline{\text{LB}(\tau(x)) < \text{LB}(\tau(e))}. \begin{cases} \mathbf{deny}_w / \mathbf{accept}_w(e) & \text{if } \text{CONT}_w(e) \in \text{CG} \\ \text{undefined} & \text{otherwise} \end{cases}$
 $\wedge \mathbf{Theme}_w(e) = x \wedge \text{CONT}_w(x) = \lambda w'. \text{Anu is guilty in } w'$

In (13), it is presupposed that the Theme of the RSPs refers to an already-existent discourse referent that pre-exists the matrix events. Factivity is not guaranteed both in (11) and (13), because content of an individual or event might not be true in reality.

Summary. We provide here a complete compositional analyses of Bangla RSPs combining with two types of finite CPs, encoding the familiarity criterion in the combinatorics.

Free choice and epistemicity in Bangla: A test for exhaustification based approaches
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There is a rich landscape of free-choice and epistemic modal items in Bangla, centered around the morpheme *kono*, which have never been analyzed in complete detail. I present novel data to lay out the full paradigm, situating them with respect to existing typology, and argue that the full spectrum of their distribution and interpretation is best understood in a unified theory of polarity and free choice phenomena, couched in an implicature-based approach. (Chierchia 2006, *et seq.*)

Data (judgments come from the author, a native speaker): *kono* has the distribution of an NPI. It is licensed only under non-veridical contexts (1a) and ungrammatical in veridical contexts (1b).

- (1) a. *ami kono khabar khabo na.* b. **kono lok gan geyechilo.*
 I KONO food eat.FUT.1 NEG KONO person song sing.PST.PERF.3
 ‘I won’t eat any food.’ Intended: ‘Someone sang.’

In contrast, the indefinites *je kono ekta (JKE)*, *kono ekta (KE)*, and *kono na kono (KnK)*, which share the common morphological root *kono*, are all PPIs (2). These items exhibit distinctions in their interpretation, and their distribution in overt modal (3a) vs non-modal (3b) contexts.

- (2) *Pihu KE/ KnK/ JKE boi porbe na.*
 Pihu KE/ KnK/ JKE book read.FUT.3 NEG
 (i) ✓ ‘There is some book that Pihu will not read.’ [some > not]
 (ii) # ‘Pihu will not read any books.’ [not > some]
- (3) a. *Pihu-ke KE/ KnK/ JKE doktor-ke bie korte hobe*
 Pihu-ACC KE/ KnK/ JKE doctor-ACC marry do.INF must
 (i) KE - ‘Pihu must marry some doctor. ✓ But it’s not Dr Roy or Dr Ghosh.’
 (ii) KnK - ‘Pihu must marry some doctor or other. # But it’s not Dr Roy or Dr Ghosh.’
 (iii) JKE - Pihu must marry a doctor, any doctor is a permissible option.
- b. *gotokal Pihu KE/ KnK/ *JKE student-er sathe dEkha korechhilo*
 Yesterday Pihu KE/ KnK/ JKE student-GEN with meet do.PST.PERF.3
 ‘Yesterday Pihu met some student.’

All three items in (3a) (i) make existential claims, and (ii) do not specify who the witness to the claim is, but they vary with respect to how they quantify over the domain of alternatives. *kono ekta* does not necessitate quantifying over all the entities in the domain of alternatives, that is, more than one (but not necessarily all) alternatives in the relevant domain qualify as possible options. Hence, a follow-up to (3a)(i) excluding Dr Roy and Dr Ghosh from the domain of alternatives is felicitous. In contrast, both *kono na kono* (3a)(ii) and *je kono ekta*(3a)(iii) necessitate quantifying over all the entities in the domain of alternatives, that is, all alternatives (rather than a subset of them) qualify as possible options.

But, while both *kono na kono* and *je kono ekta* exhibit total free choice effect, (3a)(ii) asserts that Pihu must marry some doctor, and the speaker doesn’t have relevant knowledge/belief to

exclude any doctors as a possible option. Crucially, this sentence doesn't assert that all doctors are eligible suitors for Pihu. (3a)(iii) on the other hand does assert that all doctors are equally eligible suitors for Pihu, and she can pick any one of them.

I also demonstrate that *je kono ekta* exhibits a further restriction in overt modal contexts in disallowing embedding under epistemic modal operators (both possibility and necessity).

- (4) *gotokal Pihu hoyto/ nischoi KE/ KnK/ *JKE student-er sathe dEkha*
 Yesterday Pihu maybe/ definitely KE/ KnK/ JKE student-GEN with meet
korechhilo
 do.PST.PERF.3
 'Yesterday Pihu probably/definitely met some student.'

Proposal: I propose that the differential distribution of the two total free choice items can be captured by positing that they select for different modal bases. *kono na kono* is anchored to a speaker-oriented epistemic modal base, while *je kono ekta* only selects for an agent-oriented bouletic modal base. This generalization can capture the ungrammaticality of *je kono ekta* in both (3b) and (4). In (3b) the observed grammatical interpretation of *kono ekta* and *kono na kono* is assumed to come about through a self-licensing null assertoric modal \Box_S applied high in the left-periphery of the LF at the speech-act level, with the assertoric operator ranging over the speaker's epistemic alternatives. This rules out the use of *je kono ekta* in such contexts due to its incompatibility with a epistemic modal base.

Taking the example of (3a), we can assume the domain of doctors under consideration to be the set $D = \{a, b, c\}$. Adopting the framework in Chierchia (2013), we account for the interpretation of *kono* and the three indefinites by assuming that they obligatorily activate alternatives. The different interpretations (partial and total ignorance/random choice) are argued to stem from the interaction between (i) the types of alternatives they activate (scalar and domain alternatives), and (ii) the way these alternatives are factored into meaning via the mechanism of exhaustification. The distribution of *kono* can be shown to follow from exhaustifying the assertion with respect to simple domain alternatives. In contrast, the marked indefinites require pre-exhaustified alternatives. The parameters of variation that gives rise to the observed paradigm has been summarised in the table below. Taking Bangla as a case-study, we reinforce the viability of an alternative based approach to account for the patterns of cross-linguistic variation we encounter in the domain of polarity sensitive elements and dependent indefinites.

Types of alternatives	Simple domain alternatives + scalar alternatives	exhaustified domain alternatives (= free choice interpretation) + scalar alternatives (= existential interpretation)	exhaustified singleton domain alternatives (= free choice interpretation) + scalar alternatives (= existential interpretation)
Bangla NPI and \exists-FCIs	<i>kono</i>	<i>kono na kono, je kono ekta</i> (anchored to different modal bases)	<i>kono ekta</i>

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Sociolinguistics

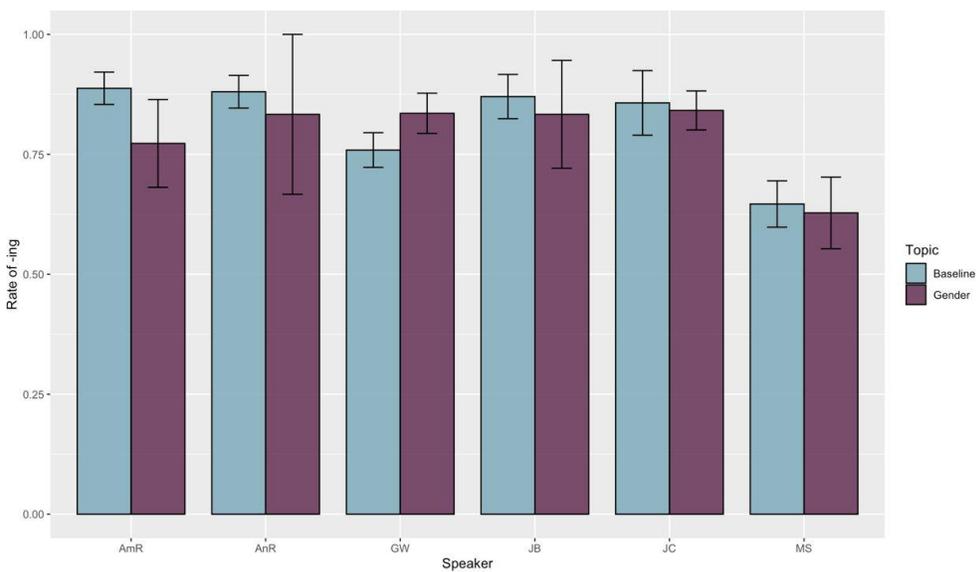
The effects of topic and part of speech on nonbinary speakers' use of (ING)

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Sociolinguistic research on trans speakers has tended to view them through the lens of adherence to cisgendered binary norms (Goldberg & Kuvalanka 2018). Speakers with identities outside the trans-and-cis-normative gender binary have, in turn, received very little attention (Garmpi 2020, c.f. Zimman 2017). The present study seeks to build upon this growing body of research on nonbinary-gendered speakers through an investigation of the variable usage of (ING) by nonbinary speakers across conversation topics.

Gratton (2016) provided an analysis of variation in nonbinary speakers' use of (ING). (ING) is a typically gendered variable (e.g., Trudgill 1974, Labov 2001) that is metalinguistically salient, making it a prime target for agentive sociolinguistic work (Campbell-Kibler 2007). Gratton (2016) compared two nonbinary speakers' use of (ING) across two contexts – speaking with a friend vs. a stranger – and found that in the public setting, both speakers increased their rates of the variant not typically associated with their gender assigned at birth. Gratton analyzed this as an agentive “resistance to cis-normative femininity and masculinity”, in response to a perceived threat of being misgendered as a binary gender. Additionally, work by Grieser (2019) found that African American speakers shift their production of African American Language (AAL) features based on topic: certain topics, such as African American community and family, showed speakers producing higher rates of AAL features compared to other topics.

The present study builds on this previous work by asking whether nonbinary speakers shift their rates of (ING) variation when discussing the salient topic of *gender*. 6 nonbinary speakers (3 AFAB and 3 AMAB, ranging from 21 to 27 years old) participated in sociolinguistic interviews conducted by the lead researcher, who is a nonbinary speaker that has familiarity with each interview participant. A modular interview guide was developed based on Labov's Q-GEN-II modules (1984) with modifications made to specifically obtain participant narratives on their experiences with gender identity and expression in addition to traditional narratives. Interviews were coded for topic (gender vs. other) and (ING) tokens were coded for lexical category. Results are shown in Figure 1. Table 1 shows the results of the best-fit mixed effects model, with main effects of Topic, Part of Speech, and Sex Assigned at Birth (SAB), and random intercepts for speaker and lexical item.



lmer(ING ~ style * sexbirth + PoS + (1 speaker) + (1 word))			
	Estimate	t-value	p value
(Intercept)	0.92	13.4	>0.001
Style (Gender)	-0.04	-0.62	0.5
Birth (AMAB)	-0.14	-2.03	0.1
PoS (noun)	0.08	0.90	0.38
PoS (something)	-0.03	-0.23	0.79
PoS (gerund)	-0.02	-0.17	0.82
PoS (verb)	-0.16	-2.47	0.01
Style: Birth	0.07	0.88	0.37

The results of the present study find that despite a markedly more deliberative style during gender topics, participants do not shift rates of (ING) across topics. This finding lends support to Gratton's (2016) argument that the perceived threat of being misgendered, rather than a factor such as attention paid to speech, is one of the major influences for shifting rates of (ING) in nonbinary speakers. The present study further finds that a speaker's assigned gender at birth *plays no predictable role* in rates of (ING). Taken together, these results suggest that nonbinary speakers form their own distinct linguistic community which should be analyzed as operating outside of the gender binary (Becker et al. forthcoming, Calder & King 2020). Future work will focus on investigating the consistency of these findings across other sociolinguistic variables.

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Examining the Relationship between Family Language Policy and Language-Ethnicity Dimensions among Chinese Foochow Families in Sarawak, Malaysia

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Abstract

Recent studies (e.g., Ting & Teng, 2021; Vollman & Soon, 2020; Ting & Ting, 2021) related to Chinese heritage languages in Malaysia have demonstrated a shift towards Mandarin as the common language to speak in many Chinese families (Carstens, 2018; Ong & Troyer, forthcoming). Such shift is motivated by the pull factors of standard languages, which pose greater instrumental values than heritage languages. For example, Albury (2021) found that many university students in Malaysia considered Mandarin as a necessary economic tool when compared to Malay, the sole national and official language of Malaysia. Ong and Ben Said (forthcoming) also found that mixed marriage between different Chinese dialectal groups has contributed to the shift to speak Mandarin due to no common heritage language between husband and wife. Nevertheless, many of these studies did not offer a comprehensive overview of the shift from the perspective of family domain. Hence, this is the gap that this study shall fill.

Narrowing down to the Foochow community in Sarawak, Malaysia, this study examines the relationship between family language policy and language-ethnicity dimensions to provide a holistic view of the shift from Chinese heritage languages (Foochow) to Mandarin. Specifically, it examines (a) family language practices, family language ideology in defining their characteristics of being a Foochow, and (c) family attitudes towards heritage language management. Semi-structured interview were conducted with nine Foochow families from urban Sarawak.

The findings demonstrate that Foochow was mainly spoken by grandparents while the children and grandchildren have shifted to use standard languages (Mandarin and/or English). All nine families held strong beliefs regarding their ethnic identity being inherited through birth and descent, which led to many of the grandchildren did not bother to learn Foochow. Still, some family members continued to practise Foochow customs and eat Foochow food, which indicates the phenomenological dimension of the language-ethnicity link. As Foochow was predicted to lose its role and status in the urban context, various language management strategies were suggested by the participants. The study concludes that the nine Foochow families' strong subscription to the paternity dimension of language-ethnicity relationship will eventually lead to the potential loss of Foochow in urban areas in Malaysia.

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Reappropriating heteronormative practices among Chinese gay couples in social media: variations and indexicality of pitch and sibilant fricatives

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By randomly selecting 25 pairs of Chinese gay couples' love vlogs in Bilibili (a video sharing platform), where they shared their self-positionings and dating experience, this study explores the multiplicity of gay men's speaking styles and intra-group sociophonetic variations among Chinese gay men in social media. After qualitative examinations of the holistic themes and conversations in these videos, this paper focuses on 20 vlogs where there was a clear local differentiation regarding these gay men's role types in their intimate relationships. Among these gay couples, one gay man usually self-identified as the role of 'lao gong' (husband) in their same-sex intimate relationship, whereas another one used 'lao po' (wife) to describe his role. To explore how this 'husband and wife' relationship is practiced among Chinese gay couples, this paper selects four phonetic variables, including mean pitch, pitch range, and two sibilant fricatives – /s/ and /ʃ/, which link to gender variations in Mandarin Chinese (e.g., Cao, 1986; Chan Marjorie, 1998; Li, 2017). After dividing speakers' utterances into intonational phrases, this study acoustically measures the mean pitch and pitch ranges by the average fundamental frequency (F0) and F0 range (Maximum F0 minus the minimum F0) on the speech analysis software- 'Praat.' Moreover, the fronting levels of two sibilant fricatives were also acoustically measured by the center of gravity (CoG) and spectral skewness of /s/ and /ʃ/ tokens in the monosyllabic words. After dividing gay men into two groups – 'gay husbands' and 'gay wives' according to their self-positioning in their vlogs, independent-samples t-tests were run to examine the statistical differences on each acoustic variable between two groups. As shown in Table 1, gay wives produced higher average pitch ($p=0.02<0.05$) and wider pitch ranges ($p<0.0001$) to adopt a 'marked' stereotypical feminine speech style with high-pitched voices and more dynamic speaking styles. Moreover, the higher center of gravity and more negative skewness for the two sibilant fricatives suggested that gay wives also spoke with a more anterior production of /s/ and /ʃ/, concurring to the phenomenon of 'feminine accent' (nǚ guo yin) as suggested in the previous literature (Cao, 1986). Adopting the theory of indexical orders by Silverstein (2003), I argued that gay couples reappropriated the phonetic resources ideologically derived from the speech variations between males and females (n-th indexical order) to create a new meaning of 'husband and wife' relationship among gay couples (n+1 st indexical order). This indexicality also indicated how the heteronormative ideologies of intimate relationships (where there should be a husband and a wife) could penetrate Chinese gay couples' construction of same-sex relationships in social media.

TABLE 1. MEANS FOR EACH VARIABLE & T-TEST RESULTS

Role types	Mean F0	F0 range	CoG_s	CoG_ε	Skewness_s	Skewness_ε
Gay husbands	124.81	79.34	2248.88	3010.45	4.59	1.38
Gay wives	139.81	134.37	5817.75	4650.89	-0.2	-0.1
	P <0.05*	P <0.0001***				

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Contact-induced sound change: A rapid and anonymous survey of /aʔ~əʔ/ merger in Shanghai Urban Dialect

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Introduction The two distinct checked vowels /aʔ/ and /əʔ/ in Shanghai Urban Dialect (SUD) has began to merge among speakers born after the 1940s (Xu and Tang, 1988). SUD is a Wu Chinese spoken in the city center of Shanghai, which can be further divided into central and peripheral areas. A survey conducted in the 1980s showed that 23% of middle-aged participants at that time had lost the /aʔ~əʔ/ contrast (Shi and Jiang, 1987). Crucially, since previous studies investigated /aʔ~əʔ/ merger in formal speech, little is known about this merger in spontaneous speech. This study filled the gap by investigating the status of /aʔ~əʔ/ merger using spontaneous conversations, with the goal of exploring effects of contact acceleration on sound changes. Because language contact can provide induction and/or acceleration of language change, and language contact is more intense in the peripheral area of Shanghai, we expected faster /aʔ~əʔ/ merger in the peripheral area than in the central area.

Method The target word in this study was *zəʔ-paʔ-lu* ‘(Bus) 18 Route’.³ If the vowel qualities of the first and second syllables were not distinct, the vowels in /aʔ/ and /əʔ/ would be considered as merged. The merger of /aʔ~əʔ/ was examined through a rapid and anonymous survey along bus route 18 (Labov, 1966). The investigator asked pedestrians for directions in SUD to induce the target word. The trigger was as follows:

noŋhɔ, tɛ^hiŋməŋ vu^hdziŋ hiɿ sa ts^ho^htsi^h hɔ tɔ zəŋmiŋkuaŋzəŋ/luɛynkoŋfiy?
‘Hello, is there a bus nearby that goes to People's Square/Lu Xun Park?’

If a pedestrian answered with our target word, we wrote down the person's merging of /aʔ~əʔ/, gender, estimated birth generation, and survey location. Because we avoided surveying during commuting hours and asked how to get to a place by public transportation, those who could answer the target words correctly were familiar with the neighborhood. Therefore, the survey location can, to some extent, reflect participants' residential areas.

Result Data from 151 participants were collected. 108/151 (72%) participants merged /aʔ~əʔ/. Merged proportions are shown in **Table 1** and **Figure 1**. We fitted a logistic regression model to examine the effects of social factors on /aʔ~əʔ/ merger. Whether /aʔ/ and /əʔ/ are distinct or not was the dependent variable. Gender and survey location were categorical and sum-coded. Estimated birth generation was continuous and centralized. Each social factor, the interactions of each two social factors and the three-way interaction were set as the predictors. The model output is shown in **Table 2**. The main effect of survey location, the interaction effect of generation and survey location and of generation and gender had significant effect on /aʔ~əʔ/ merger. The results together showed that /aʔ~əʔ/ merged faster in the peripheral area. Moreover, the aging effect is only prominent for participants from the peripheral area. That means, over time, the difference of /aʔ~əʔ/ merger between the peripheral and central areas becomes greater.

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³ SUD is transcribed in IPA according to Xu and Tang (1988). Tones are omitted.

Discussion Our findings suggested that most SUD speakers have lost the /aʔ~əʔ/ contrast. In addition, the results demonstrated that multilingual environments are prone to the loss of phonemic contrasts. Within a community where a certain language is in competition with other languages, native speakers of that language may not receive sufficient input. This gives rise to a lack of intra-group language transfer, thus inducing and accelerating language changes.

Gender	Merged proportion	NOBS
Female	0.698	63
Male	0.716	88

Table 1a: The merged proportion of /aʔ~əʔ/ among different genders.

Survey location	Merged proportion	NOBS
periphery	0.838	80
center	0.563	71

Table 1b: The merged proportion of /aʔ~əʔ/ among different survey locations.

Birth generation	Merged proportion	NOBS
1940s	0.703	37
1950s	0.688	64
1960s	0.76	25
1970s	0.72	25

Table 1c: The merged proportion of /aʔ~əʔ/ among birth generations.

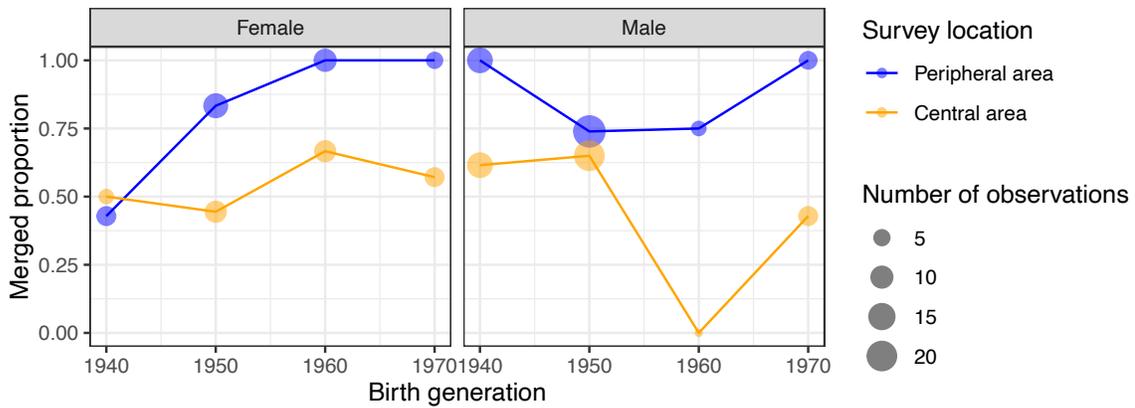


Figure 1: Averaged proportions of /aʔ~əʔ/ merger by gender, survey location, and birth-generation.

Predictor	Estimatio	SE	P-value
Generation	0.499	0.281	0.076
Location (Center-grandmean)	-1.08	0.309	0.000
Gender (Male-grandmean)	-0.330	0.309	0.286
Generation:Location (Center-grandmean)	-0.570	0.281	0.043
Generation:Gender (Male-grandmean)	-0.728	0.281	0.010
Location (Center-grandmean): Gender (Male-grandmean)	0.312	0.309	0.313
Generation:Location (Center-grandmean): Gender (Male-grandmean)	0.442	0.281	0.116

Table 2: Output of the logistic regression model for /aʔ~əʔ/ merger. The fitting detail of the model is in the text. Significant effects are shown with bolded p-values (p<0.05).

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Syntax

Pronouncing PRO in Wolof

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1 Overview. In obligatory control sentences, the subject of an embedded clause is phonologically null and necessarily coindexed with a matrix argument. Control theories can be divided in three categories regarding the phonological properties of PRO: (i) In **inherent theories**, the phonological nullness of PRO is a definitional property of this item (e.g. Chomsky 1981). (ii) In **derivational theories**, the phonological nullness of PRO is a property that it acquires during the derivation. In e.g. Hornstein’s (1999) Movement Theory of Control, PRO is null because it is a trace of movement. It is possible that the residue of movement under the MTC be overt (cf. backwards control (Polinsky et al. 2002) and copy control (Lee 2003)) (iii) In **arbitrary theories**, there is no necessary relationship between its phonological realization and its syntax and semantics; it is accidental. I claim that only derivational theories are compatible with the properties found in Wolof object control. In Wolof, subject (1) and object (2) control differ in whether or not the embedded subject is null or a subject/NOM pronoun.

- (1) Maymuna fas-na (***mu**) jàng taalif b-i.
 Maymuna try-NA.3SG (*3SG.SUBJ) read poem CM.SG-DEF
 ‘Maymuna tried to read the poem.’ *subject control*
- (2) Dimbali-na-a a-b xale *(**mu**) jàng téere b-i.
 help-NA-1SG INDEF-CM.SG child *(3SG.SUBJ) read book CM.SG-DEF
 ‘I helped a child read the book.’ *object control*

The realization of the controlled subject correlates with other properties. In subject control (1), clitic climbing is obligatory, while the occurrence of a resumptive pronoun under \bar{A} -movement is prohibited. In object control (2), clitic climbing is prohibited, while \bar{A} -resumption is obligatory. In order to account for these properties, I propose that PRO is pronounced as an overt pronoun because it is the partial residue of movement (cf. Van Urk 2018). This would explain why the same construction requires \bar{A} -resumption: they are both overt residues of movement.

2 The signature properties of control in Wolof. That sentences like (2) contain an overt pronoun suggests that this is not an instance of control, given that we take PRO to be in complementary distribution with overt DPs. However, the pronoun in (2) is interpreted as a bound variable and it must have a syntactically represented antecedent: this pronoun displays the signature properties of OC PRO (Landau 2013). The embedded pronoun in object control sentences has obligatorily a *de te* reading (3). If the antecedent is an *only* DP, only a bound reading is available (4). Under ellipsis, only a sloppy reading is available (5). The latter shows additionally that a discourse-salient referent is not possible, another property found in obligatory control.

- (3) Maryam wax-na Kadeer **mu** dem.
 Maryam say-NA.3SG Kadeer 3SG.SUBJ leave
 ‘Maryam told Kadeer to leave.’
- a. #*De re reading*: Maryam is hosting a party. She hears that a certain waiter named Kadeer is being a nuisance. Maryam tells the nearest waiter “Kadeer has to go.” Unbeknownst to her, she’s talking to Kadeer.
- b. *De te reading*: Maryam is hosting a party. She hears that a certain waiter named Kadeer is being a nuisance. Maryam tells Kadeer “You have to go.”
- (4) Kadeer wax-na Mareem rekk **mu** lekk jën.
 Kadeer say-NA.3SG Mareem only 3SG eat fish
 ‘Mareem is the only *x* such that Kadeer told *x* for *x* to eat fish.’
- (5) Bu dee Isaa moon, wax-na-a Kumba **mu** jàng a-b téere, waaye
 BU DEE Isaa 3SG.OB say-NA-1SG Kumba 3SG.SUBJ read INDEF-CM.SG book but
 wax-ul ma Roxaya < **mu** jàng a-b téere >.
 say-NEG 1SG.SUBJ Roxaya 3SG.SUBJ read INDEF-CM.SG book

‘According to Isaa, I told Kumba to read a book, but not Mareem.’

- a. I didn’t tell Roxaya for her (= Roxaya) to read the book. *sloppy*
- b. *I didn’t tell Roxaya for Kumba to read the book. *strict*
- c. *I didn’t tell Roxaya for Isaa to read the book.

I conclude thus that the overt pronoun in (2) is a pronounced instantiation of obligatory control PRO. But if this is the case, why do subject control sentences (1) not contain the same pronoun?

3 Two sizes of control clauses. An answer to this question can be provided by other differences between subject and object control in Wolof. In subject control (6), clitic climbing is obligatory. In object control (7), the clitic must stay in the embedded clause. This can be analyzed in terms of restructuring (Wurmbrand 1998). The embedded clause in subject control sentences is truncated, so that a clitic must climb into the matrix clause to find an appropriate host. By this reasoning, the embedded clause in object control must be bigger, so that it prevent this operation.

(6) Maymuna fas-na{=**ko**} jàng{*=**ko**}.
 Maymuna try-NA.3SG{=3SG.ACC} read{*=3SG.ACC}
 ‘Maymuna wants to read it.’ *subject control*

(7) Kadeer dimbali-na{*=**ko**} Mareem mu jënd{=**ko**}.
 Kadeer help-NA.3SG{*=3SG.ACC} Mareem 3SG.SUBJ buy{=3SG.ACC}
 ‘Kadeer helped Mareem buy it.’ *object control*

Likewise, if the embedded object is \bar{A} -moved (by *Wh*-movement or clefting), a resumptive pronoun is prohibited in subject control (8), but obligatory in object control (9).

(8) Ginaar g-i la Maymuna fas yéene togg(*=**ko**).
 chicken CM.SG-DEF OBJ.FOC.3SG Maymuna want want cook(*=3SG.ACC)
 ‘The chicken, Maymuna wanted to cook.’ *subject control*

(9) Ginaar g-i la Maymuna dimbali Roxaya mu togg*(=**ko**).
 chicken CM.SG-DEF OBJ.FOC.3SG Maymuna help Roxaya 3SG cook*(=3SG.ACC)
 ‘The chicken, Maymuna helped Roxaya cook.’ *object control*

4 Analysis. In order to account for these differences, I propose that subject control clauses in Wolof are truncated, while object control clauses project a Σ P. This captures the clitic climbing difference. Σ P is, furthermore a horizon (Keine 2019) for movement. The resumptive pronoun that appears under \bar{A} -movement (9) is an overt residue of the movement that has been impeded.

(10) $\left[\text{CP} \left[\text{Xadi tried } \left[\text{FP} \left[\text{VP to cook chicken} \right] \right] \right] \right]$ *subject control*
 ✓*CL climbing/ \bar{A}*

(11) $\left[\text{CP} \left[\text{I helped a child } \left[\Sigma\text{P she to } \left[\text{VP } \langle \text{a child} \rangle \text{ read the book} \right] \right] \right] \right]$ *object control*
 ✗*CL climbing/ \bar{A}*

This analysis also provides an explanation to the contrast between the realization of PRO, if we further assume the MTC. In object control (11), the controller crosses Σ P, which is a horizon for movement. As in \bar{A} -resumption, this movement leaves behind an overt residue, which can be interpreted as partial realization of a trace (Van Urk 2018). In subject control (10), either there is no subject at all, or if there is, this clause is truncated enough to not impede movement.

5 Discussion. Only a (ii) **derivational theory** can account for the phonological properties of object control in Wolof and, furthermore, for the correlation between them and other phenomena like clitic climbing and \bar{A} -resumption. That PRO in Wolof object control is an overt pronoun arises as a consequence of the Σ P that is horizon to both A-movement (resulting in a pronounced PRO) and \bar{A} -movement (resulting in \bar{A} -resumption). (i) Inherent theories do not accommodate a pronounced instance of PRO, while (iii) arbitrary theories, while compatible with it, would treat the correlation between the pronunciation of PRO in Wolof object control and \bar{A} -resumption as accidental, which is undesirable.

On the locus of tense

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The aim of this paper is to provide an argument in favor of Chomsky's (2020) claim that tense is a feature of v , not of INFL.

(1) is an example of so-called Gapping (or Right Node Raising) in Japanese. In the literature, there are three different views on the non-elliptical counterpart to the Japanese Gapping construction (JGC). Under these views, the non-elliptical counterpart to (1) is (2a), where the verb in the first conjunct is in a finite form (cf., e.g., Abe and Hoshi 1997, An 2007), (2b), where it takes a gerundive (or *-te*) form (cf. Otaki 2011), and (2c), where it takes a continuative (or uninflected/infinitive) form (cf., e.g., Kuno 1978, Kageyama 1993), respectively (note that it is possible that the elided material is not surface identical to its antecedent; see, e.g., van Craenenbroeck and Merchant 2013). I will refer to the coordination where the conjunct-final verb in the non-final conjuncts appears in an X form if it is not elided as “ X form coordination.” Thus, the types of coordination involved in (2a-c) will be referred to as “finite form coordination (FFC),” “gerundive form coordination (GFC),” and “continuative form coordination (CFC),” respectively.

As illustrated in (3a), the JGC can contain the disjunctive coordinator *matawa*, which indicates that the JGC can involve FFC, because, among the three types of coordination seen above, only FFC is acceptable with *matawa*, as shown in (3b). That the JGC can also involve CFC is shown by (4) (note that a clause which ends with a *te*-form of a verb can function as a reason adjunct). In (4a), where Gapping occurs, the sentence-internal reading of *onazi* ‘same’ is possible (under this reading, what are compared are the man who proposed to the speaker's elder sister and the man who proposed to his younger sister, not the man who proposed to the speaker's sisters and the man who has already been contextually defined; cf. Carlson 1987). Among the three alleged non-elliptical counterparts to (4a), only the one with CFC can have the same reading, as shown in (4b) (where *onazi* is intended to be interpreted sentence-internally as in (4a)).

Since the conjunct-final verb in non-final conjuncts is not inflected in CFC, it seems quite plausible to assume that what are conjoined in this type of coordination are constituents smaller than IP, which I take to be v Ps here just for the sake of discussion (cf. Takano 2004, Kato 2006, Hirata 2011). Under this assumption (and the assumption that the subject does not have to raise to Spec,IP in Japanese (cf., e.g., Fukui 1986, Kuroda 1988)), (2c) has a structure as in (5). The tense morpheme *-ta*, which occupies the head of IP, undergoes affix-hopping and attaches to the adjacent verb in the PF component, which is why only the verb in the second conjunct is inflected in (2c). One might claim that CFC is an instance of IP (or larger) coordination, by assuming that the non-final conjuncts contain a null tense morpheme, as shown in (6) (cf. Tomioka 1993, Mihara 1997). However, the IP coordination analysis of CFC is not plausible. Consider (7) (cf. Kato 2006). As illustrated by (7a), the formal speech level suffix *-mas* precedes a tense morpheme. Since Japanese is a head-final language, this suggests that it occupies a head position below IP. Thus, the IP coordination analysis of CFC predicts that this suffix can appear in the conjuncts of CFC. However, this is contrary to fact, as shown in (7b) (note that *tabe-masi* is a continuative form). In contrast, the ill-formedness of (7b) can be explained under the v P coordination analysis of CFC by assuming that the position occupied by *-mas* is higher than v P.

As observed by Mihara (1997), JGCs where the final conjunct ends with a verb in a nonpast tense form and contains a future time adverb and a non-final conjunct contains a past time adverb are unacceptable. Witness (8). As revealed by the above discussion, there are (at least) two possible underlying structures for this example, namely (9a) and (9b), which involve FFC and CFC, respectively (strikethrough indicates ellipsis). (9a) is not problematic, because its non-elliptical counterpart in (10a) is also unacceptable, but (9b) gives rise to a potential problem because its non-elliptical counterpart in (10b) is acceptable (cf., e.g., Tomioka 1993, Mihara 1997). Why is it that (9b) is ruled out although (10b) is well-formed? Note that since CFC is an instance of v P coordination, (9b) has a structure as in (11). Suppose, following Chomsky (2020), that tense is a

feature of *v*, rather than INFL. Then, the ill-formedness of (9b) can be attributed to the violation of an identity condition on ellipsis, because in (9b) the elided verb and its antecedent have distinct tense features, namely [+past] and [-past], respectively (cf. Mihara 1997). In contrast, it is not clear how we can deal with the ill-formedness of (9b) under the assumption that tense features are located on INFL. Thus, I claim that the unacceptability of (8) (or the contrast between (8) and (10b)) provides support for the view advanced by Chomsky (2020) that tense is a feature of *v*.

- (1) Ken-ga ringo-o ___ (sosite) Mari-ga banana-o tabe-ta.
K.-Nom apple-Acc and M.-Nom banana-Acc eat-Past
'Ken ate an apple and Mari ate a banana.'
- (2) a. Ken-ga ringo-o **tabe-ta** (sosite) Mari-ga banana-o tabe-ta.
b. Ken-ga ringo-o **tabe-te** (sosite) Mari-ga banana-o tabe-ta.
c. Ken-ga ringo-o **tabe** (sosite) Mari-ga banana-o tabe-ta.
- (3) a. Ken-ga ringo-o ___ matawa Mari-ga banana-o tabe-ta.
K.-Nom apple-Acc or M.-Nom banana-Acc eat-Past
'Ken ate an apple or Mari ate a banana.'
b. Ken-ga ringo-o tabe-ta/*tabe-te/*tabe matawa Mari-ga banana-o tabe-ta.
K.-Nom apple-Acc eat-Past/eat-TE/eat or M.-Nom banana-Acc eat-Past
- (4) a. [Onazi siriai-ga kinoo ane-ni ___ (sosite) kyoo imooto-ni
same acquaintance-Nom yesterday elder:sister-to and today younger:sister-to
puropoozusi-te], watasi-wa odoroi-ta.
propose-TE I-Top be:surprised-Past
'Because one and the same acquaintance of mine proposed to my elder sister yesterday and proposed to my younger sister today, I was surprised.'
b. [Onazi siriai-ga kinoo ane-ni *puropoozusi-ta/*puropoozusi-te
same acquaintance-Nom yesterday elder:sister-to propose-Past/propose-TE
/puropoozusi (sosite) kyoo imooto-ni puropoozusi-te], watasi-wa odoroi-ta.
/propose and today younger:sister-to propose-TE I-Top be:surprised-Past
- (5) [IP [VP [VP Ken-ga ringo-o tabe] (sosite) [VP Mari-ga banana-o tabe]] [INFL -ta]]
- (6) [IP [IP Ken-ga ringo-o tabe ϕ] (sosite) [IP Mari-ga banana-o tabe -ta]] (ϕ = null tense morpheme)
- (7) a. Ken-ga ringo-o tabe-masi-ta.
K.-Nom apple-Acc eat-Formal-Past
'Ken ate an apple.'
b. *Ken-ga ringo-o tabe-masi (sosite) Mari-ga koohii-o nomi-masi-ta.
K.-Nom apple-Acc eat-Formal and M.-Nom coffee-Acc drink-Formal-Past
'Ken ate an apple and Mari drank coffee.'
- (8) *Ken-ga kinoo ringo-o ___ (sosite) Mari-ga asu banana-o tabe-ru.
K.-Nom yesterday apple-Acc and M.-Nom tomorrow banana-Acc eat-Nonpast
'Ken ate an apple yesterday and Mari will eat a banana tomorrow.'
- (9) a. Ken-ga kinoo ringo-o ~~tabe-ru~~ (sosite) Mari-ga asu banana-o tabe-ru
b. Ken-ga kinoo ringo-o ~~tabe~~ (sosite) Mari-ga asu banana-o tabe-ru
- (10) a. *Ken-ga kinoo ringo-o tabe-ru (sosite) Mari-ga asu banana-o tabe-ru.
'Ken will eat an apple yesterday and Mari will eat a banana tomorrow.'
b. Ken-ga kinoo ringo-o tabe (sosite) Mari-ga asu banana-o tabe-ru.
'Ken ate an apple yesterday and Mari will eat a banana tomorrow.'
- (11) [IP [VP [VP Ken-ga kinoo ringo-o ~~tabe~~] (sosite) [VP Mari-ga asu banana-o tabe]] [INFL -ru]]

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Remarks on syntactic head movement in Japanese: A reply to Sato and Maeda (2021)

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It has been hotly debated whether syntactic head movement (**HM**) exists in Japanese (Fukui & Sakai 2003, a.o.). Sato & Maeda (2021) (**S&M**) argue for the existence of HM based on observations of verb-echo answers (**VEAs**). Reexamining **S&M**, we propose alternative analyses which do not assume HM: (i) the adjunct ellipsis analysis (Collins 2015; Oku 2016; Kobayashi 2020; Landau 2020), and (ii) an analysis based on question-answer congruence (Weir 2017; Tanabe & Hara 2021). Our analyses are shown to have empirical advantages over **S&M**'s analysis.

VTPE ANALYSIS OF VEA: A VEA can be used as an answer to a polarity question as in (1).

- (1) Q: Ken-wa sara-o arai-masi-ta-ka? A: Arai-masi-ta-yo.
Ken-TOP dish-ACC wash-POL-PST-Q wash-POL-PST-PRT
'Did Ken wash dishes?' lit. 'Washed.' ('Yes, he did.')

S&M follow Holmberg (2016) and propose that VEAs are derived via verb-stranding TP ellipsis (**VTPE**) as depicted in (2), where the TP is elided after the verb undergoes V-to-T-to-C movement.

- (2) [CP [TP Subject [VP Object *t_V*] *t_{V-T}*] V-T-C]

NULL ADJUNCTS AND VEA: As Sugimura (2011) observes, adverbs can be phonetically null in VEAs. The VEA in (3A) has an adverb-inclusive reading in that it is most likely to be interpreted as an affirmative answer to (3Q): 'Yes, Ken washed the dishes carefully'. **S&M** claim that the adverb-inclusive reading is derived via **VTPE**, which elides the adverb contained within the TP.

- (3) Q: Ken-wa [_{AdvP} teineini] sara-o arai-masi-ta-ka? A: Arai-masi-ta-yo.
Ken-TOP carefully dish-ACC wash-POL-PST-Q wash-POL-PST-PRT
'Did Ken wash dishes?' lit. 'Washed.' ('Yes, he did.')

However, (4) shows that an adverb can be null in a VEA even if Funakoshi's (2014) verbal identity condition on verb-stranding ellipsis is not satisfied. (4A) has the adverb-inclusive reading; it is interpreted as a positive answer to (4Q): 'Yes, he watches dramas every night without sleep'.

- (4) Q: Professor: Kisi-sensei-wa [_{AdvP} maiban nenaide] dorama-o mi-masu-ka?
Kishi-teacher-TOP every.night without.sleep drama-ACC watch-POL-Q
'Does professor Kishi watches dramas every night without sleep?'

A: Student: Goranninari-masu-yo.
watch.HON-POL-PRT
lit. 'Watches.' (Yes, he does.) (OK: adverb-inclusive reading)

Given this, we argue that an adverb-inclusive interpretation obtained in VEAs is derived not via **VTPE** but by adjunct ellipsis (Oku 2016, a.o.) plus argument ellipsis, as depicted in (5) (see Landau 2020 for arguments that argument ellipsis can apply to multiple arguments in a sentence).

- (5) [CP [TP Subject [VP **Adjunct** Object V] T] C]

VOICE MISMATCHES: **S&M** observe that VEAs do not tolerate voice mismatches as (6) shows. **S&M** argue that the impossibility of voice mismatches supports the **VTPE** analysis because sluicing in English, i.e., TP ellipsis also disallows voice mismatches as seen in (7) (Merchant 2001).

- (6) Q: Ken-wa Yumi-o sikari-masi-ta-ka? A: #Shikar-are-masi-ta-yo.
Ken-TOP Yumi-ACC scold-POL-PST-Q scold-PASS-POL-PST-PRT
'Did Ken scold Yumi?' lit. 'Was scolded.'

- (7) *I know someone scolded John, but I don't know by whom.

Nonetheless, we follow Weir (2017) and argue that (6A) is unacceptable because it yields an incongruent question-answer pair as defined under the Structured Meaning Approach (von Stechow 1990;

Krifka 2001). The question meaning of (6Q) and the focus meaning of (6A) can be represented in (8a-b) (B=Background, R=Restriction, F=Focus). According to Krifka, (6a-b) is an incongruent question-answer pair because they do not share an identity background, i.e. $B \neq B'$.

- (8) a. $\langle B, R \rangle = \langle \lambda f. f(\text{Ken scolded Yumi}), \text{POLARITY} \rangle$
 POLARITY = {Id, \neg }
- b. $\langle B', F \rangle = \langle \lambda f. f(\text{Yumi was scolded by Ken}), \text{Id} \rangle$

Indeed, (9A), which does not involve VEAs, also prohibits voice mismatches. The current analysis based on question-answer congruence successfully rules out (6A) and (9A).

- (9) Q: Ken-wa Yumi-o sikari-masi-ta-ka? A: #Yumi-wa sikar-are-masi-ta-yo.
 Ken-TOP Yumi-ACC scold-POL-PST-Q Yumi-TOP scold-PASS-POL-PST-PRT
 'Did Ken scold Yumi?' lit. 'Yumi was scolded.'

Some speakers find (9A) more acceptable than (6A). Although this suggests that Weir's condition should be weakened, we maintain that the unacceptability of (6A) is not due to a syntactic identity condition on TP ellipsis. (9A) may be more acceptable than (6A) because the information about 'who was scolded by whom' is more easily accommodated in (9A), where the passivized argument 'Yumi' is overtly expressed. The line of pragmatic analysis is supported by the following example. (10A) is a VEA, and yet it is more acceptable than (6A) arguably because it is clear in the discourse that the utterer of (10A) is the one who was scolded by Ken. S&M's syntactic identity approach cannot capture the relative acceptability/unacceptability among (6A), (9A), and (10A).

- (10) Q: Ken-wa anata-o sikari-masi-ta-ka? A: ?Shikar-are-masi-ta-yo.
 Ken-TOP you-ACC scold-POL-PST-Q scold-PASS-POL-PST-PRT
 'Did Ken scold you?' lit. 'Was scolded.'

SCOPAL INTERACTION: We show that S&M's analysis faces an undergeneration problem; it does not explain the scopal interaction between negation and disjunction. S&M argue that (11A) has only NEG>OR because the VEA is derived via VTPE after NEG raises above the disjunction.

- (11) Q: Ken-wa pan-ka-kome-o tabe-ta-no? A: Tabe-nak-atta-yo.
 Ken-TOP bread-or-rice-ACC eat-PST-PRT eat-NEG-PST-PRT
 'Did Ken eat bread or rice?' lit. 'Did not eat.' (*OR>NEG, NEG>OR)

However, as S&M also note, OR>NEG is available in a VEA if it answers a negative question as in (12). This is not explained if (12A) is derived via VTPE, where NEG raises above the disjunction.

- (12) Q: Ken-wa pan-ka-kome-o tabe-nak-atta-no? A: Tabe-nak-atta-yo.
 Ken-TOP bread-or-rice-ACC eat-NEG-PST-PRT eat-NEG-PST-PRT
 'Did Ken not eat bread or rice?' (OR>NEG) lit. 'Did not eat.' (OR>NEG, *NEG>OR)

Given this, we argue following Tanabe and Hara (2021) that the scope patterns are better explained by question-answer congruence. In (11), OR>NEG, which only entails that 'Ken didn't eat both bread and rice (it is possible that Ken ate neither)', does not provide an appropriate answer to (11Q) whereas NEG>OR provides a positive answer. In contrast, OR>NEG is available in (12A) since it provides an affirmative answer to (12Q): 'You're right. Ken didn't eat either bread or rice'.

CONCLUSION: The data on Japanese VEAs are explained without syntactic HM. The adverb-inclusive interpretation is obtained via adjunct ellipsis. The impossibility of voice mismatches as well as the scope pattern of disjunction and negation are better explained by the question-answer congruence. The proposed analyses reveal that VEAs in Japanese can be derived without HM.

SELECTED REFERENCES: Fukui, N & H. Sakai (2003). 'The visibility guideline for functional categories: Verb raising in Japanese and related issues'. Sato, Y & M. Maeda (2021). 'Syntactic head movement in Japanese: Evidence from verb-echo answers and negative scope reversal'.

Encoding causation and aspect into inflectional domain: The view from Burmese causatives

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1. Introduction Valence-changing operations such as those which derives passives or causatives are one of the intensively discussed topics in formal syntax theory of verbal domain (e.g., Pylkkänen 2008; Legate 2014 a.o.). However, formal syntax theories have been developed largely based on a limited number of well-described languages. Thus, examining the theories with data from understudied languages is beneficial to develop the field. The present research investigated the syntax of causation in Burmese, a heavily understudied Sino-Tibetan language, based on original fieldwork with a Burmese native speaker. In this presentation, I focus on a morpheme *?aun* found in “*lou?*”-causative in Burmese, showing that it introduces an infinitival clause which itself has a causative meaning with accomplishment aspect. Building on that, I propose that *?aun* is a single morpheme representing Caus and non-finite T, using Distributed Morphology (Halle and Marantz 1993). This study widens the morpho-syntactic view of how languages express causation and aspect.

2. Structure of Burmese The canonical word order in Burmese is SOV, though scrambled OSV word order is also possible. A grammatical subject is often marked with a nominative case marker *-ga* while a grammatical object is marked with *-go*. As we will see in (2), the dative case marker is homophonous with the accusative case marker. Those case markers are sometimes dropped in spontaneous speech.

3. Causative Data Mathias and San San (2016) reported that Burmese has four peripherastic causative constructions. Among those, they pointed out that “*lou?*”-causative (1b) has a biclausal nature while others are monoclausal. Compare (1b), in which there is an extra morpheme *?aun* (bolded) between the verb *saw* and *lou?* to *se*-causative (1c), which *se* occurs right after the verb. (1a) is a baseline sentence for (1b,c). Notice that the accomplishment interpretation (in the sense of Vendler 1967; Dowty 1979) of the caused event is different between (1b) and (1c) as indicated by the felicity of the continuation ‘*but I did not build the house*’.

- (1) a. $\text{tʃema-ga} \quad \text{ej-go} \quad \text{saw} \quad \text{ke} \quad \text{de}.$
1.sg.fem-NOM house-ACC build JUNC AFF.NONFUT.
‘I built the house.’
- b. $\text{tu-ga} \quad \text{tʃema-go} \quad \text{ej-go} \quad \text{saw} \quad \textbf{?aun} \quad \text{lou?} \quad \text{ke} \quad \text{de}.$
3.sg.masc-NOM 1.sg.fem-DAT house-ACC build ? make JUNC AFF.NONFUT.
‘He made me build the house.’ (# *but I did not build the house.*)
- c. $\text{tu-ga} \quad \text{tʃema-go} \quad \text{ej-go} \quad \text{saw} \quad \text{se} \quad \text{ke} \quad \text{de}.$
3.sg.masc-NOM 1.sg.FEM-DAT house-ACC build let JUNC AFF.NONFUT.
‘He let me build the house.’ (✓ *but I did not build the house.*)

In the literature, there is a disagreement about *?aun*: Mathias and San San (2016) considered that *?aun* roughly corresponds to English complementizer *that*, while Okell and Allot (2001) assumed that it is an infinitive marker, akin to English *to*. I argue that *?aun* is an infinitive marker, based upon three diagnostics.

First, the case frame of *lou?*-causatives is identical to a ditransitive sentence, showing that it behave like a single clause in terms of case assignment (compare (2) to (1b)). In contrast, (3) indicates that the case domain for a complex sentence with *that*-clause is completely biclausal (i.e., each clause forms a case domain). This indicates that the *?aun*-phrase is not a finite CP which forms an independent case domain.

- (2) $\text{Zozo-ga} \quad \text{Susu-go} \quad \text{sao?-go} \quad \text{be} \quad \text{ke} \quad \text{de}$
Zozo-NOM Susu-DAT book-ACC give JUNC AFF.NONFUT
‘Zozo gave Susu a book.’
- (3) $[\text{CP} \text{mjē-ga} \quad \text{dine} \quad \text{la} \quad \text{me} \quad \text{soda}]\text{-(go)} \quad \text{ŋa-ga} \quad \text{ti?} \quad \text{de}$
you-NOM today come FUT that-(ACC) 1.sg-NOM know AFF.NONFUT
‘I know that you will come to see me today.’

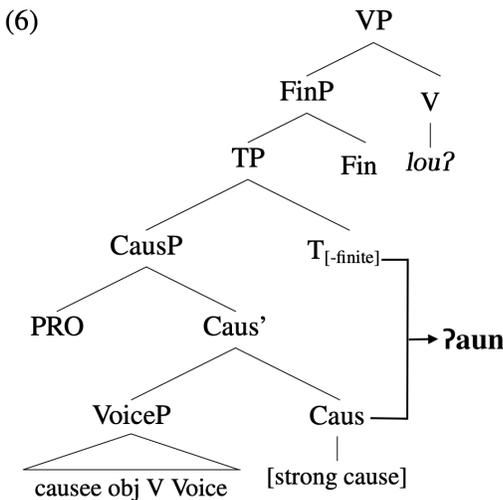
Second, *?aun* can be observed in some control predicates when it implies that the embedded event is accomplished as shown in (4). Note, here, that *?aun* can be replaced by a default infinitive marker *po*, which was robustly observed with control verbs (e.g., *fosa* ‘try’) and raising predicates (e.g., *alaala ji* ‘be likely’). It should also be noted that these markers cannot co-occur adjacently within a single clause which provides evidence that they are classified into the same morpho-syntactic category.

- (4) Zozo-ga Susu-go ka-go we {po/?aun} swesan ke de
 Zozo-NOM Susu-DAT car-ACC buy persuade JUNC AFF.NONFUT
 (i) *po* = Zozo persuaded Susu to buy a car (the speaker does not know whether Susu bought a car.)
 (ii) *?aun* = Zozo persuaded Susu to buy a car (the speaker knows that Susu bought a car.)

Third, *?aun* can introduce a causativized infinitival rationale clause as well as the combination of *se* and *po*, independently of the selection by the main verb (see (5)). Interestingly, *se* cannot occur with *?aun* in contrast to *po*, indicating that *?aun* is not a sole-functioning infinitive marker. This unavailability of *se* with *?aun* suggests that a causative meaning is already encoded by *?aun*.

- (5) Zozo-ga Susu-go [manapa asiwe ji de soda]-go ti? {**se po(jen)** / (***se**)
 Zozo-NOM Susu-DAT tomorrow meeting have AFF.NONFUT that-ACC know **let to** / (**let**)
?aun} i-mei po ke de.
to e-mail send JUNC AFF.NONFUT
 ‘Zozo sent Susu an e-mail to let/make her know that there will be a meeting tomorrow.’

4. Proposal To capture the observations above, I propose the structure in (6) for *lou?*-causatives. In (6),



the Caus-head introduces a semantics such that the event denoted by the embedded VoiceP is caused following to Pykkänen (2008). The PRO subject will be bound by the sentential subject introduced by a VoiceP which comes on the top of (6). As a consequence, I argue that the structure of *lou?*-causative is similar to control constructions. In contrast to *lou?*-causatives, I assume that *se*-causatives have a monoclausal structure (as per Mathias and San San 2016) such that *se* directly selects a VoiceP and introduces a causer argument.

In addition, I suggest that the accomplishment aspect of the caused event (i.e., whether the caused event is actually accomplished or not; remember the semantic difference in (1b,c)) maps onto [strong/weak cause] feature, and only the Caus-head with [strong cause] feature undergoes Fusion with $T_{[-finite]}$ (as per Halle and Marantz 1993) which realize the heads as a single

morpheme *?aun*. This analysis nicely explains why *se po* can be observed in (5). Given the fact that (1c) does not contradict with a statement that the caused event is not accomplished, I consider that *se* is a realization of [weak cause] feature. Since only [strong cause] feature can undergo Fusion with $T_{[-finite]}$, if the Caus-head contains [weak cause] feature, the non-finite TP configuration in (6) will be spelled out as *se po* in (5).

5. Conclusion In this research, I found that *lou?*-causatives in Burmese involve a causative infinitival clause headed by *?aun*. I also proposed that *?aun* is a single morpheme representing two syntactic heads; Caus and $T_{[-finite]}$. This research contributes to expand the view of the causative morpho-syntax, especially how languages encodes causation and aspect into syntax.

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ATB-movement and Parasitic Gaps: from the perspective of head movement

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Introduction A recent line of research casts doubt on the claim that head movement and phrasal movement are distinctive syntactic operations (Hartman 2011; Funakoshi 2012; Harizanov 2019; Harizanov and Gribanova 2019; Pesetsky 2020; Lee 2021). This talk specifically examines two particular issues with regard to head movement: (i) whether heads can undergo ATB-movement (Ross 1967; Williams 1978) and (ii) whether their movement can license Parasitic Gaps (PGs, Engdahl 1983), in a similar way as phrases. The null hypothesis is that both configurations are allowed by the mechanism that licenses their phrasal counterparts, which in turn predicts the pattern in (1) and (2).

(1) Schematic representation of ATB-**head**-movement (t_X indicates the launching positions)

- a. $X \dots [_{CP1} \text{Subj } V \ t_X]$ and $[_{CP2} \text{Subj } V \ t_X]$ ATB-movement of heads
- b. $*X \dots [_{CP1} \text{Subj } V Y]$ and $[_{CP2} \text{Subj } V \ t_X]$ * due to Coordinate Structure Constraint

(2) Schematic representation of Parasitic Gaps licensed by **head** movement (Δ indicates a PG)

- a. $X \dots \text{Subj } [_{\text{adjunct}} \dots \Delta \dots] \ t_X$ PGs licensed by head movement
- b. $*X \dots \text{Subj } [_{\text{adjunct}} \dots t_X \dots] \ V$ * due to Adjunct Islands

Claims Based on observations in Cantonese, I show that this null hypothesis is only partially borne out: while ATB-head-movement is attested, PGs fail to be licensed by head movement. The asymmetry further suggests a non-uniform treatment on ATB movement and PG constructions.

Observations To establish this claim, two ingredients are necessary. First, it is important to show that both configurations are attested with phrases in Cantonese.

(3) ATB-movement of *wh*-expressions (cf. Pan 2011)

- bin-wai** **zokgaa** [$[_{IP1} \text{Aaming zungji } t_{wh}]$ [$[_{IP2} \text{Aafan m zungji } t_{wh}]$]
- which-CL writer Aaming like Aafan not like
- ‘Which writer does Aaming like but Aafan dislike?’

(4) *Wh*-movement licensing a PG (cf. Lin 2005)

- a. **bin-go jan** Aaming [hai gin Δ zicin] zau caau-zo t_{wh} ?
- which person Aaming at meet Δ before already fire-PERF
- ‘Which person is it who Aaming fired before meeting?’
- b. *Aaming [hai gin Δ zicin] zau caau-zo **bin-go**?
- Aaming at meet Δ before already fire-PERF who
- ‘Who did Aaming fire before meeting?’

Second, recent literature shows that verb topicalization involves head movement/doubling (but not remnant movement) in Cantonese (Lee 2021; Cheng and Vicente 2013). For example, while verb topicalization can apply long-distance (as in (6)), it shows island effects (as in (8) and (10) below).

- (5) Verb topicalization (6) **maai**₁, ngo zi [Aaming hai soeng **maai**₁] ge
- V_1 , Subj COP (V_2) V_1 (Obj) buy, I know [Aaming COP want buy] SFP
- ↑ ‘As for (whether he) buys, I know Aaming wants to buy (it) (but...)’

Testing the configurations in (1) and (2) Verb topicalization is allowed in an ATB-fashion, as in (7). It is however disallowed if the topicalized verb only matches the one in the first conjunct, as in (8).

(7) *Scenario: Aaming and Aafan are discussing whether to invest in cryptocurrencies. Aaming thinks that it is time-consuming to learn about them and Aafan thinks that it is too risky to buy them.*

maai₁, ngo gokdak [Aaming hai m-seong **maai**₁] ji [Aafan hai m-gaam **maai**₁]
 buy I think Aaming COP not-want buy and Aafan COP not-dare buy
 ‘As for buying, I think Aaming doesn’t want to buy and Aaming dare not to buy.’

(8) *Scenario: Aaming and Aafan have invested in cryptocurrencies. They can earn some money if they sell them now. Aaming thinks that they should sell them but Aafan thinks that they should invest more.*

***maai**₁, ngo gokdak [Aaming hai seong fong] ji [Aafan hai soeng zoi **maai**₁]
 buy I think Aaming COP want sell and Aafan COP want again buy
 Int.: ‘As for buying, I think Aaming wants to buy more and Aafan wants to sell.’

The situation in PGs is different. Verb topicalization does not license a potential site of PG in the adjunct, as in (9). (10) shows an island effect if the topicalized verb originates in the adjunct clause.

(9) ??**maai**₁, Aaming hai soeng [hai Aafan tai keoi hoji Δ zicin] **maai**₁x ge
 buy Aaming COP want at Aafan remind him may Δ before buy SFP
 Int.: ‘As for buying, Aaming wants to buy before Aafan reminds him that he may (buy) (but...)’

(10) ***maai**₁, Aaming hai soeng [hai Aafan tai keoi hoji **maai**₁ zicin] zou ge
 buy Aaming COP want at Aafan remind him may buy before rent SFP
 Int.: ‘As for buying, Aaming wants to rent before Aafan reminds him that he may buy (but...)’

Analysis For the ATB-case in (7), it can be treated in an identical way as phrasal ATB-movement (e.g., Coordination Reduction (Wilder 1994), Parallel Merge (Citko 2005), or Sideward Movement (Nunes 2001), etc.), and no additional assumption needs to be made. For the PG-case in (9), I suggest that the failure of head movement to license PGs does not immediately necessitate a distinction on heads and phrases in movement theories. Instead, I propose that at least in Cantonese, heads are systematically prevented from licensing PGs under the null operator theory of PGs (Nissenbaum 2000), which suggests that PGs are in fact traces of a null operator that moves within the containing adjunct.

(11) A hypothetical structure for (9), under the null operator theory of PGs

maai₁, Aaming hai soeng [OP hai Aafan tai keoi hoji Δ zicin] **maai**₁ ge

Crucially, I suggest that (9)/(11) is ruled out due to an independent constraint on types of null operators: they cannot be of types of predicates, i.e., <e,t>. This is supported by the observations that constructions involving null operators do not apply to predicates in Cantonese. For example, relativization cannot target predicates (while it can target arguments and adverbials). Also, *wh*-expressions lack a verbal variant, i.e., no interrogative verb (cf. Irurtzun 2020).

Implications ❶ On head/phrase movement: the presence of ATB-movement of heads supports a movement theory that does not distinguish head movement from phrasal movement. Head movement fails to license PGs for reasons independent of the phrase-structural status of the moving element. ❷ On ATB-movement and PGs: the findings support the null operator theory of PGs but speak against the same treatment to ATB-movement (which would otherwise be ruled out) (Munn 1992; Franks 1993). This suggests a non-uniform treatment of the two configurations.

Non-agreeing resumptive pronouns and partial Copy Deletion

Ka-Fai Yip and Comfort Ahenkorah (*Yale University*)

Introduction. In the Copy Theory of Movement (Chomsky 1995, Nunes 1995), movement is understood as creating two copies of a syntactic object in Narrow Syntax and deletion of one copy in the PF. Recently, accumulating evidence suggests that Copy Deletion (CD) may not be applied in a full manner, e.g. it can be distributed (Fanselow & Cavar 2002), suspended (Trinh 2009, Lee 2021), or be replaced by substitution (Mendes & Ranero 2021). Along this line of research, we investigate how CD may be *partially applied* in resumption in two unrelated languages Cantonese (Hong Kong) and Akan (Asante Twi). We report a non-canonical type of resumptive pronouns (RPs) that show *phi*-feature mismatch with their antecedents, found in the object and subject positions in the two languages respectively. We argue that these NON-AGREEING RPs are the realizations of lower copies of movement chains, and propose a partial CD account.

Pronoun inventories. The inventory of pronouns in Cantonese is given in Table 1 and the subject (nominative) pronouns (in proclitic form) in Akan are given in Table 2. Under a Distributed Morphology framework, functional elements like pronouns are spelled out through Vocabulary Insertion in the PF (Halle & Marantz 1993 *et seq.*), i.e. they have no phonological features in lexicon/syntax. (1)-(2) give the featural compositions of the pronouns, where Cantonese pronounces 3SG *keoi* [D] as the default pronoun and Akan pronounces the 3SG inanimate ϵ -.

	SG	PL
1	<i>ngo</i>	<i>ngodei</i>
2	<i>nei</i>	<i>neidei</i>
3	<i>keoi</i>	<i>keoidei</i>

Table 1: Pronouns in Cantonese

	SG	PL
NOM 1	<i>me-</i>	<i>yε-</i>
2	<i>wo-</i>	<i>mo-</i>
3(anim.)	∂ -	$w\partial$ -
3(inanim.)	ϵ -	ϵ -

Table 2: Nominative pronouns in Akan

- (1) [D] ↔ *keoi* [D, +author] ↔ *ngo* (Cantonese)
 [D, +pl] ↔ *dei* [D, +addressee] ↔ *nei*
 (2) [D] ↔ ϵ - [D, +animate] ↔ ∂ - [D, +author] ↔ *me-* (Akan)
 [D, +addressee] ↔ *wo-* [D, +animate, +pl] ↔ *w\partial*-
 [D, +addressee, +pl] ↔ *mo-* [D, +author, +pl] ↔ *yε-*

NON-AGREEING RPs. A NON-AGREEING RP, manifested as the default pronoun, is found in both languages in local movement of arguments. In Cantonese (an SVO language), an object may move locally to a pre-verbal position with a disposal marker *zoeng* in (3). Notably, the gap may alternate with a NON-AGREEING RP in 3SG as *keoi*, showing mismatch with the plural antecedent (Cheung 1992; see also Xu 1999 for Mandarin & Shanghaiese). Note that the moved object cannot be a bare noun.

- (3) *Nei jiu zoeng *(di) syu_i tai-jyun {_i / keoi_i / *keoidei_i }* [C]
 2SG must DISP CL.PL book read-finish 3SG 3PL ‘You must finish reading the books.’

In Akan (also an SVO language), when the subject moves from ν P to TP (e.g. across a temporal adjunct), the gap may alternate with a NON-AGREEING 3SG inanimate RP as ϵ - (=4) (\neq obligatory resumption in A-bar movement, *cf.* Korsah 2016). An AGREEING RP *w\partial*- is not allowed. Note that ϵ - must be at the edge of ν P and cannot be lower than progressive aspect: *ε-re-tu* ‘3SG-PROG-sing’ vs. **re-ε-tu* ‘PROG-3SG-sing’.

- (4) *A-sukuu-fo_i no enora {_i / ε_i- / *w\partial_i-} tu-u ndwom* [A]
 PL-student-PL DET yesterday 3SG-/ 3PL- sing-PST song ‘The students sang yesterday.’

Idiom preservation. NON-AGREEING RPs *keoi* and ϵ - may occur when a subpart of idioms is displaced. Crucially, the idiomatic meaning is available with a gap and *keoi/ε*-, but not with canonical AGREEING RPs, as in (5)-(6). Hence, in the former cases, the displaced idiomatic subpart is not base-generated at a higher position. Rather, it originates from a lower position where a gap and a NON-AGREEING RP alternate.

- (5) *Di seoi_i nei jinggoi ceoi-maai {_i / keoi_i / keoidei_i } sin* [C]
 CL.PL water 2SG should blow-ALSO 3SG 3PL SFP.first

[Lit.]: ‘As for those (that) water, you should blow them first.’ (gap, *keoi*, *keoidei*)

[Idiom.]: ‘As for those gossips, you should finish them first.’ (gap, *keoi*)

- (6) *Me p\o_nk\o_i tae {_i / ε_i- / \o_i-} p\epsilon ntem* [A]
 POSS horse often 3SG.INANIM 3SG.ANIM want quickly

[Lit.]: ‘My horse is often eager.’ (gap, ϵ -, ∂ -) [Idiom.]: ‘I am often in a hurry.’ (gap, ϵ -)

Locality. Both NON-AGREEING *keoi* and ϵ - may occur in long-distance A-bar dependencies, just like canonical AGREEING RPs, as shown in the long-distance relativization in (7)-(8).

- (7) *Go di [cpngo gokdak [cp nei jinggoi faaidi tai-jyun {keoi_i / keoidei_i }] ge syu_i [C]*
 that CL.PL 1SG think 2SG should faster read-finish 3SG 3PL MOD book
 ‘Those books which I think you should finish as soon as you can’

(8) **M-mofra_i no** [CP_{aa} me dwene [CP_{SE} {ε_i- /wɔ_i-} kɔ-ɔ sukuu no]] [A]
 PL-child DET REL 1SG think COMPL 3SG-/3PL- go-PST school DET
 ‘The children who I think went to school’

Unlike canonical AGREEING RPs, crucially, the NON-AGREEING *keoi* and ε- cannot ameliorate island violations, such as the adjunct island in (9) and the complex NP island in (10).

(9) Go di [CP [Adjunct] jyu_{gwo} ngo laai-zo {*keoi/ keoidei_i}] daaigaa zau wui hou hoisam] ge gougun_i
 that CL.PL if 1SG arrest-PERF 3SG 3PL everyb. then will very happy MOD official
 ‘Those officials who if I arrested them everybody will be very happy’ [C]

(10) M-mofra_i no [CP aa me te-e [NP n-konkansa fa-a wɔn ho [CP_{SE} {*ε/wɔ_i}-fa-a pen no]]
 PL-child DET REL 1SG hear-PST PL-rumor take-PST 3PL.POSS body C 3SG-/3PL-take-PST pen DET
 ‘The children who I heard a rumor about them that they took the pen’ [A]

The islands effects suggest that the NON-AGREEING RPs pattern with the “trace” (i.e. the lower copy) of a moved object and subject in the two languages, as schematized below:

(11) [Obj_i ... [vP ... [VP ... <Obj>_i=keoi]]] (C) (12) [Subj_i ... [vP <Subj>_i=ε- ... [VP ...]]] (A)

Note that Cantonese NON-AGREEING *keoi* may also occur with a post-verbal object (=13)), which seems to pose a challenge to the movement analysis. Yet, a bare noun is banned (cf. (3)), suggesting object movement to a vP-internal position (Diesing 1992, 1997, Travis 2010), i.e. [vP Obj_i [VP ... <Obj>_i=keoi]]

(13) Nei jiu tai-jyun *(di) syu_i {keoi/ *keoidei_i} [C]
 2SG must read-finish CL.PL book 3SG 3PL ‘You must finish reading the books.’

Proposal: partial Copy Deletion. To account for both featural mismatch and movement properties of Cantonese *keoi* and Akan ε-, we propose that CD may be partially applied by *not* deleting all the features but retaining the label of the lower copy (i.e. the highest categorical feature). Specifically, when a DP moves and creates two copies, instead of erasing of all the features in the lower copy, CD may only erase the *phi*-features and the features in the complement of D. What remains is [D], i.e. the label.

(14) Syntax: α_{[D],[φ]}, β_{[D],[φ]}, ... ; where (α, β) is a chain created by movement

CD: (i) α_{[D],[φ]}, ~~β_{[D],[φ]}~~ → surface string = α

(ii) α_{[D],[φ]}, β_{[D],[φ]} → surface string = α ... exponent of D (=default pronoun)

In effect, the lower object copy in Cantonese with [D] left spells out as *keoi* through Vocabulary Insertion (cf. (1)), and the lower subject copy in Akan spells out as ε- (cf. (2)), deriving the featural mismatch. Movement properties also follow since they are the realizations of the lower copies. Note that this partial application of Copy Deletion is optional, and hence the alternation of the NON-AGREEING RPs with a gap.

An alternative. Another possible approach is stranding, where RPs form a big DP constituent with its antecedent that moves out and leaves the RP stranded (Aoun et al. 2001, Boeckx 2003). The NON-AGREEING RPs could be understood as a special form of (stranded) determiners. Yet, problems arise to why this purported big DP constituent is never found in Cantonese and Akan as a whole. In Cantonese, a string of [NON-AGREEING RP + antecedent] only gives a possessive reading, instead of the desirable co-referential reading (=15)). While the [antecedent + NON-AGREEING RP] string is found in postverbal cases, it does not form a constituent as evidenced by its inability to move (=16)). The same applies to Akan as well. Hence, the stranding approach might not be adequate to account for the NON-AGREEING RPs.

(15) [Keoi di syu] [C] (16) *Nei jiu zoeng [di syu_i keoi_i] tai-jyun _ [C]
 3SG CL.PL book 2SG must DISP CL.PL book 3SG read-finish
 ‘his/her books’ / Not: ‘(the) books’ Int.: ‘You must finish reading all the books.’

Implications. First, the morphological forms of RPs in both languages are *correlated* with movement properties: only NON-AGREEING RPs involve movement, but not AGREEING RPs. Both movement strategy (Engdahl 1985, Demirdach 1991) and base-generation/agreement strategy (Adger & Ramchand 2001, Rouveret 2002, 2008, Rezac 2011) of resumption are attested within the same languages. Second, Copy Deletion can be *partially applied*. Further exploration on how the partial application of CD is regulated may shed light on movement theories in general and Linearization as well. Third, the current proposal may extend to AGREEING RPs that show robust movement properties in languages like Swedish (Engdahl 1985). Assuming that [D] may bundle with *phi*-features as a whole and cannot be deleted separately, CD only deletes the features of the complement of D, leaving the [D]-*phi*-feature bundle pronounced.

Afterthoughts and Right Dislocation in Colloquial Singapore English: An Experimental Approach

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1 Introduction

Previous cross-linguistic work classifies utterances in (1) as Afterthoughts (AT) and those in (3) as Right Dislocation (RD) (Ott & De Vries, 2016). AT contains an utterance-final predicate while RD contains an utterance-initial predicate; *popular* in (1) and (3).

Experiment 1			
	Afterthought (AT)	Fragment Answer (FA)	Right Dislocation (RD)
SFP	(1a) He win pageant last time, popular sia.	(2a) Popular sia. I heard he win pageant last time	(3a) Popular sia her older brother.
NIL	(1b) *He win pageant last time, popular.	(2b) Popular. I heard he win pageant last time	(3b) *Popular her older brother.
DEG	(1c) He win pageant last time, very popular.	(2c) Very popular. I heard he win pageant last time.	(3c) Very popular her older brother.
Experiment 2			

Contrary to pragmatic analyses which claim that AT and RD are speech errors or serve to supply further information (Geluykens, 1987; Luke, 2004), I show that AT and RD in Colloquial Singapore English are not merely a performance issue as they are subject to the generalization in (4) and support this using an experimental investigation.

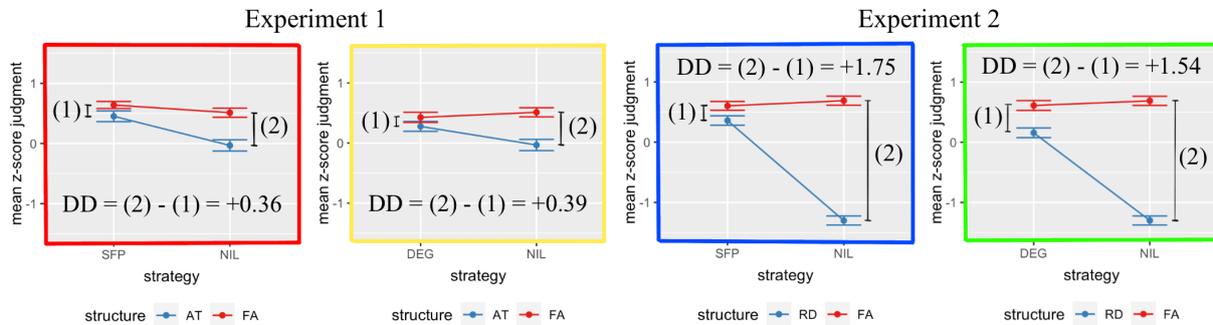
- (4) a. AT and RD disallow bare predicates.
 b. Sentence-final particles (SFPs) or degree modification is necessary for AT and RD.

While bare predicates are licit fragment answers (2b), either SFP *sia* (1a,3a) or degree modifier *very* (1c,3c) is required for grammatical AT and RD. I present the experiments in §2 and account for the findings (§3) by proposing that AT and RD containing bare predicates violate the Anchoring Condition (Ritter & Wiltschko, 2005; Tang & Lee, 2000; Yu, 2015). I also show that not all instances of Anchoring are equal. Contra Yu (2015) who proposes that copula-less sentences in CSE are anchored by time, I show that temporal anchoring is unavailable for AT and RD and that AT and RD are anchored via focus instead.

2 Experiment

The results of two acceptability judgement experiments support the generalization in (4) for adjectival predicates. Experiment 1 compared AT with FA while Experiment 2 compared RD with FA. The effect of each strategy was examined using a factorial design. Taking SFP use in Experiment 1 as an example, two factors (STRUCTURE and STRATEGY), each with two levels (AT/FA and SFP/NIL) were used (conditions bordered in red in the table). This design was repeated for degree modification in Experiment 1, and for SFP use and degree modification in Experiment 2 (Conditions for each factorial design are marked with different colours in the table). Thus, each design used four conditions to identify an interaction of STRUCTURE and STRATEGY by controlling for independent penalties associated with the absence of an SFP/degree modifier and processing the AT/RD structure. The mean z-scores for each set of four conditions are plotted in the interaction plots below (The colour of each set of four conditions matches its respective interaction plot). The *differences-in-differences* (DD) score was calculated (as annotated). A positive DD score isolates the unacceptability costs of AT/RD with bare adjectives not accounted for by the independent penalties mentioned above. The results showed a positive DD score for SFP use and degree modification in both experiments (AT: SFP:+0.36, DEG:+0.39; RD: SFP:+1.75, DEG:+1.54). The linear mixed

effects model also revealed a statistically significant interaction of STRUCTURE and STRATEGY for SFP use ($F[1, 270.2] = 6.88, p < 0.01$) and degree modification ($F[1, 70.1] = 6.95, p < 0.01$) in Experiment 1 with AT. This was also found in Experiment 2 for RD; the STRUCTURE \times STRATEGY interaction was significant for SFP use ($F[1, 48.7] = 117.56, p < 0.001$) and degree modification ($F[1, 277.0] = 106.65, p < 0.001$).



3 Analysis

The results suggest that there is a violation associated with AT and RD containing bare adjectives that is repaired by SFP use or degree modification. Generalizing these findings beyond adjectival predicates, I propose that the ban on bare predicates in AT and RD can be attributed to a violation of the Anchoring Condition (Ritter & Wiltschko, 2005; Tang & Lee, 2000; Yu, 2015), which requires events and states to be anchored to the utterance (by time) or to another salient reference point.

Although anchoring commonly takes place temporally via tense (Enç, 1987), and Yu (2015) proposes that copula-less sentences in CSE are anchored to time via aspect, temporal adverb *last time* (5) and overt tense morphology on *works* (7a) do not increase the acceptability of AT and RD. SFP *sia* (5b,7b) or *very* (5a) are still required for grammatical AT and RD.

- (5) a. She accept new idea now leh, *(very) small-minded last time. (AT)
 b. She work at Google last time */?(sia) that girl. (RD)

Thus, following Tang and Lee (2000), who conceptualize the Anchoring Condition as a Generalized Anchoring Principle which requires sentences to be tensed or focused at LF, I propose that SFP and degree modification anchor AT and RD by focus rather than to time by making reference to a set of alternatives. Empirical support for this comes from how focus adverb *only* in CSE results in grammatical AT and RD (6).

- (6) a. She win the diving event leh, *(only) 14 years old. (AT)
 b. She *(only) 14 years old that diver. (RD)

I propose that the unavailability of temporal anchoring may be attributed to how AT and RD are subject to an additional requirement of being evaluative (Fernández-Sánchez, 2020). Following Kölbel's (2004) notion of *faultless disagreement*, a proposition is evaluative if two speakers disagree and it cannot be objectively determined whether either speaker is correct. Although (7a) is 'temporally anchored' via tense, the proposition that she works at Facebook is non-evaluative as it is either true or false when (7a) is uttered. However, SFP *sia* in (7b) may coerce *she works at Facebook* into an evaluative proposition, by virtue of the pragmatic function of SFPs in encoding speaker attitudes (Gupta, 2006). As *sia* is used as a response to unexpected information (Lee, 2018), the proposition 'that she works at Facebook is surprising' is now evaluative as it is no longer objectively established but dependent on the speaker's opinion, accounting for the acceptability of (7b).

- (7) a. * She works at Facebook that girl. (RD)
 b. She works at Facebook sia that girl.

Resumptive pronouns = pronouns ≠ traces: Evidence from Arabic varieties

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Resumptive pronouns alternate with gaps in certain positions in *wh*-questions in Arabic varieties, most prominently in direct object position. A substantial tradition of work on resumption has analyzed (a subset of) resumptive pronouns as the derivational residue of movement (especially Aoun et al. 2001; Boeckx 2003; Sichel 2014; Sportiche 2018, 2020). I show from novel data that this position is untenable for Arabic varieties where standard anti-cyclicity and anti-connectivity diagnostics distinguish resumptives *qua* base-generated elements from traces. I follow and expand upon work by Guilliot & Malkawi (2006, 2011) and Salzmann (2017), arguing that **resumptives, being pronouns, are definite determiners with elided NP content.**

1. Resumptive pronouns are not sensitive to islands. Traces are (see Choueiri 2002, 2017).

The *wh*-question in (1) spans a relative clause island and must terminate in a resumptive pronoun.

- (1) ja: la:ʕibi:n θibbi:n ajj aħad [jħibb-*(hum)]?
which players like.2.F.SG any one [likes.3.M.SG-*(them)]
‘Which players do you like anyone who likes { *__ / them }?’ (Iraqi Arabic)

Similar data (omitted here) distinguishing resumptives from traces are adduced for other islands. This contrast is straightforwardly explained if resumptives are base-generated in-situ and A-bar bound by operators, because binding, but not A-bar movement, is island-insensitive.

2. Resumptive pronouns do not license parasitic gaps in adjunct clauses. Traces do. In (2), only a trace in the main clause licenses a parasitic gap in the adjunct clause headed by ‘without.’

- (2) ja: mumaθθili:n wað^ʕð^ʕafti {__ / *-hum} [bidu:nma tqa:bili:n pg]?
which actors hired.2.F.SG { / *-them} [without meet.2.F.SG]
‘Which actors did you hire {__ / *them} [without meeting pg]?’ (Iraqi Arabic)

The same asymmetry between traces and resumptives is found with long-distance *wh*-questions (see (3)): only if there is a trace in the base position are parasitic gaps licensed along the dependency. Arabic varieties thus seem to lack ‘mixed chains’ (cf. McCloskey 2002; Sportiche 2018).

- (3) minu tʕinti [tiʕrufi:n [in-ni raħ aħibb {?__ / *-ha}] [min gabl ma a:ni
who were.2.F.SG know.2.F.SG that-1.SG FUT like.1.SG { / *-her} from before what 1.SG
aʕuf pg]].
see.1.SG
‘Who did you [know [that I would like {?__ / *her}] [before I ever met pg]]?’ (Iraqi Arabic)

Assuming that parasitic gaps diagnose movement (e.g. Nissenbaum 2000), such movement must *only* be available when the A-bar dependency terminates in a gap. Accounts which do not specifically tie parasitic gap licensing to movement fail to explain the contrast.

3. Resumptive pronouns cannot be bound by a case-marked operator. Traces can be. The differentially object marked *wh*-word *ʔil-man* ‘whom (ACC-who)’ in Iraqi Arabic is not compatible with resumption (see (4b)), whereas its caseless counterpart *minu* ‘who’ is (see (4a)).

- (4) a. **minu** titwaqqaʕi:n Hend ixtarat {__ / -ah}
who suspect.2.F.SG Hend chose.3.F.SG {__ / -him}
b. **ʔil-man** titwaqqaʕi:n Hend ixtarat {__ / *-ah}
ACC-who suspect.2.F.SG Hend chose.3.F.SG {__ / *-him}
Both: ‘Who(m) do you suspect Hend chose?’ (Iraqi Arabic)

This bears out Merchant’s (2001) generalization that no resumptive-binding operator can be case-marked. In a resumptive dependency, the *wh*-phrase is not generated in the variable site but rather

in Spec, CP, hence it is never in a position to receive case, contrasting with gapped dependencies. To summarize so far, the contrast between resumptive and gapped A-bar dependencies with respect to the island, parasitic gap, and case facts argues for an approach in which resumptive pronouns are not gaps, and resumptive-binding operators are base-generated separately from their bindees.

4. The reconstruction wrinkle. A naïve base-generation theory of resumptives would predict the absence of *all* connectivity effects, in contrast to traces. This is not, however, what we find: resumptive pronouns license reconstruction for scope and binding in Arabic (Choueiri 2002). For example, the pronominal variable *-u* ‘his’ in (5) which is pied-piped by a *wh*-phrase can be bound by the non-c-commanding quantifier NPI *hadd* ‘one’ which is interpreted as ‘nobody’ under negation. Crucially, the quantifier *does* c-command the resumptive pronoun which the *wh*-phrase binds.

- (5) [amma fatra mtaʕ hje:t-u_i] hadd_i ma-jhibb jtðakkar-ha?
 [which period.F.SG of life-his_i] one_i NEG-want.3.M.SG remember.3.M.SG-it.F.SG
 ‘[Which period of his_i life] does nobody_i want to remember (it)?’ (Tunisian Arabic)

The reconstruction evidence seems *a priori* incompatible with the anti-cyclicity and anti-connectivity effects from (1)–(4). There are in principle two ways to resolve this tension: either (i) modify a movement analysis of resumption to explain why spelled-out traces (= resumptives) behave differently from silent ones (= gaps), or (ii) modify a base generation analysis of resumption to predict the presence of (limited) semantic connectivity effects.

5. Resumption as nominal ellipsis. I follow Guilliot & Malkawi (2006, 2011) and Salzmann (2017) in pursuing the second approach, extending Elbourne’s (2001, 2005) NP-deletion theory of E-type anaphora to a base-generation analysis of resumptive pronouns. Specifically, resumptive pronouns are analyzed as hidden definite descriptions with elided NP content (see also Postal 1966). Prior to ellipsis, (5) will have the structure in (6). Reconstruction results from interpreting the lower, elided NP where the variable *-u* ‘his’ can be bound by *hadd* ‘nobody’.

- (6) amma fatra mtaʕ hje:t-u_i hadd_i ma-jhibb jtðakkar [DP -ha [NP fatra mtaʕ hje:t-u_i]]?
 which period of life-his_i one_i NEG-want remember -it period of life-his_i

The fact that resumptive pronouns show connectivity effects now follows from the fact that pronouns *in general* show connectivity, as shown by paycheck sentences like (7) (Elbourne 2001).

- (7) Joni baʕθet taswi:ret fe:k-ha lel-banka, amma hatta hadd e:xer ma-bʕaθ-ha
 Joni sent.3.F.SG picture.F.SG check-her to.the-bank, but even one else NEG-sent.3.M.SG-it.F.SG
 l-yadi.
 to-there
 ‘Joni sent the picture of her check to the bank, but no one else sent it there.’ (Tunisian Arabic)

In (7), we find apparent covariance without c-command. However, under the NP-ellipsis theory of pronouns, the quantifier in (7) *does* c-command a pronominal variable *-u_i* at LF:

- (8) ... hatta hadd_i e:xer ma-bʕaθ [DP -ha [NP taswi:ret fe:k-u_i]] l-yadi
 even one else NEG-sent.3.M.SG -it.F.SG picture.F.SG check-his to-there

The NP-ellipsis theory of pronouns predicts limited semantic connectivity within a broader base-generation theory of resumption, providing a unified account of anti-cyclicity and (anti-)connectivity effects present under resumption. By generalizing a theory of pronominal anaphora to resumptives, we also account for McCloskey’s (2002: 192) observation that resumptives are indistinguishable from regular pronouns. Time permitting, I will also argue against analyses of resumptive dependencies as structurally ambiguous between movement and base generation (e.g. Sichel 2014), since resumptives can license reconstruction simultaneous with anti-cyclicity/-connectivity effects.

Embedded Root Phenomena in Modern Greek

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This presentation contributes to the study of Embedded Root Phenomena (ERP; Emonds 1970) by investigating the embedded distribution of left peripheral phenomena in Modern Greek, a language that has not been previously explored in the ERP literature. In brief, we show that some left peripheral phenomena (Left Dislocation and Tag Questions) display the same restricted distribution in Greek as they do in English, while others (Topicalization and other phenomena that involve movement to the left periphery) do not. To account for the contrast in the distribution of Greek and English left peripheral phenomena, we propose an analysis that is based on, and adds to, the Truncation account of ERP (Haegeman 2006). Furthermore, we argue that the Greek pattern presents a challenge for the competing Intervention account (Haegeman and Ürögdi 2010).

The availability of Left Dislocation (LD) in Greek complement clauses displays the characteristic distribution of ERP, as described by Hooper and Thompson's (1973) for English. Specifically, Greek LD is acceptable, if slightly degraded, in complement clauses introduced by predicates of Class A (e.g. *leo* 'say'), B (e.g. *pistevo* 'believe') and E (e.g. *diapistono* 'realize'), as shown in (1). On the other hand, LD is completely unacceptable in complement clauses introduced by predicates of Class C (e.g. *arnume* 'refuse') and D (e.g. *lipame* 'be sorry'), as shown in (2). Additionally, negation in the matrix clause renders ungrammatical all of the acceptable cases of embedded LD (cf. (1) and (3)), which is reminiscent of embedded V2 in Mainland Scandinavian (see Heycock 2006 for an overview).

- (1) ?o Nikos ipe / pistevi / diapistose pos i politiki, afti ftene yia ola
the Nick said / believes / realized that the politicians, they are-to-blame for all
'Nick said/believes/realized that politicians, they are to blame for everything'
- (2) *o Nikos arnite pos / lipate pu i politiki, afti ftene yia ola
the Nick refuses that / is-sorry that the politicians, they are-to-blame for all
- (3) *o Nikos den ipe / pistevi / diapistose pos i politiki, afti ftene yia ola
the Nick neg said / believes / realized that the politicians, they are-to-blame for all

Tag Questions (TQs) are another left peripheral phenomenon that displays ERP behaviour in Greek, although with a more restricted distribution than LD. Greek TQs can take the form of 'Neg V', the particle *e* (see Tsoulas 2018 for other uses of *e*), or the fixed expression *etsi den ine* 'isn't it so'. TQs of all forms are possible in the clausal complement of Class B predicates and some, but not all, Class A and E predicates (acceptable examples are shown in (4)). On the other hand, TQs are impossible in all clausal complement of Class C and D predicates (as shown in (5)). Once again, negation in the matrix clause renders ungrammatical the acceptable cases of embedded TQs (cf. (4) and (7)).

- (4) i Eleni ipe / pistevi / emathe pos piges sto parti, den piges / e / etsi den ine?
the Eleni said / believes / learned that went to-the party, neg went / prt / so neg is?
'Helen said/believes/learned that you went to the party, didn't you/right/isn't it so?'
- (5) *i Eleni arnite pos / lipate pu piges sto parti, den piges / e / etsi den ine?
the Eleni refuses that / is-sorry that went to-the party, neg went / prt / so neg is?
- (6) *i Eleni den ipe / pistevi / emathe pos piges sto parti, den piges / e / etsi den ine?
the Eleni neg said / believes / learned that went to-the party, neg went / prt / so neg is?

Several other phenomena that are known to display ERP distribution in English (e.g. Topicalization, Preposing Around Be, Negative Inversion, Locative Inversion) display unrestricted distribution in Greek complement clauses. Here we focus on the case of Topicalization in (7-8), as it provides interesting comparisons with LD and CLLD (Clitic Left Dislocation), a phenomenon that does not display ERP behaviour cross-linguistically (Haegeman and Ürögdi 2010). Specifically, we observe that the shared unrestricted distribution of Topicalization and CLLD supports Alexopoulou and Kolliakou's (2002) arguments for a unified analysis of the two phenomena in Greek, while the ERP distribution of LD suggests that it cannot be assimilated with Topicalization and CLLD.

- (7) o Nikos ipe / pistevi / diapistose pos tin parastasi skinothetise o Karolos Koun

the Nick said / believes / realize that the performance directed the Karolos Koun
'Nick said/believes/realized that the performance, Karolos Koun directed.'

- (8) o Nikos arnite pos / lipate pu tin parastasi skinothetise o Karolos Koun
the Nick refuses that / is-sorry that the performance directed the Karolos Koun

The generally accepted intuition in the relevant literature is that ERP arise because part of the left periphery is inaccessible in some embedded contexts, while it remains accessible in others. This broad idea is implemented in one of two ways. According to the Truncation account (Haegeman 2006), the relevant part of the left periphery is entirely missing in some embedded clauses. According to the intervention account (Haegemana and Ürögdi 2010) the relevant part of the left periphery is always present, but becomes inaccessible in some embedded clauses due to intervention effects caused by the movement of an operator from TP to the left periphery.

On the basis of the Greek data and their contrast with their English counterparts, we propose the following analysis, which builds on the Truncation account. Firstly, we suggest that the locus of LD and TQs is at a higher structural position than the locus of Topicalization. Secondly, we suggest that there is cross-linguistic variation with respect to the parts of the left periphery that are affected by the truncation mechanism. In English, truncation targets some structural position below the locus of Topicalization, thus removing both the position that accommodates Topicalization and the position that accommodates LD and TQs. On the other hand, in Greek, truncation targets some structural position between the locus of Topicalization and the locus of LD and TQs, thus removing the latter but not the former. These rather straightforward hypotheses immediately capture the intra-linguistic contrast between the unrestricted distribution of Greek Topicalization and the ERP distribution of Greek LD and TQs, as well as the cross-linguistic contrast between the unrestricted distribution of Greek Topicalization and the ERP distribution of the same phenomenon in English.

Finally, we discuss a known problem for the Intervention account under the new light provided by the Greek data. As acknowledged even by proponents of this approach (Haegeman and Ürögdi 2010, fn.4), the Intervention account does not straightforwardly extend from phenomena that clearly involve movement to the left periphery (e.g. Topicalization) to phenomena like LD and TQs that do not appear to do so. The Greek case exacerbates this problem as any solution would also need to capture the contrast between the ERP distribution of LD and TQs and the unrestricted distribution of Topicalization in Greek. The only reasonable solution to this conundrum would be to assume that the locus of Topicalization in Greek is below the left periphery, so that the movement of the topicalized constituent does not cross paths with the movement of the operator (cf. Jiménez-Fernández and Miyagawa's (2014) analysis of Spanish CLLD and some forms of Japanese Topicalization). However, such an analysis would require independent motivation.

In summary, we have argued that the distribution of Greek left peripheral phenomena, and its contrast to their English counterparts, is amenable to an appropriately amended Truncation analysis, but not an Intervention analysis. Furthermore, Greek data highlights a subcategory of ERP that has not received sufficient attention, since it does not give rise to empirically observable contrasts in English.

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Japanese should employ different systems to questions with these two structures.

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| <p>(5) (often > ¬ > ∃)
 Q: John-wa yoku dare-mo home-nakat-ta no?
 “Did John often not praise anyone?”</p> | <p>A1: Un, daremo home-nakat-ta.
 “(Lit.) Yes, he never praised anyone.”
 A2: Uun, yoku Mary-o home-ta.
 “(Lit.) No, he often praised Mary.”</p> |
| <p>(6) (¬ > ∃ > often)
 Q: Dare-mo yoku apo-o tora-nai no?
 “Does no one take an appointment often?”</p> | <p>A1: Un, dare-mo tora-nai.
 “(Lit.) Yes, no one takes it often.”
 A2: Uun, Mary-wa yoku toru.
 “(Lit.) No, Mary takes it often.”</p> |

This data proves problematic for an approach based on scope relations. (5Q) contains predicate negation in Krifka’s terms, which is outscoped by *yoku*. It follows from his analysis that this is answered with a truth-based system. On the other hand, in (6Q) negation outscopes *yoku*, projecting NegP. Since polarity particles pick up a proposition from TP, they pick up a positive proposition in (6). A scopal analysis thus predicts a polarity-based system, contrary to what we find in (6A1) and (6A2). Recall from English examples (2) and (3) where an adverb outscoping negation leads to a shift in the answering system. This is not observed in (5) and (6). By positing crosslinguistic difference in lower structure, this approach fails to account for the fact that Japanese employs the same system for questions with different lower structures.

Featural approach Serividio et al. (2018) takes answer particles to be spell out of features located in the left periphery. Discussing data in Italian, they argue that answer particles in polarity-based languages are bundles of two features, namely REL and POL. REL licenses a discourse move; it is valued positive for confirmation and negative for denial. POL is assigned a value through agree with the inherently valued polarity in the elliptical sentence radical of the question. Although they don’t discuss truth-based languages, they do suggest that these languages could lack POL, and that their answer particles only carry REL. I follow their suggestion and show that Japanese particles are indeed spell out of REL. Following their proposal, I argue for the realization rules below for English and Japanese answer particles.

(7) English:

	REL: +	REL: -
Pol: +	[+] / [+] => (Yes)	[+] / [-] => (No)
Pol: -	[-] / [+] => (No)	[-] / [-] => (Yes)

(8) Japanese: REL [+] => (Un), [-] => (Uun)

Rule (8) accounts for the answering patterns we find in (5) and (6). (5A1) and (6A1) are confirming answers, so REL is valued positive. In denying answers (5A2) and (6A2), REL is valued negative. Note how this won’t be any different for questions with simpler structures. By positing crosslinguistic difference in the featural configuration of particles, this analysis captures how Japanese employs the same system for questions with different lower structures. This approach also accounts for (3) with relativized minimality (Rizzi 2010). Serividio et al. (2018) discusses that in Italian, questions with fronted focus are answered with a truth-based system. They argue that fronted focus blocks the value assignment on POL there. Since POL, Neg and Foc are all quantificational features in Rizzi’s classification, value assignment on POL is blocked by the Foc feature. This blocking effect occurs in (3) as well. *Sometimes*, which is an adverb of frequency, is classified as a quantificational feature, and creates a blocking effect for POL. This way, there is no need to posit different structures for (3) and (4).

Conclusion A parametric approach to featural configuration for answer particles succeeds in capturing crosslinguistic variation in answering systems, where the scopal approach fails short. Namely, a scopal approach fails to account for the fact that Japanese maintains its truth-based system for questions with different negation scope. A featural approach, by positing crosslinguistic difference in higher structure, can straightforwardly derive also the Japanese pattern.

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On the apparent complementizer in Japanese

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This talk investigates the particle *tte* in Japanese. Contrary to the standard assumption, I argue that *tte* is not a stylistic variant of the unmarked complementizer *to*. Based on the novel data regarding the difference between *tte* and *to*, I suggest that *tte* involves a compound verb structure with a speech verb and a phonological reduction.

Tte and to in Japanese

In Japanese, *tte* is used in stead of the unmarked complementizer *to* often in colloquial speech, as shown in (1).

- (1) John-wa [Mary-ga kawaii {to/**tte**}] itta/sakenda/omotta.
John-Top Mary-Nom cute C/TTE said/shouted/thought
'John said/shouted/thought that Mary is cute.'

Due to this distribution, *tte* has been assumed to be a variant of the complementizer *to* (note that *tte* has other functions, see e.g. Lord 1976, 1993, Ishii 2015, Hirose & Nawata 2016, Saito 2019). However, there is a hitherto contrast between *tte* and *to* regarding the distribution of the particles *mo* 'also' and *wa* (topic marker). As shown in (2), these particles can appear between *to* and the matrix verb, but not between *tte* and the matrix verb. If *tte* were simply a colloquial counterpart of *to*, this contrast would be hard to capture.

- (2) a. John-wa [Mary-ga kawaii {to/***tte**}]*-mo* itta.
John-Top Mary-Nom cute C/TTE-also said
'John also said that Mary is cute.'
b. John-wa [Mary-ga kawaii {to/***tte**}]*-wa* itta.
John-Top Mary-Nom cute C/TTE-Top said
'John at least said that Mary is cute.'

Grammaticalization of speech verbs

(A) Historically, *tte* has developed from the combination of the complementizer *to* and the speech verb *iw* 'say' (Lord 1976, 1993, Hirose & Nawata 2016, Matsumura 2017 cf. Yuzawa 1954, Maki 1997). In fact, the change from speech verbs to complementizers is one of the most common grammaticalization patterns among unrelated languages. Also, it is well known that (B) the grammaticalization from speech verbs to complementizers is robustly found in languages with serial verb constructions (Lord 1976, 1993, Klamer 2000, Simpson & Wu 2002, Roberts & Roussou 2003). To illustrate the change from *say* to C, consider (3), which involves a serial verb (*tell+say*), schematically given in English (adopted from Simpson & Wu 2002).

- (3) John tell say [_{Clause} ...]

Simpson & Wu (2002) suggest that one of the members of the serial verb construction (*say* in (3)) is reanalyzed as a complementizer, as in (4). This reanalysis results in the change from a speech verb to a complementizer.

- (4) John tell [_{say}(C head) ...]

Analysis

In the light of (A) and (B) above, I suggest that *tte* in (1)/(2) in fact involves a compound verb (or serial/complex verb), which takes the speech verb *iw* 'say' as its first member, as in (5) (note that compound verbs are independently found in Japanese, see Kageyama 1993). The second member of this compound verb needs to be a verb of saying or thinking (more specifically, Class A and B verbs under Hooper and Thompson's 1973 classification).

- (5) [[Subj [_{CP} ... *to*] *iw*-V_{say/think} (e.g. *iw* 'say', *sakeb* 'shout', *omow* 'think') T] C]
→ spelled out as *tte*

I assume that this combination (*iw* + verb of saying/thinking) is lexically specified, just like other lexical compound verbs in Japanese (e.g. *naki-sakeb* 'cry-shout', see Kageyama 1993).

Note also that it is independently observed that *iw* can be the first member of lexical compound verbs in Japanese, as in *ii-arawasu* ‘say-express’). I also argue that the combination of the complementizer *to*, which is the head of the embedded clause selected by the matrix compound verb, and the first member of the compound verb (*iw*) is spelled out as (reduced into) morphophonologically one element *tte* under adjacency (via e.g. *fusion*, Halle & Marantz 1993). This reduction reflects the etymology of *tte*, i.e., it has developed from the combination of *to* and *iw* (= (A)). Therefore, *tte* seems to be now in the process of grammaticalization; it is not completely a complementizer, as it involves a speech verb (which is the first member *iw* of the compound verb), but is realized as one element due to the reduction, which makes *tte* look like a complementizer (see (1) above). I assume that this reduction is obligatory in (5); it is well known that phonological reduction often precedes and in fact facilitates grammaticalization processes in general (see e.g. Hopper & Traugott 1993, Roberts & Roussou 2003). This analysis thus enables us to analyze *tte* as a well-attested pattern of grammaticalization (= (B)); *tte* is in the process of grammaticalization of a speech verb resulting from serial verb constructions.

Under this analysis, we can capture the contrast in (2). With the regular complementizer *to*, the particles *mo* and *wa* can appear between the embedded clause and the matrix verb, as the distribution of these particles is quite free. With *tte*, on the other hand, if we try to put these particles, the structure we would get is the following:

(6) [[Subj [CP... *to*] (**mo/wa*) *iw*-(*)*mo/wa*]-V_{say/think} T] C]

First, it is impossible place the particle between *to* and the first member *iw*, because this would block the reduction of *to* and *iw* into *tte*, which an obligatory operation requiring adjacency. Thus, this particle placement yields ungrammaticality. Also, it is impossible to place the particle between the first and the second member of the compound verb; in Japanese, it is disallowed to put a particle inside lexical compound verbs (e.g. **naki-mo/wa-sakeb* ‘cry-also/Top-shout’, see Kageyama 1993). Therefore, it is impossible to obtain the *tte-mo* or *tte-wa* sequence.

Notice that the suggested reduction process of *to-iw* to *tte* is independently found in Japanese, as shown in (7).

(7) a. [[Mary-ga kawaii {*to-iw/tte*}]] uwasa
 Mary-Nom cute C-say/TTE rumor
 ‘the rumor that Mary is cute.’

b. John-ni genki-ka kii-tara, kare-wa [aiken-ga sinda] {*to-iw/tte*}.
 John-to fine-Q ask-when he-Top pet.dog-Nom died C-say/TTE
 ‘When I asked John if he is fine, he said that his pet dog died.’

(7a) shows that the combination of *to* and *iw* can be realized as *tte* in a complex NP. Also, the reduction of *to* and *iw* can apply in a main clause, as in (7b) (e.g. Oshima 2010, Saito 2019). A question arises here as to why the reduction in (7) is optional while the one in (2)/(5) above is obligatory. I suggest that *tte* is now undergoing grammaticalization starting from serial verb constructions, as cross-linguistically observed (= (B)), so this is the only environment (yet) where the reduction in question is obligatory.

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How to build a reflexive: Unaccusativity and reflexive prefixation in Greek

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Whether reflexiv(iz)e(d) verbs are unaccusative or unergative (e.g. Embick 2004 vs Reinhart and Siloni 2004) is controversial. Using novel diagnostics, I show that Greek reflexives are unaccusative, and provide an explicit semantics whereby reflexivity involves a Voice head (cf. Ahn 2015) that is semantically agentive but structurally unaccusative. Finally, *contra* Spathas et al. (2015), I argue that reflexivity in Greek does not emerge from the composition of non-reflexive pieces (cf. Kastner 2017; Wood 2014).

Basic data Alongside argumental reflexives (1), Greek reflexivizes predicates by prefixing *afto-*, which obligatorily co-occurs with nonactive morphology (2) (Embick 1998 i.a.). Reflexivity requires both *afto-* and NACT: *afto-* cannot attach to active verbs (3), and NACT verbs are generally not interpreted reflexively without it (4).

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| <p>(1) I Maria katiyori- s- e ton eafto tis.
the Mary $\sqrt{\text{ACCUSE}} \text{ACT}$ 3SG the self her
'Mary accused herself'</p> | <p>(3) *I M afto- katiyori- s- e (to Jani).
the M self- $\sqrt{\text{ACCUSE}} \text{ACT}$ 3SG the John.ACC
'*Mary self-accused_{active} (John)'</p> |
| <p>(2) I Maria afto- katiyori- θ- ik- e.
the Mary self- $\sqrt{\text{ACCUSE}} \text{NACT}$ PST 3SG
'Mary self-accused.'</p> | <p>(4) I Maria katiyori- θ- ik- e.
the Mary $\sqrt{\text{ACCUSE}} \text{NACT}$ PST 3SG
'M was accused ✓by someone else / *by herself'</p> |

Against emergent reflexivity I demonstrate that the behavior of *afto-* dissociates from that of anti-assistives, *contra* Spathas et al. (2015). (i) If *afto-* is anti-assistive, it is unclear why it cannot combine with active Voice; in Spathas et al. (2015), this is stipulated by means of selection. Note that the *bona fide* Greek anti-assistive shows no such restriction, (3) vs. (5). (ii) If *afto-* is anti-assistive, the complementarity between this element and Naturally Reflexive Verbs (8) does not follow; (8) should be grammatical on the reading 'M washed without help'. The true anti-assistive again behaves differently, (6). (iii) *afto-* nominals (7) are reflexive, not anti-assistive; these do not mean e.g. 'defense without help'. (iv) The analysis in Spathas et al. (2015) incorrectly predicts that (9) should be a contradiction, since *afto-* is anti-assistive but the PP contributes an explicit helper to the event. (v) Greek has a reciprocal prefix *allilo-* whose distribution exactly parallels that of *afto-*: it yields reciprocal readings with NACT, and is incompatible with ACT or with Naturally Reciprocal Verbs. No anti-assistive semantics can be plausibly adduced for *allilo-*, and the parallel distribution clarifies that the phenomenon here picks out anaphoric elements.

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| <p>(5) I M katiyorise to Jani moni tis.
the M accused.ACT the John.ACC alone her
'Mary accused John herself'</p> | <p>(7) afto- { amina, katastrofi, vioyrafia, ... }
self defense destruction biography
'self-defense, self-destruction, autobiography'</p> |
| <p>(6) I Maria pli- θ- ik- e moni tis.
the Mary $\sqrt{\text{WASH}} \text{NACT}$ PST 3SG alone her
'Mary washed without help.'</p> | <p>(8) I Maria (*afto-) pli- θ- ik- e.
the Mary self $\sqrt{\text{WASH}} \text{NACT}$ PST 3SG
'Mary (*self-)washed'</p> |
- (9) Me ti voiθia tis Marias, o Janis afto- diaynos- θ - ik- e.
with the help the.GEN Mary.GEN the John self- $\sqrt{\text{DIAGNOSE}} \text{NACT}$ PST 3SG
'With Mary's help, John diagnosed himself'. (e.g. where M helps J diagnose his mysterious illness)

Evidence for unaccusativity I show that *afto* verbs are unaccusative (cf. Alexiadou 2014), and not unergative (*contra* e.g. Tsimpli 1989). Firstly, malefactive applicatives (cp. Alexiadou et al. 1999) can be built on the basis of transitives (10) and unaccusatives (11), but not unergatives (12) (here *on me* = 'to my detriment'). Crucially, *afto-* reflexives pattern with unaccusatives (13). This is expected on a Pylkkänen (2008)-type analysis, whereby malefactives are introduced by Low Appl, and directly relate the affected argument to the internal one; on an unergative analysis of reflexives, Appl would have nowhere to attach.

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| <p>(10) Mu evrise to peθi tis Marias.
1SG.GEN curse.PST.3SG the child the Mary.GEN
'S/he cursed M's child <i>on me</i>.'</p> | <p>(12) *Mu etrekse to peθi tis Marias.
1SG.GEN run.PST.3SG the child the Mary.GEN
'Mary's child ran on me.'</p> |
| <p>(11) Mu efije to peθi tis Marias.
1SG.GEN leave.PST.3SG the child the Mary.GEN
'M's child left on me.' (e.g. it ran away)</p> | <p>(13) Mu afto- katastrafike to
1SG.GEN self destroy.NACT.PST.3SG the
θiastimoplio.
spaceship
'The spaceship self-destructed on me.'</p> |

Moreover, predicative complements of *declare*-class verbs form small clauses with the internal argument, whose case they match (see active (14) vs passive (16)). Crucially, and unlike all unergatives, *afto*- verbs can take predicative complements (15), suggesting that their sole argument is a deep object.

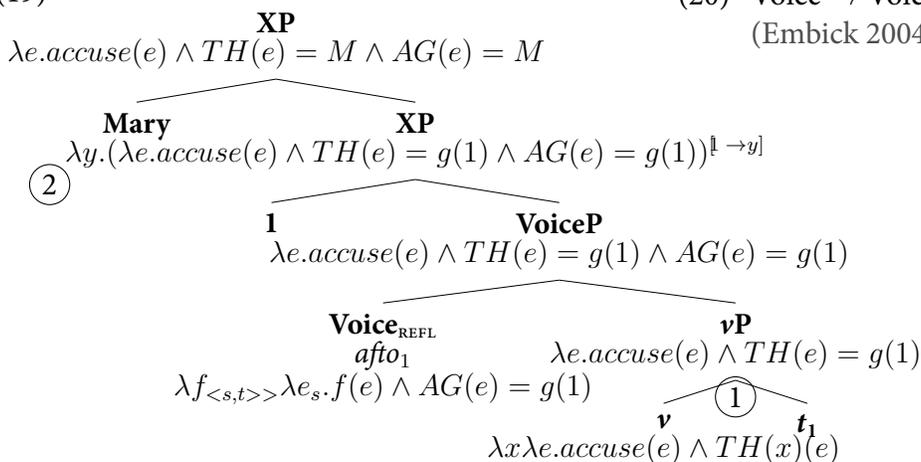
- (14) O *papas anakirikse ton Karolo vasilias.* (15) O *Karolos afto- anakirixθike vasilias.*
 the pope declared the C.ACC king.ACC the C.NOM self- declared.NACT king.NOM
 ‘The pope declared Charles king.’ ‘Charles declared himself king.’
- (16) O *Karolos anakirixθike vasilias (apo ton papa).*
 the C.NOM declare.PASS.PST.3SG king.NOM by the pope
 ‘Charles was declared king (by the pope).’

Evidence for A-mvmt Condition C shows that the sole argument of *afto*- verbs leaves the internal argument position, without reconstructing. In transitive clauses with two R-expressions, the possessor of the theme is c-commanded by the agent, yielding a Condition C violation (17a), but not vice versa (17b). (18) shows that the internal argument of *afto*- verbs raises to a position c-commanding the IO (NB Greek is IO>DO, *Anagnostopoulou*:2003), leading to a Condition C violation in (18a), and Condition C avoidance in (18b).

- (17) a. *O *Petros_i katiyorise ti mitera tu Petru_i.*
 the Peter.NOM accuse.ACT.PST.3SG the mother.ACC the Peter.GEN
 ‘Peter accused Peter’s mother.’
 b. ?I *mitera tu Petru_i katiyorise ton Petro_i.*
 the mother.NOM the Peter.GEN accuse.ACT.PST.3SG the Peter.ACC
 ‘Peter’s mother accused Peter.’
- (18) a. *O *Petros_i afto- parusiastike tis miteras tu Petru_i.*
 the Peter.NOM self present.NACT.PST.3SG the mother.GEN the Peter.GEN
 ‘Peter presented himself to Peter’s mother.’
 b. I *mitera tu Petru_i afto- parusiastike tu Petru_i.*
 the mother.NOM the Peter.GEN self present.NACT.PST.3SG the Peter.GEN
 ‘Peter’s mother presented herself to Peter.’

Analysis *afto*- is a reflexivizer realizing Voice_{REFL} (note that -θ does not realize Voice, but rather Asp in the context of NACT; Author 2021). Syntactically, Voice_{REFL} is specifier-less, deriving (i) the obligatory co-occurrence of *afto*- with NACT (by (20), Greek Voice heads lacking a specifier receive the feature NACT at PF); (ii) movement of the object for Case (cf. Kayne 1988). Semantically (19), Voice_{REFL} takes a function whose theme was saturated by the object’s trace (①); by Traces Rule, Heim and Kratzer 1998). *afto*- is index-bearing; both it and the trace are bound by the index at the landing site of the theme, and *afto* introduces an agent, identifying it with the assignment function’s output for that index. Through binding (Predicate Abstraction, ②), the theme and agent slots are associated with the same variable, and saturated by the object in its landing site.

- (19) (20) Voice → Voice_{NACT} / No DP specifier __
 (Embick 2004; Alexiadou et al. 2015)



afto- is then incompatible with actives, unaccusatives and deponents (Alexiadou 2014), Voice_{REFL} being in complementary distribution with other Voice flavors. Overall, this analysis extends to the domain of reflexivity a recent a line of work severing syntactic from semantic agentivity (e.g. Schäfer 2008; Akkuş 2021).

Undergraduate

Fragment Questions in Mandarin Chinese arise from and repair A-not-A questions

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Fragment Questions (hereafter FQs) in Mandarin Chinese (hereafter Chinese), exemplified in speaker B's response to A in (1) are **follow-up elliptical questions** interpreted as polar questions:

- (1) A: Lisi xihuan taozi. B: Li ne?
 Lisi like peach pear PART
 “Lisi likes peaches.” Literal: “Pears?” -- Intended: “What about pears? Does she like them?”

Contra previous analyses (e.g. Wei 2018), I argue that (i) **these constructions arise from A-not-A questions** (see Hagstrom 2006, Huang 2009, a.o.), and (ii) **the (obligatory) final particle *ne* is the realization of Att, the head of the AttP**. This study further shows that **ellipsis in FQs repairs otherwise ungrammatical A-not-A questions**, raising questions on the timing of ellipsis with respect to syntactic and morphological processes.

1. The source of FQs in Chinese. Although Wei (2018) assumes that yes/no questions are the source of Chinese FQs, I show that FQs arise from A-not-A questions. A-not-A questions contain a “V-not-VP” structure, functioning as constituent questions with two polar options. The “V-not” part is realized by reduplicating the first syllable of the VP and adding a proper negative particle (Huang 2009). There are two main differences between A-not-A and yes/no questions. First, while yes/no questions can be answered with particles such as *shi* or *dui* “yes”, A-not-A questions cannot, as in (2). Instead, they must be answered by repeating the verb *xihuan* “like”. If FQs were an elliptical form of a yes/no question, we would predict *shi* or *dui* to be acceptable, contrary to fact. Instead, Chinese FQs pattern with A-not-A questions in that they can only be answered by repeating the verb, as in (3). Second, the particle *ne* (which is obligatory in FQs and compatible with A-not-A questions) is incompatible with yes/no questions, as (4) shows:

- (2) A: Lisi xi bu xihuan taozi ne? B: *Shi | *Dui | xihuan (4) Lisi xihuan taozi (ma) *(ne)?
 Lisi like not like peach PART yes yes likes Lisi like peach PARTPART
 “Does Lisi like or not like peaches?” Lit: “She likes.” “Does Lisi like peaches?”
- (3) A: Lisi xihuan taozi. B: Li ne? A: *Shi | *Dui | (ye) xihuan
 Lisi like peach pear PART yes yes also like
 “Lisi likes peaches.” “What about pears?” Lit: “She (also) likes.”

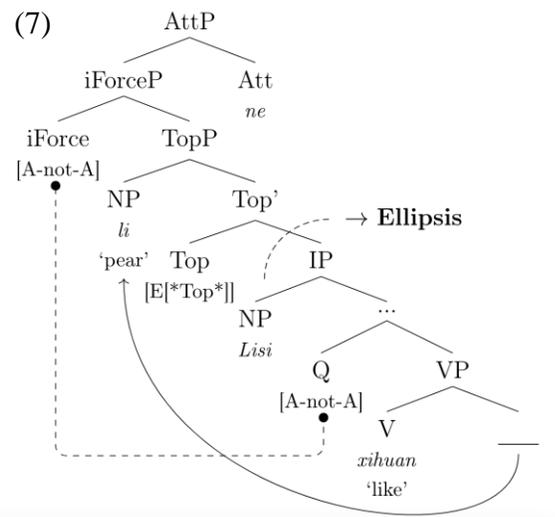
Wei (2018) points out that *ne* can be allowed in yes/no questions as a topicalizer that appears after a dislocated topic, as in (5a). I argue, however, that this configuration appears to be acceptable at first but must be interpreted as two separate questions, as in (5b) (which I analyze as an FQ followed by another question). Evidence that these are two separate questions comes from the prosody of this structure, characterized by an obligatory rising pitch on the question particle *ne* and a longer pause between the two questions, which is not required when *ne* functions as a topicalizer in regular topicalized sentences, as shown in (5c):

- (5) (a) *Lisi ne, qu le ma? (b) Lisi ne? Qu le ma? (c) Lisi ne, qu le.
 Lisi Top go ASP PART Lisi PART go ASP PART Lisi Top go ASP
 “As for Lisi, did she go?” Lit: “What about Lisi? Did she go?” “As for Lisi, she went.”

2. The syntax of FQs in Chinese. Wei (2018) analyzes the final particle *ne* in FQs as a question-final particle that bears an [E[*Top*]] feature that triggers topic movement and TP deletion. However, I claim that the *ne* particle that appears obligatory in FQs is actually the head of the AttP (see Pan 2019). According to Pan, the AttP is the highest layer of the Chinese CP, and an Att head like *ne* functions to “draw the attention of the hearer to a specific point in the statement.” As (6a) shows, when an A-not-A question is asked out-of-the-blue, the *ne* particle is ungrammatical. On the contrary, in the context of a dialogue, the absence of the *ne* particle makes the sentence unacceptable. This contrast is explained if the *ne* particle is indeed the Att head, so that a switch of the topic in (6b) requires the presence of *ne* to draw attention to the new topic.

- (6) (a) Out-of-the-blue (no antecedent) (b) In a dialogue context
 Lisi xi bu xihuan taozi (*ne)? A: Lisi xihuan li. B: Lisi xi bu xihuan taozi *(ne)?
 Lisi like not like peach PART Lisi like pear Lisi like not like peach PART
 “Does Lisi like peaches or not?” “Lisi likes pears.” “Does Lisi like peaches or not?”

This analysis explains why *ne* is obligatory in FQs. In other words, FQs are always follow-up questions with a switch of the topic, so the *ne* particle is always necessary to highlight the new topic. Therefore, I propose (7) as the syntactic structure of Chinese FQs. The structure of the A-not-A question is adapted from Huang (2009), where a Q particle both agrees with CP to type the question, and also triggers morphological reduplication of the VP and the insertion of the negative morpheme. Given that A-not-A questions arise from morphological reduplication, I claim that ellipsis is triggered in the syntactic component and prevents this morphological process from taking place. The Top head bears an [E[*Top*]] feature that triggers, first, movement of the topic, and second, ellipsis of the IP.



3. Ellipsis repairs (some) ungrammatical A-not-A questions. I

focus on two types of ungrammatical A-not-A questions: (i) reduplicative compounds, and (ii) non-negatable compounds. First, in Chinese many adjectives of the form AB can be reduplicated into the form AABB or ABAB, which adds “a life-like state perceptible to human senses” to its meaning (Liu 2013). (8a) shows the adjective *anjing* “quiet” reduplicated as *ananjingjing*. The follow-up FQ is grammatical. However, when these reduplicative adjectives are the leftmost elements of the predicate, they are not allowed to form A-not-A questions like (8b). That is, the reduplicative adjectives cannot be further reduplicated. Ellipsis in (8a) repairs the ungrammaticality in (8b).

- (8) (a) A: Xiaogou ananjingjingde. B: Xiaomao ne?
 Puppy quiet-RED Kitty Att
 “The puppy is quiet.” “Is the kitty quiet or not?”
 (b) *Xiaomao an bu/mei ananjingjingde ne?
 Kitty quiet not quite-RED Att
 “Is the puppy quiet or not?”

An assumption made in arguing that ellipsis repairs the ungrammaticality is that FQ has at least some syntactic identity relation to the antecedent. This assumption could be tested by the semantic distinction between base and reduplicative adjectives. As argued in Liu (2013), a reduplicative adjective must describe something life-like and perceptible. The *puppy* and *kitty* in (8a) both fulfill the requirement. However, an object like an AC cannot be life-like, so it cannot be described by the reduplicative adjective *ananjingjing* but only the base form *anjing*. As shown in (9a), given the antecedent A in (8a), neither a FQ nor an A-not-A question are allowed. Instead, only the base form adjective in (9b) is grammatical. This ungrammaticality of FQ in (9a) shows that the reduplicative adjective in the antecedent remains reduplicative in the FQ, supporting my assumption of the identity relation. Together, (8)-(9) shows that ellipsis repairs the ungrammaticality. Reduplicative verbs like *jianchajiancha* “review” or *bengbengtiaotiao* “hop” show a similar pattern.

- (9) (a) B: *Kongtiao (an bu ananjingjingde) ne? (b) B: Kongtiao an bu anjing ne?
 AC quiet not quiet-RED Att AC quiet not quiet Att
 Lit: “Is the AC quiet or not quiet?” “Is the AC quiet or not quiet?”

Secondly, McCauley (1994) points out that the presence of non-negatable compounds as the predicate of A-not-A questions makes them ungrammatical. These non-negatable compounds have “their first element transparently negate the second”. In (10), *wufa* “unable” is non-negatable (where *wu* means “not have” and *fa* means “method”). Given the antecedent in A, this compound cannot form A-not-A questions like in response B’ due to the negative morpheme. Again, ellipsis makes the corresponding FQ in response B’’ grammatical.

- (10) A: Lisi (*bu) wufa biaoan. B’: *Lijie wu bu wufa biaoan ne? B’’: Lijie ne?
 Lisi not unable perform Lisi unable not unable perform Att Lijie Att
 “Lisi is (not) unable to perform.” “Is Lijie able or unable to perform?” “What about Lijie?”

4. Conclusions. Contra previous proposals, I showed that FQs in Chinese arise from A-not-A questions and the final particle *ne* is the realization of the head of the AttP. In addition, I showed that ellipsis in FQ repairs A-not-A questions that are ungrammatical due to reduplicative compounds and non-negatable compounds.

Selected references: Huang 2009 “The Syntax of Chinese” | Wei 2018 in *Language and Linguistics*

Negation and Negative Polarity Items in Tigrinya

Angela Cao (Emory University) and Madison Liotta (University of Hawai'i at Manoa)

In this study, we discuss negation, negative polarity items (NPIs), and their syntactic constraints in Tigrinya, an understudied Semitic language. Currently, Tigrinya is (along with Arabic) the official language of Eritrea, and is spoken by almost 10 million people. We obtained data through elicitations with two male L1 speakers of the language who lived in Ethiopia and Eritrea before moving to the Atlanta area in the early 2000s. We draw comparisons across polarity items in other Afro-Asiatic languages, such as Berber and Jordanian Arabic. (Ouali 2014) Note that we used a modified version of IPA for transcriptions. The following table summarizes negation of different types in Tigrinya.

Verbs	prefix <i>a/aj-</i> + suffix <i>-yn</i> NEG + verb + NEG <i>a/aj</i> + verb + <i>yn</i>	y-bellG-3' allo-Ho 1.SG-eat-PST PROG-1.SG 'I am eating.'	aj -bellGe'-yn allo-Ho NEG-eat-NEG PROG-1.SG 'I am not eating.'
Imperatives	prefix <i>a/aj-</i> + suffix <i>-a</i> NEG + verb + NEG <i>a/aj</i> + verb + <i>yn</i>	et-a tuffaH bellG-aja the-SG.F apple eat-IMP 'Eat the apple.'	tuffaH aj -bellG-a apple NEG-eat-NEG 'Do not eat the apple.'
Jussives (Kogan 1997)	prefix <i>a/aj-</i> NEG + verb <i>a/aj</i> + verb	aj -jy-mut NEG-SBJ.3SG.M-die 'Let him not die!'	
Predicate adjectives	prefix <i>a/aj-</i> + suffix <i>-yn</i> NEG + adj + NEG <i>a/aj</i> + adj + <i>yn</i>	Hygge dixā happy 2.sg-are 'Are you happy?'	aj -Hyggus-yn dixā neg-happy-neg 2.sg-are 'Are you not happy?'
Relative clauses and non-predicate adjectives (Overfelt 2009)	prefix <i>z-</i> + prefix <i>-aj</i> REL + NEG + verb <i>z</i> + <i>a/aj</i> + verb	et-i Edēn zy-bellGe ze-ll-a meḡbi ab t'awla all-o the-SG.M Edēn REL-eat REL-PROG-SG.F meal on table be-SG.M 'The meal that Edēn is eating is on the table.'	
		et-i Edēn z- ej -ty-bellGe z-ell-a meḡbi ab t'awla all-o the-sg.m Edēn rel-neg-sbj.f-eat rel-prog-sg.f meal on table be-sg.m 'The meal that Edēn is not eating is on the table.'	

We present evidence that adverbial NPIs such as *fets'imu* are licensed strictly by the Spec-Head relation. Consider the figure below:

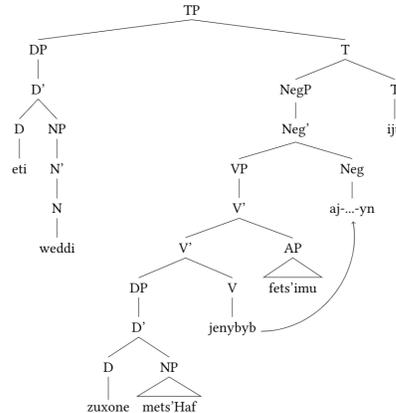


Figure 1: The adverbial NPI *fets'imu*.

(1) et-i weddi zuxone mets'Haf **fets'imu** aj-je-nybyb-yn ij-u

DET-3SG.M boy any book never NEG-3SG.M-read-NEG HAB-M.SG
 ‘The boy never reads any books.’

We also present evidence in the figure below that nominal NPIs such as *walla Hanti* are licensed through the c-command constraint. (Frank et al. 2000)

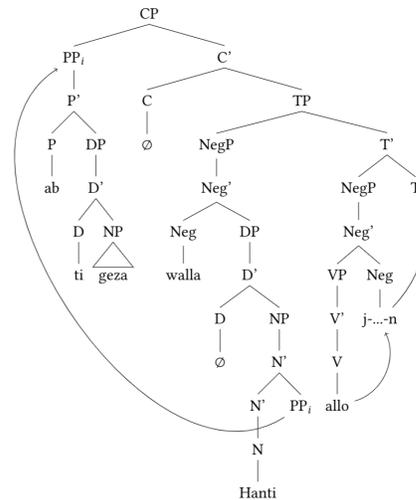


Figure 2: The nominal NPI *walla Hanti*.

(2) ab-ti geza **walla Hanti** j-elle-n
 in-DET.M.3SG house NEG one.NOM NEG-PROG-NEG
 ‘There is nothing in the house.’

Finally, evidence in the form of the idiomatic NPI *k'ejjaH santim* demonstrates that NPI-licensing in Tigrinya can occur across relative clause boundaries. Observe the figure below.

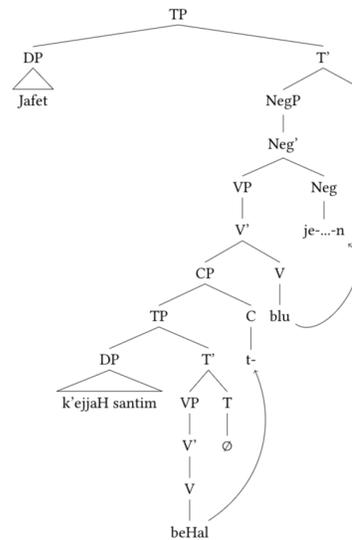


Figure 3: The idiomatic NPI *k'ejjaH santim*.

(3) Jafet **k'ejjaH santim** t-beHal je-blu-n
 Jafet red cent REL.F-call NEG-have-NEG
 ‘Jafet doesn’t have a red cent.’

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Linguistic Landscape of Howrah: A Comparative Study of Two Regions in a Multilingual City

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This paper aims to study the linguistic landscape of multilingual Howrah, comparing two regions specifically, in order to analyse the variations between areas speaking different languages. Howrah, a city in the state of West Bengal in India, is situated close to the capital Kolkata, and a majority of the people living here speak in Bangla, which is the standardised official language of the state. However, West Bengal was the third-most migrant-rich state in the country in 2001 (Census of India, 2001) and is home to many migrants and their children, and thus a myriad of languages also reside here. Of these, the most significant would be Hindi, the official language of the nation, and English, which is also constitutionally allowed to be used for official purposes (Constitution of India, 1950, Art. 343 – 344). Other than that, Urdu, Oraon, Santhali, and Nepali are also among the languages with a sizable population (Census of India, 2011) due to the aforementioned influx of migrants and its proximity to the respective speech communities. As such, it is easily possible to find Bangla, Hindi, and Urdu speaking regions in both Kolkata and Howrah.

Two regions have been chosen to conduct this study. One region is a Bangla-majority neighbourhood and it is predicted that most signboards, billboards, notices, posters, shop names, addresses and so on would be in either Bangla or English. The second region is a Hindi/Urdu speaking area and publicly visible text is expected to be in several languages, including Bangla. The primary aim of the study is to compare the observations obtained from the two places. Observed objects include signboards, advertisements, street names, address plates, shop names, posters, and notices, including official and private signs.

Studying the linguistic landscape – also called the linguistic cityscape (Gorter, 2006) – of a place or a street gives us an idea of the languages used by people in each region and how it connects to the residents' self-identity (Backhaus, 2006), as well as the general linguistic composition of the region. We can also ascertain how far the Bangla language is used in a mainly Hindi/Urdu neighbourhood, telling us about its popularity and the extent of acceptance among the people.

This study has implications for language planning in West Bengal, since there are significant extremist organisations that aim to impose a uniform language (Bangla) in the state. One such example would be Bangla Pokkho which claims to be an apolitical non-governmental organisation that works towards protecting Bengali rights and sentiments (বাংলা পক্ষ, n.d.). This idea also seems to be backed by the state government, which has mandated Bangla teaching in all schools across the state regardless of whether they are government-aided or private institutions (Banerjee, 2017). The chief minister herself has made prominent comments on her desire to make the knowledge of Bangla compulsory for all the residents of the state (Sengupta, 2019). This paper can provide assistance in working towards preserving the linguistic diversity of West Bengal, along with providing an example for similar scenarios in other places.

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Poster Session

How do English-Spanish bilinguals' two languages interact in the acquisition of English active and passive structures?

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Keywords: active, passive, monotransitive, DP-movement, adult input, English-Spanish bilinguals

This study investigates the acquisition of English active (1) and passive (2) structures, as examined in the longitudinal spontaneous data of English-Spanish bilingual children available in CHILDES (MacWhinney, 2000). These data are compared to those of English monolinguals, as reported in previous studies (e.g., Akhtar, 1999 for active monotransitives; Stromswold, 2005 for passives). Two main issues are addressed: potential crosslinguistic acquisition effects from Spanish into English (or lack thereof) and adult input effects in the children's spontaneous production.

(1) *I had it* [active monotransitive; Leo, 6;03, the FerFuLice corpus]

(2) *They got picked* [passive monotransitive; Leo, 3;03, the FerFuLice corpus]

We adopt the generative grammar approach (Chomsky, 1986), as far as both the syntactic analysis of English active and passive monotransitive constructions is concerned and the acquisition of passives with regards to the Maturational Hypothesis (Borer & Wexler, 1987). In particular, we explore whether bilinguals and monolinguals show similar onset patterns given the shared grammatical properties of actives in the bilinguals' two languages; and whether they differ in the onset of passives given the grammatical properties in English (canonical DP-movement) and Spanish (canonical DP-movement and *se*-passives). We also investigate the role played by adult input in child output. In order to do so, we analyze the spontaneous production data from eight English-Spanish bilinguals (ages: 1;01 to 6;11), and the adults that interact with them, as in Table 1.

Table 1. *The selection of the English-Spanish bilingual data*

Corpora	# files examined	Child	Gender	Age range	Social context in which the children were raised
Deuchar	11	Manuela	F	1;03–3;03	English (UK)
FerFuLice	115	Leo and Simon	M	1;01–6;11	Spanish (Spain)
Pérez	16	Alberto	M	1;08–3;00	English (USA)
	3	Antonio	M	2;11–3;02	
	21	Carla	F	2;00–3;03	
	6	John	M	2;00–3;03	
	2	Sheila	F	2;02–2;11	

Our data have revealed that bilinguals start producing passives at the age of 3, later than actives that emerge at the age of 2. This acquisition order effect is also seen in the lower incidence of passives when compared to actives, as in Table 2. These results have also been reported for English monolinguals in previous empirical works (e.g., Pinker et al., 1987 for actives; Marinis, 2007 for passives).

Table 2. *The overall production of English-Spanish bilingual children and adults*

	Active	Passive	Total
Children	10,393 (95.2%)	525 (4.8%)	10,918 (100%)
Adults	2,370 (94.6%)	135 (5.4%)	2,505 (100%)
Total	12,763 (95.1%)	660 (4.9%)	13,423 (100%)

The distributional properties of the two passive types in Spanish do not seem to have interfered in the bilinguals' acquisition of the English passive type, causing delay. These data suggest that the emergence and the incidence of the two constructions in bilinguals and monolinguals could be explained in terms of the DP-movement maturation (Borer & Wexler, 1987) and/or by resorting to adult input effects given the lower

exposure to passives with respect to actives as per the adult input. Therefore, these data indicate that two factors are potentially responsible for the English-Spanish bilingual and English monolingual children's order effect in the ages of first occurrence of the two target structures.

The first factor that can account for the delayed acquisition of passives is the biological maturation of the syntactic mechanism that allows the formation of these structures (namely, DP-movement) and that is not present in active monotransitives. This means that these data conform to the Maturation Hypothesis (Borer & Wexler, 1987) given that the underlying syntactic mechanism that forms passives and, more specifically, the movement of the object-DP into the subject-DP position is subject to maturation and, thus, is not available to the child in the initial stages of acquisition. The monolingual-like emergence patterns reflected in the English-Spanish bilingual children's earlier occurrence of English actives and later onset of passive monotransitive constructions suggests that the Autonomous Development Hypothesis is confirmed (Yip & Matthews, 2007). Thus, the emergence of the two target constructions and, more specifically, that of passives, does not appear to be determined by the availability of two types of passives in their other language (i.e., Spanish) causing either delay or acceleration in the acquisition of the one-type-passive language (i.e., English). Rather, as also observed in English monolingual children (e.g., Stromswold, 2005), this order effect appears to be caused by the fact that English-Spanish bilinguals are unable to form Argument-chains until they reach a maturational point (Borer & Wexler, 1987).

The second factor that could explain the delayed emergence of passives is adult input. Bilinguals' lower incidence of passives when compared to their active counterparts mirrors the frequency of exposure to these structures in the adult input. That is, the English-Spanish bilingual children and the English monolingual children show a preference for the use and an earlier emergence of English active monotransitives in relation to passives as a result of the amount of exposure to these constructions in their parents' speech. This is also the case in the adult input-child output patterns found in the analyses done on English monolinguals' data (Chan et al., 2010). Bilinguals' production when compared to that of monolinguals entails that the bilingual input the English-Spanish bilingual children are exposed to has not interfered in the children's order effect regarding the incidence and the emergence of the two target constructions, as evidenced by the monolingual-like production and acquisition patterns reported in previous works discussed earlier.

The contribution of this study lies in the consideration of bilingual acquisition data and in the comparison between child output and adult input. Therefore, it contributes to elucidate how the bilinguals' two languages interact in the specific case of the acquisition and incidence of English actives and passives.

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Swabian (SW), a dialect continuum of Alemannic spoken in the Southwest of Germany, shows two progressive constructions that are formed combining *sein* ‘be’+AM/BEIM with an infinitive verb form (1). This presentation compares the status of the infinitive in these two constructions, showing that it retains its verbal properties in the AM-progressive, while the infinitive in the BEIM-progressive is nominal. The latter analysis has traditionally been described for *both* types in Standard German (SG) (Bhatt and Schmidt, 1993, Fagan, 2009, Flick and Kuhmichel, 2013, Krause, 2002). Evidence for the difference between these two constructions comes from (i) the properties of AM/BEIM, (ii) adjectival and adverbial modification of the infinitive, and (iii) event semantics and entailment relations. Data comes from the Upper Swabian branch of Swabian, elicited from three speakers.

Traditional grammars for Standard German (SG) and some later work argue that AM/BEIM is a fusion between the preposition *an/bei*+neuter dative definite determiner *dem*, thus rendering the infinitive a nominal complement of the preposition *AN* or *BEI* (2). This fusion is common in PPs in Standard German and Swabian and can be reversed for pragmatic purposes (3). However, this reversal is only possible for the BEIM-progressives in SG and SW (4), paralleling the contrast with nominal complements. Secondly, only the BEIM-progressive allows adjectival modification where the adjective agrees in number, neuter gender, and indefiniteness with the infinitive (5a,b). The AM-progressive allows only adverbial modification, which shows no agreement (5c,d). Lastly, the BEIM-progressive indicates a location reading that allows the cancellation of the progressive reading (6). This cancellation is not possible for the AM-progressive despite the past tense, ruling out an implied planning stage (Arregui et al., 2014).

As a preliminary analysis, I suggest for the BEIM-progressive in Swabian: [PPBEI [DP ‘M schwemmma]] and the infinitival is treated as a nominal. For the AM-progressive in Swabian, I follow Bhatt and Schmidt (1993), who argued that in Standard German and Colognian, AM is an aspectual head merging with a VP: [AspPAM [VP schwemmma]]. The association of infinitives with locative readings is due to semantic bleaching of location indicators such as prepositions and case; and a tendency of infinitives to become nominalized (Tamm, 2011). According to (Bybee et al., 1994), this has led to the close association of progressives, nonfinite verbs, and location semantics. It appears that Swabian progressives have only undergone parts of this process compared to Standard German, which also has progressives without BEIM/AM (7).

- | | | |
|--|--|------|
| (1) a. r’isch AM schwemm-a
he’s AM swim-INF
‘he is swimming’ | b. r’isch BEIM schwemm-a
he’s BEIM swim-INF
‘he is swimming’ | (SW) |
| (2)a. Ich bin AM schwimm-en
I am at.the.DAT swim-INF
‘I am swimming’ | b. Ich bin BEIM schwimm-en
I am at.the.DAT swim-INF
‘I am swimming’ | (SG) |
| (3)a. Ich bin AM/BEIM Haus
I am at.the.DAT house
‘I am at the house’ | b. Ich bin AN/BEI DEM Haus
I am at the.DAT house
‘I am at <i>the</i> house, (not the other)’ | (SG) |
| c. I be AM Haus
I am at.the.DAT house
‘I am at the house’ | d. I be AN/BEI deam Haus
I am at the.DAT house
‘I am at <i>the</i> house (not the other)’ | (SW) |

- (4)a. *Ich bin **AN DEM** schwimm-en wo es um etwas geht (SG)
 I am **at the.DAT** swim-INF where it at smth. goes
 ‘I am at the swimming (event) where something is at stake’
- b. Ich bin **BEI DEM** schwimm-en wo es um etwas geht
 I am **at the.DAT** swim-INF where it at smth. goes
 ‘I am at the swimming (event) where something is at stake’
- c. *I be **AN DEAM** schwemm-a wo’s om was got (SW)
 I am **at the.DAT** swim-INF where’it at smth. goes
 ‘I am at the swimming (event) where something is at stake’
- d. I be **BEI DEAM** schwemma wo’s om was got
 I am **at the.DAT** swim-INF where’it at smth. goes
 ‘I am at the swimming where there is something at stake’
- (5)a. r’isch **BEIM schnell-a** schwem-a b. *r’isch **BEIM schnell** schwemm-a (SW)
 he’s **BEIM fast-AGR** swim-INF he’s **BEIM fast** swim-INF
 ‘he is at the fast swim’ ‘he is swimming fast’
 (‘a competition, the fast lane’)
- c. *r’isch **AM schnell-a** schwemm-a d. r’isch **AM schnell** schwemm-a
 he’s **AM fast-AGR** swim-INF he’s **AM fast** swim-INF
 ‘he’s at the fast swimm’ ‘he’s swimming fast’
- (6)a. *r war **AM** schwemm-a aber war de ganze Zeit blos ontr dr Dusche (SW)
 he was **AM** swim-INF but was the whole time just under the shower
 ‘he was swimming but spent the whole time in the shower’
- b. r war **BEIM** schwemm-a aber war de ganze Zeit blos ontr dr Dusche
 he was **BEIM** swim-INF but was the whole time just under the shower
 ‘he went swimming but spent the whole time in the shower’
- (7)a. Ich bin schwimm-en(SG) b. I be schwemma (SW)
 I am swim-INF I am swim-INF
 ‘I am swimming’ ‘I am swimming’

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Privileges of the Rich

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Background: Based on recent ideas that parametric variation is at least in part deducible from an underspecified ordering of syntactic operations (cf. Biberauer & Richards 2006, Obata et al. 2015), Blümel et al. (2021) propose that the Core Functional Categories v , T and C enter the set-Merge computation either atomically or as bundles, formed by the operation external pair-Merge. Following Epstein et al.’s (2016) claim that next to set-Merge, pair-Merge applies freely either internally or externally, the combinations in (1) are expected, provided no independent principles bar them. Accordingly, English, German and Japanese instantiate (1a-c).

- (1) a. $\{_{CP} C \{_{TP} T \{_{VP} v \dots\}\}\}$ *analytical* (2) a. English: $\{?? XP C \{?? YP T \{?? ZP v \dots\}\}\}$
 b. $\{_{CP} C \{<v,T>P <v,T> \dots\}\}$ *mixed* b. German: $\{?? XP C \{<v,T>P YP <v,T> \dots\}\}$
 c. $\{<v,T,C>P <v,T,C> \dots\}$ *agglutinative* c. Japanese: $\{<v,T,C> XP <v,T,C> \dots\}$

As Blümel et al. (2021) show, next to (missing) adjacency of the relevant heads, several empirical consequences flow from the hypothesis, assuming that being hidden in the amalgams means that T in (1b) and T-C in (1c) do not entertain “SPEC-head agreement.” These ramifications are given in the table.

	Japanese	German	English
(i) expletive	No	No	Yes
(ii) VP-fronting	No	<v,T>P-fronting	Yes
(iii) VP-ellipsis	No	No	Yes
(iv) <i>wh</i> -movement	No	Yes	Yes
(v) Subj-V-agreement	No	Yes	Yes

Application: (1a) features simplex functional heads, (1b) and (1c) “rich” amalgams formed by external pair-Merge. We hypothesize (3), assuming labeling theory (Chomsky 2013/POP):

- (3) **The Labeling Algorithm (LA) privileges rich amalgams (RAs).**

Under simplest Merge, the label is not structurally represented. Instead, Minimal Search (MS) detects the prominent element in syntactic objects. A trivial case is the H(ead)-complement relation; MS finds H. The complicated case is what is called the $\{XP, YP\}$ problem; MS finds two heads simultaneously, i.e., X and Y, and the LA cannot identify what this syntactic object is. According to POP, one way of solving this problem is moving one element (e.g., XP) out of this structure and the remaining syntactic object’s head becomes the label (i.e., Y). Another way is feature-sharing. In the case of a subject-T relation, the subject is in [SPEC,TP], hence yielding a $\{XP, YP\}$ structure (i.e., $\{SUBJ, T'\}$). T and the subject are valued through Agree, sharing ϕ -features, and this becomes the label, i.e., $\langle\phi, \phi\rangle$. In a case of *wh*-movement, the label becomes $\langle Q, Q\rangle$; the *wh*-phrase and C share a Q-feature (see POP for details). In this way, English always has labeling problems whenever there is a specifier as shown in (2a) above. As is acknowledged in POP:fn. 35, German and Japanese type languages are fine with $\{XP, vP\}$. In these languages, the subject does not have to move to [SPEC,TP] and can stay *in-situ*, i.e., [SPEC,vP]. We propose that the LA prefers the “richer” amalgam when the amalgam is formed (notice that Chomsky 2015:12 suggests that $\langle R, v\rangle$ itself become the label). In German v and T are enter the clausal spine as $\langle v, T\rangle$, which functions as a label, whereas C is free-standing. This triggers *wh*-movement if the head is Q-bearing as shown in (4a), can solve the $\{XP, YP\}$ problem in long-distance *wh*-movement (POP), or not solve it at all in root contexts, if Blümel & Goto’s (2020) claim is correct that the terminal syntactic object may remain unlabeled.

- (4) a. $[\langle Q, Q\rangle [_{QP} Q \text{ wh}]_i [C_Q \dots t_i \dots]]$ b. $[\langle v, T, C\rangle P \dots \text{wh} \dots \langle v, T, C\rangle]$

$\langle v, T, C\rangle$ is the head of the Japanese clause, i.e., T-C are not free-standing heads. As a consequence, no *wh*-movement is triggered, i.e., *wh*-phrases remain *in-situ* (4b). According to (3), in the language types (2b)/(2c) the LA finds Y in $\{XP, YP\}$ iff $Y = \langle v, T\rangle / \langle v, T, C\rangle$ while disregarding X. In this sense, RAs function as “label inducers” (cf. Miyagawa et al. 2019). The cross-linguistic tendency of OV-languages to allow subjects that remain VP-internal and scrambling suggests that these languages feature RAs in the sense of (3). Another consequence of (3) is the (un)availability of scrambling. English neither has multiple scrambling nor long-distance scrambling as shown in (5a), (5b) and (5c). As for German, it allows short scrambling

(6a), whereas long-distance scrambling is disallowed (6b). In Japanese, scrambling, including multiple long-distance scrambling, is possible as shown in (7a)/(7b).

(5)a. John put that book on the table.

b. *On the table_j, that book_i, John put *t_j t_i*. (Fukui 1988)

c. *On the table_j, that book_i, Bill thinks that Jon put *t_j t_i*.

(6)a. dass [dem Subjekt]_j [den ersten Platz]_i das Objekt *t_j t_i* streitig macht
that the.DAT subject the.ACC initial place the.NOM object contested makes
'That the object competes with the subject for the initial place. (Haider 2006)

b. *dass [IP [dieses Buch]_i [IP Hans dem Studenten gesagt hat [CP dass Maria *t_i* besitzt]]]
that this book H. the student told has that M. owns
'Hans told the student that Mary owns this book' (Grewendorf and Sabel 1999)

(7) a. {Taroo-ga, Hanako-ni, sono hon-o} age-ta
T.-NOM H.-DAT that book-ACC give-PAST
'Taro gave that book to Hanako'

b. {Hanako_i-ni, sono-hon_j-o} Jiro-wa [Taroo-ga *t_i t_j* age-ta] to omot-te-iru.
H._i-DAT that book_j-ACC J.-TOP T.-NOM give-PAST C think-te-PROG
'Jiro thinks that Taro gave that book to Hanako.'

These examples are explained from the current proposal on labeling. In English, {XP, YP} cannot be solved in (5b)/(5c); multiple DPs cannot be scrambled without having extra functional heads for each DP for a feature sharing strategy. In (6), clause-bound scrambling is possible by virtue of the amalgam, (i.e., $\langle v, T \rangle$): In $\alpha = \{DP_{OBJ}, \beta\}$, with $\beta = \{DP_{SUBJ}, \langle v, T \rangle P\}$, and the direct object is scrambled to the outer $\langle v, T \rangle P$ -edge. Application of LA to β delivers $\langle v, T \rangle P$, due to (3). Application of LA to α likewise delivers $\langle v, T \rangle P$, due to (3). (3) thus derives important differences between English on the one hand, and Japanese and German on the other. Once scrambling applies via [SPEC,CP] in German as in (6b), a suggestive hypothesis is that A'-movement cannot feed into scrambling of the type just characterized – an instance of improper movement, insofar as $\langle v, T \rangle P$ -SPECs are A-positions. On the other hand, Japanese does not have such a restriction as shown by (7b): Scrambling multiple elements out of the embedded clause is possible due to the amalgam $\langle v, T, C \rangle$ – no improper movement is induced. Extension: (1c)/(2c) amounts to the claim that Japanese C is rendered defective, a “cancelled” phase (cf. Epstein et al. 2016), unlike set-Merged C in English and German. Empirical evidence for the presence/absence of C's phasehood comes from Chomsky's (2008) phase edge condition (cf. Gallego and Uriagereka 2007), formulated in (8).

(8) *Extraction from phasal edge*: *YP_i ... [CP [XP ... *t_i* ...] C [TP, where XP is on a CP phase edge

(9)?? Who_i do you wonder [CP [which picture of *t_i*]_j Mary bought *t_j*]?]

(10) a. Ich denke [CP [VP das Buch gelesen]_i [C' hat_k [keiner *t_i t_k*]]]

I think that book read has no one

'I think no one read the book'

b. *Was_j denkst du [CP [VP *t_j* gelesen]_i [C' hat_k [keiner *t_i t_k*]]]? (Müller 1998)

what think you read has no one ('What do you think no one read?')

(11) a. [IP John-ga [CP [IP [CP Mary-ga sono hon-o katta to]_i [IP Bill-ga *t_i* itta] to] omotteiru]
J.-NOM M.-NOM that book-ACC bought that B.-NOM said that think

b. [IP sono hon-o_j [John-ga [CP [IP [CP Mary-ga *t_j* katta to]_i [IP Bill-ga *t_i* itta] to] omotteiru].
that book-ACC J.-NOM M.-NOM bought that B.-NOM said that think

(9)-(11) show sub-extraction from a moved XP located in a left peripheral specifier position of an embedded clause, i.e., [SPEC,CP]. In English and German the sentences become degraded (9)/(10b) when sub-extraction applies to *wh*-phrases from a fronted complex DP and VP in [SPEC,CP]. In Japanese, the embedded CP is scrambled to an embedded [SPEC,CP]-position in (11). (11b) shows that scrambling of the NP 'that book-ACC' to the edge of the matrix CP is grammatical. Given (8), these examples suggest that English and German have a clear/strong C-phasehood, whereas Japanese does not, supporting (1).

Anecdotal evidence in second language acquisition and its implications

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In this paper, we argue for the value of anecdotal evidence in the field of second language acquisition. We claim that any valid theories of SLA should be compatible with any kind of evidence, anecdotal or obtained in a controlled setting. We consider the cases of (a) M. M. Miklukho-Maklay who acquired Bongu, (b) Manjirō, one of the first Japanese people in the US who acquired English, and (c) William Buckley, an English convict who, living with an aboriginal community, acquired the Wathaurong language. Upon careful analysis of available written evidence and accounts of these cases, we conclude that they are somewhat in conflict with the thesis on impossibility of ultimate attainment, Fundamental Difference Hypothesis, and hypothesis on critical/sensitive periods in language acquisition.

The primary purpose of the theory of human language, grammar is to be able to tell well-formed sentences from those not well-formed: this has been the working hypothesis in generative grammar ever since Chomsky (1955). The very minimal requirement of the grammar is that it be compatible with the observable facts about language. Same is true for language acquisition: theories should be fully compatible with whatever observational data comes their way, as well as with the data obtained in controlled conditions. One variety of data which is not obtained in the lab but is observed is *anecdotal* data. It is the value and the role of this data that we would like to highlight presently.

Anecdotal evidence and case studies have been repeatedly shunned from language acquisition inquiry (with only a few notable exceptions of case studies, e.g., Lardiere 2007), yet the reasons for this are rarely made clear. In this paper, we argue that anecdotal evidence actually presents researchers with an invaluable tool to *inform their hypotheses* while not necessarily serving as a great tool to test those hypotheses in a controlled setting. We investigate three historical cases which pose nontrivial questions to some modern theories of second language acquisition generally and the critical/sensitive period hypotheses in particular. The cases are:

- (a) that of Miklukho-Maklay, a Russian explorer who documented his (incomplete) acquisition of Bongu -- a Papuan language of Madang family (in Miklukho-Maklay 1874);
- (b) that of Manjirō, one of the first Japanese people to visit the United States whose acquisition of English was documented to some extent (in Bernard 1992);
- (c) and that of William Buckley, an English convict who was transported to Australia, escaped, and lived in an Aboriginal community for many years, acquiring the Wathaurong language (in Morgan and Gregory 1980).

After careful analysis of the documented evidence (see below), we consider the manner in which each of these cases challenges modern theories of second language acquisition. Relevant background for these cases is given in Table 1 below. Our main argument is that all these cases point to inviability of the fundamental difference hypothesis (FDH) and related hypotheses of critical period/sensitive periods as well as the thesis on impossibility of ultimate attainment -- all of which resurface every decade since Lenneberg (1967) in one incarnation or another (cf. Abrahamsson and Hyltenstam (2009), Bley-Vroman (2009), and Meisel (2011) and also see an overview of critical/sensitive period(s) in Wang (2018)). The central claims we lay are as given below.

	<i>Age group</i>	<i>Previous language(s)</i>	<i>Language acquired</i>	<i>Duration of exposure</i>	<i>Type of evidence</i>
N.N. Miklouho-Maklay	adult	Russian, French, German, Spanish	Bongu, incomplete	~1.5 year	diary
J. Manjirō	teens	Japanese	English	~5 years	oral account, letters
W. Buckley	adult	English	Wathaurong	~20 years	oral account

Table 1. Relevant language background for the cases considered

The Miklukho-Maklay (MM) case. Although the acquisition of Bongu was incomplete and the time of exposure was limited, MM was able to communicate with Natives with a significant degree of fluency, as evidenced by his notes in the diary. Further, the collected by WW items of phraseology and distinct lexical items let us gauge the depth of MM's command of the language (subjunctive, imperative moods; wide range of tenses, etc.). Given the limited time of his exposure (about one year) and additional -- albeit less significant -- contact with over 13 other aboriginal languages, such rapid acquisition runs decidedly counter against "sensitive period" for SLA. It up to speculation, however, whether MM

managed to reach nativelike proficiency, to which his diaries do not attest. Account of William Buckley, however, does attest to such proficiency, hence our second case¹.

The William Buckley case. Buckley was at least 23 years old when he left for Australia as a convict (past the last “sensitive” period of 17 years). He escaped and chanced upon Wathaurong people who he lived with for about 20 subsequent years, becoming the head of their tribe. Notably, Buckley recollects the silent period in his acquisition, and points to the fact that just after two years of exposure he acquired nativelike fluency of a language drastically different from his native English. Again, the rapidity of acquisition under these circumstances -- which can be corroborated by socio-ethnic considerations (Natives only treated him as “one of them” upon ultimate attainment) -- is not accounted for by the critical/sensitive periods or fundamental difference hypothesis which do not allow ultimate attainment *per se*. Our third case, however, offers ambiguous evidence.

The Manjirō case. Manjirō, a Japanese boy of 14 years (end of the last sensitive period), was shipwrecked and saved by an American whaling ship. Manjirō was the youngest of the five companions picked up by the Americans and over the period of 11 months (Jan-Nov) he managed to acquire the language to the degree that he was able to work with the crew and communicate with the captain with marked fluency. Notably, Manjirō remarks that the oldest of their crew was much less successful in acquisition of English. We look into the factors which could have contributed to this in our analysis. Further, Manjirō’s letters from his time in the US are available and can be scrutinized to see a clear trajectory of acquisition. Once again, the rapidity of the acquisition points to Manjirō’s level after a year of exposure being compatible to that of MM’s. This as well runs somewhat counter to the sensitive periods and the fundamental difference hypothesis.

It has not been our objective to claim that FDH, etc. are fundamentally wrong just by looking at these cases. Instead, we aimed to point out that not looking at naturalistic acquisition seems illogical. Concluding, it is important to note that naturalistic language acquisition² should have been one of the first places to look for mechanisms of language acquisition unblemished with external variables, but very few studies did so (save early studies like Felix (1981), Pica (1983)). Instead, based on decidedly limited evidence obtained in the classroom or in a laboratory setting, a number of theories which are directly incompatible with evidence in plain sight were conceived. While our elaboration does not present resolute data against FDH, etc., we hope that it lends itself for didactical, instructive purpose and demonstrates quite plainly that hypotheses and theories of language acquisition -- just any other hypotheses and theories -- can and should be informed by the available anecdotal evidence. Compatibility with anecdotal evidence, in turn, can serve as a litmus test for any hypothesis.

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¹ MM’s diaries also mentioned an aboriginal boy of 14 years who was fluent in Russian after 4 months on a ship with MM. We consider this case in passing only.

² Importantly, not “immersive” instruction in a classroom which does not constitute naturalistic acquisition.

Diachrony and directionality of clitic placement in Romance: evidence from French

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BACKGROUND: This study investigates the diachrony of clitic placement in French and contextualizes the findings with other Romance languages in order to assess the microparametric changes at work (as defined by Roberts 2019).

Canonical Romance languages have (optional) clitic climbing (henceforth, CC) when the infinitive is introduced by a modal, an aspectual or a motion verb (the core class of restructuring verbs, Rizzi 1982), that is the clitic complement of the infinitive cliticizes on the main verb (1). Where CC fails to obtain, enclisis is found on the infinitive (2).

- (1) **La** voglio vedere. [clitic climbing, Standard Italian]
3SG.FEM=want.PRES.1SG see.INF
I want to see her.
- (2) ... per veder**la**. [enclisis, Standard Italian]
to see.INF=3SG.FEM
... to see her.

As is now well known, Modern French lacks both orderings and has systematic proclisis instead. Old French, on the other hand, patterned with other Romance languages in having both CC and enclisis.

RESEARCH QUESTIONS:

- How does clitic placement in Old French compare with that of other (Old) Romance languages?
- Do the losses of CC and enclisis result from the same microparametric change in French?
- Did clitic placement evolve in a similar fashion across Romance?

METHODS AND FINDINGS: We have investigated a corpus of French legal texts over a period of 700 years (1150-1856). This register was chosen to avoid literary constructions and verse, in which clitic placement is likely to be affected by the Tobler-Mussafia law.

Before this investigation, there was no quantitative study of clitic placement with infinitives for the early periods of French. 3,546 clauses involving cliticization have been analyzed: CC and enclisis are

found in Old French, yet they both disappear, and proclisis is found in later French instead (Figure 1).

From Figure 1, enclisis and proclisis appear to have been infrequent orderings in the early periods. This is in fact not the case. When we sort

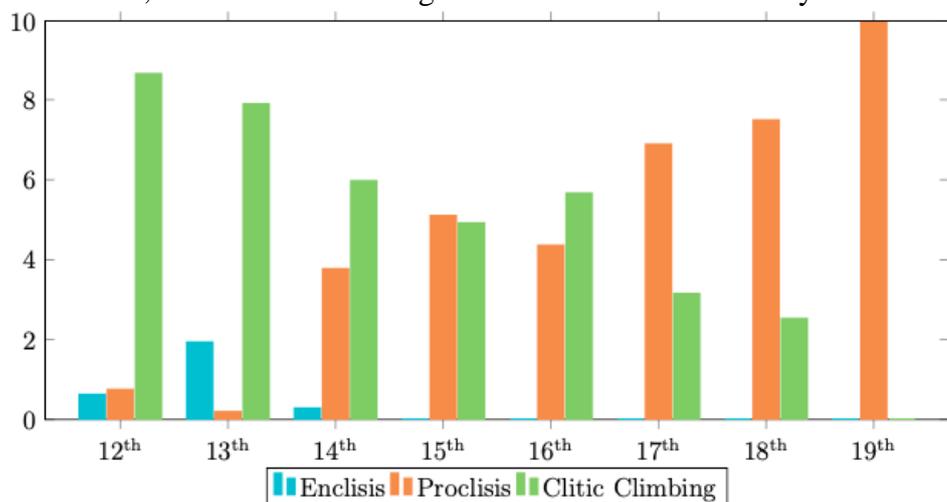


Figure 1: Clitic placement in the corpus

out the findings by context, we actually find that CC reaches high frequencies in restructuring clauses until an advanced stage (100% of the data for the 14th and 15th centuries, Figure 2), whilst in non-restructuring clauses (i.e. where CC fails to obtain), enclisis is the most frequent ordering in Old French (Figure 3). The data for the 12th century are admittedly insufficient (5 cases of enclisis and 6 of proclisis).

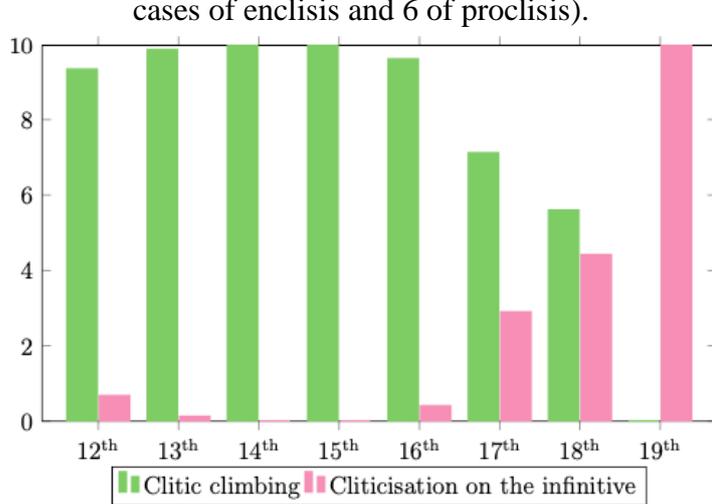


Figure 2: Clitic placement in restructuring contexts

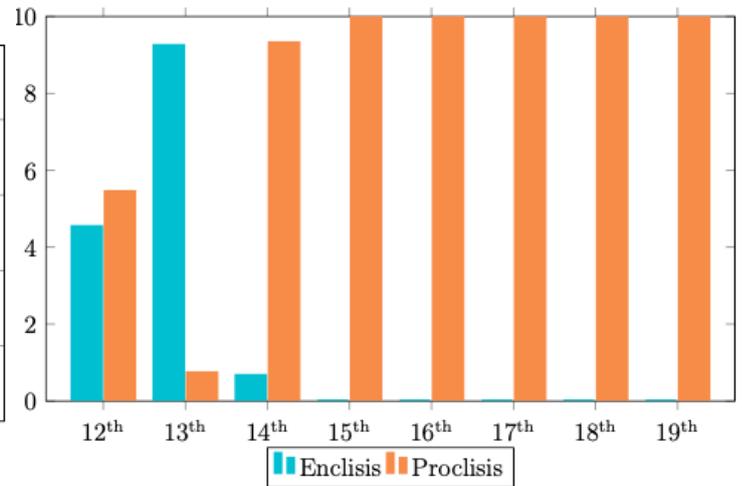


Figure 3: Clitic placement in non-restructuring contexts

DISCUSSION: We observe two changes in French. First, clitic placement in non-restructuring contexts shifts from mainly enclisis to systematic proclisis shortly after 1300 (Figure 3). Second, CC rarefies during the 17th and 18th centuries and it is not found anymore from the 19th century on (Figure 2). These findings have very important repercussions on what we know about clitic placement microparameters in Romance. In French, more than four centuries separate the two changes: it appears unlikely that the second shift is a direct reflex of the first one. There is further evidence that enclisis and CC do not depend on the same microparameter: let's briefly consider the microvariation we observe in different Romance systems today. Brazilian Portuguese lacks both enclisis and CC, Sardinian lacks enclisis but has CC, Catalan has both enclisis and CC, and Borgomanerese has enclisis but lacks CC. In sum, all combinations exist, which supports our view that the changes observed in French are not necessarily dependent on each other.

Furthermore, we observe that CC is preferred (if not obligatory) in restructuring clauses until the 16th century. Similar findings have been reported for Old Spanish (Davies 1995), Old Portuguese (de Andrade and Namiuti-Temponi 2016), Old Catalan (Fischer 2000) and Old Occitan (Bekowies and McLaughlin 2020). In all these languages today, CC is not obligatory anymore, yet it remains optional. As seen above, Modern French, Brazilian Portuguese and Borgomanerese have not retained the construction, they have lost it altogether. In Romance, only Sardinian seems to retain obligatory CC in restructuring clauses. Interestingly, no variety appears to have kept both obligatory CC in restructuring contexts and enclisis in non-restructuring ones: the directionality of change seems consistent across the language family, that is CC weakens (to such an extent that it is lost in some languages), whilst other parameters affect patterns of en-/proclisis (see for instance clitic placement in relation to verb movement, Kayne 1991, Roberts 2010 and Schifano 2018).

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conditions or constraints, etc. Such is the case of $C(x)$ in the analysis of Northwestern Catalan in (8) – this predicate will have been defined to return \top only for the consonants of Northwestern Catalan. In this way, the boundary symbol $\#$ will be rewritten as $[o]$ only if the boundary symbol is directly preceded and followed by consonants, which violates the phonotactics of the language. The predicate $out(x)$ defines what gets output – only segments that belong to the phonological inventory of the language, which will have been defined beforehand by the user-defined predicate $seg(x)$.

- | | | | |
|----|--|----|---|
| 8) | $l\#pare \rightarrow lopare$
$o_o(x) = \text{if } \#_i(x) \text{ then}$
$\text{if } C(p(x)) \text{ then } C(s(x)) \text{ else } \perp$
$\text{else } o_i(x)$
$out(x) = \text{if } seg(x) \text{ then } \top \text{ else } \perp$ | 9) | $sofa+inho[dim] \rightarrow sofazinho$
$z_o(x) = \text{if } +_i(x) \text{ then}$
$\text{if } [dim]_i(s(x)) \text{ then}$
$\text{if } V(s(x)) \text{ then } V(p(x)) \text{ else } \perp$
$\text{else } z_i(x)$ |
|----|--|----|---|

In Brazilian Portuguese, as shown in (9), the morpheme boundary symbol $+$ gets rewritten as $[z]$ only if certain conditions are met – the following segment is part of a diminutive suffix ($[dim]_i$), and there is a vowel ($V(x)$) directly on each side of the morpheme boundary.

Finally, Serbo-Croatian $[t]$ -insertion is done in (10); the user-defined predicate $outseg(x)$ will return \top only for all members of the set \mathcal{O} of output segments. $+$ is rewritten as t only if e is directly preceding it, and there is some output segment directly following:

- 10) $tele+a \rightarrow teleta$
 $t_o(x) = \text{if } +_i(x) \text{ then}$
 $\text{if } e_i(p(x)) \text{ then } outseg(s(x)) \text{ else } \perp$
 $\text{else } t_i(x)$

Syntactically conditioned epenthesis. In Donceto (Northern Italian), empty functional heads of the Infl layer (11) or the Comp layer (12) are realized with an epenthetic schwa:

- | | | | |
|-----|---|-----|---|
| 11) | $\text{\textcircled{a}} be:v$ 'I drink'
$\text{\textcircled{a}} bu'vi$ 'you.PL drink' | vs. | $i 'be:v\text{\textcircled{a}}n$ 'they drink' |
| 12) | $\text{\textcircled{a}} be:v-\text{\textcircled{a}}t$ 'do you.SG drink?'
$\text{\textcircled{a}} be:v\text{\textcircled{a}}n-j\text{\textcircled{a}}$ 'are they drinking?' | | (Cardinaletti & Repetti, 2004) |

In Russian PPs (13), a prothetic n is inserted before 3rd person pronouns if the pronoun following the preposition is also the *head* of the complement of P^0 (Petrovic & Bailyn, 2021).

- 13) a. $u + ego \rightarrow u \text{nego}$ 'at him' b. $u \text{ego brata}$ 'at her brother's' (* $u \text{nego brata}$)

If the flattened tree structure serving as input to the morphological module retains the necessary syntactic information, represented by boundary symbols (brackets), these processes are easily accounted for in a system of string transductions. Computational complexity is thus reduced to that of (sub)regular relations.

Conclusion. Morphological epenthesis is a means of avoiding listed allomorphy. BMRSSs are both input- and output- oriented, and implement hierarchically ranked predicates; in this way, they directly capture morphological and phonological generalizations, retaining the computationally restrictive nature of such processes by formalizing them as string transductions.

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A direct interpretation approach to English *if (not)*-stripping construction

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This study investigates English *if (not)*-stripping construction where so-called Stripping or Bare Argument Ellipsis (Hankamer and Sag 1976, among others) occurs in *if*-clauses. This construction has at least two sub-patterns: *if*-stripping and negative *if*-stripping. As in the typical stripping, the ellipsis site of *if (not)*-stripping remains with a lexical or phrasal remnant and other components are unexpressed, but it receives a sentential interpretation, as given in (1):

- (1) a. Trading with the company has become *arduous*, **if not dangerous**. (1992 FIC)
- b. The listed amperage is the *best*, **if still imperfect**, indicator of power. (1991 MAG)

The remnant in (1a) has a propositional meaning such that trading with the company has not become dangerous. The remnant in *if*-stripping stands in a contrastive focus relationship to its correlate of the antecedent clause. However, note that the remnant can either have an overt correlate or a covert one in the antecedent clause. For instance, in (2a), the remnant *slowly* has its overt correlate *steadily* in the antecedent, whereas the remnant in (2b) *slowly* lacks any explicit linguistic correlate.

- (2) a. The economy is recovering *steadily*, **if slowly**. (2014 NEWS)
- b. Asian populations continued to grow, **if slowly**. (1991 MAG)

This paper tries to investigate such elliptical properties of *if*-stripping together with a corpus investigation using COCA (Corpus of Contemporary American English).

Myers and Yoshida (2015) have suggested that *if (not)*-stripping undergoes clausal ellipsis to capture the propositional meaning of the stripped clause. Their supporting arguments concern syntactic connectivity effects such as binding condition, preposition stranding, and island sensitivity constraints. At first glance, corpus data also seem to support this direction. Consider the following instance:

- (3) a. Binding condition A: He can motivate others if not **himself**. (1995 MAG)
- b. Preposition: The words “through grace” may either refer to Apollos, or to the Christians who had believed. **If to him**, it means that he was enabled by grace to strengthen the brethren there. (2012 WEB)

The presence of the reflexive *himself* in (3a) can be easily accounted for with the assumed clausal source *He cannot motivate himself*. Also in (3b), the only possible preposition is *to*, which is associated with the expression *refer to* in the antecedent clause.

Appealing this sentential analysis seems to be, our corpus investigation yields data that challenge such a sentential analysis. In particular, attested examples like the following question the postulation of a sentential source for *if*-stripping examples:

- (4) a. Case mismatch: While working with Nik to solve the mystery, Mikayla has come to realize that *Maddix* wasn't the killer. **But if not him**, who was? (2011 MAG) [if not him = if he was not the killer]
- b. Finiteness and polarity mismatch: The strengthened staff will allow *the department to train more new officers than ever before*. “That's one of the most important jobs in the department”, Recruitment Sgt. Jerry Hildeman said, “because **if they**, then there are bad cops out on the street.” (2015 NEWS) [if they = if they don't train more new officers than ever before]

Our corpus investigation also shows that *if (not)*-stripping has idiosyncratic distributions whereby some remnants allow implicit subject and verb with no corresponding correlate as in (5). Such examples are challenging in that the remnant needs additional elements to be fully reconstructed such as a deictic subject (*it/this/that*) or an existential expletive pronoun (*there*) with a conjecture from the context. A possible explanation can be found from some predicational fragment answers in certain discourse contexts rather than in the typical stripping, which is analyzed as ‘limited ellipsis’ suggested by Merchant (2005).

- (5) a. The dictum, even **if artificial**, seemed to work. (1993 FIC)
 b. Rest for 30-60 seconds, **if needed**, then repeat entire circuit. (2005 MAG)
 c. If he’s not better, have him go see the doctor again. **If still nothing**, bring him back here. (2007 FIC)

Another potential issue emerges from the distributions of *if*-stripping embedded under the predicates like *know* or *wonder*, as in (6).

- (6) COURIC: Were you surprised when you got it?
 Ms-WINOKUR: I don’t know **if surprised**. (2002 SPOK)

Stripping is in general disallowed in embedded contexts, and thus such an example contradicts Wurmbrand’s (2017) ‘Embedded Stripping Generalization (ESG)’, which states that stripping of embedded clauses is only possible when the embedded clause lacks a CP.

A further complication arises from the locality restrictions that apply to *if (not)*-stripping remnants. As suggested in the literature, stripping is sensitive to islands (Depiante 2000, a.o.). However, we observed some data which are assumed to be island-insensitive as follows:

- (7) a. In doing that, she didn’t have to give a moment’s thought to the threat that was implicit in Tapinza_i’s tone, **if not his_i words**. (2001 FIC) [Complex Noun Phrase Island]
 b. This is a reality that most, **if not all**, enterprises face whether or not they are run by or employ Indigenous people. (2019 ACAD) [Left Branch Island]

In the examples, if the stripping results from a sentential source, the correlate is then contained within an island, which violates the Complex Noun Phrase Constraint and the Left Branch Constraint. This suggests that the movement-and-deletion operations may not be applied to account for the ellipsis site of *if (not)*-stripping.

Resolving such empirical challenges to distributional and structural issues, we propose a direct interpretation (DI) approach (see Ginzburg and Sag 2000, Culicover and Jackendoff 2005), where the remnants in *if (not)*-stripping can be mapped into non-sentential utterances, and this leads to sentential interpretations directly instantiated from the following Head-Fragment Construction.

- (8) Head-Fragment Construction:
 Any category can be projected into a NSU (non-sentential utterance) when it functions as a salient utterance (SAL-UTT).

Since the remnant functions as a salient utterance, it can be projected into a head-fragment construct together with the relevant discourse information such as DGB (dialogue-game-board), MAX-QUD (maximal question-under-discussion), etc. This approach accounts for the direction that once the remnants are directly generated, no island-sensitive operations nor filler-gap dependency are involved.

Along with the DI approach, our observations indicate that *if (not)*-stripping is a special type of stripping which shares some properties with stripping and fragment, and provide the nature of *if (not)*-stripping.

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Inherent case masquerading as structural case

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Since Chomsky 1981, a distinction has been drawn between *structural* and *inherent* cases in terms of their respective licensing conditions. Based on their morphological properties, Moksha (Uralic) cases are dividable into two groups, which seem to correspond to *structural* and *inherent cases*. DAT(ive), however, presents a puzzle: distributionally, it behaves as an *inherent case*, but morphologically it patterns with the structural ones. To resolve this discrepancy, I argue that *inherent cases* are always headed by a P (see also McFadden 2004, Polinsky 2016, who show that some oblique case forms are syntactically PPs). I further provide a finer classification of P-heads (including free-standing Ps) based on their morphosyntactic properties. I show that the observed properties of the Moksha DAT follow from the underlying structure of DAT phrases, which contain an internal GEN(itive) layer (GEN being a *structural case* in Moksha). The remaining *inherent cases* in are realized as P-heads of a different kind, which crucially contain no GEN.

Data and problem: The division of morphological cases in Moksha into two groups is mainly based on the order of case marking and possessive marking: (i) case marker follows possessive marker (NOM(inative), GEN, DAT) (1a-b); (ii) case marker precedes possessive marker (all other cases), (1c) (Simonenko & Leontjev 2012). Another distinguishing property is that DAT forms, like GEN ones, are specified for number (1a-b), while cases like IN(essive) (1c) are not specified for number.

- (1) a. *vel'ə-c'ə-n'd'i* b. *vel'ə-t'n'ə-n'd'i* c. *vel'ə-sə-t*
 village-2SG.POSS.SG-DAT village-2SG.POSS.PL-DAT village-IN-2SG.POSS
 ‘to your village’ ‘to your villages’ ‘in your village(s)’

The grouping of DAT with {NOM, GEN} rather than with *inherent cases* (ii) is unexpected, given that the former are *structural*, but Moksha DAT does not seem to be. DAT encodes recipient/benefactive as well as goal, which also can be marked with ILL(lative) case (2). In both functions, DAT follows possessive markers, unlike other *inherent cases* (see Toldova & Pleshak 2018 for further discussion of DAT in Moksha as *inherent case*, e.g., in contrast to NOM and GEN: DAT is incompatible with distributive numerals and cannot be replaced with ablative in numerical constructions).

- (2) *pet'e suva-s' mon' kud-əz'ə-n'd'i / kud-əzə-n*
 Peter enter-PST3SG 1SG.GEN house-1SG.POSS.SG-DAT house-ILL-1SG.POSS
 ‘Peter entered my house.’ (Kholodilova 2018: 87)

Proposal: I argue that both DAT and other *inherent cases* are exponents of P heads, which come in two different types. Type I takes indefinite bare complements (3) and allows for possessive agreement with definite GEN complements (4), while Type II requires GEN marking of an indefinite complement (5), and no agreement is possible with non-pronominal definite GEN complements (6). Crucially, the type of P head found with each case is not arbitrary: as I will show in the talk, Type I corresponds to grammaticalized relational nouns, and Type II corresponds to genuine (non-relational) postpositions.

Table 1: Properties of two types of P heads in Moksha

	Indefinite complement		Definite complement (other than pronoun)		Pronominal complement	
	Marking	Agreement	Marking	Agreement	Marking	Agreement
Type I	bare	no	GEN	yes	GEN	yes
Type II	GEN	no	GEN	no	GEN	yes

- (3) *pet'ε s'id'ə-stə jaka-j zabər(??-ən') kuvalmə-va*
 Peter often-EL walk-NPST3SG fence-GEN length-PROL
 ‘Peter often walks along fences.’ (Muravjeva & Kholodilova 2018: 229)
- (4) *ki-t' kuvalmə-va(-nzə) jota-s' mašina*
 road-DEF.SG.GEN length-PROL-3SG.POSS pass-PST3SG car
 ‘A car passed by on the road.’ (ibid: 233)

(5) *pet'ε s'id'ə-stə korn'-i zabər*(-ən') kuvalmā-va*
 Peter often-EL say.FREQ-NPST3SG fence-GEN length-PROL
 'Peter frequently talks about fences.' (ibid)

(6) *es' er'a-f-ənc kuvalmā-va(*-nzə) at'ε-z'ə*
 REFL live-PTCP.RES-3SG.POSS.SG.GEN length-PROL-3SG.POSS grandfather-1SG.POSS.SG
pek kel'k-si az-ən-kšn'-əma-nc
 very like-NPST.3SG.S.3SG.O say-FREQ-FREQ-NZR-3SG.POSS.SG.GEN
 'My grandfather loves talking about his life.' (ibid)

DAT does not pattern with other *inherent cases* morphologically, because it is in fact headed by a Type II P-head. An independent argument for the postpositional nature of DAT is its behavior in the pronominal case paradigm; it behaves like postpositions (of Type II) (7) (for comparison, true locative cases like IN do not appear on pronominals). In both the pronominal (7) and the nominal (Table 2) case paradigm, DAT markers but not IN markers contain (or follow, depending on the analysis) GEN markers.

Table 2: GEN, DAT and IN markers

	GEN	DAT	IN
INDEF	-n'	-n'd'i	-sə
DEF	-t'	-t'i	*
POSS 1SG	-z'ə- n'	-z'ə- n'd'i	-sə-n
POSS 3SG	-nc	-ncti	-sə-nzə

(7)

GENUINE POSTPOSITION	DAT
(ton') kolga-t	(ton'-)d'ejə-t
2SG.GEN about-POSS.2SG	2SG.GEN-PRON.DAT-POSS.2SG
'about you'	'to you'

These facts confirm the analysis according to which Moksha DAT markers expone a P head rather than case. In particular, DAT is a P head that assigns structural GEN to its complement, explaining why the morpheme order (see (1a-b), above) is the one found with structural cases.

Conclusion and implications: Moksha shows an unexpected grouping of cases based on their morphosyntactic properties: DAT behaves as a *structural case*, not as an *inherent case*, despite having the distribution of the latter. I have argued that Moksha DAT markers are the exponence of a P head rather than genuine case forms. The talk will also provide a further classification of P heads, which is responsible for a distinction in the morphological properties of these so-called “case” markers: the nature of a postposition (relational vs. non-relational) gives rise to two different patterns once a postposition is grammaticalized into a case marker, and thus the case marker continues to echo the relational vs. non-relational nature of the postposition it came from.

More generally, my analysis reveals that the kinds of morphosyntactic properties used to group case forms in the study of Uralic are sensitive to the relational vs. non-relational nature of P heads, rather than to the *structural vs. inherent case* distinction as previously thought.

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DOC-less Dialects with Apparent DOC Effects

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Issue 1: Establishing that the entire class of *allege*-type verbs productively allows ECM in certain dialects of English Since Postal (1974, 305 ff.; 1993), it has been standard in generative circles to assume that there is a large class of 30-50 verbs in English (and other languages) that involve “defective” ECM. I.e., it is assumed to be a core feature of the language that these verbs license a *to*-infinitival complement clause only when the overt subject of that clause does not surface in the position normally associated with direct object case valuation by the matrix verb (i.e., when the result is not an ECM or, more recently, an R2 construction). Postal’s slightly modified paradigm in (1a-d) illustrates this with the verb *allege*.

- (1) a. *He alleged **Melvin** to be a very untrustworthy individual.
- b. **Melvin**, he alleged ___ to be a very untrustworthy individual.
- c. **Melvin** was alleged ___ to be a very untrustworthy individual.
- d. **Who** did they allege ___ to be a very untrustworthy individual?

Pesetsky (2019: 21-28) develops a Minimalist account of this paradigm and provides convincing arguments against earlier case-theoretic approaches. He suggests that *allege*-type verbs lack what he calls an R2 φ -probe possessed by a verb like *believe* or *consider*. This means that the Exfoliation (the “peeling away” of the embedded CP and TP) found in R2 (ECM) structures like (2) below is not triggered in (1a), although it can be if other probes are present, such as the R1 φ -probe in passives (1c) or the A-bar probe on the matrix v in (1d).

- (2) I firmly believe [_{CP} **this** to be true].

As Pesetsky (2019:4) also observes, his derivational approach to the determination of complementation “size” rests on arbitrary selection and thus provides an instance in which complementation cannot be made to fall out of separate (semantic) considerations, contra hypotheses in Givón (1980), Noonan (2007), and others.

In the present paper, we first observe that Pesetsky’s proposals predict that there may be dialects of English (and other languages) in which *allege*-type verbs do have an R2 feature, contra the prevailing view. We show that this predication is borne out in the strongest possible way, providing examples of ECM structures for every member of the *allege*-class of verbs that the author(s) and other native speakers found fully grammatical. One representative sentence is given below:

- (3) You should read *The Market for Financial Advisor Misconduct*, which **alleges** such unethical practices to be quite pervasive in the industry.

Issue 2: Accounting for examples in which ECM with the *allege*-class is cross-dialectally precluded

Nonetheless, the very speakers who accept ECM structures with *allege*-type verbs do behave like speakers of “defective ECM” dialects under two specific scenarios. The second goal of this paper is to explain why.

#1 *Allege*-type verbs always disallow ECM with embedded dynamic verbs: As noted e.g. in Quirk et al (1985), Mair (1990: 175, 189), Noël (1997: 34), and Wurmbrand (2014: 430-431), many “classic” ECM verbs (4) accept complement clauses headed by “dynamic” verbs, but *allege*-type verbs (5) never do. They behave like *believe* in accepting only embedded infinitival stative verbs (*to be*), generic/habitual infinitives, and perfective infinitives (e.g. *to have done X*).

- | | |
|--|--|
| <ol style="list-style-type: none">(4) a. I predicted Mary to win the race. b. We expected them to visit us. c. I couldn’t get them to sign the contract. d. That might also cause it to split. | <ol style="list-style-type: none">(5) a. *I admit her to win the race.
 (cf. <i>I admit that she is winning the race.</i>) b. *We assumed them to visit us. c. *I know John to sign the contract. |
|--|--|

Since every speaker of English reports this contrast, it clearly reveals something fundamental about ECM (and other infinitival) configurations. We agree with Abusch (2004) and Wurmbrand (2014) that it should be approached semantically. More specifically, we first follow Abusch in assuming that there exists a class of “futurative” (F-) matrix verbs (6) that contrast with strictly simultaneous (B-)verbs (7) in that only the former select for a complement clause containing a non-overt substitution operator (SUB₂) that “shifts” the

evaluation time of the embedded clause from the time of matrix (**now** or *n*) to a future time interval that may include the last moment of **now**. Since B-verbs lack a SUB operator, their complement clauses are always understood to hold at the same time as the matrix. The standard adverb tests in (6a) and (7a) establish that the matrix verbs in (4) fall into Abusch’s F-class in (6), while the verbs in (5) are B-verbs, like *believe* in (7).

- (6) a. Guido is **predicted** to win the race **today/next week/*last week**.
 b. [_{CP} λ*n* [_{IP} *n* predicted [_{SUB}₂ [λ*n* [_{IP} *n* VP]]]]]
 (7) a. Guido is **believed** to be in Stockholm **right now/*next week/*last week**.
 b. [_{CP} λ*n* believed [_{IP} ***n*** VP]]] The most embedded *n* (in bold) = *to* in I.

We next follow Taylor (1977) and others in assuming that stative verbs (the matrix verbs in (5) and (7)) differ from dynamic ones like the embedded verbs in (4)-(6) in that only the former refer to properties that hold at every moment picked out by a given tense. For this reason, only they can be truthfully asserted at a single moment of time, which, under Taylor’s approach to the English simple present tense, explains why *Mary believes you*. is well-formed on an episodic reading, while *John wins the race*. is not. Given the preceding considerations, we then conclude that the ill-formedness of (5a-c) follows from the contradiction that results from the lexical semantics of the matrix verbs (which asserts that the complement holds at every moment) and that of the embedded non-stative verbs (which cannot hold at a single moment). In contrast the sentences in (4) are licit because the SUB₂ operator “breaks” any tense dependency between the matrix and embedded verbs. In sum, the “defective” ECM behavior in (5) for our speakers is only apparent for the *allege*-type verbs. It is due to separate, core, semantic considerations. Time permitting, we will show that this analysis addresses problems faced by Wurmbrand’s approach, namely, the latter’s inability to accommodate statives in the progressive (e.g. *Stop being so mean.*), as well as the fact that there are non-statives (*sing, dance*) with the subinterval property.

#2: Postal paradigm effects Speakers who accept ECM with *allege*-type verbs sometimes report a “defective ECM” effect for a specific example. E.g., an informant may find (1b-d) fully acceptable but (1a) less so. Given the variable, case-by-case nature of these judgments, we advocate an approach based on extra-grammatical factors, specifically, pragmatics and processing. With respect to the former, we observe that ECM structures like (1a) pragmatically “compete” with tensed complement clauses in ways that the rest of the constructions in (1b-d) do not. I.e., a speaker could equally well use *He will only admit his age to be somewhere between 40 and 70.* and *He will only admit that his age is somewhere between 40 and 70.* since they are very close paraphrases. However, the syntax and semantics of the former is marked. The reduced complement size entails temporal “linking” between the matrix and embedded clauses; it sets up referential linking (binding); and it puts the embedded subject in a focused position. This option is therefore the most co-operative one only when the context clearly fits one or several of these criteria. In short, when examples like (1a) are encountered “out of the blue” they can leave too much context unspecified for certain speakers in ways that an example like (3) does not.

We will show that processing considerations also come into play. E.g., we note that ECM verbs like *allege* contrast with *believe* in that only in the case of the former will Frazier & Fodor’s (1978) Principle of Minimal Attachment result in an initial parse as an ungrammatical garden path, cf. **He alleged Melvin.* vs. *He believed Melvin./The physician turned and considered her patient.* We also explore how frequency effects can militate against the use of ECM with an *allege*-type verb.

Pied-piping out of adjunct islands: an experimental approach to Cinque (1990)

Background: Weak islands are characterized by their opacity for some but not all kinds of extraction. Various characterizations have been proposed for what can and can't be extracted from a weak island. Here, we focus on Cinque's (1990) proposal that weak islands are sensitive to the syntactic category of the extractee:

- (1) An NP can be extracted from a weak island; a PP cannot be.

This generalization is supported by data such as (2); extraction of a PP from an adjunct island as in (2b) is relatively degraded compared to analogous extraction of NP as in (2a).

- (2) a. **Who** did you cry [_{Island} after talking to < >]?
b. > **To whom** did you cry [_{Island} after talking < >]?

This motivates for Cinque an analysis according to which the apparent extraction in (2a) is *only* apparent; according to Cinque, the fronted *who* is not be *extracted*, but base-generated high, and the apparent gap site is in fact a null resumptive pronoun. According to this analysis, (2b) is degraded because it involves genuine island-violating extraction. There is no resumptive PP, meaning the base-generation-plus-null-resumption strategy of (2a) is inapplicable to (2b).

Problem: Cinque's analysis of the PP-NP asymmetry of (2) assigns special importance to the presence of an island domain: it is precisely because the island blocks ordinary extraction that the alternative null-resumption strategy is required. However, we note that the PP-NP asymmetry occurs in many different extraction contexts, not just in extraction from islands. The same asymmetry occurs in embedded questions (3), in free relative clauses (4), and even in ordinary matrix *wh*-questions (5).

- (3) a. I don't know [**who** I should talk to < >].
b. > I don't know [**to whom** I should talk < >].
(4) a. I want you to meet [**who** I talked to < > yesterday].
b. > I want you to meet [**to whom** I talked < > yesterday].
(5) a. **Who** did you talk to < > ?
b. > **To whom** did you speak < > ?

The contrasts pattern in the same direction across the board, motivating the generalization (6).

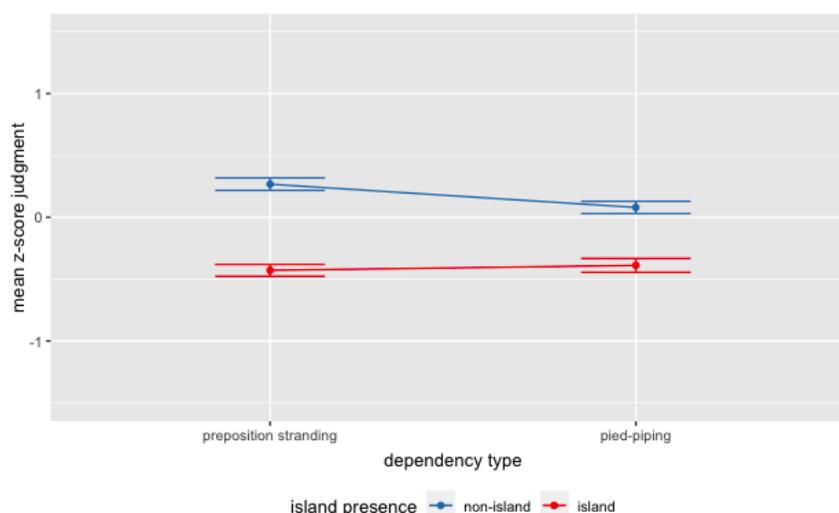
- (6) Extraction of PP is degraded compared to extraction of NP.

There are therefore two potential hypothesis about the contrast in (2). On one hand, it could follow from the independently motivated principle (6). On the other hand, it could follow from Cinque's principle (1). Given that (6) is independently motivated, the latter hypothesis (Cinque's [1]) is *a priori* less parsimonious. (1) therefore represents a departure from the null hypothesis (which would adopt [6] only). Our question here is whether this departure is fact justified. We reason that, while the *direction* of the contrasts is the same (compatible with the null hypothesis), the null hypothesis would have to be rejected if the *magnitude* of the effects differ. Specifically, we think that some speakers may hold the intuition that (5b), while worse than (5a), is not ungrammatical; in contrast, (2b) is ungrammatical. If this is a *superadditive* difference (Sprouse & Hornstein, 2014 i.a.), then mechanisms beyond (6) alone are required. In other words, if the effect of (2) is superadditive compared to (5), then we can infer (1). But if the effect is not superadditive, then we should reject (1).

Experiment: We conducted an experiment to test this prediction. We used a 2x2 factorial design where *island presence* (extraction from an island clause vs. a complement clause) served as the first factor while *pied-piping* (extraction of PP vs. NP) served as the second factor. A sample item is given in (7).

- (7) $\left\{ \frac{\textit{Which ear}}{\textit{Into which ear}} \right\}$ was Lee disturbed $\left\{ \frac{\textit{that}}{\textit{because}} \right\}$ Terry had screamed $\left\{ \frac{\textit{into} \langle \rangle}{\langle \rangle} \right\}$?

Figure 1 summarizes our results via an interaction plot of the effects. The results of a linear mixed effects model found a main effect for $[\pm\text{island}]$ (7a/b vs. 7c/d; $p < 0.001$) but no effect for $[\pm\text{pied-piping}]$ (7a/c vs. 7b/d; $p = 0.07$). This indicates that while participants were overall sensitive to the presence of an adjunct island, they were insensitive to $[\pm\text{pied-piping}]$. Within the



$[-\text{island}]$ contexts, participants rated examples with pied-piping lower than those with p-stranding; however planned pairwise comparisons showed that this effect only approached significance ($p = 0.056$). No effect was found in the $[\text{+island}]$ contexts.

Discussion: Our $[-\text{island}]$ results trend in the direction predicted from informal judgments (see [5]), but did not reach significance. In addition, our $[\text{+island}]$ results contradict predicted judgments, showing a numerical (not statistically significant) advantage for pied-piping (where literature reports a degradation relative to p-stranding; see [1]). We believe these results for the island contexts are explained in terms of a confound in the design of our materials. In (7d) in particular, participants are intended to resolve the pied-piped filler at the gap $\langle \rangle_2$, not at the gap $\langle \rangle_1$ as shown in (8). If participants resolved the filler at $\langle \rangle_1$, then our comparison between (7c) and (7d) would be between p-stranding out of an island (7c) and a subcategorization mismatch (7d). Similar concerns carry over to $[-\text{island}]$ pied-piping like (7b).

(8) **Into which ear** was Lee upset $\langle \rangle_1$ [because Terry had screamed $\langle \rangle_2$].

We believe our results wrt (7d) are the result of some or all participants resolving the pied-piping dependency in the matrix clause. The resulting judgments of unacceptability are irrelevant for our comparison. We conclude that a follow-up experiment is required which can control for this unintended reading in (7d). Specifically, we have designed and are conducting a follow-up experiment in which all items come with a contrastive context compatible with the intended embedded-gap reading but not with the confounding matrix-gap reading, exemplified by (9).

(9) *Context:* It seemed like Lee was upset $\left\{ \begin{array}{l} \text{that} \\ \text{because} \end{array} \right\}$ Terry had been screaming into their left ear all day. But really...

Target item: Their right ear was the one $\left\{ \begin{array}{l} \text{which} \\ \text{into which} \end{array} \right\}$ Lee was upset $\left\{ \begin{array}{l} \text{that} \\ \text{because} \end{array} \right\}$ Terry had been screaming $\left\{ \begin{array}{l} \text{into } \langle \rangle \\ \langle \rangle \end{array} \right\}$ all day.

We plan to complete data collection by December 2021. Results will be analyzed in the same manner as in the experiment reported on here. We anticipate that these results will bear directly on Cinque (1990)'s analysis, as described above.

Abridged references: Cinque, G. (1990). *Types of \bar{A} -dependencies*. MIT Press.

Sprouse, J. & N. Hornstein. (2014). *Experimental Syntax and Island Effects*. CUP.

Syntactic limitations on Phonological dominance

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The ‘no dominant prefixes’ generalization It has been observed that in languages with dominant-recessive harmony systems, while either roots or suffixes can be dominant (i.e., they can trigger a phonological change in their surrounding elements), prefixes are always recessive (Clements 2000, Baković 2000, Casali 2003 a.o.). Thus in Kipsigis (Kalenjin; Kenya) (see (1)), a language with [ATR] vowel harmony, a [+ATR] vowel anywhere in the word will cause all [-ATR] vowels to shift to [+ATR] (Hall et al. 1974). Either roots (1a-b) or suffixes (1c) can be harmony triggers, but prefixes are always recessive [-ATR] morphemes (1b,c,d).

- | | | | | |
|-----|----|---|----|--------------------------------------|
| (1) | a. | /ŋo:k-ɪ/ → ŋo:gi
dog-DEM | c. | /a-tʃam-e/ → aʃame
1SG-love-IPFV |
| | b. | /ka-kɪ-pet/ → kaɟibet
PST-1PL-get.lost | d. | /ka-ɔ-tʃam/ → kaɔʃam
PST-2PL-love |

Our main claim: ‘no dominant high affixes’ While the ‘no dominant prefixes’ generalization is acknowledged in most studies of dominant harmony systems, there is, to our knowledge, no systematic explanation for the pattern. Some accounts treat this as an accidental property of the prefix inventory (Baković 2000), others suggest that the juncture between prefixes and the (lexical) root/stem has a different status from that between stem and suffixes (Moskal 2015).

We propose that the generalization is epiphenomenal, a special case (when it holds) of a broader generalization that phonological derivations of morphologically complex words proceed in stages, which may correspond to syntactic phases. Specifically, following Newell 2008, Fenger 2020 a.o., we propose that elements in the first domain may have unrestricted phonological interactions, including structure-changing operations, but that beyond the first phase/domain, phonological operations may not change material that is fixed on the first cycle. For vowel harmony, this predicts that ‘low’ affixes may be dominant (root-altering) or recessive, but that ‘high’ affixes that participate in vowel harmony (contra Fábregas & Krämer 2020) may only be recessive. Since it is independently established that prefixes tend to represent syntactically higher morphemes than suffixes (Julien 2002), ‘no dominant prefixes’ as a trend falls out as a special case.

Support Key support for our proposal comes from a close investigation of the suffixes as well as the prefixes in Chukchi (Chukotko-Kamchatkan), Kipsigis, and Turkana (Nilotic). We show that by replacing ‘no dominant prefixes’ with ‘no dominant high affixes’, we gain two advantages: i) we can account for ‘exceptionally’ dominant prefixes and we can also provide an explanation for dominance patterns in suffixes (which are not usually discussed in this context in the literature), ii) following Fenger (2020), we can provide a principled explanation for why morphemes high in the syntactic structure cannot be dominant.

The data Table 1 schematizes the differences between our generalization and the no dominant prefix generalization, using inflection vs. derivation as a rough (but imperfect) proxy for syntactic height of affixes. Our investigation of verbs in Kipsigis (Toweett 1979 and original fieldwork) and Chukchi (Skorik 1977, Dunn 1999), two unrelated languages that have been mentioned as lacking dominant prefixes, confirms that the ‘no dominant high’ generalization is more accurate:

	INFL high	DERIV low	ROOT	DERIV low	INFL high
no dom high	✗	✓		✓	✗
no dom pref	✗	✗		✓	✓

Table 1: Distribution of dominant affixes under two approaches

the most peripheral affixes in both languages are always recessive. This is particularly striking in Chukchi, which has a rich agreement system where there are about 20 agreement suffixes none of which influence the vowel quality of the root. An approach that treats prefixes as special misses this generalization. There is one dominant inflectional suffix in Kipsigis, but importantly, it is an aspectual suffix. Under Fenger’s (2020) proposal (for stress in Turkish and pitch accent in Japanese) the relevant phase boundary delimiting the cut-off between high and low (verbal) affixes is not precisely derivation vs. inflection but instead between Aspect and Tense. Thus the existence of a Kipsigis dominant aspectual suffix conforms to our theory. Turning to the prefixes, we note that many sources (Bogoras 1922, Skorik 1977, Weinstein n.d.) do in fact report dominant prefixes in Chukchi, however these are all derivational (hence plausibly low) and perhaps analyzable as compounds (which participate independently in vowel harmony in Chukchi).

Beyond verbs While our proposed generalization thus seems to provide a better description of the distribution of dominant elements in verbs than the ‘no dominant prefixes’ generalization, it remains a theoretically open question what the prediction is for nouns and adjectives. If Fenger (2020) is correct that the relevant morphophonological domain in verbs is the ‘phase’ boundary between Aspect and Tense, where, if anywhere, is the corresponding boundary in complex nouns? Our investigation of Kipsigis, Turkana and Chukchi suggests that nouns have no corresponding internal phase boundary. In Chukchi, various case suffixes—the most peripheral affixes in the nouns—may be dominant and will overwrite the vowel quality of preceding morphemes including the root and prefixes. In Kipsigis, an adjectival plural marker is dominant. Our proposal thus does not, in principle, exclude dominant prefixes in nouns in these languages, although there are very few nominal prefixes (as compared to verbal ones) in these languages. We do note that dominant prefixes are reported for Tunen and Kibudu (Moskal 2015) in both cases within the nominal system.

Conclusion and Discussion Fenger (2020), developing ideas in Newell (2008) and elsewhere, proposes that the mapping from morpho-syntactic structure to phonological structure proceeds in ‘phases’. In the verbal system, the first domain includes derivational morphemes (and root compounds in Chukchi) as well as the lowest inflectional morphemes (Aspect). When this domain is spelled out, phonological operations may occur in any direction, and dominant affixes may overwrite the quality of the root vowel. After this step, certain phonological properties of the first domain are fixed and may no longer be overridden, and thus subsequently integrated morphemes may only be recessive. Coupled with the trend for prefixes to be ‘high’ (Julien 2002), the no dominant prefix generalization in verbs, where it holds, is a special case of a broader generalization that also restricts the distribution of dominant elements in suffixes.

Sel. Refs Baković 2000. *Harmony* PhD Rutgers. • Casali 2003. [ATR] value asymmetries. *Linguistic Typology* • Dunn 1999 *Chukchi* PhD. Australian Nat’l U. • Fábregas & Krämer 2020 In *Evolutionary Linguistic Theory*, 84-111. • Fenger, P. 2020 *Words* PhD UConn. • Julien 2002. *Syntactic Heads* OUP. • Moskal, B. 2015 *Domains* PhD UConn. • Newell, H. 2008 *Aspects* PhD McGill. • Skorik 1961-1977 *Grammatika chukotskogo jazyka* Nauka • Toweett 1979. *Kalenjin linguistics*.

Differential Island Effects in Sluicing and the Role of Discourse

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1. Background. In sluicing, the TP complement of a *wh*-phrase is unpronounced (see strikethrough in 1).

(1) *John was talking to a student, but I don't know which student; ~~John was talking to ___;~~*

In relation to syntactic islandhood (Ross, 1969), sentences like (1) exhibit a puzzling pattern. Sluicing with **an indefinite correlate** is immune to island effects (2), whereas island insensitivity does not hold where the correlate is **f-marked**, known as “contrast sluicing” (3) (Merchant 2001:115, 2008:148).

(2) Abby wants to hire someone who speaks **a Balkan language**, but I don't know which (Balkan language) ~~she wants to hire someone who speaks ___.~~

(3) *Abby wants to hire someone who speaks **Greek**, but I don't know which other languages ~~she wants to hire someone who speaks ___.~~

Merchant proposes a *repair approach*; focus movement, as in (3), is island sensitive as it leaves an uninterpretable trace undeleted at Spec, CP, whereas (2) is acceptable as all offending traces are deleted at PF. This approach treats islands as *structural* constraints that are part of the grammar (Chomsky 1973, Sprouse et al. 2012); however, island effects have also been attributed to discourse (semantic-pragmatic) factors (Erteschik-Shir, 1973, a.o.). Much recent literature on discourse effects (e.g., Chaves & King, 2019, Abeillé et al., 2020) has focused on ill-formedness of extraction from an NP in *subject* position, known as a “subject island” effect (4a); this contrasts with well-formed extraction from an NP in *object* position (4b).

(4) a. Subject subextraction (=island): *Which hotel did [the design of ___] mesmerize Jane?

b. Object subextraction (baseline): Which hotel did Jane admire [the design of ___]?

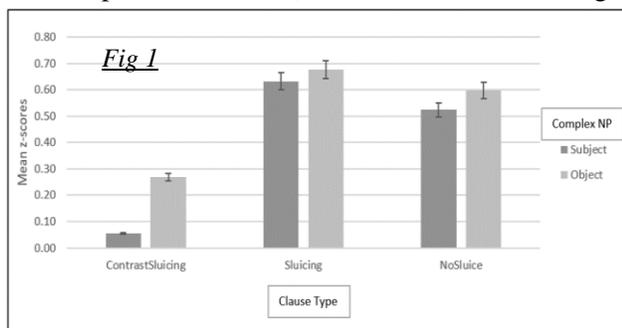
In view of these developments, the current paper revisits island repair under sluicing, asking whether the mechanism behind such repair is purely structural. We investigate, first, how sluicing and contrast sluicing respond to subject vs object NP-subextraction (as in 4; Expt 1), and second, whether subject island effects in contrast sluicing can be attenuated by extra-grammatical factors, such as by a prior discourse (Expt 2).

2. Experiment 1. We administered a 3x2 (within-subject) acceptability rating study; clause type (= sluicing; contrast sluicing; no sluicing) was crossed with position (subject; object) of the NP in which the sluice correlate is situated (see Table 1). A total of 24 items were presented together with 16 fillers in 6 lists according to a Latin-square. 36 native speakers of English (recruited from a university community) rated each item on a scale of 1 (= unacceptable) to 7 (= acceptable).

	<i>Table 1</i>	Complex NP_{subj} (=potential island)	Complex NP_{obj} (=baseline)
Clause type	No sluicing (= baseline)	[The design of a hotel] mesmerized Jane, but her husband is unsure about the complimentary breakfast.	Jane admired [the design of a hotel], but her husband is unsure about the complimentary breakfast.
	Sluicing	[The design of a hotel] mesmerized Jane, but her husband is unsure about which hotel.	Jane admired [the design of a hotel], but her husband is unsure about which hotel.
	Contrast sluicing	[The design of the Ritz-Carlton] mesmerized Jane, but her husband is unsure about which other hotel.	Jane admired [the design of the Ritz-Carlton], but her husband is unsure about which other hotel.

We normalized the ratings via z-score transformation and used the output as the dependent variable in a mixed-effects linear regression (clause type coded with Repeated Contrasts). Results are shown in Fig 1.

There was no difference in ratings between “no sluicing” and “sluicing” conditions and no interaction ($ps > .22$), but contrast sluicing was significantly degraded compared with sluicing, overall ($t = -9.1, p < .0001$), and the interaction with correlate position was also significant ($t = 2, p = .05$). Planned comparisons indicate that subject NP subextraction is significantly degraded compared with object NP

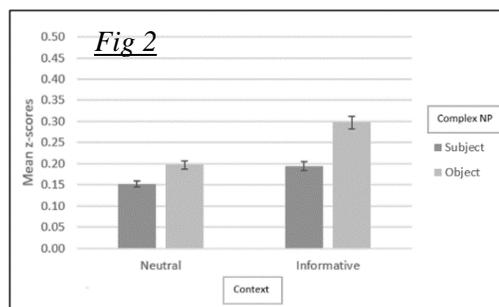


subextraction ($t = -3.4, p < .001$) only in contrast sluicing, and not in sluicing ($p = .49$) or in no sluicing ($p = .23$). Thus, subject islands are repaired in sluicing but not contrast sluicing; this supports Merchant (2008). Interestingly, we also find that degradation in contrast sluicing compared with regular sluicing holds for extraction from *both* complex NP subjects and objects. This shows that contrast sluicing is degraded compared with regular sluicing, independent of islandhood, and reason might be pragmatic constraints; sentences in Expt 1 were presented out of blue, and creating a contrast without a supporting context may be difficult for comprehenders. We examine this in Expt 2.

3. Experiment 2. The aim was to investigate whether acceptability of contrast sluicing and subject island effects are sensitive to a prior discourse. If discourse alters the subject island effect, this would challenge a pure syntactic approach to subject islands and island repair in sluicing. We thus looked exclusively at contrast sluicing as this is where subject islands manifest. We further investigated whether the nature of the discourse has an effect. We ran a 2x2 rating study, manipulating (i) position of complex NP (in a subject vs in an object, as in Expt 1), and (ii) the degree of informativity of a prior discourse context in terms of whether the correlate (e.g., *the Ritz-Carlton* in Table 2) and a salient focus alternative (e.g., *the Conrad*) are explicitly mentioned (= “informative”) or not (= “neutral”). Example stimuli are in Table 2.

Table 2	Correlate in NP _{subj} (=island)	Correlate in NP _{obj} (=baseline)
Prior informative context: Jane and her husband travel a lot. They mostly stay at least two nights wherever they go. Finding accommodation is tricky for them. Her husband cares about cleanliness. Jane is interested in architecture. She particularly loves staying at the Ritz-Carlton or the Conrad . Her husband can never remember the details.	Target sentence: [The design of the Ritz-Carlton] mesmerizes Jane, but her husband is unsure about which other hotel.	Target sentence: Jane admires [the design of the Ritz-Carlton], but her husband is unsure about which other hotel.
Prior Neutral context: Jane and her husband travel a lot. They mostly stay at least two nights wherever they go. Finding accommodation is tricky for them. Her husband cares about cleanliness. Jane has other priorities. Her husband can never remember the details.		

We created 16 item sets and 16 fillers. 30 native speakers of English (recruited from MTurk) were asked to read each context carefully and then rate the target sentence on a scale of 1 to 7. Ratings were z-score transformed; results are shown in Fig. 2. As with Expt 1, we found a main effect of islandhood; with sentences with the correlate in a subject NP rated lower than in an object NP ($t = -2, p = .045$). There was no significant effect of context ($p = .1$). However, planned comparisons indicate that islandhood is marginally significant in the informative context ($t = -1.91, p = .057$), but not significant in the neutral context ($p = .35$). This suggests that the subject island effect in contrast sluicing is ameliorated when there is a supporting context. Interestingly, such amelioration is not observed in the informative condition when context contains the correlate and a focus alternative. We hypothesize that this is because the focus alternatives in our “informative contexts” were always presented in a *non-topical* position (e.g., object of *stay at*; Table 2), which matches with the non-topical position of the correlate in the NP_{obj} condition but clashes with the topical position in the NP_{subj} condition.



General Discussion: We provide novel evidence showing a differential subject island effect across sluicing and contrast sluicing, and supporting a view that non-syntactic factors can attenuate subject island effect. This outcome highlights how *both* syntax and discourse may concomitantly impact the well-formedness of movement operations. **Selected References:** Merchant (2008) in *Topics in ellipsis*, Sprouse et al. (2012) *Language*, Chaves and King (2019) *Cognitive Linguistics*.

Local *wh*-subjects under Brazilian Portuguese *nunca* ellipsis

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Introduction. I show there is an elliptical construction in Brazilian Portuguese (BP) involving *nunca* 'never' which is restricted to locally *wh*-moved subjects and provide an account of this peculiar restriction.

The data. *Nunca* ellipsis is only available with a local *wh*-subject (1B, 2B). With *wh*-objects (1B'), long distance (LD) *wh*-arguments, including subjects, (2B',B"), and *wh*-adjuncts (3), this ellipsis is disallowed. The sentences in A correspond to the discourse antecedent of the elliptical constructions in B. As indicated, the non-elided versions of the ellipses being examined are acceptable. As we can see, only local *wh*-subjects are allowed in *nunca* ellipsis constructions, whereas non local *wh*-subjects (i.e., *wh*-objects, long-distance *wh*-arguments, *wh*-adjuncts) are not. (1)-(3) also show that *nunca* corresponds to the licenser of deletion, given that in elliptical constructions this element cannot be followed by anything other than the ellipsis site.

(1) A: Pedro beijou João. (*Peter kissed John.*)

B: Quem nunca [~~beijou João~~]? (cf. Quem nunca beijou João?✓)
who never kissed John (*Who has never kissed John?*)

B': *Quem Pedro nunca [~~beijou~~]? (cf. Quem Pedro nunca beijou?✓)
who Peter never kissed (*Who has Peter never kissed?*)

(2) A: Maria disse que Pedro beijou João. (*Mary said that Peter kissed John*)

B: Quem nunca [~~disse que Pedro beijou João~~]? (cf. Quem nunca disse que Pedro beijou João?✓)
Who has never said that Peter kissed John?

B': *Quem Maria nunca [~~disse que beijou João~~]? (cf. Quem Maria nunca disse que beijou João?✓)
Who has Mary never said kissed John?

B'': *Quem Maria nunca [~~disse que Pedro beijou~~]? (cf. Quem Maria nunca disse que Pedro beijou?✓)
Who has Mary never said Peter kissed?

(3) A: Pedro beijou João ontem. (*Peter kissed John yesterday.*)

B: *Quando Pedro nunca [~~beijou João~~]? (cf. Quando Pedro nunca beijou João?✓)
When has Peter never kissed John?

Analysis. It was independently argued by Bošković (2021, in press) that there is a position in the left periphery dedicated to locally *wh*-moved subjects. He argues for the existence of two *wh*-positions above IP, a higher one and a lower one. I will call the former HCP and the latter LCP for ease of exposition. Local *wh*-subjects move to Spec, LCP , and all other *wh*-XPs, including long-distance (LD) *wh*-subjects, move to Spec, HCP . One argument for separate HCP and LCP projections concerns (4), where *wh*-movement interacts with topicalization: only non local *wh*-subjects are allowed above the topic (i.e., the object in 4a, the LD subject in 4b), locally moved *wh*-subjects being disallowed in this position (4c).

(4) a. ?Mary wonders which book, for Kim, Peter should buy.

b. ??I wonder which student, for Kim, Mary said should buy that book.

c. *Mary wonders which student, for Kim, should buy that book. (Bošković in press)

Consider also Igbo in (5). In this language, moved *wh*-objects and long-distance moved *wh*-subject are followed by overt C (i.e., FOC). This indicates that the projection to where such phrases move is different from the one hosting locally moved *wh*-subjects, since they must be headed by different heads: FOC and a null head, respectively, with the former higher than the latter.

(5) a. Ònyé *(ka) Òbí hùrù n'-áhiá?

who FOC Obi saw P-market

Who did Obi see at the market?

b. Ònyé *(ka) hùrù Ádá n'-áhiá?

who (*FOC) saw Ada P-market

Who saw Ada at the market?

(Amaechi and Georgi 2019)

That LD *wh*-subjects pattern with *wh*-objects can also be seen in (6), where the one-word restriction on the contraction of auxiliaries hosted by *wh*-XPs applies only to non-(local) subject *wh*-phrases (Kaisse 1983, Bošković in press).

(6) a. What's Mary buying?

b. *Whose food's the dog eating?

- c. Whose food's burning? (Kaisse, 1983)
 d. *Which man's Peter claiming will leave first? (Bošković in press)

Accordingly, Bošković suggests LCP is restricted to subjects because it corresponds to a mixed A/A' position to which local *wh*-subjects move without passing through Spec,IP , being able to satisfy EPP there (while also undergoing *wh*-movement to that position). This accounts for the apparent voiding of the EPP in West Ulster English. (7b) shows that a subject in Spec,IP is unable to float a quantifier in theta-position in this example. If there was a trace of *who* in Spec,IP in (7a), the sentence should also be ungrammatical (these data also conclusively show that local *wh*-subjects do not stay in Spec,IP , as is sometimes suggested, since then (7a-b) would be the same in the relevant respect). Therefore, local *wh*-subjects (and only these) must go straight to Spec,LCP .

- (7) a. Who was arrested all in Duke Street?
 b. *They were arrested all last night (McCloskey 2000)

I will show that Bošković's claims apply to BP. To illustrate with one point, BP (8) patterns with English (4) regarding the interaction between *wh*-movement and topicalization.

- (8) a. ?Maria quer saber qual livro, pro Pedro, João comprou.
 Mary wants to.know which book for Peter John bought
 b. ??Eu quero saber qual aluno, pro Pedro, Maria disse que comprou o livro
 I want to.know which student for Peter Mary said that bought the book
 c. *Maria quer saber qual aluno, pro Pedro, comprou o livro.
 Mary wants to.know which student for Peter bought the book

Crucially, considering that the only element that survives *nunca* ellipsis is the one in Spec,LCP , the A/A' position to where local subjects *wh*-move, the natural conclusion is that the complement of the head LC° is deleted in *nunca* ellipsis. Also, *nunca* must head LCP in these constructions, otherwise the fact that nothing can follow *nunca* would remain unaccounted for. That *quem* and *nunca* are in the same projection can be shown by the fact that no intervening C-like element is allowed between them: *Quem (*que) nunca?* (lit. 'who (*that) never'). When there is no ellipsis, however, *que* is optional: *Quem (que) nunca beijou João?* (lit. 'who (that) never kissed John?'). For the latter case, I show *nunca* is base generated below Comp . For the former, it must be generated in LC° , since that's the ellipsis licensing position.

Conclusion. The reason why only the element moving to Spec,LCP survives the ellipsis in question is because this ellipsis targets the complement of LC° , realized by *nunca*. Also, such ellipsis cases are not restricted to local *wh*-subjects, with focalized subjects showing the same behavior in (9), which indicates that local subject focus movement also targets Spec,LCP (Bošković in fact argues that the same holds for English).

- (9) a. Maria beijou João, mas Pedro_{FOC} nunca [~~beijou João~~].
 Mary kissed John but Peter never kissed John
 b. *Maria beijou João, mas Pedro_{FOC} Maria nunca [~~beijou~~].
 Mary kissed John but Peter Mary never kissed
 c. *Joana disse que Marcos beijou João, mas Pedro Joana nunca [~~disse que beijou João~~].
 Joan said that Mark kissed John but Peter Joan never said that kissed John

Notice that the ellipsis under inquiry is different from Sluicing. In Sluicing, deletion can apply to the complement of regular C° , so *wh*-objects can also survive it (e.g., *Mary kissed someone, but I don't know who*). Besides providing evidence for the recent claim that there is a dedicated position for locally *wh*-moved subjects, this work will also address one of the major questions existing in the ellipsis literature, namely, the licensing question: "What heads or positions or structures allow for 'ellipsis', and what are the locality conditions on the relation between these structures and ellipsis?" (Merchant, 2016:03). The analysis presented here will be shown to indicate that both heads **and** positions are relevant to ellipsis licensing, since *nunca* licenses ellipsis only when it heads LCP , being unable to instantiate deletion lower down (or higher up) in the structure. So, for ellipsis licensing, both the lexical head and the syntactic position it occupies are relevant.

Sel. Ref: Bošković, Ž. in press. The Comp-Trace Effect and Contextuality of the EPP. *Proceedings of WCCFL 39*; Bošković, Ž. 2021. Merge, Move, and Contextuality of Syntax. Ms., University of Connecticut; Merchant J. 2019. Ellipsis: A survey of analytical approaches. *The Oxford handbook of ellipsis*.

Particle *hI* and Speaker Expectations
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Abstract: The emphatic particle *hI* in Hindi (Kaul 2008; Kachru, 2006; McGregor, 1972) appears with a variety of word categories and their sub categories and renders different meanings. An attempt to unify lexical meaning of *hI* (Bajaj, Syrett 2016) has already been made that includes exclusivity and scalarity as the main meaning components. *hI* (Bajaj, Syrett 2016) is felicitous with the MIN and MAX endpoints on the scale of propositional alternatives depending on the salient endpoint in a given context. However, this work presents some new data where it can be observed that in some contexts such a scale is not required or not relevant for the interpretation of the particle. For example,

1. *sItaa ne raam se hI shaadI kI*
Sita-ERG Ram-INST HI marriage did
“Sita married Ram (and not anybody else)”

If Sita and Ram were seeing each other and if she married Ram then *hI* can modify Ram asserting that Sita married him and nobody else. The context sets the likelihood for Ram to be the most likely to get married to Sita as they were seeing each other, hence the expectation that he'll be married to Sita. In this context, a set including Ram and other alternatives arranged on a scale is not relevant or required for a scalar interpretation as if X is less likely than Ram, and Y is even less likely than X to marry Sita. The context only requires likelihood of Ram, hence expectation related to Ram, for *hI* to felicitously modify Ram in the utterance.

Another example is where for a dish all the ingredients are equally important and *hI* can modify any of these in a negative sentence. For example,

2. *mujhe khiir banani thi magar doodh/shakkar/chaawal hI nahii hai.*
I-ACC porridge make.F was.F but milk/sugar/rice HI not is.
“I wanted to make some porridge but there's no milk/sugar/rice.”

hI can modify any of the ingredients, milk, sugar or rice in a context where the ingredient is missing. To make an Indian porridge all the ingredients are equally important. They cannot be arranged on a scale of importance. Scalarity seems to be context sensitive. What explains the modification by *hI* here is a pragmatic aspect of meaning, that of speaker expectations. By using *hI*, speaker simply expresses that his expectation is not met. The expected ingredient (modified by *hI*) is not present. This work attempts to demonstrate that a pragmatic analysis of the particle can be more successful in capturing the core meaning of the particle. The paper proposes that the core function of the particle *hI* is to convey speaker expectations which is an essential pragmatic component of meaning in *hI* sentences (alongside the other dimensions of meaning noted before (Bajaj 2015; Bhatt 1994; Varma 2006)). Also, speaker expectations, at different levels of fulfilment can be expressed using *hI*. For example,

Meeting expectations

3. *dono hI log karyakram dekhne aaye.*
both HI people programme see came
“Both of them came to watch the programme.” (The speaker expected both of them and they came.)

Under expectations

4. *maine papa-se hazaar rupaye maange the magar unhone paanch sau hi diye.*

I father-INSTR thousand rupees ask-PST.PL be-PST.PL but he-ERG.HON. five hundred HI give-PST.PL

“I had asked my father for a thousand rupees but he gave me just five hundred rupees.” (The speaker received less amount of money than had expected.)

Contrary to expectations

5. *arey ye to toot hi gayaa*

AREY this TO broke HI went

“Oh ! It just broke.” (The speaker did not, at all, expect the toy to break but it did.)

The paper employs the Questions Under Discussion (QUD) methodology (van Kuppevelt, 1995; Roberts 1996; Benz, Jasinskaja 2017) to unify this pragmatic aspect of meaning, the speaker expectation.

This paper proposes that for an utterance containing *hi*, the kind of QUD it addresses is a question asked out of expectation (QUE) as opposed to a question simply seeking information (QUI). The two types can be differentiated on the basis of whether the speaker and the addressee share the background knowledge. As QUEs are asked out of expectation, the speaker and addressee share a background while in QUIs they don't.

Keywords: emphatic particle, speaker expectation, questions under discussion

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“Parts” of fractions: A cross-linguistic study

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Issues: This study investigates how fractions are linguistically realized in human languages, on the basis of a wide range of cross-linguistic data. Fractions consist of a numerator and a denominator. It will be shown that the numerator and the denominator can include a covert/overt “part” noun in fractions. We provide an analysis for the syntax and semantics of fractions.

Data: As shown in (1), in German, the denominator (i.e. “three”) is followed by the suffix *-tel*, which is a shortened form of *Teil* ‘part’.

- (1) *Jan hat zwei Drittel des Buches gelesen.* [German]
Jan have two three.part of.the book read
‘Jan has read two thirds of the book.’

Fractions including “part” are common cross-linguistically. The distribution of “part” is summarized in (2).

- (2) Patterns of fractions with “part” (order irrelevant)
- a. **[Numerator PART] [Denominator PART]:**
E.g. Burmese [Sino-Tibetan], Garo [Sino-Tibetan], Xong [Hmong–Mien]
 - b. **[Numerator PART] [Denominator]:**
E.g. Mokilese [Austronesian], Telugu [Dravidian]
 - c. **[Numerator] [Denominator PART]:**
E.g. Cantonese [Sino-Tibetan], Catalan [Romance], English [Germanic], German [Germanic], Japanese [Japanese], Mandarin [Sino-Tibetan], Portuguese [Romance], Samoan [Austronesian], Spanish [Romance], Vietnamese [Austro-Asiatic]

What the data shows is that either the numerator, or the denominator, or both can occur with “part” cross-linguistically. For instance, in Garo both the numerator and the denominator occur with the classifier for “part” as in (3).

- (3) *bak-gittam-ni bak-gini* [Garo, Burling (1961:53)]
CLS_{part}-three-of CLS_{part}-two
‘two thirds’

In Samoan, the numerator appears with “part” as in (4). Here, the particle *e* appears before the numeral. The same particle is also used when post-nominal adjectives modify a noun.

- (4) *lua [vaega e fitu]* [Samoan, Neffgen (1918: 39)]
two part E seven
‘two sevenths’

The last pattern where the “part” element is associated with a denominator is observed in many languages. Fractions in German like (1) belong to this type. In Japanese, *bun* ‘part’ follows the denominator. *No* is a linking element which typically intervenes between a nominal modifier and the modified noun. The “part” element *bun* thus forms a constituent with the denominator but not with the numerator in (5).

- (5) *[[san-bun] no ichi] no zyosei* [Japanese, Hayashishita & Ueyama (2012: 597)]
three-part GEN one GEN women
‘one third of the women’

Analysis: Based on the cross-linguistic patterns of fractions summarized in (2), this study pursues a uniform analysis in which the numerator and the denominator each combine with a covert/overt “part”. The denotation of the covert/overt “part” noun in fractions is given in (6).

Investigating Ordering Restrictions on Code-Switching

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INTRODUCTION: Recent behavioral and neuroimaging studies interested in how bilinguals switch languages within a sentence suggest that bilinguals have a single computational system that can build mixed-language expressions (e.g., Declerck et al., 2020; Phillips & Pylkkänen, 2021). How can a single computational system build structures when switches occur where the languages involved differ in their canonical word orders? There are two competing models about how a single computational system builds mixed language expressions: Myers-Scotton (1993) proposes the Matrix Language Frame Model (MLFM), where the language of the functional element (e.g., determiner) heading the clause determines word order; whereas MacSwan (2000) offers an approach within the Minimalist Program, namely, the PF Interface Condition (PFIC), where ordering and agreement relations are determined by ordering restrictions of lexical items in the derivation. There has been support for both theories in the literature when looking at determiner phrase (DP)-internal switches (see Parafita Couto & Stadthagen-Gonzalez, 2019 in favor of the MLFM, and Sedarous, in press in favor of the PFIC). In this study, we test which of these two theories best accounts for how mixed-language DPs are syntactically composed during comprehension across three different bilingual groups (Korean/English, Arabic/English, Spanish/English). Our preliminary results fail to support either model, and instead suggest nominal word order depends on the noun.

METHODS & PREDICTIONS: 15 Korean/English, 18 Arabic/English, and 23 Spanish/English bilingual adults were recruited to participate in an online eye-tracking study hosted on Gorilla Experiment Builder (Anwyl-Irvine et al., 2020). Participants saw a four-field visual world that contained four different objects and heard two different types of stimuli: determiner-adjective-noun phrases (“the red house”) and determiner-noun-adjective phrases (“the house red”). Because these two stimulus types are not psycholinguistically comparable across all three bilingual groups, we present only the results on the responses elicited from the determiner-adjective-noun phrases.

We recorded two types of behavioral data. Participants’ eye-gaze were recorded via the eye-tracking beta feature during the auditory stimulus presentation. After hearing the three-word stimulus, they were asked to click on the object that matched the phrase they heard. The time it took for participants to click on the target object (response times) were also recorded. The auditory stimuli varied by whether and where the language switched, resulting in four language switching levels: no switch (“the red house”), word 2 switch (“ku/el/la red house”), word 3 switch (“the red

Design & Predictions

Switch?	Determiner?	Adjective?	Word 1	Word 2	Word 3	PFIC?	MLFM?
No Switch	English	English	the	red	house	good	good
	Korean	Korean	ku	bbalkae	jip	bad	bad
	Arabic	Arabic	el	ahmar	bayt	bad	bad
W2 Switch	Spanish	Spanish	la	rosa	casa	bad	bad
	Kor Ara Spa	English	ku el la	red	house	good	bad
	English	Korean	the	bbalkae	jip	bad	good
W3 Switch	English	Arabic	the	ahmar	bayt	bad	good
	English	Spanish	the	rosa	casa	bad	good
	English	English	the	red	jip bayt casa	good	good
2X Switch	Korean	Korean	ku	bbalkae	house	bad	bad
	Arabic	Arabic	el	ahmar	house	bad	bad
	Spanish	Spanish	la	rosa	house	bad	bad
2X Switch	Kor Ara Spa	English	ku el la	red	jip bayt casa	good	bad
	English	Korean	the	bbalkae	house	bad	good
	English	Arabic	the	ahmar	house	bad	good
2X Switch	English	Spanish	the	rosa	house	bad	good

Figure 1: Experimental design for all three bilingual groups (distinguished by color) and corresponding predictions for each condition

word 3 switch (“the red

jip/bayt/casa”), and double switch (“*ku/el/la red jip/bayt/casa*”). If bilinguals have a single computational system, we would not expect a main effect of language-switch on our participants’ behavior. We, instead, tested whether the PFIC or the MLFM best predicted the ill-formed phrases that would elicit smaller proportion of looks to target and longer reaction times.

RESULTS & DISCUSSION: While analysis of the proportion of looks to the target suggests all three bilingual groups wait to commit to a structure until all three words are presented (Frazier & Rayner, 1987), performing a 4 x 2 ANOVA on the reaction times revealed a significant interaction between switch site and the language of the adjective across all three groups (Korean/English $p < 0.01$; Arabic/English $p < 0.01$; Spanish/English $p < 0.01$). However, comparing all language pair combinations using Tukey’s Honest Significant Difference test indicated that neither PFIC nor MLFM fully predicted which phrases were more degraded and thus elicit significantly longer reaction times. Participants’ reaction times either trended towards or were significantly shorter when adjective placement was determined by the noun (e.g., English noun (“house”) preferred adjectives pre-nominally). Based on these results, we propose an alternative analysis following Grimshaw’s (2000) theory of extended projections. Our analysis thus extends theories about single-language nominals to mixed-language nominals, supporting current ideas about bilinguals having a single computational system for building hierarchical, linguistic structures.

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Syntax

Pronouncing PRO in Wolof

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1 Overview. In obligatory control sentences, the subject of an embedded clause is phonologically null and necessarily coindexed with a matrix argument. Control theories can be divided in three categories regarding the phonological properties of PRO: (i) In **inherent theories**, the phonological nullness of PRO is a definitional property of this item (e.g. Chomsky 1981). (ii) In **derivational theories**, the phonological nullness of PRO is a property that it acquires during the derivation. In e.g. Hornstein’s (1999) Movement Theory of Control, PRO is null because it is a trace of movement. It is possible that the residue of movement under the MTC be overt (cf. backwards control (Polinsky et al. 2002) and copy control (Lee 2003)) (iii) In **arbitrary theories**, there is no necessary relationship between its phonological realization and its syntax and semantics; it is accidental. I claim that only derivational theories are compatible with the properties found in Wolof object control. In Wolof, subject (1) and object (2) control differ in whether or not the embedded subject is null or a subject/NOM pronoun.

- (1) Maymuna fas-na (***mu**) jàng taalif b-i.
 Maymuna try-NA.3SG (*3SG.SUBJ) read poem CM.SG-DEF
 ‘Maymuna tried to read the poem.’ *subject control*
- (2) Dimbali-na-a a-b xale *(**mu**) jàng téere b-i.
 help-NA-1SG INDEF-CM.SG child *(3SG.SUBJ) read book CM.SG-DEF
 ‘I helped a child read the book.’ *object control*

The realization of the controlled subject correlates with other properties. In subject control (1), clitic climbing is obligatory, while the occurrence of a resumptive pronoun under \bar{A} -movement is prohibited. In object control (2), clitic climbing is prohibited, while \bar{A} -resumption is obligatory. In order to account for these properties, I propose that PRO is pronounced as an overt pronoun because it is the partial residue of movement (cf. Van Urk 2018). This would explain why the same construction requires \bar{A} -resumption: they are both overt residues of movement.

2 The signature properties of control in Wolof. That sentences like (2) contain an overt pronoun suggests that this is not an instance of control, given that we take PRO to be in complementary distribution with overt DPs. However, the pronoun in (2) is interpreted as a bound variable and it must have a syntactically represented antecedent: this pronoun displays the signature properties of OC PRO (Landau 2013). The embedded pronoun in object control sentences has obligatorily a *de te* reading (3). If the antecedent is an *only* DP, only a bound reading is available (4). Under ellipsis, only a sloppy reading is available (5). The latter shows additionally that a discourse-salient referent is not possible, another property found in obligatory control.

- (3) Maryam wax-na Kadeer **mu** dem.
 Maryam say-NA.3SG Kadeer 3SG.SUBJ leave
 ‘Maryam told Kadeer to leave.’
- a. #*De re* reading: Maryam is hosting a party. She hears that a certain waiter named Kadeer is being a nuisance. Maryam tells the nearest waiter “Kadeer has to go.” Unbeknownst to her, she’s talking to Kadeer.
- b. *De te* reading: Maryam is hosting a party. She hears that a certain waiter named Kadeer is being a nuisance. Maryam tells Kadeer “You have to go.”
- (4) Kadeer wax-na Mareem rekk **mu** lekk jën.
 Kadeer say-NA.3SG Mareem only 3SG eat fish
 ‘Mareem is the only *x* such that Kadeer told *x* for *x* to eat fish.’
- (5) Bu dee Isaa moon, wax-na-a Kumba **mu** jàng a-b téere, waaye
 BU DEE Isaa 3SG.OB say-NA-1SG Kumba 3SG.SUBJ read INDEF-CM.SG book but
 wax-ul ma Roxaya < **mu** jàng a-b téere >.
 say-NEG 1SG.SUBJ Roxaya 3SG.SUBJ read INDEF-CM.SG book

‘According to Isaa, I told Kumba to read a book, but not Mareem.’

- a. I didn’t tell Roxaya for her (= Roxaya) to read the book. *sloppy*
 b. *I didn’t tell Roxaya for Kumba to read the book. *strict*
 c. *I didn’t tell Roxaya for Isaa to read the book.

I conclude thus that the overt pronoun in (2) is a pronounced instantiation of obligatory control PRO. But if this is the case, why do subject control sentences (1) not contain the same pronoun?

3 Two sizes of control clauses. An answer to this question can be provided by other differences between subject and object control in Wolof. In subject control (6), clitic climbing is obligatory. In object control (7), the clitic must stay in the embedded clause. This can be analyzed in terms of restructuring (Wurmbrand 1998). The embedded clause in subject control sentences is truncated, so that a clitic must climb into the matrix clause to find an appropriate host. By this reasoning, the embedded clause in object control must be bigger, so that it prevent this operation.

(6) Maymuna fas-na{=ko} jàng{*=ko}.
 Maymuna try-NA.3SG{=3SG.ACC} read{*=3SG.ACC}
 ‘Maymuna wants to read it.’ *subject control*

(7) Kadeer dimbali-na{*=ko} Mareem mu jënd{=ko}.
 Kadeer help-NA.3SG{*=3SG.ACC} Mareem 3SG.SUBJ buy{=3SG.ACC}
 ‘Kadeer helped Mareem buy it.’ *object control*

Likewise, if the embedded object is \bar{A} -moved (by *Wh*-movement or clefting), a resumptive pronoun is prohibited in subject control (8), but obligatory in object control (9).

(8) Ginaar g-i la Maymuna fas yéene togg{*=ko}.
 chicken CM.SG-DEF OBJ.FOC.3SG Maymuna want want cook{*=3SG.ACC}
 ‘The chicken, Maymuna wanted to cook.’ *subject control*

(9) Ginaar g-i la Maymuna dimbali Roxaya mu togg*(=ko).
 chicken CM.SG-DEF OBJ.FOC.3SG Maymuna help Roxaya 3SG cook*(=3SG.ACC)
 ‘The chicken, Maymuna helped Roxaya cook.’ *object control*

4 Analysis. In order to account for these differences, I propose that subject control clauses in Wolof are truncated, while object control clauses project a Σ P. This captures the clitic climbing difference. Σ P is, furthermore a horizon (Keine 2019) for movement. The resumptive pronoun that appears under \bar{A} -movement (9) is an overt residue of the movement that has been impeded.

(10) $\left[\text{CP} \left[\text{Xadi tried } \left[\text{FP} \left[\text{VP to cook chicken} \right] \right] \right] \right]$ *subject control*
 ✓*CL climbing/ \bar{A}*

(11) $\left[\text{CP} \left[\text{I helped a child } \left[\Sigma\text{P she to } \left[\text{VP} \langle \text{a child} \rangle \text{ read the book} \right] \right] \right] \right]$ *object control*
 ✗*CL climbing/ \bar{A}*

This analysis also provides an explanation to the contrast between the realization of PRO, if we further assume the MTC. In object control (11), the controller crosses Σ P, which is a horizon for movement. As in \bar{A} -resumption, this movement leaves behind an overt residue, which can be interpreted as partial realization of a trace (Van Urk 2018). In subject control (10), either there is no subject at all, or if there is, this clause is truncated enough to not impede movement.

5 Discussion. Only a (ii) **derivational theory** can account for the phonological properties of object control in Wolof and, furthermore, for the correlation between them and other phenomena like clitic climbing and \bar{A} -resumption. That PRO in Wolof object control is an overt pronoun arises as a consequence of the Σ P that is horizon to both A-movement (resulting in a pronounced PRO) and \bar{A} -movement (resulting in \bar{A} -resumption). (i) Inherent theories do not accommodate a pronounced instance of PRO, while (iii) arbitrary theories, while compatible with it, would treat the correlation between the pronunciation of PRO in Wolof object control and \bar{A} -resumption as accidental, which is undesirable.

On the locus of tense

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The aim of this paper is to provide an argument in favor of Chomsky's (2020) claim that tense is a feature of v , not of INFL.

(1) is an example of so-called Gapping (or Right Node Raising) in Japanese. In the literature, there are three different views on the non-elliptical counterpart to the Japanese Gapping construction (JGC). Under these views, the non-elliptical counterpart to (1) is (2a), where the verb in the first conjunct is in a finite form (cf., e.g., Abe and Hoshi 1997, An 2007), (2b), where it takes a gerundive (or *-te*) form (cf. Otaki 2011), and (2c), where it takes a continuative (or uninflected/infinitive) form (cf., e.g., Kuno 1978, Kageyama 1993), respectively (note that it is possible that the elided material is not surface identical to its antecedent; see, e.g., van Craenenbroeck and Merchant 2013). I will refer to the coordination where the conjunct-final verb in the non-final conjuncts appears in an X form if it is not elided as “ X form coordination.” Thus, the types of coordination involved in (2a-c) will be referred to as “finite form coordination (FFC),” “gerundive form coordination (GFC),” and “continuative form coordination (CFC),” respectively.

As illustrated in (3a), the JGC can contain the disjunctive coordinator *matawa*, which indicates that the JGC can involve FFC, because, among the three types of coordination seen above, only FFC is acceptable with *matawa*, as shown in (3b). That the JGC can also involve CFC is shown by (4) (note that a clause which ends with a *te*-form of a verb can function as a reason adjunct). In (4a), where Gapping occurs, the sentence-internal reading of *onazi* ‘same’ is possible (under this reading, what are compared are the man who proposed to the speaker's elder sister and the man who proposed to his younger sister, not the man who proposed to the speaker's sisters and the man who has already been contextually defined; cf. Carlson 1987). Among the three alleged non-elliptical counterparts to (4a), only the one with CFC can have the same reading, as shown in (4b) (where *onazi* is intended to be interpreted sentence-internally as in (4a)).

Since the conjunct-final verb in non-final conjuncts is not inflected in CFC, it seems quite plausible to assume that what are conjoined in this type of coordination are constituents smaller than IP, which I take to be v Ps here just for the sake of discussion (cf. Takano 2004, Kato 2006, Hirata 2011). Under this assumption (and the assumption that the subject does not have to raise to Spec,IP in Japanese (cf., e.g., Fukui 1986, Kuroda 1988)), (2c) has a structure as in (5). The tense morpheme *-ta*, which occupies the head of IP, undergoes affix-hopping and attaches to the adjacent verb in the PF component, which is why only the verb in the second conjunct is inflected in (2c). One might claim that CFC is an instance of IP (or larger) coordination, by assuming that the non-final conjuncts contain a null tense morpheme, as shown in (6) (cf. Tomioka 1993, Mihara 1997). However, the IP coordination analysis of CFC is not plausible. Consider (7) (cf. Kato 2006). As illustrated by (7a), the formal speech level suffix *-mas* precedes a tense morpheme. Since Japanese is a head-final language, this suggests that it occupies a head position below IP. Thus, the IP coordination analysis of CFC predicts that this suffix can appear in the conjuncts of CFC. However, this is contrary to fact, as shown in (7b) (note that *tabe-masi* is a continuative form). In contrast, the ill-formedness of (7b) can be explained under the v P coordination analysis of CFC by assuming that the position occupied by *-mas* is higher than v P.

As observed by Mihara (1997), JGCs where the final conjunct ends with a verb in a nonpast tense form and contains a future time adverb and a non-final conjunct contains a past time adverb are unacceptable. Witness (8). As revealed by the above discussion, there are (at least) two possible underlying structures for this example, namely (9a) and (9b), which involve FFC and CFC, respectively (strikethrough indicates ellipsis). (9a) is not problematic, because its non-elliptical counterpart in (10a) is also unacceptable, but (9b) gives rise to a potential problem because its non-elliptical counterpart in (10b) is acceptable (cf., e.g., Tomioka 1993, Mihara 1997). Why is it that (9b) is ruled out although (10b) is well-formed? Note that since CFC is an instance of v P coordination, (9b) has a structure as in (11). Suppose, following Chomsky (2020), that tense is a

feature of *v*, rather than INFL. Then, the ill-formedness of (9b) can be attributed to the violation of an identity condition on ellipsis, because in (9b) the elided verb and its antecedent have distinct tense features, namely [+past] and [-past], respectively (cf. Mihara 1997). In contrast, it is not clear how we can deal with the ill-formedness of (9b) under the assumption that tense features are located on INFL. Thus, I claim that the unacceptability of (8) (or the contrast between (8) and (10b)) provides support for the view advanced by Chomsky (2020) that tense is a feature of *v*.

- (1) Ken-ga ringo-o ___ (sosite) Mari-ga banana-o tabe-ta.
K.-Nom apple-Acc and M.-Nom banana-Acc eat-Past
'Ken ate an apple and Mari ate a banana.'
- (2) a. Ken-ga ringo-o **tabe-ta** (sosite) Mari-ga banana-o tabe-ta.
b. Ken-ga ringo-o **tabe-te** (sosite) Mari-ga banana-o tabe-ta.
c. Ken-ga ringo-o **tabe** (sosite) Mari-ga banana-o tabe-ta.
- (3) a. Ken-ga ringo-o ___ matawa Mari-ga banana-o tabe-ta.
K.-Nom apple-Acc or M.-Nom banana-Acc eat-Past
'Ken ate an apple or Mari ate a banana.'
b. Ken-ga ringo-o tabe-ta/*tabe-te/*tabe matawa Mari-ga banana-o tabe-ta.
K.-Nom apple-Acc eat-Past/eat-TE/eat or M.-Nom banana-Acc eat-Past
- (4) a. [Onazi siriai-ga kinoo ane-ni ___ (sosite) kyoo imooto-ni
same acquaintance-Nom yesterday elder:sister-to and today younger:sister-to
puropoozusi-te], watasi-wa odoroi-ta.
propose-TE I-Top be:surprised-Past
'Because one and the same acquaintance of mine proposed to my elder sister yesterday and proposed to my younger sister today, I was surprised.'
b. [Onazi siriai-ga kinoo ane-ni *puropoozusi-ta/*puropoozusi-te
same acquaintance-Nom yesterday elder:sister-to propose-Past/propose-TE
/puropoozusi (sosite) kyoo imooto-ni puropoozusi-te], watasi-wa odoroi-ta.
/propose and today younger:sister-to propose-TE I-Top be:surprised-Past
- (5) [IP [vP [vP Ken-ga ringo-o tabe] (sosite) [vP Mari-ga banana-o tabe]] [INFL -ta]]
- (6) [IP [IP Ken-ga ringo-o tabe ϕ] (sosite) [IP Mari-ga banana-o tabe -ta]] (ϕ = null tense morpheme)
- (7) a. Ken-ga ringo-o tabe-masi-ta.
K.-Nom apple-Acc eat-Formal-Past
'Ken ate an apple.'
b. *Ken-ga ringo-o tabe-masi (sosite) Mari-ga koohii-o nomi-masi-ta.
K.-Nom apple-Acc eat-Formal and M.-Nom coffee-Acc drink-Formal-Past
'Ken ate an apple and Mari drank coffee.'
- (8) *Ken-ga kinoo ringo-o ___ (sosite) Mari-ga asu banana-o tabe-ru.
K.-Nom yesterday apple-Acc and M.-Nom tomorrow banana-Acc eat-Nonpast
'Ken ate an apple yesterday and Mari will eat a banana tomorrow.'
- (9) a. Ken-ga kinoo ringo-o ~~tabe-ru~~ (sosite) Mari-ga asu banana-o tabe-ru
b. Ken-ga kinoo ringo-o ~~tabe~~ (sosite) Mari-ga asu banana-o tabe-ru
- (10) a. *Ken-ga kinoo ringo-o tabe-ru (sosite) Mari-ga asu banana-o tabe-ru.
'Ken will eat an apple yesterday and Mari will eat a banana tomorrow.'
b. Ken-ga kinoo ringo-o tabe (sosite) Mari-ga asu banana-o tabe-ru.
'Ken ate an apple yesterday and Mari will eat a banana tomorrow.'
- (11) [IP [vP [vP Ken-ga kinoo ringo-o ~~tabe~~] (sosite) [vP Mari-ga asu banana-o tabe]] [INFL -ru]]

Selected References: [1] Chomsky, Noam. 2020. Minimalism: Where we are now, and where we are going. A talk given at the 161st Meeting of the Linguistic Society of Japan. [2] Mihara, Ken-ichi. 1997. Renyookei no ziseisitei ni tuite [Tense specification of continuative forms in Japanese]. *Nihongo Kagaku* 1:25-36.

Remarks on syntactic head movement in Japanese: A reply to Sato and Maeda (2021)

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It has been hotly debated whether syntactic head movement (**HM**) exists in Japanese (Fukui & Sakai 2003, a.o.). Sato & Maeda (2021) (**S&M**) argue for the existence of HM based on observations of verb-echo answers (**VEAs**). Reexamining **S&M**, we propose alternative analyses which do not assume HM: (i) the adjunct ellipsis analysis (Collins 2015; Oku 2016; Kobayashi 2020; Landau 2020), and (ii) an analysis based on question-answer congruence (Weir 2017; Tanabe & Hara 2021). Our analyses are shown to have empirical advantages over **S&M**'s analysis.

VTPE ANALYSIS OF VEA: A VEA can be used as an answer to a polarity question as in (1).

- (1) Q: Ken-wa sara-o arai-masi-ta-ka? A: Arai-masi-ta-yo.
Ken-TOP dish-ACC wash-POL-PST-Q wash-POL-PST-PRT
'Did Ken wash dishes?' lit. 'Washed.' ('Yes, he did.')

S&M follow Holmberg (2016) and propose that VEAs are derived via verb-stranding TP ellipsis (**VTPE**) as depicted in (2), where the TP is elided after the verb undergoes V-to-T-to-C movement.

- (2) [CP [TP Subject [VP Object *t_V*] *t_{V-T}*] V-T-C]

NULL ADJUNCTS AND VEA: As Sugimura (2011) observes, adverbs can be phonetically null in VEAs. The VEA in (3A) has an adverb-inclusive reading in that it is most likely to be interpreted as an affirmative answer to (3Q): 'Yes, Ken washed the dishes carefully'. **S&M** claim that the adverb-inclusive reading is derived via **VTPE**, which elides the adverb contained within the TP.

- (3) Q: Ken-wa [_{AdvP} teineini] sara-o arai-masi-ta-ka? A: Arai-masi-ta-yo.
Ken-TOP carefully dish-ACC wash-POL-PST-Q wash-POL-PST-PRT
'Did Ken wash dishes?' lit. 'Washed.' ('Yes, he did.')

However, (4) shows that an adverb can be null in a VEA even if Funakoshi's (2014) verbal identity condition on verb-stranding ellipsis is not satisfied. (4A) has the adverb-inclusive reading; it is interpreted as a positive answer to (4Q): 'Yes, he watches dramas every night without sleep'.

- (4) Q: Professor: Kisi-sensei-wa [_{AdvP} maiban nenaide] dorama-o mi-masu-ka?
Kishi-teacher-TOP every.night without.sleep drama-ACC watch-POL-Q
'Does professor Kishi watches dramas every night without sleep?'

A: Student: Goranninari-masu-yo.
watch.HON-POL-PRT
lit. 'Watches.' (Yes, he does.) (OK: adverb-inclusive reading)

Given this, we argue that an adverb-inclusive interpretation obtained in VEAs is derived not via **VTPE** but by adjunct ellipsis (Oku 2016, a.o.) plus argument ellipsis, as depicted in (5) (see Landau 2020 for arguments that argument ellipsis can apply to multiple arguments in a sentence).

- (5) [CP [TP Subject [VP **Adjunct** Object V] T] C]

VOICE MISMATCHES: **S&M** observe that VEAs do not tolerate voice mismatches as (6) shows. **S&M** argue that the impossibility of voice mismatches supports the **VTPE** analysis because sluicing in English, i.e., TP ellipsis also disallows voice mismatches as seen in (7) (Merchant 2001).

- (6) Q: Ken-wa Yumi-o sikari-masi-ta-ka? A: #Shikar-are-masi-ta-yo.
Ken-TOP Yumi-ACC scold-POL-PST-Q scold-PASS-POL-PST-PRT
'Did Ken scold Yumi?' lit. 'Was scolded.'

- (7) *I know someone scolded John, but I don't know by whom.

Nonetheless, we follow Weir (2017) and argue that (6A) is unacceptable because it yields an incongruent question-answer pair as defined under the Structured Meaning Approach (von Stechow 1990;

Krifka 2001). The question meaning of (6Q) and the focus meaning of (6A) can be represented in (8a-b) (B=Background, R=Restriction, F=Focus). According to Krifka, (6a-b) is an incongruent question-answer pair because they do not share an identity background, i.e. $B \neq B'$.

- (8) a. $\langle B, R \rangle = \langle \lambda f.f(\text{Ken scolded Yumi}), \text{POLARITY} \rangle$
 POLARITY = {Id, \neg }
- b. $\langle B', F \rangle = \langle \lambda f.f(\text{Yumi was scolded by Ken}), \text{Id} \rangle$

Indeed, (9A), which does not involve VEAs, also prohibits voice mismatches. The current analysis based on question-answer congruence successfully rules out (6A) and (9A).

- (9) Q: Ken-wa Yumi-o sikari-masi-ta-ka? A: #Yumi-wa sikar-are-masi-ta-yo.
 Ken-TOP Yumi-ACC scold-POL-PST-Q Yumi-TOP scold-PASS-POL-PST-PRT
 'Did Ken scold Yumi?' lit. 'Yumi was scolded.'

Some speakers find (9A) more acceptable than (6A). Although this suggests that Weir's condition should be weakened, we maintain that the unacceptability of (6A) is not due to a syntactic identity condition on TP ellipsis. (9A) may be more acceptable than (6A) because the information about 'who was scolded by whom' is more easily accommodated in (9A), where the passivized argument 'Yumi' is overtly expressed. The line of pragmatic analysis is supported by the following example. (10A) is a VEA, and yet it is more acceptable than (6A) arguably because it is clear in the discourse that the utterer of (10A) is the one who was scolded by Ken. S&M's syntactic identity approach cannot capture the relative acceptability/unacceptability among (6A), (9A), and (10A).

- (10) Q: Ken-wa anata-o sikari-masi-ta-ka? A: ?Shikar-are-masi-ta-yo.
 Ken-TOP you-ACC scold-POL-PST-Q scold-PASS-POL-PST-PRT
 'Did Ken scold you?' lit. 'Was scolded.'

SCOPAL INTERACTION: We show that S&M's analysis faces an undergeneration problem; it does not explain the scopal interaction between negation and disjunction. S&M argue that (11A) has only NEG>OR because the VEA is derived via VTPE after NEG raises above the disjunction.

- (11) Q: Ken-wa pan-ka-kome-o tabe-ta-no? A: Tabe-nak-atta-yo.
 Ken-TOP bread-or-rice-ACC eat-PST-PRT eat-NEG-PST-PRT
 'Did Ken eat bread or rice?' lit. 'Did not eat.' (*OR>NEG, NEG>OR)

However, as S&M also note, OR>NEG is available in a VEA if it answers a negative question as in (12). This is not explained if (12A) is derived via VTPE, where NEG raises above the disjunction.

- (12) Q: Ken-wa pan-ka-kome-o tabe-nak-atta-no? A: Tabe-nak-atta-yo.
 Ken-TOP bread-or-rice-ACC eat-NEG-PST-PRT eat-NEG-PST-PRT
 'Did Ken not eat bread or rice?' (OR>NEG) lit. 'Did not eat.' (OR>NEG, *NEG>OR)

Given this, we argue following Tanabe and Hara (2021) that the scope patterns are better explained by question-answer congruence. In (11), OR>NEG, which only entails that 'Ken didn't eat both bread and rice (it is possible that Ken ate neither)', does not provide an appropriate answer to (11Q) whereas NEG>OR provides a positive answer. In contrast, OR>NEG is available in (12A) since it provides an affirmative answer to (12Q): 'You're right. Ken didn't eat either bread or rice'.

CONCLUSION: The data on Japanese VEAs are explained without syntactic HM. The adverb-inclusive interpretation is obtained via adjunct ellipsis. The impossibility of voice mismatches as well as the scope pattern of disjunction and negation are better explained by the question-answer congruence. The proposed analyses reveal that VEAs in Japanese can be derived without HM.

SELECTED REFERENCES: Fukui, N & H. Sakai (2003). 'The visibility guideline for functional categories: Verb raising in Japanese and related issues'. Sato, Y & M. Maeda (2021). 'Syntactic head movement in Japanese: Evidence from verb-echo answers and negative scope reversal'.

Encoding causation and aspect into inflectional domain: The view from Burmese causatives

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1. Introduction Valence-changing operations such as those which derives passives or causatives are one of the intensively discussed topics in formal syntax theory of verbal domain (e.g., Pylkkänen 2008; Legate 2014 a.o.). However, formal syntax theories have been developed largely based on a limited number of well-described languages. Thus, examining the theories with data from understudied languages is beneficial to develop the field. The present research investigated the syntax of causation in Burmese, a heavily understudied Sino-Tibetan language, based on original fieldwork with a Burmese native speaker. In this presentation, I focus on a morpheme *?aun* found in “*lou?*”-causative in Burmese, showing that it introduces an infinitival clause which itself has a causative meaning with accomplishment aspect. Building on that, I propose that *?aun* is a single morpheme representing Caus and non-finite T, using Distributed Morphology (Halle and Marantz 1993). This study widens the morpho-syntactic view of how languages express causation and aspect.

2. Structure of Burmese The canonical word order in Burmese is SOV, though scrambled OSV word order is also possible. A grammatical subject is often marked with a nominative case marker *-ga* while a grammatical object is marked with *-go*. As we will see in (2), the dative case marker is homophonous with the accusative case marker. Those case markers are sometimes dropped in spontaneous speech.

3. Causative Data Mathias and San San (2016) reported that Burmese has four periphrastic causative constructions. Among those, they pointed out that “*lou?*”-causative (1b) has a biclausal nature while others are monoclausal. Compare (1b), in which there is an extra morpheme *?aun* (bolded) between the verb *saw* and *lou?* to *se*-causative (1c), which *se* occurs right after the verb. (1a) is a baseline sentence for (1b,c). Notice that the accomplishment interpretation (in the sense of Vendler 1967; Dowty 1979) of the caused event is different between (1b) and (1c) as indicated by the felicity of the continuation ‘*but I did not build the house*’.

- (1) a. *ʃema-ga ej-go saw ke de.*
1.sg.fem-NOM house-ACC build JUNC AFF.NONFUT.
‘I built the house.’
- b. *tu-ga ʃema-go ej-go saw **?aun** lou? ke de.*
3.sg.masc-NOM 1.sg.fem-DAT house-ACC build ? make JUNC AFF.NONFUT.
‘He made me build the house.’ (# *but I did not build the house.*)
- c. *tu-ga ʃema-go ej-go saw se ke de.*
3.sg.masc-NOM 1.sg.FEM-DAT house-ACC build let JUNC AFF.NONFUT.
‘He let me build the house.’ (✓ *but I did not build the house.*)

In the literature, there is a disagreement about *?aun*: Mathias and San San (2016) considered that *?aun* roughly corresponds to English complementizer *that*, while Okell and Allot (2001) assumed that it is an infinitive marker, akin to English *to*. I argue that *?aun* is an infinitive marker, based upon three diagnostics.

First, the case frame of *lou?*-causatives is identical to a ditransitive sentence, showing that it behave like a single clause in terms of case assignment (compare (2) to (1b)). In contrast, (3) indicates that the case domain for a complex sentence with *that*-clause is completely biclausal (i.e., each clause forms a case domain). This indicates that the *?aun*-phrase is not a finite CP which forms an independent case domain.

- (2) *Zozo-ga Susu-go sao?-go be ke de*
Zozo-NOM Susu-DAT book-ACC give JUNC AFF.NONFUT
‘Zozo gave Susu a book.’
- (3) [_{CP} *mjẽ-ga dine la me soda*]-(*go*) *ŋa-ga ti? de*
you-NOM today come FUT that-(ACC) 1.sg-NOM know AFF.NONFUT
‘I know that you will come to see me today.’

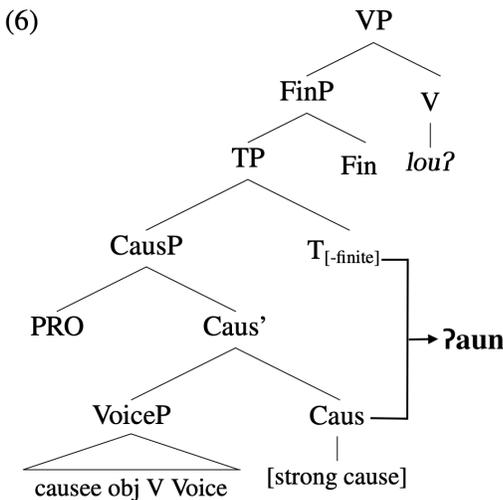
Second, *?aun* can be observed in some control predicates when it implies that the embedded event is accomplished as shown in (4). Note, here, that *?aun* can be replaced by a default infinitive marker *po*, which was robustly observed with control verbs (e.g., *fosa* ‘try’) and raising predicates (e.g., *alaala ji* ‘be likely’). It should also be noted that these markers cannot co-occur adjacently within a single clause which provides evidence that they are classified into the same morpho-syntactic category.

- (4) Zozo-ga Susu-go ka-go we {*po/?aun*} swesan ke de
 Zozo-NOM Susu-DAT car-ACC buy persuade JUNC AFF.NONFUT
 (i) *po* = Zozo persuaded Susu to buy a car (the speaker does not know whether Susu bought a car.)
 (ii) *?aun* = Zozo persuaded Susu to buy a car (the speaker knows that Susu bought a car.)

Third, *?aun* can introduce a causativized infinitival rationale clause as well as the combination of *se* and *po*, independently of the selection by the main verb (see (5)). Interestingly, *se* cannot occur with *?aun* in contrast to *po*, indicating that *?aun* is not a sole-functioning infinitive marker. This unavailability of *se* with *?aun* suggests that a causative meaning is already encoded by *?aun*.

- (5) Zozo-ga Susu-go [manapa asiwe ji de soda]-go ti? {*se po(jen)* / (**se*)
 Zozo-NOM Susu-DAT tomorrow meeting have AFF.NONFUT that-ACC know **let to** / (**let**)
?aun} i-mei po ke de.
to e-mail send JUNC AFF.NONFUT
 ‘Zozo sent Susu an e-mail to let/make her know that there will be a meeting tomorrow.’

4. Proposal To capture the observations above, I propose the structure in (6) for *lou?*-causatives. In (6),



the Caus-head introduces a semantics such that the event denoted by the embedded VoiceP is caused following to Pykkänen (2008). The PRO subject will be bound by the sentential subject introduced by a VoiceP which comes on the top of (6). As a consequence, I argue that the structure of *lou?*-causative is similar to control constructions. In contrast to *lou?*-causatives, I assume that *se*-causatives have a monoclausal structure (as per Mathias and San San 2016) such that *se* directly selects a VoiceP and introduces a causer argument.

In addition, I suggest that the accomplishment aspect of the caused event (i.e., whether the caused event is actually accomplished or not; remember the semantic difference in (1b,c)) maps onto [strong/weak cause] feature, and only the Caus-head with [strong cause] feature undergoes Fusion with $T_{[-finite]}$ (as per Halle and Marantz 1993) which realize the heads as a single

morpheme *?aun*. This analysis nicely explains why *se po* can be observed in (5). Given the fact that (1c) does not contradict with a statement that the caused event is not accomplished, I consider that *se* is a realization of [weak cause] feature. Since only [strong cause] feature can undergo Fusion with $T_{[-finite]}$, if the Caus-head contains [weak cause] feature, the non-finite TP configuration in (6) will be spelled out as *se po* in (5).

5. Conclusion In this research, I found that *lou?*-causatives in Burmese involve a causative infinitival clause headed by *?aun*. I also proposed that *?aun* is a single morpheme representing two syntactic heads; Caus and $T_{[-finite]}$. This research contributes to expand the view of the causative morpho-syntax, especially how languages encodes causation and aspect into syntax.

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ATB-movement and Parasitic Gaps: from the perspective of head movement

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Introduction A recent line of research casts doubt on the claim that head movement and phrasal movement are distinctive syntactic operations (Hartman 2011; Funakoshi 2012; Harizanov 2019; Harizanov and Gribanova 2019; Pesetsky 2020; Lee 2021). This talk specifically examines two particular issues with regard to head movement: (i) whether heads can undergo ATB-movement (Ross 1967; Williams 1978) and (ii) whether their movement can license Parasitic Gaps (PGs, Engdahl 1983), in a similar way as phrases. The null hypothesis is that both configurations are allowed by the mechanism that licenses their phrasal counterparts, which in turn predicts the pattern in (1) and (2).

(1) Schematic representation of ATB-**head**-movement (t_X indicates the launching positions)

- a. $X \dots [_{CP1} \text{Subj } V \ t_X]$ and $[_{CP2} \text{Subj } V \ t_X]$ ATB-movement of heads
- b. $*X \dots [_{CP1} \text{Subj } V Y]$ and $[_{CP2} \text{Subj } V \ t_X]$ * due to Coordinate Structure Constraint

(2) Schematic representation of Parasitic Gaps licensed by **head** movement (Δ indicates a PG)

- a. $X \dots \text{Subj } [_{\text{adjunct}} \dots \Delta \dots] \ t_X$ PGs licensed by head movement
- b. $*X \dots \text{Subj } [_{\text{adjunct}} \dots t_X \dots] \ V$ * due to Adjunct Islands

Claims Based on observations in Cantonese, I show that this null hypothesis is only partially borne out: while ATB-head-movement is attested, PGs fail to be licensed by head movement. The asymmetry further suggests a non-uniform treatment on ATB movement and PG constructions.

Observations To establish this claim, two ingredients are necessary. First, it is important to show that both configurations are attested with phrases in Cantonese.

(3) ATB-movement of *wh*-expressions (cf. Pan 2011)

- bin-wai zokgaa** $[[_{IP1} \text{Aaming zungji } t_{wh}] \ [_{IP2} \text{Aafan m zungji } t_{wh}]]$
 which-CL writer Aaming like Aafan not like
 ‘Which writer does Aaming like but Aafan dislike?’

(4) *Wh*-movement licensing a PG (cf. Lin 2005)

- a. **bin-go jan** Aaming $[\text{hai gin } \Delta \text{ zicin}]$ zau caau-zo $t_{wh} ?$
 which person Aaming at meet Δ before already fire-PERF
 ‘Which person is it who Aaming fired before meeting?’
- b. *Aaming $[\text{hai gin } \Delta \text{ zicin}]$ zau caau-zo **bin-go**?
 Aaming at meet Δ before already fire-PERF who
 ‘Who did Aaming fire before meeting?’

Second, recent literature shows that verb topicalization involves head movement/doubling (but not remnant movement) in Cantonese (Lee 2021; Cheng and Vicente 2013). For example, while verb topicalization can apply long-distance (as in (6)), it shows island effects (as in (8) and (10) below).

(5) Verb topicalization
 $V_1, \text{Subj COP } (V_2) V_1 \text{ (Obj)}$
 \uparrow

(6) **maai**₁, ngo zi $[\text{Aaming hai soeng } \mathbf{maai}_1]$ ge
 buy, I know $[\text{Aaming COP want buy}]$ SFP
 ‘As for (whether he) buys, I know Aaming wants to buy (it) (but...)’

Testing the configurations in (1) and (2) Verb topicalization is allowed in an ATB-fashion, as in (7). It is however disallowed if the topicalized verb only matches the one in the first conjunct, as in (8).

(7) *Scenario: Aaming and Aafan are discussing whether to invest in cryptocurrencies. Aaming thinks that it is time-consuming to learn about them and Aafan thinks that it is too risky to buy them.*

maai₁, ngo gokdak [Aaming hai m-seong **maai**₁] ji [Aafan hai m-gaam **maai**₁]
 buy I think Aaming COP not-want buy and Aafan COP not-dare buy
 ‘As for buying, I think Aaming doesn’t want to buy and Aaming dare not to buy.’

(8) *Scenario: Aaming and Aafan have invested in cryptocurrencies. They can earn some money if they sell them now. Aaming thinks that they should sell them but Aafan thinks that they should invest more.*

***maai**₁, ngo gokdak [Aaming hai seong fong] ji [Aafan hai soeng zoi **maai**₁]
 buy I think Aaming COP want sell and Aafan COP want again buy
 Int.: ‘As for buying, I think Aaming wants to buy more and Aafan wants to sell.’

The situation in PGs is different. Verb topicalization does not license a potential site of PG in the adjunct, as in (9). (10) shows an island effect if the topicalized verb originates in the adjunct clause.

(9) ??**maai**₁, Aaming hai soeng [hai Aafan tai keoi hoji Δ zicin] **maai**₁x ge
 buy Aaming COP want at Aafan remind him may Δ before buy SFP
 Int.: ‘As for buying, Aaming wants to buy before Aafan reminds him that he may (buy) (but...)’

(10) ***maai**₁, Aaming hai soeng [hai Aafan tai keoi hoji **maai**₁ zicin] zou ge
 buy Aaming COP want at Aafan remind him may buy before rent SFP
 Int.: ‘As for buying, Aaming wants to rent before Aafan reminds him that he may buy (but...)’

Analysis For the ATB-case in (7), it can be treated in an identical way as phrasal ATB-movement (e.g., Coordination Reduction (Wilder 1994), Parallel Merge (Citko 2005), or Sideward Movement (Nunes 2001), etc.), and no additional assumption needs to be made. For the PG-case in (9), I suggest that the failure of head movement to license PGs does not immediately necessitate a distinction on heads and phrases in movement theories. Instead, I propose that at least in Cantonese, heads are systematically prevented from licensing PGs under the null operator theory of PGs (Nissenbaum 2000), which suggests that PGs are in fact traces of a null operator that moves within the containing adjunct.

(11) A hypothetical structure for (9), under the null operator theory of PGs

maai₁, Aaming hai soeng [OP hai Aafan tai keoi hoji Δ zicin] **maai**₁ ge

Crucially, I suggest that (9)/(11) is ruled out due to an independent constraint on types of null operators: they cannot be of types of predicates, i.e., <e,t>. This is supported by the observations that constructions involving null operators do not apply to predicates in Cantonese. For example, relativization cannot target predicates (while it can target arguments and adverbials). Also, *wh*-expressions lack a verbal variant, i.e., no interrogative verb (cf. Irurtzun 2020).

Implications ❶ On head/phrase movement: the presence of ATB-movement of heads supports a movement theory that does not distinguish head movement from phrasal movement. Head movement fails to license PGs for reasons independent of the phrase-structural status of the moving element. ❷ On ATB-movement and PGs: the findings support the null operator theory of PGs but speak against the same treatment to ATB-movement (which would otherwise be ruled out) (Munn 1992; Franks 1993). This suggests a non-uniform treatment of the two configurations.

Non-agreeing resumptive pronouns and partial Copy Deletion

Ka-Fai Yip and Comfort Ahenkorah (*Yale University*)

Introduction. In the Copy Theory of Movement (Chomsky 1995, Nunes 1995), movement is understood as creating two copies of a syntactic object in Narrow Syntax and deletion of one copy in the PF. Recently, accumulating evidence suggests that Copy Deletion (CD) may not be applied in a full manner, e.g. it can be distributed (Fanselow & Cavar 2002), suspended (Trinh 2009, Lee 2021), or be replaced by substitution (Mendes & Ranero 2021). Along this line of research, we investigate how CD may be *partially applied* in resumption in two unrelated languages Cantonese (Hong Kong) and Akan (Asante Twi). We report a non-canonical type of resumptive pronouns (RPs) that show *phi*-feature mismatch with their antecedents, found in the object and subject positions in the two languages respectively. We argue that these NON-AGREEING RPs are the realizations of lower copies of movement chains, and propose a partial CD account.

Pronoun inventories. The inventory of pronouns in Cantonese is given in Table 1 and the subject (nominative) pronouns (in proclitic form) in Akan are given in Table 2. Under a Distributed Morphology framework, functional elements like pronouns are spelled out through Vocabulary Insertion in the PF (Halle & Marantz 1993 *et seq.*), i.e. they have no phonological features in lexicon/syntax. (1)-(2) give the featural compositions of the pronouns, where Cantonese pronounces 3SG *keoi* [D] as the default pronoun and Akan pronounces the 3SG inanimate ε -.

	SG	PL
1	<i>ngo</i>	<i>ngodei</i>
2	<i>nei</i>	<i>neidei</i>
3	<i>keoi</i>	<i>keoidei</i>

Table 1: Pronouns in Cantonese

	SG	PL
NOM 1	<i>me-</i>	<i>yε-</i>
2	<i>wo-</i>	<i>mo-</i>
3(anim.)	ε -	$w\varepsilon$ -
3(inanim.)	ε -	ε -

Table 2: Nominative pronouns in Akan

- (1) [D] ↔ *keoi* [D, +author] ↔ *ngo* (Cantonese)
 [D, +pl] ↔ *dei* [D, +addressee] ↔ *nei*
 (2) [D] ↔ ε - [D, +animate] ↔ ε - [D, +author] ↔ *me-* (Akan)
 [D, +addressee] ↔ *wo-* [D, +animate, +pl] ↔ *w\varepsilon*-
 [D, +addressee, +pl] ↔ *mo-* [D, +author, +pl] ↔ *yε-*

NON-AGREEING RPs. A NON-AGREEING RP, manifested as the default pronoun, is found in both languages in local movement of arguments. In Cantonese (an SVO language), an object may move locally to a pre-verbal position with a disposal marker *zoeng* in (3). Notably, the gap may alternate with a NON-AGREEING RP in 3SG as *keoi*, showing mismatch with the plural antecedent (Cheung 1992; see also Xu 1999 for Mandarin & Shanghaiese). Note that the moved object cannot be a bare noun.

- (3) *Nei jiu zoeng *(di) syu_i tai-jyun {_i / keoi_i / *keoidei_i }* [C]
 2SG must DISP CL.PL book read-finish 3SG 3PL ‘You must finish reading the books.’

In Akan (also an SVO language), when the subject moves from ν P to TP (e.g. across a temporal adjunct), the gap may alternate with a NON-AGREEING 3SG inanimate RP as ε - (=4) (\neq obligatory resumption in A-bar movement, *cf.* Korsah 2016). An AGREEING RP *w\varepsilon*- is not allowed. Note that ε - must be at the edge of ν P and cannot be lower than progressive aspect: *\varepsilon-re-tu* ‘3SG-PROG-sing’ vs. **re-\varepsilon-tu* ‘PROG-3SG-sing’.

- (4) *A-sukuu-fo_i no enora {_i / \varepsilon_i- / *w\varepsilon_i-} tu-u ndwom* [A]
 PL-student-PL DET yesterday 3SG-/ 3PL- sing-PST song ‘The students sang yesterday.’

Idiom preservation. NON-AGREEING RPs *keoi* and ε - may occur when a subpart of idioms is displaced. Crucially, the idiomatic meaning is available with a gap and *keoi/\varepsilon*-, but not with canonical AGREEING RPs, as in (5)-(6). Hence, in the former cases, the displaced idiomatic subpart is not base-generated at a higher position. Rather, it originates from a lower position where a gap and a NON-AGREEING RP alternate.

- (5) *Di seoi_i nei jinggoi ceoi-maai {_i / keoi_i / keoidei_i } sin* [C]
 CL.PL water 2SG should blow-ALSO 3SG 3PL SFP.first

[Lit.]: ‘As for those (that) water, you should blow them first.’ (gap, *keoi*, *keoidei*)

[Idiom.]: ‘As for those gossips, you should finish them first.’ (gap, *keoi*)

- (6) *Me pɔnkɔ_i tae {_i / \varepsilon_i- / \varepsilon_i-} pɛ ntem* [A]
 POSS horse often 3SG.INANIM 3SG.ANIM want quickly

[Lit.]: ‘My horse is often eager.’ (gap, ε -, ε -) [Idiom.]: ‘I am often in a hurry.’ (gap, ε -)

Locality. Both NON-AGREEING *keoi* and ε - may occur in long-distance A-bar dependencies, just like canonical AGREEING RPs, as shown in the long-distance relativization in (7)-(8).

- (7) *Go di [cpngo gokdak [cp nei jinggoi faaidi tai-jyun {keoi_i / keoidei_i }] ge syu_i* [C]
 that CL.PL 1SG think 2SG should faster read-finish 3SG 3PL MOD book
 ‘Those books which I think you should finish as soon as you can’

(8) **M-mofra_i no** [CP_{aa} me dwene [CP_{SE} {ε_i- /wɔ_i-} kɔ-ɔ sukuu no]] [A]
 PL-child DET REL 1SG think COMPL 3SG-/3PL- go-PST school DET
 ‘The children who I think went to school’

Unlike canonical AGREEING RPs, crucially, the NON-AGREEING *keoi* and ε- cannot ameliorate island violations, such as the adjunct island in (9) and the complex NP island in (10).

(9) Go di [CP [Adjunct] jyu_{gwo} ngo laai-zo {*keoi/ keoidei_i}] daaigaa zau wui hou hoisam] ge gougun_i
 that CL.PL if 1SG arrest-PERF 3SG 3PL everyb. then will very happy MOD official
 ‘Those officials who if I arrested them everybody will be very happy’ [C]

(10) M-mofra_i no [CP aa me te-e [NP n-konkansa fa-a wɔn ho [CP_{SE} {*ε/wɔ_i}-fa-a pen no]]
 PL-child DET REL 1SG hear-PST PL-rumor take-PST 3PL.POSS body C 3SG-/3PL-take-PST pen DET
 ‘The children who I heard a rumor about them that they took the pen’ [A]

The islands effects suggest that the NON-AGREEING RPs pattern with the “trace” (i.e. the lower copy) of a moved object and subject in the two languages, as schematized below:

(11) [Obj_i ... [vP ... [VP ... <Obj>_i=keoi]]] (C) (12) [Subj_i ... [vP <Subj>_i=ε- ... [VP ...]]] (A)

Note that Cantonese NON-AGREEING *keoi* may also occur with a post-verbal object (=13)), which seems to pose a challenge to the movement analysis. Yet, a bare noun is banned (cf. (3)), suggesting object movement to a vP-internal position (Diesing 1992, 1997, Travis 2010), i.e. [vP Obj_i [VP ... <Obj>_i=keoi]]

(13) Nei jiu tai-jyun *(di) syu_i {keoi/ *keoidei_i} [C]
 2SG must read-finish CL.PL book 3SG 3PL ‘You must finish reading the books.’

Proposal: partial Copy Deletion. To account for both featural mismatch and movement properties of Cantonese *keoi* and Akan ε-, we propose that CD may be partially applied by *not* deleting all the features but retaining the label of the lower copy (i.e. the highest categorical feature). Specifically, when a DP moves and creates two copies, instead of erasing of all the features in the lower copy, CD may only erase the *phi*-features and the features in the complement of D. What remains is [D], i.e. the label.

(14) Syntax: α_{[D],[φ]}, β_{[D],[φ]}, ... ; where (α, β) is a chain created by movement

CD: (i) α_{[D],[φ]}, ~~β_{[D],[φ]}~~ → surface string = α

(ii) α_{[D],[φ]}, β_{[D],[φ]} → surface string = α ... exponent of D (=default pronoun)

In effect, the lower object copy in Cantonese with [D] left spells out as *keoi* through Vocabulary Insertion (cf. (1)), and the lower subject copy in Akan spells out as ε- (cf. (2)), deriving the featural mismatch. Movement properties also follow since they are the realizations of the lower copies. Note that this partial application of Copy Deletion is optional, and hence the alternation of the NON-AGREEING RPs with a gap.

An alternative. Another possible approach is stranding, where RPs form a big DP constituent with its antecedent that moves out and leaves the RP stranded (Aoun et al. 2001, Boeckx 2003). The NON-AGREEING RPs could be understood as a special form of (stranded) determiners. Yet, problems arise to why this purported big DP constituent is never found in Cantonese and Akan as a whole. In Cantonese, a string of [NON-AGREEING RP + antecedent] only gives a possessive reading, instead of the desirable co-referential reading (=15)). While the [antecedent + NON-AGREEING RP] string is found in postverbal cases, it does not form a constituent as evidenced by its inability to move (=16)). The same applies to Akan as well. Hence, the stranding approach might not be adequate to account for the NON-AGREEING RPs.

(15) [Keoi di syu] [C] (16) *Nei jiu zoeng [di syu_i keoi_i] tai-jyun _ [C]
 3SG CL.PL book 2SG must DISP CL.PL book 3SG read-finish
 ‘his/her books’ / Not: ‘(the) books’ Int.: ‘You must finish reading all the books.’

Implications. First, the morphological forms of RPs in both languages are *correlated* with movement properties: only NON-AGREEING RPs involve movement, but not AGREEING RPs. Both movement strategy (Engdahl 1985, Demirdach 1991) and base-generation/agreement strategy (Adger & Ramchand 2001, Rouveret 2002, 2008, Rezac 2011) of resumption are attested within the same languages. **Second**, Copy Deletion can be *partially applied*. Further exploration on how the partial application of CD is regulated may shed light on movement theories in general and Linearization as well. **Third**, the current proposal may extend to AGREEING RPs that show robust movement properties in languages like Swedish (Engdahl 1985). Assuming that [D] may bundle with *phi*-features as a whole and cannot be deleted separately, CD only deletes the features of the complement of D, leaving the [D]-*phi*-feature bundle pronounced.

Afterthoughts and Right Dislocation in Colloquial Singapore English: An Experimental Approach

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1 Introduction

Previous cross-linguistic work classifies utterances in (1) as Afterthoughts (AT) and those in (3) as Right Dislocation (RD) (Ott & De Vries, 2016). AT contains an utterance-final predicate while RD contains an utterance-initial predicate; *popular* in (1) and (3).

Experiment 1			
	Afterthought (AT)	Fragment Answer (FA)	Right Dislocation (RD)
SFP	(1a) He win pageant last time, popular sia.	(2a) Popular sia. I heard he win pageant last time	(3a) Popular sia her older brother.
NIL	(1b) *He win pageant last time, popular.	(2b) Popular. I heard he win pageant last time	(3b) *Popular her older brother.
DEG	(1c) He win pageant last time, very popular.	(2c) Very popular. I heard he win pageant last time.	(3c) Very popular her older brother.
Experiment 2			

Contrary to pragmatic analyses which claim that AT and RD are speech errors or serve to supply further information (Geluykens, 1987; Luke, 2004), I show that AT and RD in Colloquial Singapore English are not merely a performance issue as they are subject to the generalization in (4) and support this using an experimental investigation.

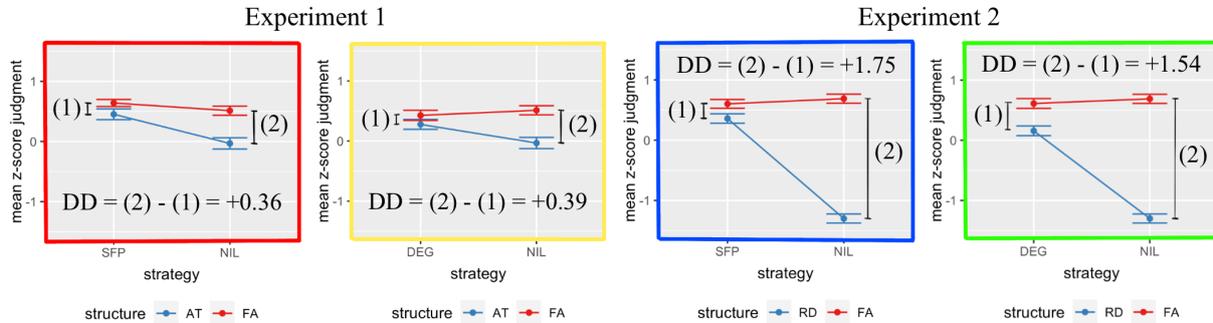
- (4) a. AT and RD disallow bare predicates.
 b. Sentence-final particles (SFPs) or degree modification is necessary for AT and RD.

While bare predicates are licit fragment answers (2b), either SFP *sia* (1a,3a) or degree modifier *very* (1c,3c) is required for grammatical AT and RD. I present the experiments in §2 and account for the findings (§3) by proposing that AT and RD containing bare predicates violate the Anchoring Condition (Ritter & Wiltschko, 2005; Tang & Lee, 2000; Yu, 2015). I also show that not all instances of Anchoring are equal. Contra Yu (2015) who proposes that copula-less sentences in CSE are anchored by time, I show that temporal anchoring is unavailable for AT and RD and that AT and RD are anchored via focus instead.

2 Experiment

The results of two acceptability judgement experiments support the generalization in (4) for adjectival predicates. Experiment 1 compared AT with FA while Experiment 2 compared RD with FA. The effect of each strategy was examined using a factorial design. Taking SFP use in Experiment 1 as an example, two factors (STRUCTURE and STRATEGY), each with two levels (AT/FA and SFP/NIL) were used (conditions bordered in red in the table). This design was repeated for degree modification in Experiment 1, and for SFP use and degree modification in Experiment 2 (Conditions for each factorial design are marked with different colours in the table). Thus, each design used four conditions to identify an interaction of STRUCTURE and STRATEGY by controlling for independent penalties associated with the absence of an SFP/degree modifier and processing the AT/RD structure. The mean z-scores for each set of four conditions are plotted in the interaction plots below (The colour of each set of four conditions matches its respective interaction plot). The *differences-in-differences* (DD) score was calculated (as annotated). A positive DD score isolates the unacceptability costs of AT/RD with bare adjectives not accounted for by the independent penalties mentioned above. The results showed a positive DD score for SFP use and degree modification in both experiments (AT: SFP:+0.36, DEG:+0.39; RD: SFP:+1.75, DEG:+1.54). The linear mixed

effects model also revealed a statistically significant interaction of STRUCTURE and STRATEGY for SFP use ($F[1, 270.2] = 6.88, p < 0.01$) and degree modification ($F[1, 70.1] = 6.95, p < 0.01$) in Experiment 1 with AT. This was also found in Experiment 2 for RD; the STRUCTURE×STRATEGY interaction was significant for SFP use ($F[1, 48.7] = 117.56, p < 0.001$) and degree modification ($F[1, 277.0] = 106.65, p < 0.001$).



3 Analysis

The results suggest that there is a violation associated with AT and RD containing bare adjectives that is repaired by SFP use or degree modification. Generalizing these findings beyond adjectival predicates, I propose that the ban on bare predicates in AT and RD can be attributed to a violation of the Anchoring Condition (Ritter & Wiltschko, 2005; Tang & Lee, 2000; Yu, 2015), which requires events and states to be anchored to the utterance (by time) or to another salient reference point.

Although anchoring commonly takes place temporally via tense (Enç, 1987), and Yu (2015) proposes that copula-less sentences in CSE are anchored to time via aspect, temporal adverb *last time* (5) and overt tense morphology on *works* (7a) do not increase the acceptability of AT and RD. SFP *sia* (5b,7b) or *very* (5a) are still required for grammatical AT and RD.

- (5) a. She accept new idea now leh, *(very) small-minded last time. (AT)
 b. She work at Google last time */?(sia) that girl. (RD)

Thus, following Tang and Lee (2000), who conceptualize the Anchoring Condition as a Generalized Anchoring Principle which requires sentences to be tensed or focused at LF, I propose that SFP and degree modification anchor AT and RD by focus rather than to time by making reference to a set of alternatives. Empirical support for this comes from how focus adverb *only* in CSE results in grammatical AT and RD (6).

- (6) a. She win the diving event leh, *(only) 14 years old. (AT)
 b. She *(only) 14 years old that diver. (RD)

I propose that the unavailability of temporal anchoring may be attributed to how AT and RD are subject to an additional requirement of being evaluative (Fernández-Sánchez, 2020). Following Kölbel's (2004) notion of *faultless disagreement*, a proposition is evaluative if two speakers disagree and it cannot be objectively determined whether either speaker is correct. Although (7a) is 'temporally anchored' via tense, the proposition that she works at Facebook is non-evaluative as it is either true or false when (7a) is uttered. However, SFP *sia* in (7b) may coerce *she works at Facebook* into an evaluative proposition, by virtue of the pragmatic function of SFPs in encoding speaker attitudes (Gupta, 2006). As *sia* is used as a response to unexpected information (Lee, 2018), the proposition 'that she works at Facebook is surprising' is now evaluative as it is no longer objectively established but dependent on the speaker's opinion, accounting for the acceptability of (7b).

- (7) a. * She works at Facebook that girl. (RD)
 b. She works at Facebook sia that girl.

Resumptive pronouns = pronouns ≠ traces: Evidence from Arabic varieties

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Resumptive pronouns alternate with gaps in certain positions in *wh*-questions in Arabic varieties, most prominently in direct object position. A substantial tradition of work on resumption has analyzed (a subset of) resumptive pronouns as the derivational residue of movement (especially Aoun et al. 2001; Boeckx 2003; Sichel 2014; Sportiche 2018, 2020). I show from novel data that this position is untenable for Arabic varieties where standard anti-cyclicity and anti-connectivity diagnostics distinguish resumptives *qua* base-generated elements from traces. I follow and expand upon work by Guilliot & Malkawi (2006, 2011) and Salzmann (2017), arguing that **resumptives, being pronouns, are definite determiners with elided NP content.**

1. Resumptive pronouns are not sensitive to islands. Traces are (see Choueiri 2002, 2017).

The *wh*-question in (1) spans a relative clause island and must terminate in a resumptive pronoun.

- (1) ja: la:ʕibi:n θibbi:n ajj aħad [jħibb-*(hum)]?
which players like.2.F.SG any one [likes.3.M.SG-*(them)]
‘Which players do you like anyone who likes { *__ / them }?’ (Iraqi Arabic)

Similar data (omitted here) distinguishing resumptives from traces are adduced for other islands. This contrast is straightforwardly explained if resumptives are base-generated in-situ and A-bar bound by operators, because binding, but not A-bar movement, is island-insensitive.

2. Resumptive pronouns do not license parasitic gaps in adjunct clauses. Traces do. In (2), only a trace in the main clause licenses a parasitic gap in the adjunct clause headed by ‘without.’

- (2) ja: mumaθθili:n wað^ʕð^ʕafti {__ / *-hum} [bidu:nma tqa:bili:n pg]?
which actors hired.2.F.SG { / *-them} [without meet.2.F.SG]
‘Which actors did you hire {__ / *them} [without meeting *pg*]?’ (Iraqi Arabic)

The same asymmetry between traces and resumptives is found with long-distance *wh*-questions (see (3)): only if there is a trace in the base position are parasitic gaps licensed along the dependency. Arabic varieties thus seem to lack ‘mixed chains’ (cf. McCloskey 2002; Sportiche 2018).

- (3) minu ʔinti [tiʕrufi:n [in-ni raħ aħibb {?__ / *-ha}] [min gabl ma a:ni
who were.2.F.SG know.2.F.SG that-1.SG FUT like.1.SG { / *-her} from before what 1.SG
aʕu:f [pg]].
see.1.SG
‘Who did you [know [that I would like {?__ / *her}] [before I ever met *pg*]?’ (Iraqi Arabic)

Assuming that parasitic gaps diagnose movement (e.g. Nissenbaum 2000), such movement must *only* be available when the A-bar dependency terminates in a gap. Accounts which do not specifically tie parasitic gap licensing to movement fail to explain the contrast.

3. Resumptive pronouns cannot be bound by a case-marked operator. Traces can be. The differentially object marked *wh*-word *ʔil-man* ‘whom (ACC-who)’ in Iraqi Arabic is not compatible with resumption (see (4b)), whereas its caseless counterpart *minu* ‘who’ is (see (4a)).

- (4) a. **minu** titwaqqaʕi:n Hend ixtarat {__ / -ah}
who suspect.2.F.SG Hend chose.3.F.SG {__ / -him}
b. **ʔil-man** titwaqqaʕi:n Hend ixtarat {__ / *-ah}
ACC-who suspect.2.F.SG Hend chose.3.F.SG {__ / *-him}
Both: ‘Who(m) do you suspect Hend chose?’ (Iraqi Arabic)

This bears out Merchant’s (2001) generalization that no resumptive-binding operator can be case-marked. In a resumptive dependency, the *wh*-phrase is not generated in the variable site but rather

in Spec, CP, hence it is never in a position to receive case, contrasting with gapped dependencies. To summarize so far, the contrast between resumptive and gapped A-bar dependencies with respect to the island, parasitic gap, and case facts argues for an approach in which resumptive pronouns are not gaps, and resumptive-binding operators are base-generated separately from their bindees.

4. The reconstruction wrinkle. A naïve base-generation theory of resumptives would predict the absence of *all* connectivity effects, in contrast to traces. This is not, however, what we find: resumptive pronouns license reconstruction for scope and binding in Arabic (Choueiri 2002). For example, the pronominal variable *-u* ‘his’ in (5) which is pied-piped by a *wh*-phrase can be bound by the non-c-commanding quantifier NPI *hadd* ‘one’ which is interpreted as ‘nobody’ under negation. Crucially, the quantifier *does* c-command the resumptive pronoun which the *wh*-phrase binds.

- (5) [amma fatra mtaʕ hje:t-u_i] hadd_i ma-jhibb jtðakkar-ha?
 [which period.F.SG of life-his_i] one_i NEG-want.3.M.SG remember.3.M.SG-it.F.SG
 ‘[Which period of his_i life] does nobody_i want to remember (it)?’ (Tunisian Arabic)

The reconstruction evidence seems *a priori* incompatible with the anti-cyclicity and anti-connectivity effects from (1)–(4). There are in principle two ways to resolve this tension: either (i) modify a movement analysis of resumption to explain why spelled-out traces (= resumptives) behave differently from silent ones (= gaps), or (ii) modify a base generation analysis of resumption to predict the presence of (limited) semantic connectivity effects.

5. Resumption as nominal ellipsis. I follow Guilliot & Malkawi (2006, 2011) and Salzmann (2017) in pursuing the second approach, extending Elbourne’s (2001, 2005) NP-deletion theory of E-type anaphora to a base-generation analysis of resumptive pronouns. Specifically, resumptive pronouns are analyzed as hidden definite descriptions with elided NP content (see also Postal 1966). Prior to ellipsis, (5) will have the structure in (6). Reconstruction results from interpreting the lower, elided NP where the variable *-u* ‘his’ can be bound by *hadd* ‘nobody’.

- (6) amma fatra mtaʕ hje:t-u_i hadd_i ma-jhibb jtðakkar [DP -ha [NP fatra mtaʕ hje:t-u_i]]?
 which period of life-his_i one_i NEG-want remember -it period of life-his_i

The fact that resumptive pronouns show connectivity effects now follows from the fact that pronouns *in general* show connectivity, as shown by paycheck sentences like (7) (Elbourne 2001).

- (7) Joni baʕθet taswi:ret fe:k-ha lel-banka, amma hatta hadd e:xer ma-bʕaθ-ha
 Joni sent.3.F.SG picture.F.SG check-her to.the-bank, but even one else NEG-sent.3.M.SG-it.F.SG
 l-yadi.
 to-there
 ‘Joni sent the picture of her check to the bank, but no one else sent it there.’ (Tunisian Arabic)

In (7), we find apparent covariance without c-command. However, under the NP-ellipsis theory of pronouns, the quantifier in (7) *does* c-command a pronominal variable *-u_i* at LF:

- (8) ... hatta hadd_i e:xer ma-bʕaθ [DP -ha [NP taswi:ret fe:k-u_i]] l-yadi
 even one else NEG-sent.3.M.SG -it.F.SG picture.F.SG check-his to-there

The NP-ellipsis theory of pronouns predicts limited semantic connectivity within a broader base-generation theory of resumption, providing a unified account of anti-cyclicity and (anti-)connectivity effects present under resumption. By generalizing a theory of pronominal anaphora to resumptives, we also account for McCloskey’s (2002: 192) observation that resumptives are indistinguishable from regular pronouns. Time permitting, I will also argue against analyses of resumptive dependencies as structurally ambiguous between movement and base generation (e.g. Sichel 2014), since resumptives can license reconstruction simultaneous with anti-cyclicity/-connectivity effects.

Embedded Root Phenomena in Modern Greek

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This presentation contributes to the study of Embedded Root Phenomena (ERP; Emonds 1970) by investigating the embedded distribution of left peripheral phenomena in Modern Greek, a language that has not been previously explored in the ERP literature. In brief, we show that some left peripheral phenomena (Left Dislocation and Tag Questions) display the same restricted distribution in Greek as they do in English, while others (Topicalization and other phenomena that involve movement to the left periphery) do not. To account for the contrast in the distribution of Greek and English left peripheral phenomena, we propose an analysis that is based on, and adds to, the Truncation account of ERP (Haegeman 2006). Furthermore, we argue that the Greek pattern presents a challenge for the competing Intervention account (Haegeman and Ürögdi 2010).

The availability of Left Dislocation (LD) in Greek complement clauses displays the characteristic distribution of ERP, as described by Hooper and Thompson's (1973) for English. Specifically, Greek LD is acceptable, if slightly degraded, in complement clauses introduced by predicates of Class A (e.g. *leo* 'say'), B (e.g. *pistevo* 'believe') and E (e.g. *diapistono* 'realize'), as shown in (1). On the other hand, LD is completely unacceptable in complement clauses introduced by predicates of Class C (e.g. *arnume* 'refuse') and D (e.g. *lipame* 'be sorry'), as shown in (2). Additionally, negation in the matrix clause renders ungrammatical all of the acceptable cases of embedded LD (cf. (1) and (3)), which is reminiscent of embedded V2 in Mainland Scandinavian (see Heycock 2006 for an overview).

- (1) ?o Nikos ipe / pistevi / diapistose pos i politiki, afti ftene yia ola
the Nick said / believes / realized that the politicians, they are-to-blame for all
'Nick said/believes/realized that politicians, they are to blame for everything'
- (2) *o Nikos arnite pos / lipate pu i politiki, afti ftene yia ola
the Nick refuses that / is-sorry that the politicians, they are-to-blame for all
- (3) *o Nikos den ipe / pistevi / diapistose pos i politiki, afti ftene yia ola
the Nick neg said / believes / realized that the politicians, they are-to-blame for all

Tag Questions (TQs) are another left peripheral phenomenon that displays ERP behaviour in Greek, although with a more restricted distribution than LD. Greek TQs can take the form of 'Neg V', the particle *e* (see Tsoulas 2018 for other uses of *e*), or the fixed expression *etsi den ine* 'isn't it so'. TQs of all forms are possible in the clausal complement of Class B predicates and some, but not all, Class A and E predicates (acceptable examples are shown in (4)). On the other hand, TQs are impossible in all clausal complement of Class C and D predicates (as shown in (5)). Once again, negation in the matrix clause renders ungrammatical the acceptable cases of embedded TQs (cf. (4) and (7)).

- (4) i Eleni ipe / pistevi / emathe pos piges sto parti, den piges / e / etsi den ine?
the Eleni said / believes / learned that went to-the party, neg went / prt / so neg is?
'Helen said/believes/learned that you went to the party, didn't you/right/isn't it so?'
- (5) *i Eleni arnite pos / lipate pu piges sto parti, den piges / e / etsi den ine?
the Eleni refuses that / is-sorry that went to-the party, neg went / prt / so neg is?
- (6) *i Eleni den ipe / pistevi / emathe pos piges sto parti, den piges / e / etsi den ine?
the Eleni neg said / believes / learned that went to-the party, neg went / prt / so neg is?

Several other phenomena that are known to display ERP distribution in English (e.g. Topicalization, Preposing Around Be, Negative Inversion, Locative Inversion) display unrestricted distribution in Greek complement clauses. Here we focus on the case of Topicalization in (7-8), as it provides interesting comparisons with LD and CLLD (Clitic Left Dislocation), a phenomenon that does not display ERP behaviour cross-linguistically (Haegeman and Ürögdi 2010). Specifically, we observe that the shared unrestricted distribution of Topicalization and CLLD supports Alexopoulou and Kolliakou's (2002) arguments for a unified analysis of the two phenomena in Greek, while the ERP distribution of LD suggests that it cannot be assimilated with Topicalization and CLLD.

- (7) o Nikos ipe / pistevi / diapistose pos tin parastasi skinothetise o Karolos Koun

the Nick said / believes / realize that the performance directed the Karolos Koun
'Nick said/believes/realized that the performance, Karolos Koun directed.'

- (8) o Nikos arnite pos / lipate pu tin parastasi skinothetise o Karolos Koun
the Nick refuses that / is-sorry that the performance directed the Karolos Koun

The generally accepted intuition in the relevant literature is that ERP arise because part of the left periphery is inaccessible in some embedded contexts, while it remains accessible in others. This broad idea is implemented in one of two ways. According to the Truncation account (Haegeman 2006), the relevant part of the left periphery is entirely missing in some embedded clauses. According to the intervention account (Haegemana and Ürögdi 2010) the relevant part of the left periphery is always present, but becomes inaccessible in some embedded clauses due to intervention effects caused by the movement of an operator from TP to the left periphery.

On the basis of the Greek data and their contrast with their English counterparts, we propose the following analysis, which builds on the Truncation account. Firstly, we suggest that the locus of LD and TQs is at a higher structural position than the locus of Topicalization. Secondly, we suggest that there is cross-linguistic variation with respect to the parts of the left periphery that are affected by the truncation mechanism. In English, truncation targets some structural position below the locus of Topicalization, thus removing both the position that accommodates Topicalization and the position that accommodates LD and TQs. On the other hand, in Greek, truncation targets some structural position between the locus of Topicalization and the locus of LD and TQs, thus removing the latter but not the former. These rather straightforward hypotheses immediately capture the intra-linguistic contrast between the unrestricted distribution of Greek Topicalization and the ERP distribution of Greek LD and TQs, as well as the cross-linguistic contrast between the unrestricted distribution of Greek Topicalization and the ERP distribution of the same phenomenon in English.

Finally, we discuss a known problem for the Intervention account under the new light provided by the Greek data. As acknowledged even by proponents of this approach (Haegeman and Ürögdi 2010, fn.4), the Intervention account does not straightforwardly extend from phenomena that clearly involve movement to the left periphery (e.g. Topicalization) to phenomena like LD and TQs that do not appear to do so. The Greek case exacerbates this problem as any solution would also need to capture the contrast between the ERP distribution of LD and TQs and the unrestricted distribution of Topicalization in Greek. The only reasonable solution to this conundrum would be to assume that the locus of Topicalization in Greek is below the left periphery, so that the movement of the topicalized constituent does not cross paths with the movement of the operator (cf. Jiménez-Fernández and Miyagawa's (2014) analysis of Spanish CLLD and some forms of Japanese Topicalization). However, such an analysis would require independent motivation.

In summary, we have argued that the distribution of Greek left peripheral phenomena, and its contrast to their English counterparts, is amenable to an appropriately amended Truncation analysis, but not an Intervention analysis. Furthermore, Greek data highlights a subcategory of ERP that has not received sufficient attention, since it does not give rise to empirically observable contrasts in English.

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Japanese should employ different systems to questions with these two structures.

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|---|--|
| <p>(5) (often > \neg > \exists)
 Q: John-wa yoku dare-mo home-nakat-ta no?
 “Did John often not praise anyone?”</p> | <p>A1: Un, daremo home-nakat-ta.
 “(Lit.) Yes, he never praised anyone.”
 A2: Uun, yoku Mary-o home-ta.
 “(Lit.) No, he often praised Mary.”</p> |
| <p>(6) (\neg > \exists > often)
 Q: Dare-mo yoku apo-o tora-nai no?
 “Does no one take an appointment often?”</p> | <p>A1: Un, dare-mo tora-nai.
 “(Lit.) Yes, no one takes it often.”
 A2: Uun, Mary-wa yoku toru.
 “(Lit.) No, Mary takes it often.”</p> |

This data proves problematic for an approach based on scope relations. (5Q) contains predicate negation in Krifka’s terms, which is outscoped by *yoku*. It follows from his analysis that this is answered with a truth-based system. On the other hand, in (6Q) negation outscopes *yoku*, projecting NegP. Since polarity particles pick up a proposition from TP, they pick up a positive proposition in (6). A scopal analysis thus predicts a polarity-based system, contrary to what we find in (6A1) and (6A2). Recall from English examples (2) and (3) where an adverb outscoping negation leads to a shift in the answering system. This is not observed in (5) and (6). By positing crosslinguistic difference in lower structure, this approach fails to account for the fact that Japanese employs the same system for questions with different lower structures.

Featural approach Serividio et al. (2018) takes answer particles to be spell out of features located in the left periphery. Discussing data in Italian, they argue that answer particles in polarity-based languages are bundles of two features, namely REL and POL. REL licenses a discourse move; it is valued positive for confirmation and negative for denial. POL is assigned a value through agree with the inherently valued polarity in the elliptical sentence radical of the question. Although they don’t discuss truth-based languages, they do suggest that these languages could lack POL, and that their answer particles only carry REL. I follow their suggestion and show that Japanese particles are indeed spell out of REL. Following their proposal, I argue for the realization rules below for English and Japanese answer particles.

(7) English:

	REL: +	REL: -
Pol: +	[+] / [+] => (Yes)	[+] / [-] => (No)
Pol: -	[-] / [+] => (No)	[-] / [-] => (Yes)

(8) Japanese: REL [+] => (Un), [-] => (Uun)

Rule (8) accounts for the answering patterns we find in (5) and (6). (5A1) and (6A1) are confirming answers, so REL is valued positive. In denying answers (5A2) and (6A2), REL is valued negative. Note how this won’t be any different for questions with simpler structures. By positing crosslinguistic difference in the featural configuration of particles, this analysis captures how Japanese employs the same system for questions with different lower structures. This approach also accounts for (3) with relativized minimality (Rizzi 2010). Serividio et al. (2018) discusses that in Italian, questions with fronted focus are answered with a truth-based system. They argue that fronted focus blocks the value assignment on POL there. Since POL, Neg and Foc are all quantificational features in Rizzi’s classification, value assignment on POL is blocked by the Foc feature. This blocking effect occurs in (3) as well. *Sometimes*, which is an adverb of frequency, is classified as a quantificational feature, and creates a blocking effect for POL. This way, there is no need to posit different structures for (3) and (4).

Conclusion A parametric approach to featural configuration for answer particles succeeds in capturing crosslinguistic variation in answering systems, where the scopal approach fails short. Namely, a scopal approach fails to account for the fact that Japanese maintains its truth-based system for questions with different negation scope. A featural approach, by positing crosslinguistic difference in higher structure, can straightforwardly derive also the Japanese pattern.

Selected references Krifka, M. 2013. Response particles as propositional anaphors. *Proceedings of SALT 23*: 1-18, Serividio, E., Bocci, G., & Bianchi, V.

On the apparent complementizer in Japanese

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This talk investigates the particle *tte* in Japanese. Contrary to the standard assumption, I argue that *tte* is not a stylistic variant of the unmarked complementizer *to*. Based on a difference between *tte* and *to* regarding the distribution of the particles *mo* ‘also’ and *wa* ‘Top’, I suggest that *tte* involves a compound verb structure with a speech verb and a phonological reduction.

Tte and to in Japanese

In Japanese, *tte* is used instead of the unmarked complementizer *to* often in colloquial speech, as shown in (1).

- (1) John-wa [Mary-ga kawaii {to/**tte**}] itta/sakenda/omotta.
John-Top Mary-Nom cute C/TTE said/shouted/thought
‘John said/shouted/thought that Mary is cute.’

Due to this distribution, *tte* has been typically assumed to be a variant of the complementizer *to* (note that *tte* has other functions, see e.g. Lord 1976, 1993, Ishii 2015, Hirose & Nawata 2016, Saito 2019). However, there is a contrast between *tte* and *to* regarding the distribution of the particles *mo* ‘also’ and *wa* (topic marker). As shown in (2), these particles can appear between *to* and the matrix verb, but not between *tte* and the matrix verb (see Hirose & Nawata 2016). If *tte* were simply a colloquial counterpart of *to*, this contrast would be hard to capture.

- (2) a. John-wa [Mary-ga kawaii {to/***tte**}]*-mo* itta.
John-Top Mary-Nom cute C/TTE-also said
‘John also said that Mary is cute.’
b. John-wa [Mary-ga kawaii {to/***tte**}]*-wa* itta.
John-Top Mary-Nom cute C/TTE-Top said
‘John at least said that Mary is cute.’

Grammaticalization of speech verbs

(A) Historically, *tte* has developed from the combination of the complementizer *to* and the speech verb *iw* ‘say’ (Lord 1976, 1993, Hirose & Nawata 2016, Matsumura 2017 cf. Yuzawa 1954, Maki 1997). In fact, the change from speech verbs to complementizers is one of the most common grammaticalization patterns among unrelated languages. Also, it is well known that (B) the grammaticalization from speech verbs to complementizers is robustly found in languages with serial verb constructions (Lord 1976, 1993, Klamer 2000, Simpson & Wu 2002, Roberts & Roussou 2003). To illustrate the change from *say* to C, consider (3), which involves a serial verb (*tell+say*), schematically given in English (adopted from Simpson & Wu 2002).

- (3) John tell say [_{Clause} ...]

Simpson & Wu (2002) suggest that one of the members of the serial verb construction (*say* in (3)) is reanalyzed as a complementizer, as in (4). This reanalysis results in the change from a speech verb to a complementizer.

- (4) John tell [_{say}(C head) ...]

Analysis

In the light of (A) and (B) above, I suggest that *tte* in (1)/(2) in fact involves a compound verb (or serial/complex verb), which takes the speech verb *iw* ‘say’ as its first member, as in (5) (note that compound verbs are independently found in Japanese, see Kageyama 1993). The second member of this compound verb needs to be a verb of saying or thinking (more specifically, Class A and B verbs under Hooper and Thompson’s 1973 classification).

- (5) [[Subj [_{CP} ... *to*] *iw*-V_{say/think} (e.g. *iw* ‘say’, *sakeb* ‘shout’, *omow* ‘think’) T] C]
→ spelled out as *tte*

I assume that this combination (*iw* + verb of saying/thinking) is lexically specified, just like other lexical compound verbs in Japanese (e.g. *naki-sakeb* ‘cry-shout’, see Kageyama 1993).

Note also that it is independently observed that *iw* can be the first member of lexical compound verbs in Japanese, as in *ii-arawasu* ‘say-express’). I also argue that the combination of the complementizer *to*, which is the head of the embedded clause selected by the matrix compound verb, and the first member of the compound verb (*iw*) is spelled out as (reduced into) morphophonologically one element *tte* under adjacency (via e.g. *fusion*, Halle & Marantz 1993). This reduction reflects the etymology of *tte*, i.e., it has developed from the combination of *to* and *iw* (= (A)). Therefore, *tte* seems to be now in the process of grammaticalization; it is not completely a complementizer, as it involves a speech verb (which is the first member *iw* of the compound verb), but is realized as one element due to the reduction, which makes *tte* look like a complementizer (see (1) above). I assume that this reduction is obligatory in (5); it is well known that phonological reduction often precedes and in fact facilitates grammaticalization processes in general (see e.g. Hopper & Traugott 1993, Roberts & Roussou 2003). This analysis thus enables us to analyze *tte* as a well-attested pattern of grammaticalization (= (B)); *tte* is in the process of grammaticalization of a speech verb resulting from serial verb constructions.

Under this analysis, we can capture the contrast in (2). With the regular complementizer *to*, the particles *mo* and *wa* can appear between the embedded clause and the matrix verb, as the distribution of these particles is quite free. With *tte*, on the other hand, if we try to put these particles, the structure we would get is the following:

(6) [[Subj [CP... *to*] (**mo/wa*) *iw*-(*)*mo/wa*]-V_{say/think} T] C]

First, it is impossible place the particle between *to* and the first member *iw*, because this would block the reduction of *to* and *iw* into *tte*, which an obligatory operation requiring adjacency. Thus, this particle placement yields ungrammaticality. Also, it is impossible to place the particle between the first and the second member of the compound verb; in Japanese, it is disallowed to put a particle inside lexical compound verbs (e.g. **naki-mo/wa-sakeb* ‘cry-also/Top-shout’, see Kageyama 1993). Therefore, it is impossible to obtain the *tte-mo* or *tte-wa* sequence.

Notice that the suggested reduction process of *to-iw* to *tte* is independently found in Japanese, as shown in (7).

(7) a. [[Mary-ga kawaii {*to-iw/tte*}]] uwasa
 Mary-Nom cute C-say/TTE rumor
 ‘the rumor that Mary is cute.’

b. John-ni genki-ka kii-tara, kare-wa [aiken-ga sinda] {*to-iw/tte*}.
 John-to fine-Q ask-when he-Top pet.dog-Nom died C-say/TTE
 ‘When I asked John if he is fine, he said that his pet dog died.’

(7a) shows that the combination of *to* and *iw* can be realized as *tte* in a complex NP. Also, the reduction of *to* and *iw* can apply in a main clause, as in (7b) (e.g. Oshima 2010, Saito 2019). A question arises here as to why the reduction in (7) is optional while the one in (2)/(5) above is obligatory. I suggest that *tte* is now undergoing grammaticalization starting from serial verb constructions, as cross-linguistically observed (= (B)), so this is the only environment (yet) where the reduction in question is obligatory.

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How to build a reflexive: Unaccusativity and reflexive prefixation in Greek

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Whether reflexiv(iz)e(d) verbs are unaccusative or unergative (e.g. Embick 2004 vs Reinhart and Siloni 2004) is controversial. Using novel diagnostics, I show that Greek reflexives are unaccusative, and provide an explicit semantics whereby reflexivity involves a Voice head (cf. Ahn 2015) that is semantically agentive but structurally unaccusative. Finally, *contra* Spathas et al. (2015), I argue that reflexivity in Greek does not emerge from the composition of non-reflexive pieces (cf. Kastner 2017; Wood 2014).

Basic data Alongside argumental reflexives (1), Greek reflexivizes predicates by prefixing *afto-*, which obligatorily co-occurs with nonactive morphology (2) (Embick 1998 i.a.). Reflexivity requires both *afto-* and NACT: *afto-* cannot attach to active verbs (3), and NACT verbs are generally not interpreted reflexively without it (4).

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|---|---|
| <p>(1) I Maria katiyori- s- e ton eafto tis.
the Mary $\sqrt{\text{ACCUSE ACT}}$ 3SG the self her
'Mary accused herself'</p> | <p>(3) *I M afto- katiyori- s- e (to Jani).
the M self- $\sqrt{\text{ACCUSE ACT}}$ 3SG the John.ACC
'*Mary self-accused_{active} (John)'</p> |
| <p>(2) I Maria afto- katiyori- θ- ik- e.
the Mary self- $\sqrt{\text{ACCUSE NACT}}$ PST 3SG
'Mary self-accused.'</p> | <p>(4) I Maria katiyori- θ- ik- e.
the Mary $\sqrt{\text{ACCUSE NACT}}$ PST 3SG
'M was accused ✓by someone else / *by herself'</p> |

Against emergent reflexivity I demonstrate that the behavior of *afto-* dissociates from that of anti-assistives, *contra* Spathas et al. (2015). (i) If *afto-* is anti-assistive, it is unclear why it cannot combine with active Voice; in Spathas et al. (2015), this is stipulated by means of selection. Note that the *bona fide* Greek anti-assistive shows no such restriction, (3) vs. (5). (ii) If *afto-* is anti-assistive, the complementarity between this element and Naturally Reflexive Verbs (8) does not follow; (8) should be grammatical on the reading 'M washed without help'. The true anti-assistive again behaves differently, (6). (iii) *afto-* nominals (7) are reflexive, not anti-assistive; these do not mean e.g. 'defense without help'. (iv) The analysis in Spathas et al. (2015) incorrectly predicts that (9) should be a contradiction, since *afto-* is anti-assistive but the PP contributes an explicit helper to the event. (v) Greek has a reciprocal prefix *allilo-* whose distribution exactly parallels that of *afto-*: it yields reciprocal readings with NACT, and is incompatible with ACT or with Naturally Reciprocal Verbs. No anti-assistive semantics can be plausibly adduced for *allilo-*, and the parallel distribution clarifies that the phenomenon here picks out anaphoric elements.

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| <p>(5) I M katiyorise to Jani moni tis.
the M accused.ACT the John.ACC alone her
'Mary accused John herself'</p> | <p>(7) afto- { amina, katastrofi, vioyrafia, ... }
self defense destruction biography
'self-defense, self-destruction, autobiography'</p> |
| <p>(6) I Maria pli- θ- ik- e moni tis.
the Mary $\sqrt{\text{WASH NACT}}$ PST 3SG alone her
'Mary washed without help.'</p> | <p>(8) I Maria (*afto-) pli- θ- ik- e.
the Mary self $\sqrt{\text{WASH NACT}}$ PST 3SG
'Mary (*self-)washed'</p> |
- (9) Me ti voi θ ia tis Marias, o Janis afto- diaynos- θ - ik- e.
with the help the.GEN Mary.GEN the John self- $\sqrt{\text{DIAGNOSE NACT}}$ PST 3SG
'With Mary's help, John diagnosed himself'. (e.g. where M helps J diagnose his mysterious illness)

Evidence for unaccusativity I show that *afto* verbs are unaccusative (cf. Alexiadou 2014), and not unergative (*contra* e.g. Tsimpli 1989). Firstly, malefactive applicatives (cp. Alexiadou et al. 1999) can be built on the basis of transitives (10) and unaccusatives (11), but not unergatives (12) (here *on me* = 'to my detriment'). Crucially, *afto-* reflexives pattern with unaccusatives (13). This is expected on a Pylkkänen (2008)-type analysis, whereby malefatives are introduced by Low Appl, and directly relate the affected argument to the internal one; on an unergative analysis of reflexives, Appl would have nowhere to attach.

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| <p>(10) Mu evrise to peθi tis Marias.
1SG.GEN curse.PST.3SG the child the Mary.GEN
'S/he cursed M's child <i>on me</i>.'</p> | <p>(12) *Mu etrekse to peθi tis Marias.
1SG.GEN run.PST.3SG the child the Mary.GEN
'Mary's child ran on me.'</p> |
| <p>(11) Mu efije to peθi tis Marias.
1SG.GEN leave.PST.3SG the child the Mary.GEN
'M's child left on me.' (e.g. it ran away)</p> | <p>(13) Mu afto- katastrafike to
1SG.GEN self destroy.NACT.PST.3SG the
δiastimoplio.
spaceship
'The spaceship self-destructed on me.'</p> |

Moreover, predicative complements of *declare*-class verbs form small clauses with the internal argument, whose case they match (see active (14) vs passive (16)). Crucially, and unlike all unergatives, *afto*- verbs can take predicative complements (15), suggesting that their sole argument is a deep object.

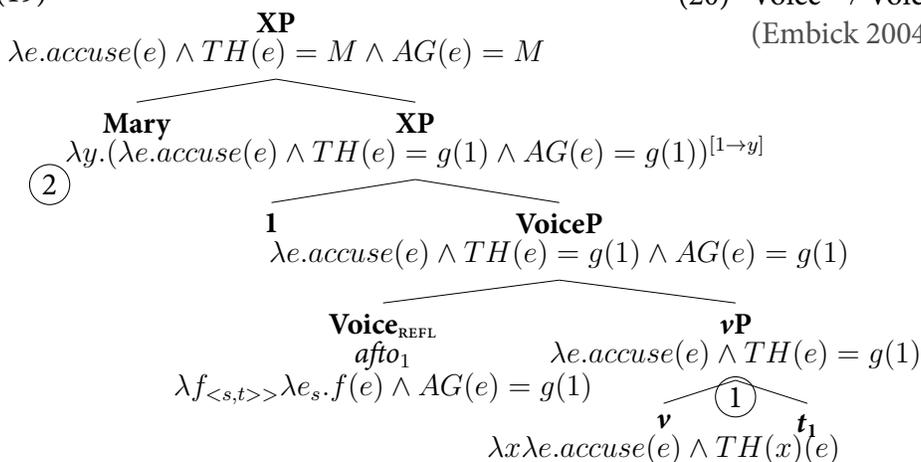
- (14) O *papas anakirikse ton Karolo vasilia.* (15) O *Karolos afto- anakirixθike vasilias.*
 the pope declared the C.ACC king.ACC the C.NOM self- declared.NACT king.NOM
 ‘The pope declared Charles king.’ ‘Charles declared himself king.’
- (16) O *Karolos anakirixθike vasilias (apo ton papa).*
 the C.NOM declare.PASS.PST.3SG king.NOM by the pope
 ‘Charles was declared king (by the pope).’

Evidence for A-mvmt Condition C shows that the sole argument of *afto*- verbs leaves the internal argument position, without reconstructing. In transitive clauses with two R-expressions, the possessor of the theme is c-commanded by the agent, yielding a Condition C violation (17a), but not vice versa (17b). (18) shows that the internal argument of *afto*- verbs raises to a position c-commanding the IO (NB Greek is IO>DO, *Anagnostopoulou*:2003), leading to a Condition C violation in (18a), and Condition C avoidance in (18b).

- (17) a. *O *Petros_i katiyorise ti mitera tu Petru_i.*
 the Peter.NOM accuse.ACT.PST.3SG the mother.ACC the Peter.GEN
 ‘Peter accused Peter’s mother.’
 b. ?I *mitera tu Petru_i katiyorise ton Petro_i.*
 the mother.NOM the Peter.GEN accuse.ACT.PST.3SG the Peter.ACC
 ‘Peter’s mother accused Peter.’
- (18) a. *O *Petros_i afto- parusiastike tis miteras tu Petru_i.*
 the Peter.NOM self present.NACT.PST.3SG the mother.GEN the Peter.GEN
 ‘Peter presented himself to Peter’s mother.’
 b. I *mitera tu Petru_i afto- parusiastike tu Petru_i.*
 the mother.NOM the Peter.GEN self present.NACT.PST.3SG the Peter.GEN
 ‘Peter’s mother presented herself to Peter.’

Analysis *afto*- is a reflexivizer realizing Voice_{REFL} (note that -θ does not realize Voice, but rather Asp in the context of NACT; Author 2021). Syntactically, Voice_{REFL} is specifier-less, deriving (i) the obligatory co-occurrence of *afto*- with NACT (by (20), Greek Voice heads lacking a specifier receive the feature NACT at PF); (ii) movement of the object for Case (cf. Kayne 1988). Semantically (19), Voice_{REFL} takes a function whose theme was saturated by the object’s trace (①); by Traces Rule, Heim and Kratzer 1998). *afto*- is index-bearing; both it and the trace are bound by the index at the landing site of the theme, and *afto* introduces an agent, identifying it with the assignment function’s output for that index. Through binding (Predicate Abstraction, ②), the theme and agent slots are associated with the same variable, and saturated by the object in its landing site.

- (19) (20) Voice → Voice_{NACT} / No DP specifier __
 (Embick 2004; Alexiadou et al. 2015)



afto- is then incompatible with actives, unaccusatives and deponents (Alexiadou 2014), Voice_{REFL} being in complementary distribution with other Voice flavors. Overall, this analysis extends to the domain of reflexivity a recent a line of work severing syntactic from semantic agentivity (e.g. Schäfer 2008; Akkuş 2021).

Semantics

Gèng: A super flexible comparative morpheme

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Synopsis Mandarin Chinese *gèng* (*even more*) has been argued to be a comparative morpheme by Liu (2010) (see also Lin2014, Yang2017). This paper shows that *gèng* is compatible with various types of predicate, and expands Liu's proposal to cover such cases.

Previous Study Liu distinguishes a phrasal-*gèng* (1) and a clausal-*gèng* (2), and we are concerned with the latter. He proposes that the clausal-*gèng* takes two degree intervals as its arguments (the degree interval between *LS* and the norm on the happiness scale and the degree interval between *ZS* and this norm); *gèng* asserts the former is larger than the latter and presupposes that both *ZS* and *LS* are above the norm on the happiness scale. A crucial covert assumption of Liu(2010) is the presence of some overt grammatically gradable predicate to which *gèng* has access (all his examples involve overtly accessible adjectives). We will illustrate that this is not necessarily the case.

(1) *Zhangsan bi Lisi gèng kaixin.* (2) *Zhangsan hen kaixin, Lisi gèng kaixin.*

Zhangsan than Lisi gèng happy Zhangsan very happy Lisi gèng happy

"Zhangsan is even happier than Lisi." "Zhangsan is happy; Lisi is even happier."

Core empirical observations a) *Gèng* is compatible with grammatically non-gradable but conceptually graded predicate, e.g. the denotic modal *bixu/must* (Lassiter2017) (3). b) *Gèng* is felicitous in the absence of any grammatically gradable or conceptually graded predicate, e.g. *sha-le-ren/kill-ASP-person* in (4). But note that the two predicates (*hit the person* vs. *killed the person*) can be compared along some pragmatic scale. c) If the predicate is grammatically non-gradable and conceptually non-graded and there is no salient pragmatic scale, *gèng* is infelicitous, e.g. incompatibility with the predicate "*be an odd number*" in (5).

(3) *"Jihua de shidai, shi suoyou ren bixu xuanbian-zhandui de shidai, xiang Hu Shih zheyang youzhe juda yingxiangli de ren, gèng bixu xuanbian-zhandui."* (from Internet)

polarized DE epoch be all person must take-side DE epoch like Hu Shih this have enormous impact DE person gèng must take-side

"In a polarized epoch, everyone must take side; an influential figure like Hu Shih gèng must take side./it is even more so that an influential figure like H-S must take side."

(4) *"Tamen liang, yi-ge da le ren, yi-ge gèng sha le ren."* (Liu2010,fn.9, my translation)

they two one-CL hit ASP person one-CL gèng kill ASP person

"Of the two, one hit the person, and the other one even killed the person."

(5) *#"7 shi ji shu, 9 gèng shi ji shu."*

7 COP odd number 9 gèng COP number

"7 is an odd number; 9 is gèng an odd number./ 9 is even more of an odd number."

We observe that (4) is redolent of English *even* or its Chinese counterpart *shènzhì* under the gradability-based account (Greenberg 2018) given that both seem able to operate on some contextually supplied gradable predicate. If we tentatively equate *gèng* with *even* following Greenberg(2018), (3) would receive this interpretation: it is presupposed that a) *gèng* operates on some contextually supplied gradable predicate (say guilty); b) in the w_1 worlds where p ("the other one killed the person") holds, "the other one" is POS guilty, and in the w_2 worlds where p 's salient alternative q ("one hit [but didn't kill] the person"), "one" is POS guilty; c) "the other one" in w_1 is more guilty than "one" in w_2 . We just need to make one tweak: the underlined c) is not part of *gèng*'s presupposition but assertion. But crucially, *gèng* is distinct from *even/shènzhì* w.r.t the scale ordering. In (6), both *gèng* and *even/shènzhì* stay with the logically stronger proposition (*syntactician* \subseteq *linguist*) whereas in (7) *gèng* but not *even/shènzhì* can stay with the logically weaker proposition (*non-syntactician* $\not\subseteq$ *non-linguist*).

(Context for 6-7: Adam asks Bill whether Joe can solve some syntax puzzle. Bill replies:)

6) *"Ta shi yuyanxuejia, gèng/shènzhì shi jufaxuejia, kending neng"*

He COP linguist gèng/even COP syntactician certainly can

"He is a linguist; he is even a syntactician. He can certainly (solve it)."

7) “*Ta bu shi yuyanxuejia, gèng/#shènzhì bu shi jufaxuejia, kending bu neng*”
he NEG COP linguist gèng/even NEG COP syntactican certainly NEG can
“he is not a linguist; he is gèng/#even not a syntactician. He certainly cannot (solve it).”/“he is not a linguist, let alone a syntactician. He certainly cannot (solve it)”

Proposal & Accounting for Data We agree with Liu(2010) that *gèng* is a comparative morpheme but propose that it can operate on any conceptually graded predicate, covert or overt, and crucially, that it operates on a predicate but not propositional level. Assuming the Interpretive Economy (Kennedy2007), we suggest the following interpretation hierarchy for *gèng*: a) with access to any overt grammatically gradable predicate (e.g. (2)), *gèng* simply adopts it as the dimension of comparison; b) lacking (a), *gèng* seeks overtly accessible grammatically non-gradable but conceptually graded predicates (e.g. (3)); (c) lacking (a) and (b), *gèng* turns to the context for some salient gradable predicate (e.g. (4)); d) lacking (a), (b) and (c), *gèng* is infelicitous (e.g. (5)). For cases (a) and (c), *Entry 8* is proposed for *gèng*.

8) $\|gèng\|^{c, g} = \lambda G \lambda x \lambda y. \forall w_2 R w_0 \forall w_1 R w_0: \max(\lambda d_1.(G)(d_1)(x)(w_1)) > Stand_G \wedge \max(\lambda d_2.(G)(d_2)(y)(w_2)) > Stand_G. \max(\lambda d_1.(G)(d_1)(x)(w_1)) > \max(\lambda d_2.(G)(d_2)(y)(w_2))$ where $w_1 \in p_{<s,t>}$ (e.g. “the other one killed the person” in (4)) and $w_2 \in q_{<s,t>}$ (e.g. “one hit the person” in (4)); R is the accessibility relation and $G_{<d,<e, st>}$ is a contextually supplied gradable property; $Stand_G$ is the norm on the scale related to G ; x is the subject in p and y the subject in q .

Entry 8 easily captures (2), (4) and (6) but seems unable to capture (7). We suggest *gèng*’s infelicity in (7) is due to *gèng*’s proposed nature, i.e. operating on a below-propositional level. Thus, the negator “*bu*”, within *gèng*’s scope, is not a sentential negation. We propose that the copula verb *shi* is bi-functional: a) serving as the main verbal predicate marking membership and b) providing the comparison dimension, i.e. truth/verum. The negator “*bu*” negates “*shi*”, yielding the new predicate “not true/incorrect” serving as *gèng*’s argument. Hence, (7) would be interpreted this way: it is incorrect to say he is a linguist; it is even more incorrect to say he is a syntactician. The QUD in (7) is indirectly addressed. (6) can also be parsed this way. A piece of evidence to support our suggestion that *gèng* operates below a propositional level is that in (9) *shènzhì* but not *gèng* can be placed sentence-finally to take the propositional focus.

9) “*Ta shi yuyanxuejia; ta shi jufaxuejia, # gèng/shènzhì.*”
he COP linguist he COP syntactician gèng/even

Entry 8 cannot be applied to (4) given that the deontic modal *bixu* is not grammatically gradable: unlike epistemic modal *keneng/may* or deontic modal *yinggai/should*, *bixu* is not compatible with degree intensifiers like *feichang/much* or *bi/than* comparatives. This means there is no degree argument. We suggest what is manipulated by *gèng* is the standard of how it is incumbent upon the agent to undertake the predicate-denoted task following the deontic modal. *Entry 10* is proposed for such cases. Note the measure function *Obligation* can be replaced with corresponding grammatically non-gradable but conceptually graded predicates.

10) $\|gèng\|^{c, g} = \lambda P \lambda x \lambda Q \lambda y. : Obligation(P(x)) > \theta_1 \geq \theta \wedge Obligation(Q(y)) > \theta_2 \geq \theta. \exists \theta_3. \theta_1 > \theta_3 > \theta_2 \wedge Obligation(P(x)) > \theta_3 \wedge \neg(Obligation(Q(y)) > \theta_3)$ where *Obligation* is a measure function marking how incumbent it is on the agent in p/q (i.e. x, y) to undertake the predicate-denoted action. θ_1 is the standard of obligation in the $P(x)$ world, θ_2 is that in $Q(y)$ world, θ is the general standard on an obligation scale across worlds. P and Q , x and y can be identical.

One might wonder whether *gèng* in (5) could possibly operate on some contextually provided property, e.g. some epistemic property, i.e. how certain the speaker is about the propositions’ truth. The answer seems negative given that *gèng* operates on a below-propositional level and requires the comparison dimension within its c-command, covert or overt, whereas the epistemic modal as evidentials operate on extra-propositional levels (Drubig 2001, Lin2012).

Directions We focused on the so-called clausal-*gèng* but how well our proposal fares with the phrasal-*gèng* (1) remains to be explored, especially how our proposal can explain the long-standing puzzle of why phrasal-*gèng* is incompatible with measure phrases.

The Syntax and Semantics of SAY in the Quotative Complement in Japanese

Koji Shimamura

Introduction: This talk provides a novel syntactic and semantic analysis of quotation in Japanese, where both directly and indirectly quoted clauses are introduced by the reporting particle, *-to*:

- (1) a. John₁-wa [kare₁-wa nihongo-o hanas-e-nai-to] it-ta.
 John-TOP he-TOP Japanese-ACC speak-CAN-NEG.PRES-REP say-PAST
 ‘John said that he couldn’t speak Japanese.’
 b. John-wa [“aɪkæntsɪ:kɔʒəpəni:z”-to] it-ta.
 John-TOP I can’t speak Japanese-REP it-PAST
 ‘John said, “I can’t speak Japanese.”’

(1a) illustrates a case of indirect quotation, whereas a sentence of English, a foreign language to Japanese, is embedded in (1b), hence a case of direct quotation; *-to* can quote various items indirectly:

- (2) a. Sono sensei-wa seito-ni [nani-o si-nasai-to] it-ta-no.
 the teacher-TOP student-DAT what-ACC do-IMP-REP say-PAST-Q
 Lit. ‘What₁ did the teacher said to her students do. IMPERATIVE t₁?’
 b. Taroo₁-wa [zibun₁-wa nani-o su-ru-beki-ka-to] omot-ta.
 Taro-TOP self-TOP what-ACC do-PRES-MOD-Q-REP think-PAST
 ‘Taro wondered what he should do.’
 c. Taroo-wa zibun-no musume-ni nan-to nazuke-ta-no.
 Taro-TOP self-GEN daughter-DAT what-REP name-PAST-NO
 ‘What did Taro name his daughter?’

In (2a), an imperative sentence is indirectly quoted, which is clear from the availability of a long-distance *wh*-dependency. In (2b), the embedded clause is an interrogative, and the matrix subject binds the embedded *self* anaphor, so it is also indirectly quoted. Finally, (2c) illustrates a case of the naming construction, and *-to* directly attaches to the name which is questioned (cf. Fujita 2000, Shimamura 2018). This shows that *-to* doesn’t have to attach to a clausal item. Then, following the spirit of Major (2021) and Shimamura (2018), I will propose a way to render the syntactic and semantic composition of Quotative Complement (QC).

Covert SAY in QC: There are many languages that have complementizers derived from some sort of *verbum dicendi*, which I dub SAY. Even English has SAY as Major (2021) claims; according to him, *say* can be stative or eventive and the former doesn’t allow an agentive subject, a goal/indirect argument, manner adverb modification, past tense, progressive aspect, passivization etc. For instance:

- (3) I ran into Katie yesterday and she gave me some excellent news! She (#excitedly) says (#to me) that she’s coming tonight! (Major 2021: 42).

Major proposes that *say* in (3) results from the merger of SAY and *v_{BE}*. When *say* is eventive, SAY is merged with *v_{DO}* and Voice. Details aside, Japanese also shows this contrast:

- (4) a. Taroo-wa (happyoosya₁-ni) (hakkirito) [kanozyo₁-no bunseki-wa matigai-da-to]
 Taro-TOP presenter-DAT frankly she-GEN analysis-TOP WRONG-COP.PRES-REP
 it-ta.
 say-PAST
 ‘Taro said (to the presenter) (frankly) that her analysis was wrong.’
 b. Kono ronbun-wa (*happyoosya₁-ni) (*hakkirito) [kanozyo₁-no bunseki-wa
 this paper-TOP presenter-DAT frankly she-GEN analysis-TOP
 matigai-da-to] {iw/*it-ta} (no-da).
 wrong-COP.PRES-REP say.PRES/say-PAST NMLZ-COP.PRES
 ‘(It is that) this paper says (*to the presenter) (*frankly) that her analysis is wrong.’

Concerning the contrast between (4a) and (4b), there is another interesting fact: i.e. only *iw*- ‘say’ in (4a) can be written with *Kanji* ‘Chinese character’ (i.e. 言). Note that all the functional words in Japanese must be written in mora-based *Hiragana*. Since *iw*- ‘say’ in (4b) must be given in *Hiragana* (i.e. いわ/*言), it is quite plausible that it is not a lexical verb, but a functional one. Then, following Major (2021), I assume that *iw*- in (4b) is an overt realization of SAY. As Major (2021) discusses, SAY is concealed if a more semantically specified verb is employed, e.g. a verb of speech manner:

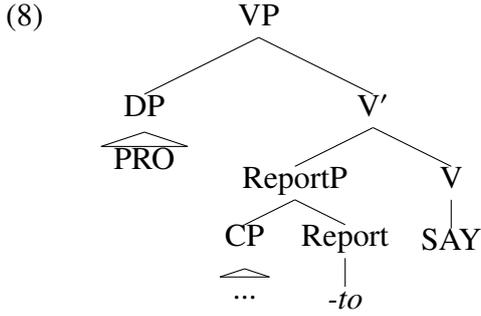
- (5) Taroo-wa [zibun-no bunseki-ga matigai-dat-ta-to] saken-da.
 Taro₁-TOP self₁-GEN analysis-NOM WRONG-COP-PAST-REP scream-PAST
 ‘Taro screamed that his analysis had been wrong.’

Then, (4a), (4b) and (5) are, under Major’s analysis, analyzed as (6a), (6b) and (6c), respectively. SAY introduces both QC and the source argument. Given (6), QC is always introduced by SAY, whether it

is overt or covert as Shimamura (2018) proposes. Note that lexical *iw-* exists independently of SAY in (6a), which is supported by Okayama Japanese where doubling ‘say’ is possible as in (7); the first instance of *iw-* (SAY) must be written in *Hiragana*, but the second one is possible with *Kanji*. SAY does not have to involve an actual utterance since it is compatible with *omow-* ‘think’.

- (6) a. [VoiceP Taro_{agent1} [Voice' [vP [VP PRO_{source1} [her analysis was wrong] SAY_{covert}] $\sqrt{\text{say-v}_{DO}}$] Voice]
 b. [vP [VP this paper_{source} [V' [her analysis was wrong] SAY]] v_{BE}]
 c. [VoiceP Taro_{agent1} [Voice' [vP [VP PRO_{source1} [V' [his analysis had been wrong] SAY_{covert}]] $\sqrt{\text{scream-v}_{DO}}$] Voice]
- (7) *pro* [sora sukunee-wa] yuu-te {yuu/omow}-ka-mo sira-n-kedo ...
 that few.COP.PRES-SFP SAY-CONJ say.PRES/think.PRES-Q-also know-NEG-but
 ‘You may {say/think}, “that is not enough”, but ...’

The Compositional Semantics of QC: Let’s calculate the meaning of SAY’s VP in (6a). Assuming the structure in (8), I propose that its meaning is computed as in (9), where I assume with Potts (2007) that utterance type u (its variable notation given as $\lceil S \rceil$) is available in our ontological inventory of semantic types, and the semantic function of *-to* changes anything quotable into an item of type u . This includes usual linguistic objects like declarative/interrogative/imperative sentences as well as names plus gibberish expressions, gestures or foreign languages; in (9), a propositional clause is indirectly quoted. I assume that SAY, after taking ReportP/PRO, denotes a set of contentful eventualities (that can be eventive or stative) (cf. Hacquard 2010), and this covert verb also introduces a new utterance context of type k since indexical shifting is possible in QC (Sudo 2012). We also need to look into the semantic content of $\lceil S \rceil$, which should be an appropriate type for taking c' . Since in (9) a proposition has been changed into an utterance, we need to retrieve its original propositional type. I thus assume with Potts (2007) that this job is done by *SEM*, which takes an utterance, giving its original semantics.



- (9) a. $\llbracket \text{Report} \rrbracket^{c,g} = \lambda\sigma. \llbracket \lceil \sigma \rceil \rrbracket^{c,g}$, where σ can be any type (or type-agnostic), and $\lceil \sigma \rceil$ is $\lceil S \rceil$
 b. $\llbracket \text{ReportP} \rrbracket^{c,g} = \llbracket \lceil \text{her analysis was wrong} \rceil \rrbracket^{c,g}$
 c. $\llbracket \text{SAY} \rrbracket^{c,g} = \lambda \lceil S \rceil \in D_u. \lambda x. \lambda e. \text{SOURCE}(x)(e) \wedge e \text{ in } w^* \wedge \forall c' \in \text{CON}(e) : (\llbracket \text{SEM}(\llbracket \lceil S \rceil \rrbracket^{c,g}) \rrbracket^{c,g})(c')$
 d. (i) $\llbracket \text{VP} \rrbracket^{c,g} = \lambda e. \text{SOURCE}(\text{PRO})(e) \wedge e \text{ in } w^* \wedge \forall c' \in \text{CON}(e) : (\llbracket \text{SEM}(\llbracket \lceil \text{her analysis was wrong} \rceil \rrbracket^{c,g}) \rrbracket^{c,g})(c')$
 (ii) $\llbracket \text{VP} \rrbracket^{c,g} = \lambda e. \text{SOURCE}(\text{PRO})(e) \wedge e \text{ in } w^* \wedge \forall c' \in \text{CON}(e) : (\llbracket \text{her analysis was wrong} \rrbracket^{c,g})(c')$
 (iii) $\llbracket \text{VP} \rrbracket^{c,g} = \lambda e. \text{SOURCE}(\text{PRO})(e) \wedge e \text{ in } w^* \wedge \forall c' \in \text{CON}(e) : (\lambda c. \llbracket \text{her analysis was wrong} \rrbracket^{c,g})(c')$ (Abstraction over contexts; cf. Sudo 2012)
 (iv) $\llbracket \text{VP} \rrbracket^{c,g} = \lambda e. \text{SOURCE}(\text{PRO})(e) \wedge e \text{ in } w^* \wedge \forall c' \in \text{CON}(e) : (\lambda c. \text{wrong}(\text{her.analysis})(c))(c')$
 (v) $\llbracket \text{VP} \rrbracket^{c,g} = \lambda e. \text{SOURCE}(\text{PRO})(e) \wedge e \text{ in } w^* \wedge \forall c' \in \text{CON}(e) : \text{wrong}(\text{her.analysis})(c')$

SEM is however unnecessary for direct quotation, so that following Potts (2007), SAY in direct quotation signifies an abstract uttering event (with or without sound):

(10) $\llbracket \text{SAY} \rrbracket = \lambda \lceil S \rceil \in D_u. \lambda x. \lambda e. \text{SOURCE}(x)(e) \wedge \text{UTTER}(\lceil S \rceil)(e)$

(10) is basically similar to Potts’s (2007) semantics of **utter** encoded in the English direct-quotative verb, *say_q*. He argues that the meaning of *say_q* is two-dimensional, which I won’t follow here. With (10), the difference between direct and indirect quotation resides in the semantics of SAY, but we have the same semantics of *-to*, which explains not only why we use *-to* for both direct and indirect quotation but why it can embed various types of linguistic items as indirectly quoted.

Selected References Major, T. 2021. *On the nature of “say” complementation*. Ph.D Thesis, UCLA.
 Shimamura, K. 2018. *The theory of quotative complementation in Japanese semanticosyntax*. Ph.D Thesis, UConn.

(ii) The lack of a future-in-the-past reading One constraint on evaluation time shift concerns the initial shift in free-standing clauses (Anand and Toosarvandani 2018; Pancheva and Zubizarreta 2021; but also see Toosarvandani 2021 for a different approach). The constraint in (6) precludes a future-in-the-past reading when evaluation time shift is applied.

(6) Initial EvalT shift in a free-standing clause may not precede the time of the event in that clause. If the past reading in Cantonese is derived from evaluation time shift with the restriction in (6), we predict the lack of a future-in-the-past reading. In contrast, if Cantonese possesses a [past] tense like English, we expect the opposite (cf. English translations in (7) and (8)). The former is borne out.

(7) ??Aaming camjat jatdim **wui** coenggo (8) ??po syu camjat **jiu** lam laa3
 Aaming yesterday 1pm will sing CL tree yesterday want fall SFP
 ‘Yesterday at 1pm, Aaming was going to sing.’ ‘The tree was going to fall yesterday.’

(iii) The lack of backtracking in narratives In narratives, a backtracking reading is disallowed when narrative present is used, as in (9b), in contrast with clauses with past tense marking in (9a) (Anand and Toosarvandani 2018). (< indicates a precedence relation between events.)

(9) a. σ_1 Max fell. σ_2 John **pushed** him. Past tense: ^{OK}fall < push ; ^{OK}push < fall
 b. σ_1 Max falls. σ_2 John **pushes** him. Narrative present: ^{OK}fall < push ; *push < fall

It is thus suggested that, in a narrative $\sigma_1\sigma_2$, the shifted evaluation time in σ_2 may not precede the time of the event in σ_1 , hence disallowing a backtracking reading. We assume the same applies to future narratives in Cantonese. In (10), if the future reading of σ_2 is due to (forward) evaluation time shift, then σ_1 must precede σ_2 . In contrast, if it is due to a null (future) morpheme, which could in principle re-order eventualities, and σ_2 can precede σ_1 . The former is borne out, as shown by the lack of a backtracking reading in (10). (11) shows that a backtracking reading is possible with *wui* ‘will’.

(10) σ_1 Aafan tingjat seijyufeiming. σ_2 jat-gaa foce **satsi** zin-gwo keoi
 Aafan tomorrow die.an.untimely.death one-CL truck lost.control run.over her
 ‘Aafan (will) die an untimely death tomorrow. Then/*Because a truck loses control and runs over her.’

(11) σ_1 Aafan tingjat seijyufeiming. σ_2 jat-gaa foce **wui** **satsi** zin-gwo keoi
 Aafan tomorrow die.an.untimely.death one-CL truck will lost.control run.over her
 ‘Aafan (will) die an untimely death tomorrow. Then/Because a truck will lose control and run over her.’

(iv) The lack of back-shifting reading in embedded clauses Null tense approaches predict that a back-shifting reading is possible in embedded clauses (with a [past] morpheme). However, (12) shows that such a reading is unavailable with the bare predicate *beng-ngai* ‘sick’. Even with perfective marking *beng-zo*, a back-shifting reading is not available either, challenging a tense-aspect bundling account proposed in Lin (2006), where past tense semantics is encoded in (perfective) aspect markers.

(12) Context: Aaming’s sister was no longer sick yesterday when Aaming told you about her.
 # camjat Aaming tung ngo gong [keoi saimui **beng-ngai/ beng-zo**]
 yesterday Aaming to me say his sister sick-danger/ sick-PERF
 ‘Yesterday Aaming told me that his sister was (very) sick.’ (Simultaneous reading only)

A tenseless approach suggests that attitude complements are evaluated with regard to the time of the matrix event, and thus only simultaneous reading is allowed.

Implications Temporal interpretations in Cantonese do not require the presence of tense, and even require its absence. This implicates that (semantic) tense may not be a universal semantic notion.

How various frame setters restrict interpretations of contextual comparison

Toshiko Oda

Goal: Contextual comparisons such (1) have received much less attention than traditional more-than-comparisons with ‘than’-phrases/clauses, partly because their semantics is hard to capture. To my knowledge, Hohaus (2015) provides the most explicit analysis of contextual comparison. She argues that *Compared to Jiro* in (1) is a frame setter, which contributes presupposition. The comparison *Taro is taller* in the main clause holds when the presupposition is met.

(1) *Compared to Jiro, Taro is taller.*

However, Hohaus discusses only one type of frame setter in detail, namely *compared to* and its cross-linguistic equivalents. Thus, her analysis is yet to be supported by more empirical data. The goal of this study is to show how various types of frame setters restrict the interpretations of contextual comparison. Relevant data comes from Japanese.

Background: According to Hohaus, *Compared to Jiro* in (1) contributes a set of minimal situations where some kind of comparison holds with Jiro, as shown in (3). The semantics of (1) is given in (4), where *Compared to Jiro* contributes a presupposition, and the main clause makes a comparison between Taro’s height and the value that is assigned to the free degree variable d_5 in the LF in (2). Crucially, the value of $g(5)$ is understood as Jiro’s height, because that is the only value that satisfies the presupposition.

(2) LF of (1): $[[_{\text{FrameP}} \textit{Compared to Jiro}] [[_{\text{DegP}} \textit{-er } d_5] [1[\textit{Taro is } t_1\textit{-tall}]]]]$

(3) $[[_{\text{FrameP}} \textit{Compared to Jiro}]] = \lambda s: s \in \text{MIN}(\lambda s^*. \exists x_{\langle e \rangle}, \exists \mu_{\langle s, \langle e, d \rangle} [\mu(s^*)(x) \geq \mu(s^*)(\textit{Jiro})])$

(4) $\lambda s: s \in \text{MIN}(\lambda s^*. \exists x_{\langle e \rangle}, \exists \mu_{\langle s, \langle e, d \rangle} [\mu(s^*)(x) \geq \mu(s^*)(\textit{Jiro})]). \text{MAX}(\lambda d. \textit{Taro is } d\textit{-tall}) > g(5)$

There is another type of contextual comparison that was not discussed in Hohaus (2015). In implicit comparisons exemplified in (5), adjectives in main clause are in positive forms, e.g., *tall*. Sawada (2009) points out that implicit comparisons like (5) come with implications described in (6), and he explains how the implications arise by a notion of economy. In a nutshell, he argues that if Taro were a tall person, the speaker would simply say *Taro is tall* and would not add *Compared to Jiro*, because having such an extra phrase is un-economical. The speaker adds it to imply that the standard degree to be a tall person is set very low. What is important for us is that implications exemplified in (6) are a sign of implicit comparison.

(5) *Compared to Jiro, Taro is tall.* (implicit comparison)

(6) Implications of (5)

- a. Jiro is short. b. Taro is not definitely tall, possibly a borderline.

I apply Hohaus’s analysis to implicit comparison. The semantics of (5) is given in (8). In this case, the comparison in the main clause is made via POS operator. Thus, the standard degree is simply a contextually given standard of tallness. No free variable of degree is involved.

(7) LF of (5): $[[_{\text{FrameP}} \textit{Compared to Jiro}] [\textit{Taro is POS tall}]]$

(8) $\lambda s: s \in \text{MIN}(\lambda s^*. \exists x_{\langle e \rangle}, \exists \mu_{\langle s, \langle e, d \rangle} [\mu(s^*)(x) \geq \mu(s^*)(\textit{Jiro})]). \text{MAX}(\lambda d. \textit{Taro is } d\textit{-tall}) > c$, where c is a contextually given standard of tallness

In English, the distinction between comparative and positive forms of gradable adjectives is morphologically visible, e.g., *taller* and *tall*. However, Japanese does not have morphologically visible comparative morpheme, thus *takai* could mean either *taller* or *tall* depending on its environment. Thus, Japanese provides a good empirical testing ground to examine context-dependent analyses of comparison.

Data: Given in (9) cannot be a standard more-than-comparative, because its literal English translation **The test score that Mary obtained is higher than John* is nonsense. Oda (2021) argues that it is a contextual comparison, where the *yorimo*-phrase acts as a frame setter like a *compared to*-phrase. (9) does NOT come with implications like the ones in (6). It means that

(9) is explicit more-than-comparison, and *takai* means ‘higher’.

(9) [[_{RC} *Mary-ga totta*] *tennsuu*]-*wa* [_{FrameP} *John yorimo*] *takai*.
 Mary-NOM obtained test.score-TOP John-YORIMO high
 ‘Compared to John, the test score that Mary obtained is higher.’

Another relevant data comes from implicit comparison in Japanese discussed in Sawada (2009). When frame setters are if-clauses, their main clause comparisons turn to be implicit ones. For example, *takai* in (10) means ‘tall’, and (10) has implications in (11). Contextual comparisons with if-clauses can be explicit more-than-comparison only when forced by differential degrees. *Takai* in (12) means ‘more expensive’ because of the differential degree *350 yen*.

(10) [_{CP} *Jiro-ni kurabe*-{*tara/ruto/reba*}] *Taro-wa se-ga takai*.
 Jiro-to compare-COND Taro-TOP height-NOM tall
 ‘If (he is) compared to Jiro, Taro is tall.’ (based on Sawada 2009)

(11) Implication of (10): a. Jiro is short. b. Taro is not definitely tall, possibly a borderline.

(12) *Sono kome-to kurabe*-{*tara/ruto*}, *kono kome-wa 5kg-de 350 yen takai*.
 that rice-to compare-COND, this rice-TOP 5kg-per 350yen expensive
 ‘If (it is) compared to that rice, this rice is 350yen more expensive per 5kg.’

Analysis: The examples in (9)(10)(12) are evidence for the mechanism of contextual comparison. I assume that *yorimo*-phrases contribute > (explicit more-than-relation) to presupposition, whereas if-clauses with *kuraberu* ‘compare’ simply contribute R (relation in general). The semantics of more-than-comparison (9) is given in (13). The adjective *takai* in the main clause needs to mean ‘higher’ to satisfy > (explicit more-than-relation) in the presupposition. Implicit comparison of ‘high’ is not possible, because having such a vague relation fails to satisfy the presupposition of >. As for the semantics of implicit comparison (10) in (14), the if-clause contributes just R (relation in general). Thus, the adjective *takai* does not have motivation to mean ‘taller’ and it remains to be ‘tall’. (This implies that POS is preferred. I would replace \geq in (8) with R to provide the same analysis.) The semantics of (12) given in (15). The gradable adjective *takai* in the main clause means ‘more expensive’ due to the presence of the differential degree *350 yen*. The > (explicit more-than-relation) implied in the assertion of (15) easily satisfies R (relation in general) in its presupposition.

(13) For more-than-comparison (9): $\lambda s:s \in \text{MIN}(\lambda s^*.\exists x_{\langle e \rangle}.\exists \mu_{\langle s, \langle e, d \rangle \rangle} [\mu(s^*)(x) > \mu(s^*)(\text{John})])$.

MAX(λd . the test score that Mary obtained is d-point in s) > g(5)

(14) For implicit comparison (10): $\lambda s:s \in \text{MIN}(\lambda s^*.\exists x_{\langle e \rangle}.\exists \mu_{\langle s, \langle e, d \rangle \rangle}$

$[\text{R}(\mu(s^*)(x))(\mu(s^*)(\text{Jiro}))])$. MAX(λd . Taro is d-tall in s) > $c_{\text{contextually given standard of tallness}}$

(15) For more-than-comparison (12): $\lambda s:s \in \text{MIN}(\lambda s^*.\exists x_{\langle e \rangle}.\exists \mu_{\langle s, \langle e, d \rangle \rangle}$

$[\text{R}(\mu(s^*)(x))(\mu(s^*)(\text{that rice}))])$. MAX(λd . this rice is d-yen per 5kg in s) = g(5) + 350 yen

The data suggests that the degree relation in a main clause assertion is a subset of that of its presupposition. Another example: For a frame setter ‘if Taro and Jiro are compared’ in Japanese, ‘Taro is taller’ for its main clause is ok, most natural with *hoo* that presupposes two items in comparison. ‘Taro is tall’ is a little odd unless followed by ‘whereas Jiro is not.’

Conclusion: The variation of frame setters and their interactions with their main clauses provide empirical support for the framework of Hohaus (2015). The data suggests contextual comparison has mechanism that is far richer than previously thought.

Selected references: [1]Hohaus. 2015. *Context and composition: How presuppositions restrict the interpretation of free variables*. Ph.D. diss., U. of Tübingen. [2]Oda. 2021. Indirect comparison as a last resort by Interpretive Economy. *JK* 28, 1-14. [3]Sawada. 2009. Pragmatic aspects of implicit comparison: An economy-based approach. *J. of Pragmatics* 41, 1079-1103.

L2 acquisition of scope of negation and conjunction in Mandarin Chinese

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For sentences like *the elephant did not eat the carrot and the pepper*, negation and conjunction may interact in two ways (Szabolsci, 2002): the elephant did not eat the carrot AND/OR did not eat the pepper. The two interpretations are not equally accessible in different languages: negation has scope over conjunction (Not (A and B)) in English (e.g., Gruter et al., 2010) whereas conjunction has scope over negation ((Not A) and (Not B)) in Chinese. Note that the Chinese interpretation entails the English interpretation in logic. Our research question is: is it possible for L1 English L2 Chinese learners to acquire the knowledge that Chinese is more restrictive than English regarding the interpretation of negation and conjunction sentences? This is a learnability issue for L1 English L2 Chinese learners because this knowledge cannot be derived from input and is not taught in Chinese language classrooms.

Our task was adapted from Goro & Akiba (2004), where participants first read a story about an eating contest for a group of animals. There is one cake, one carrot, and one pepper. If an animal eats both vegetables, it receives a crown. If it does not eat any vegetables, it receives a warning sign. If it eats only one vegetable, it receives a star. For each experimental trial, participants read Minnie's sentence and judged whether her sentence was true or false for the given picture. Our critical items are those involving the conjunction/disjunction and negation in the star (one vegetable) situation. There is one factor (whether the logical operator is *and* or *or*) with two conditions: a. *and-one-veg* (AO); b. *or-one-veg* (OO). Each condition has 8 different sentences. There are 32 animals, each of which involves 3 sentences as a set so there are 96 sentences in total. Eighty sentences are fillers. Sixteen animals have a star, 8 have a crown and 8 have a warning sign. A Chinese proficiency test (Wen, 2015) was used to measure L2 participants' Chinese proficiency.

The data collection still continues but so far 12 L1 English L2 Chinese learners and 15 Chinese natives have participated in the experiment. The group results are summarized in Figure 1. Since there were 8 items in each condition, based on the binomial distribution, if a participant accepted/rejected 7 items or more in one condition, she is considered to have consistently accepted/rejected the items in that condition. The L1 Chinese natives' individual results showed that 11 of 15 (73.3%) participants consistently rejected AO, which confirms that conjunction must have scope over negation ((Not A) and (Not B)) in Chinese. The L2ers' individual results revealed that 8 (66.7%) participants consistently accepted AO in both English and Chinese, which implicates L1 transfer. Two (16.7%) participants consistently rejected AO in Chinese, which suggests that it is possible for L1 English L2 Chinese learners to acquire the knowledge that Chinese is more restrictive in negation and conjunction sentences.

Examples

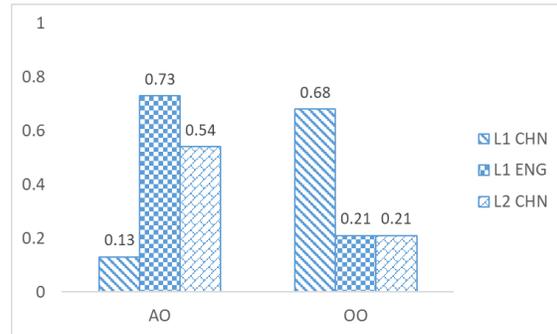
1. *and-one-veg* (AO)



2. *or-one-veg* (OO)



Figure 1. Mean proportion of 'Yes' in each condition



Stronger Additivity Derives Concessivity

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Synopsis: It is cross-linguistically observed that an additive particle, when combined with conditionals, induce not only an additive meaning but also a concessive conditional meaning.

ADDITIVE: ‘It is **also** the case that If Alex comes, I’ll be happy.’

CONCESSIVE: ‘**Even** if Alex comes, I’ll be happy.’

- (1) Japanese (2) Mandarin
(Mosi) *Alex-ga ki-te-mo, uresii.* (ruguo) *Alex lai, wo ye gaoxing.*
(if) Alex-NOM come-GER-**also**, happy. IF Alex come, I **also** happy.
- (3) Italian
Sarei contento anche se venisse Alex.
be.1SG.COND.PRES happy also if come.3SG.SUB.PRES Alex

The concessivity is more clearly observed in (4b). It implies that, comparing to the conditional antecedent in (4a), the one in (4b), ‘Alex comes’, is considered to be ‘less likely’ or **ranked lower** w.r.t. a contextually determined scale to lead to the truth of the consequent (Karttunen and Peters 1979, Giannakidou 2007, a.o.).

- (4) a. *Ethan-ga ki-tara uresii.* b. *Alex-ga ki-te-mo uresii.*
Ethan-NOM come-if happy. Alex-NOM come-GER-**also** happy.
‘If Ethan comes, I’ll be happy. Even if Alex comes, I’ll be happy.’

The aim of this study is to offer a unified explanation for this pattern by deriving the concessive meaning from additivity. We claim that concessivity results from an interaction of a stronger additivity proposed below and **scalar monotonicity** of conditionals (Berends and Kaufmann 2009).

Background: Berends and Kaufmann (2009) discuss the inference in (5), where the conditional with *only* licenses an inference to the *only*-less conditional. ($[]_F$ marks a focus.) This inference is not trivial because of the *non*-monotonicity of natural language conditionals (e.g., Heim 1984).

- (5) If Chris only [does his homework] $_F$, he will pass the class.
 \rightsquigarrow If Chris does his homework, he will pass the class.

They account for this pattern using the notion of **scalar monotonicity**. In conditionals ‘if p , r ’, the consequent r is (upward) monotonic with respect to a set of p ’s alternatives Φ and a scale ordered by \succ (‘the ranked higher than’ relation) iff for all $q \in \Phi$, if $q \succ p$, ‘if q , r ’ also holds. In this way, they formalize the intuition that ‘the *more* effort you put, the *more* likely it is to pass the class.’ (It is further formalized with a particular requirement on the modality of conditionals, though we omit it for a reason of space.) In (5), alternatives of the antecedent are ranked in the ‘effort’ scale as in (6), relative to which the consequent ‘pass the class’ is upward monotonic.

- (6) ... \succ get a good grade in final \succ doing his homework \succ only doing his homework \succ ...

For the basics of additive particles, we follow the proposal by Rooth (1985) and Krifka (1991). There, focus particles like *also* are sensitive to a focused item and invoke a set of alternatives. *Also* takes an X of some type σ as its first argument and Y of type $\langle \sigma, t \rangle$ as its second argument, requiring that $Y(X)$ is true and there is some X ’s alternative X' such that $Y(X')$ is true.

- (7) a. [Alex]_F also came.
 b. $also := \lambda X_{\sigma} . \lambda Y_{\langle \sigma, t \rangle} . Y(X) = 1 \wedge \exists X' \in \text{Alt}_X [X' \neq X \wedge Y(X') = 1]$
 c. $\text{Alt}_X = \{\text{Alex, Beth, Cathy, Dave, ...}\}$, where Alt_X is a set of alternatives of X .

Proposal: Our proposal is twofold: (i) the additive particles in (1-3) are subject to a stronger requirement than (7); (ii) when a context evokes a scale relative to which a conditional consequent is upward monotonic, the conditional plus the additive particle results in concessivity.

Starting with (i), the additive particles require that the preajcent proposition **should not be inferred from the context**. The underlying idea is clear: since the additive particles are specifically used to add information to the context, the added information should not already be inferred from the context. This can be taken as a stronger requirement of additivity, and we will call it *anti-inference*. The idea is implemented as follow. A context c is formalized following Stalnaker's (1978) context set, which is a set of worlds obtained by intersecting propositions that the participants of a conversation believe to be true, i.e., $c = \bigcap \{p \mid \text{the participants believe } p \text{ is true}\}$. Then, the additive particles ADD in the above languages have an additional requirement underlined in (8). $c \not\sim Y(X)$ should be read as ' $Y(X)$ is not inferred from c '.

- (8) $\text{ADD} := \lambda X_{\sigma} . \lambda Y_{\langle \sigma, t \rangle} . Y(X) = 1 \wedge \exists X' \in \text{Alt}_X [X' \neq X \wedge Y(X') = 1] \wedge \underline{c \not\sim Y(X)}$

We will illustrate how the anti-inference derives the concessivity. For the composition of conditionals, I follow Kratzer (1991) and assume that the antecedent is taken by the consequent as an argument. Also we assume an additive particle is attached to the conditional antecedent, evoking a set of alternatives of the antecedent. Now consider the sequence of sentences in (4) under a context in which there is a scale of 'likeliness of making the speaker happy'. The set of alternatives of the conditional antecedent are ranked w.r.t. this scale as in (9).

- (9) Cathy comes \succ Beth comes \succ Ethan comes \succ Alex comes \succ David comes \succ ...

The conditional consequent in (4), 'I'll be happy', can be scalar monotonic relative to these alternatives and the scale. Suppose then that we are to assert (4b). The additivity of ADD would require that there is at least one alternative antecedent somewhere in the scale of (9) such that the alternative makes the conditional true. This is satisfied by the preceding utterance in (4a). Note that the utterance of (4a) updates the initial context c into a new context c' such that $c' = c \cap \llbracket (4a) \rrbracket$. Since the consequent 'I'll be happy' is scalar monotonic relative to scale (9) and c' presupposes the truth of (4a), c' make an inference that the higher-ranked alternatives, namely '*Beth/Cathy comes*', also make the conditional true. The anti-inference then would be satisfied only if '*Alex comes*' is ranked **lower** than all of these alternatives in the scale. This is the cause of concessivity observed in (4b).

When it is uttered without a preceding conditional statement, as in (1-3), we argue that the additivity requirement is satisfied by alternatives that are ranked high enough to be assumed to be true. Given the scale of (9), for instance, the higher ranked alternatives '*Cathy/Beth comes*' can be assumed to make the conditional true. Through the same reasoning above, in (1-3) the antecedent '*Alex comes*' should be ranked lower than any of such alternatives. It in turn requires the antecedent to be ranked **low enough**, resulting in concessivity again.

If there is no such scale available, the effects of the scalar monotonicity and the anti-inference become vacuous and result in the mere additive meaning. It happens, for instance, when a relevant scale is not evoked. Such a case is illustrated in the Japanese example below. Suppose that in the

context the speaker is determined to eat two apples. Then there is no scale that ranks ‘the likeliness of making the speaker eat two apples’, because s/he will eat two apples anyway. Without a scale, no effect of the anti-inference is observed and the sentence only has the canonical additive reading.

(10) (‘If Beth comes, I’ll eat two apples. And...’)

Alex-ga ki-te-mo ringo-o futatu taberu.

Ale-NOM come-GER-**also** apple-ACC 2.CL eat.

‘Also, If Alex comes, I’ll eat two apples.’

Selected Reference: Berends, M. and Kaufmann, S. 2009. ‘Only’ and Monotonicity in Conditionals. In Proceedings of Sinn und Bedeutung 13. Giannakidou, A. 2007. The landscape of EVEN. Natural Language & Linguistic Theory.

Response-stance predicates with two types of finite CPs in Bangla

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Introduction. Cattell’s (1978) notion of ‘stance’ verbs classifies verbs like *deny*, *accept*, *agree*, etc. as *response stance* verbs whose complements are familiar to discourse, but not necessarily true in actual reality. That their complements refer to familiar discourse referents can be dubbed as the familiarity criterion associated with this class of verbs. This paper investigates the compositional nitty-gritty of how ‘response stance predicates’ (henceforth, RSPs) select two types of finite clausal complements in Bangla (a.k.a. Bengali; Indo-Aryan). Bangla RSPs can embed two types of finite complements, *viz.* nominal-like CPs and adverbial-like CPs. In this paper, we provide detailed compositional analyses of these two types of clausal embedding by Bangla RSPs, where the familiarity criterion is reflected in the combinatorics.

Empirical landscape. Consider the following:

- (1) robi [CP onu dofi **bol-e**] oʃfikar koretʃ^{he}/ mene nietʃ^{he}.
 Rabi Anu guilty say-PTCP deny do.PRF.PRS.3/ accept take.PRF.PRS.3
 ‘Rabi has denied/accepted that Anu is guilty.’
- (2) robi oʃfikar koretʃ^{he}/ mene nietʃ^{he} [CP **ɕe** onu dofi].
 Rabi deny do.PRF.PRS.3/ accept take.PRF.PRS.3 that Anu guilty
 ‘Rabi has denied/accepted that Anu is guilty.’

On one hand, the clausal complement in (1) carries a complementizer which looks like the adverbial form of the verb ‘say’ (*i.e.*, the verbal root *bol-* ‘say’ and the participle *-e*). On the other hand, the embedded CP in (2) bears a complementizer which is homophonous to the nominal relativizer. But both instantiate such complements which are familiar to discourse, though not necessarily true in the actual world. This is why (3) sounds odd after both of them, while (4) sounds acceptable after both.

- (3) kinu, keu age robi-ke bole ni ɕe onu dofi.
 but no one before Rabi-ACC tell.3 PRF.PST.NEG that Anu guilty
 ‘But, no one told Rabi before that Anu is guilty.’ [# after (1), (2)]
- (4) ɕodio, onu adote dofi noj.
 although Anu in fact guilty NEG
 ‘Although, Anu is not guilty in fact.’ [✓ after (1), (2)]

It validates the claim that the Bangla RSPs like *oʃfikar kor-* ‘deny’, *mene newa* ‘accept’ are pointers towards familiar discourse referents. But, they are not factive necessarily.

Two types of Bangla embedded CPs. The clause-final *bole* is a quotative complementizer, because it sets the previous discourse in quote (Bayer, 2001).¹ Following Moulton’s (2019) insight, we are assuming that this complementizer is built on contentful eventualities (à la Kratzer, 2013). Thus, the embedded clause in (1) is interpreted as:

- (5) [[Anu is guilty *bole*]]^w = $\lambda e_v. \text{CONT}_w(e) = \lambda w'. \text{Anu is guilty in } w'$

As opposed to it, like English *that*, the clause-initial *ɕe* is built on contentful individuals of type *e* instead of on *v*-type contentful eventualities (see Moulton, 2019). Due to this complementizer being morphologically based on nominal elements, the *ɕe*-clause in (2) denotes predicate of contentful entities. The interpretation of the *ɕe*-CP in (2) is in (6):

- (6) [[*ɕe* Anu is guilty]]^w = $\lambda x_e. \text{CONT}_w(x) = \lambda w'. \text{Anu is guilty in } w'$

This path of difference between these two types of finite complement clauses gets its empirical validation from the fact that a *bole*-clause can neither have a DP-correlate nor be modified by a content nominal, while a *ɕe*-clause is fine with both of them (see Bayer, 1999, 2001, a.m.o.). Accounting for it, an $\langle e, t \rangle$ -type CP can modify an $\langle e, t \rangle$ -type noun,

¹There are several reports on conversion of verbs of saying into quotative complementizers (Lord, 1976; Crowley, 1989; Klamer, 2000, a.m.o.).

whereas a *bole*-CP of type $\langle v, t \rangle$ cannot do so (cf. Moulton, 2019).

Viewing the Bangla RSPs. We embrace a neo-davidsonian standpoint (Castañeda, 1967; Parsons, 1990) in viewing the Bangla RSPs as sets of v-type eventualities. All the arguments are introduced via separate functional heads. We argue that the RSPs in (1,2) always refer to contentful eventualities. Even when they take non-content nouns like *daughter-in-law*, *wife*, they denote contentful events. See the following:

- (7) $g^h o S b a b u \quad \ddot{t} a r \quad p u \ddot{t} r o b \ddot{d}^h u - k e / \quad s \ddot{t} r i - k e \quad \ddot{o} f f i k a r \quad k o r l e n . / \quad m e n e \quad n i l e n .$
 Ghoshbabu his daughter-in-law-ACC/ wife-ACC deny did.H/ accept did.H

(7) means ‘Ghoshbabu denied/accepted that the individual x is his daughter-in-law/wife.’ In other words, the content of the RSPs in (7) refers to some proposition. Those non-content nouns, we argue, compose with a content-introducing operator, **Kont** as in (8):

- (8) $[[\mathbf{Kont}]] = \lambda y_e \lambda x_e . \text{CONT}(x) = \lambda w' . \exists ! z [z = y \text{ in } w']$

After composing the non-content nouns with **Kont**, the resultant becomes the unique contentful individual as in (9). This can now compose with the RSPs via their Theme.

- (9) $\lambda x_e . \text{CONT}(x) = \lambda w' . \exists ! z [z = \iota y_e . \text{his daughter-in-law/wife}(y) \text{ in } w']$

It can also be shown that *deny* is contentful too in examples like ‘John denied [_{DP} the petitioners]’. In this example, it is meant that John denied the claim of the petitioners. Thus, the DP here can be seen as the source DP of some proposition (Djärv, 2019). And, the procedural steps for composition can then be executed along the line of Roberts (2020) who proposes a CLAIM operator that composes with the source DP. After exhibiting that the Bangla RSPs in (1) or (2) are sets of contentful events, we can now propose the following interpretation in (10) which denotes the set of contentful eventualities. And, it is defined if the content of the eventualities is already existing in the Common Ground (CG) (Stalnaker, 2002) of the interlocutors. It is well established that the complements of RSPs refer to the already-existent discourse referents in the CG (Kastner, 2015).

- (10) $[[\ddot{o} f f i k a r \quad k \ddot{a} r - / m e n e \quad n e -]]^w = \lambda e_v : \underline{\text{CONT}_w(e) \in \text{CG}} . \mathbf{deny}_w / \mathbf{accept}_w(e)$

Composing with both the CP-types. We argue that the $\langle v, t \rangle$ -type *bole*-clause composes with the RSPs, of type $\langle v, t \rangle$, by modifying the eventualities via Predicate Conjunction. The resultant is like (11), relative to a world w . It has the defining criterion that the content of the denying or accepting events is already existent in the CG.

- (11) $\lambda e_v : \underline{\text{CONT}_w(e) \in \text{CG}} . \mathbf{deny}_w / \mathbf{accept}_w(e) \wedge \text{CONT}_w(e) = \lambda w' . \text{Anu is guilty in } w'$

As opposed to that, we argue that a $\ddot{c} \ddot{z} e$ -clause composes with the RSPs via their Theme or internal argument, because a $\ddot{c} \ddot{z} e$ -CP is nominal-like in nature (property of contentful individuals, not events) and nominals can qualify as Themes. The Theme of the RSPs can be interpreted as (12) which encodes the *pre-existence presupposition* (Bondarenko, 2019). It says that the left boundary (LB) of the interval denoting the life span of the Theme precedes ($<$) the LB of the running time of the event. Now we argue that the $\ddot{c} \ddot{z} e$ -CP **restricts** (Chung and Ladusaw, 2004) the Theme argument x , resulting in (13).

- (12) $[[\ddot{\theta} \text{Th}]]^w = \lambda P_{\langle v, t \rangle} \lambda x_e \lambda e_v : \underline{\text{LB}(\tau(x)) < \text{LB}(\tau(e))} . P_w(e) \wedge \mathbf{Theme}_w(e) = x \text{ (P=RSP)}$

- (13) $\lambda x_e \lambda e_v : \underline{\text{LB}(\tau(x)) < \text{LB}(\tau(e))} . \begin{cases} \mathbf{deny}_w / \mathbf{accept}_w(e) & \text{if } \text{CONT}_w(e) \in \text{CG} \\ \text{undefined} & \text{otherwise} \end{cases}$
 $\wedge \mathbf{Theme}_w(e) = x \wedge \text{CONT}_w(x) = \lambda w' . \text{Anu is guilty in } w'$

In (13), it is presupposed that the Theme of the RSPs refers to an already-existent discourse referent that pre-exists the matrix events. Factivity is not guaranteed both in (11) and (13), because content of an individual or event might not be true in reality.

Summary. We provide here a complete compositional analyses of Bangla RSPs combining with two types of finite CPs, encoding the familiarity criterion in the combinatorics.

Free choice and epistemicity in Bangla: A test for exhaustification based approaches
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There is a rich landscape of free-choice and epistemic modal items in Bangla, centered around the morpheme *kono*, which have never been analyzed in complete detail. I present novel data to lay out the full paradigm, situating them with respect to existing typology, and argue that the full spectrum of their distribution and interpretation is best understood in a unified theory of polarity and free choice phenomena, couched in an implicature-based approach. (Chierchia 2006, *et seq.*)

Data (judgments come from the author, a native speaker): *kono* has the distribution of an NPI. It is licensed only under non-veridical contexts (1a) and ungrammatical in veridical contexts (1b).

- (1) a. *ami kono khabar khabo na.* b. **kono lok gan geyechilo.*
 I KONO food eat.FUT.1 NEG KONO person song sing.PST.PERF.3
 ‘I won’t eat any food.’ Intended: ‘Someone sang.’

In contrast, the indefinites *je kono ekta (JKE)*, *kono ekta (KE)*, and *kono na kono (KnK)*, which share the common morphological root *kono*, are all PPIs (2). These items exhibit distinctions in their interpretation, and their distribution in overt modal (3a) vs non-modal (3b) contexts.

- (2) *Pihu KE/ KnK/ JKE boi porbe na.*
 Pihu KE/ KnK/ JKE book read.FUT.3 NEG
 (i) ✓ ‘There is some book that Pihu will not read.’ [some > not]
 (ii) # ‘Pihu will not read any books.’ [not > some]
- (3) a. *Pihu-ke KE/ KnK/ JKE daktar-ke bie korte hobe*
 Pihu-ACC KE/ KnK/ JKE doctor-ACC marry do.INF must
 (i) KE - ‘Pihu must marry some doctor. ✓ But it’s not Dr Roy or Dr Ghosh.’
 (ii) KnK - ‘Pihu must marry some doctor or other. # But it’s not Dr Roy or Dr Ghosh.’
 (iii) JKE - Pihu must marry a doctor, any doctor is a permissible option.
- b. *gotokal Pihu KE/ KnK/ *JKE student-er sathe dEkha korechhilo*
 Yesterday Pihu KE/ KnK/ JKE student-GEN with meet do.PST.PERF.3
 ‘Yesterday Pihu met some student.’

All three items in (3a) (i) make existential claims, and (ii) do not specify who the witness to the claim is, but they vary with respect to how they quantify over the domain of alternatives. *kono ekta* does not necessitate quantifying over all the entities in the domain of alternatives, that is, more than one (but not necessarily all) alternatives in the relevant domain qualify as possible options. Hence, a follow-up to (3a)(i) excluding Dr Roy and Dr Ghosh from the domain of alternatives is felicitous. In contrast, both *kono na kono* (3a)(ii) and *je kono ekta*(3a)(iii) necessitate quantifying over all the entities in the domain of alternatives, that is, all alternatives (rather than a subset of them) qualify as possible options.

But, while both *kono na kono* and *je kono ekta* exhibit total free choice effect, (3a)(ii) asserts that Pihu must marry some doctor, and the speaker doesn’t have relevant knowledge/belief to

exclude any doctors as a possible option. Crucially, this sentence doesn't assert that all doctors are eligible suitors for Pihu. (3a)(iii) on the other hand does assert that all doctors are equally eligible suitors for Pihu, and she can pick any one of them.

I also demonstrate that *je kono ekta* exhibits a further restriction in overt modal contexts in disallowing embedding under epistemic modal operators (both possibility and necessity).

- (4) *gotokal Pihu hoyto/ nischoi KE/ KnK/ *JKE student-er sathe dEkha*
 Yesterday Pihu maybe/ definitely KE/ KnK/ JKE student-GEN with meet
korechhilo
 do.PST.PERF.3
 'Yesterday Pihu probably/definitely met some student.'

Proposal: I propose that the differential distribution of the two total free choice items can be captured by positing that they select for different modal bases. *kono na kono* is anchored to a speaker-oriented epistemic modal base, while *je kono ekta* only selects for an agent-oriented bouletic modal base. This generalization can capture the ungrammaticality of *je kono ekta* in both (3b) and (4). In (3b) the observed grammatical interpretation of *kono ekta* and *kono na kono* is assumed to come about through a self-licensing null assertoric modal \Box_S applied high in the left-periphery of the LF at the speech-act level, with the assertoric operator ranging over the speaker's epistemic alternatives. This rules out the use of *je kono ekta* in such contexts due to its incompatibility with a epistemic modal base.

Taking the example of (3a), we can assume the domain of doctors under consideration to be the set $D = \{a, b, c\}$. Adopting the framework in Chierchia (2013), we account for the interpretation of *kono* and the three indefinites by assuming that they obligatorily activate alternatives. The different interpretations (partial and total ignorance/random choice) are argued to stem from the interaction between (i) the types of alternatives they activate (scalar and domain alternatives), and (ii) the way these alternatives are factored into meaning via the mechanism of exhaustification. The distribution of *kono* can be shown to follow from exhaustifying the assertion with respect to simple domain alternatives. In contrast, the marked indefinites require pre-exhaustified alternatives. The parameters of variation that gives rise to the observed paradigm has been summarised in the table below. Taking Bangla as a case-study, we reinforce the viability of an alternative based approach to account for the patterns of cross-linguistic variation we encounter in the domain of polarity sensitive elements and dependent indefinites.

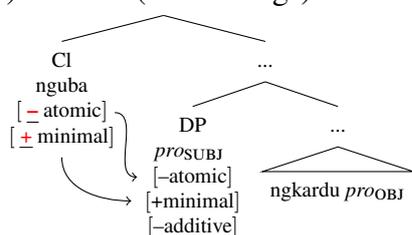
Types of alternatives	Simple domain alternatives + scalar alternatives	exhaustified domain alternatives (= free choice interpretation) + scalar alternatives (= existential interpretation)	exhaustified singleton domain alternatives (= free choice interpretation) + scalar alternatives (= existential interpretation)
Bangla NPI and \exists-FCIs	<i>kono</i>	<i>kono na kono, je kono ekta</i> (anchored to different modal bases)	<i>kono ekta</i>

Selected Bibliography: • Alonso-Ovalle, L., Menendez-Benito, P. 2010. Modal indefinites. *Natural Language Semantics*, 18(1), 1–31. • Chierchia, G. 2013. *Logic in Grammar: Polarity, free choice and intervention*. Oxford: Oxford University Press. • Falaus, A. 2014. (Partially) Free Choice of Alternatives, *L&P* 37 (2): 121-173.

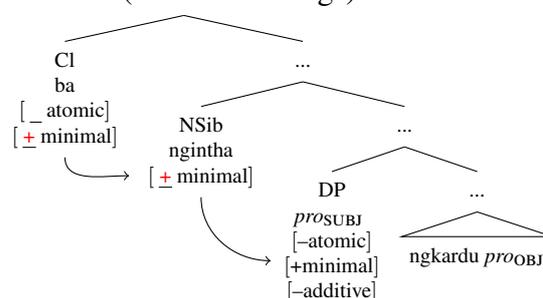
Morphology

not [\pm additive]. More importantly, the non-sibling marker, which only differentiates between dual (*ngintha/nintha*) and paucal (*ngime/neme*), only bears a probe for [\pm minimal], as this is the only feature needed to encode the dual/paucal contrast. This derives the mismatches, as follows. When no non-sibling marker is present, the classifier Agrees directly with the subject, as in (4). But when a non-sibling marker intervenes between the classifier and the subject, the classifier Agrees with the non-sibling marker, as in (5). The classifier must match the number specified by the feature set it receives. Thus in (4) a dual classifier is used, since [-atomic][+minimal] denotes dual; whereas in (5), a singular classifier is used, since [+minimal] denotes singular. (With paucal non-sibling subjects, the classifier head receives [-minimal], which denotes nonsingular, and a dual classifier is used – i.e. the dual is in fact the elsewhere form, with the paucal/plural being more specific. The relative markedness of dual vs. plural morphemes is a known parameter of variation (e.g. Harbour 2014, Smith et al. 2019).)

(4) ‘We (two siblings) will see it.’



(5) ‘We (two non-siblings) will see it.’



In (5), it is crucial that even though the non-sibling marker lacks a [\pm atomic] feature, it still blocks the classifier’s [\pm atomic] probe from Agreeing with the subject. I take this defective intervention effect (Chomsky 2000) to be an instance of disjunctive satisfaction (Roversi 2020): Agree halts as soon as the probing head finds a goal head matching any of its probe features.

Sensitivity to the position of the non-sibling marker. There is one exception to the pattern outlined in (3). The dual non-sibling marker is in fact a mobile affix: although it precedes the verb root by default (as in (2)), it *follows* the verb root if its prefixal slot is otherwise occupied. In (6), the prefixal slot is occupied by 2SG object agreement, so the non-sibling marker is suffixal. (6) nguba- **nhi-** ngkardu -nu **-ngintha** When the dual non-sibling marker appears in 1DU.13.FUT- 2- see -FUT -NSIB.DU this position, there is no mismatch: unlike (2), ‘We (two non-siblings) will see you.SG.’ (6) uses a dual classifier. Nordlinger and Mansfield (2021) propose a novel morphotactic principle to account for this pattern: *positional dependency*, i.e. sensitivity of morpheme insertion rules (in this case, the classifier insertion rule) to the linear position of other, unrelated morphemes (in this case, the non-sibling marker). Not only is this an ad hoc mechanism which adds unneeded power to the model; their account also fails to explain why it is specifically the singular classifier which appears in (2) and the dual classifier which appears in (6) – this is treated as entirely arbitrary. My account, by contrast, provides a principled explanation for why it is precisely these forms which must be used: the pattern follows from a typologically well-motivated featural representation of number (Harbour 2014) alongside learners’ preference to posit as few probe features as possible (Preminger 2019). And as for the lack of mismatched agreement in (6), this follows straightforwardly from the mechanics of Agree, assuming that variable affix order reflects a difference in syntactic position. Verbal suffixes seem generally higher than prefixes: suffixes are mainly TAM markers and adverbials, whereas the prefixes include reflexive, applicative, and object agreement morphemes. I propose that the non-sibling marker in (6) is higher than the classifier, and thus fails to intervene between the classifier and the subject, yielding the non-mismatch. **Select refs:** Harbour 14, Paucity, Abundance, and the Theory of Number. Nordlinger & Mansfield 21, Positional dependency in Murrinhpatha: expanding the typology of non-canonical morphotactics.

Morphophonological epenthesis in Spanish diminutives

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Overview. Suffix realizations have often been studied with a focus on non-suppletive phonologically derived allomorphs that are in complementary distribution. For example, the English plural suffix *-z* is realized as [-s] after non-sibilant voiceless consonants, [-əz] after sibilants, and [-z] elsewhere. The Spanish diminutive (DIM) suffix realizations *-it*, *-sit*, and *-esit* (written as “it”, “cit”, and “ecit”) have also been considered as allomorphs in previous studies (e.g., Crowhurst 1992, Harris 1994, Kenstowicz 2005, Norrmann-Vigil 2012). However, this paper argues against the purely phonologically conditioned allomorphic approach by showing that there is some free variation among the members of the Spanish DIM suffix realizations and that their distribution cannot be fully explained by phonology. (For this reason, I use the term “suffix realizations” rather than “suffix allomorphs”.) This paper instead argues for an epenthetic approach with an assumption that *-it* is the default and the other two realizations *-sit* and *-esit* are derived from the default by inserting [s] or [e]+[s] for morphophonological reasons.

Phenomenon & puzzle. Crowhurst (1992) claims that *-sit* is the default diminutive suffix, and that, for monosyllabic stems, [e] is inserted in order to satisfy the disyllabic foot template $F_{00}[\sigma\sigma]$ for stems (1a-b).

- | | | | |
|--------|-------------|---------------|--------------|
| (1) a. | <i>pan</i> | [pa.n-e]sita | ‘bread-DIM’ |
| b. | <i>madr</i> | [mad.r-e]sita | ‘mother-DIM’ |

Despite the predictability of *-esit* for monosyllabic stems, there are counterexamples, or what is claimed as exceptions: *-sit* is in free variation with *-esit* (2a), or only *-it* is grammatical (2b).

- | | | | | | |
|--------|-------------|--------------------|-------------------------------------|--------------------|-----------------------------|
| (2) a. | <i>flor</i> | * <i>florita</i> , | <i>florsita</i> , | <i>floresita</i> | ‘flower-DIM’ (Harris 1994) |
| b. | <i>mugr</i> | <i>mugrita</i> , | (* <i>mugrsita</i>) ¹ , | * <i>mugresita</i> | ‘dirt-DIM’ (Crowhurst 1992) |

In sum, there is some variation: not only *-esit* but also *-it* and *-sit* do occur after monosyllabic stems. However, there has been no unified account (except the view for exceptions) for their distribution.

Experiment. An online acceptability judgment task was conducted on Qualtrics in order to examine the distribution of the Spanish DIM suffix realizations *-it*, *-sit*, and *-esit* for monosyllabic stems. For stimuli, nine monosyllabic actual Spanish noun stems (e.g., *pan* ‘bread’, *madr* ‘mother’), which were mostly taken from Crowhurst (1992) and Harris (1994), were used. Twenty-six native speakers of Mexican Spanish participated in the task. Participants were presented 27 written pairs of noun phrases that have a stem-final simplex consonant (e.g., “el pan” ‘the bread’) or cluster (e.g., “la madre” ‘the mother’; the final [e] here is not part of the noun stem but what is epenthesized because the stem is *mad<r>* where the <r> is extraprosodic (Crowhurst 1992)) and their potential diminutives with each of the three suffix forms attached (e.g., “el panito,” “el pancito,” “el panecito” ‘the bread-DIM’). Participants were asked to give an acceptability judgement score that ranges from 1 to 7 for each of the diminutives.

Results. Results support the previous analysis, and more crucially, provide new findings. First, Crowhurst’s (1992) claim about *-esit* for monosyllabic stems is supported: *-esit* (the blue bars in Figure 1) was preferred to the other suffix forms (*-it* and *-sit*), whether the stem-final consonant(s)

¹ **mugrsita* is in parentheses because it is not explicitly mentioned in Crowhurst (1992) but can be easily predicted to be ungrammatical due to the phonotactics in Spanish.

are simplex, as in [pa.n-e]sito ‘bread-DIM’ (5.85/7), or complex, as in [mad.r-e]sita ‘mother-DIM’ (6.22/7). Second, even though Crowhurst (1992) would predict the attachment of *-it* and *-sit* to monosyllabic stems to be ungrammatical, our findings show that one of them was consistently preferred to the other: for noun stems with a simplex final consonant, *-sit* (the green bar) was preferred to *-it* (the orange bar) (e.g., *pan-sit-o* (4.37) > *pan-it-o* (2.05)), whereas for noun stems with complex final consonants, *-it* (the orange bar) was preferred to *-sit* (the green bar) (e.g., *madr-it-a* (3.56) > *madr-sit-a* (1.29), see footnote 1).

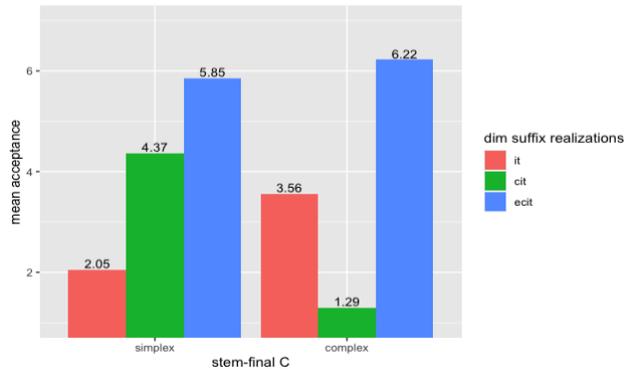


Figure 1. Mean acceptability scores of *-it*, *-sit*, and *-ecit* (range: 1-7)

Analysis. This paper shows that all three Spanish DIM suffix realizations are accounted for by the interactions among phonological and morphological constraints and that different rankings predict different output forms. This is based on an epenthetic approach with an assumption that *-it* is the default and *-sit* and *-ecit* are derived from the default by inserting [s] or [e]+[s] via morphophonological epenthesis. Overall, *-ecit* was most preferable for monosyllabic stems, which supports Crowhurst’s (1992) claim for the disyllabic foot structure. This is required by the constraints $\text{Foot}[\sigma]$ (in order to choose [pa.ne.si.to] over [pa.ni.to]) and ONSET (in order to select [pa.ne.si.to] over [pa.ne.ito]). However, it is at the same time problematic since it does not completely block the occurrences of *-it* and *-sit* for monosyllabic stems, which would be ungrammatical to Crowhurst’s analysis. Our results indicate that *-sit* is preferred to mark a morpheme boundary (indicated as “|”) as long as it does not yield an unparsed consonant, which is required by PARSE-C (Kenstowicz 1994). For example, [pan.|s|-i.to] is relatively tolerable, whereas [mad.<r>|s|-i.ta] is not because /r/ cannot be parsed. While [mad.<r>si.ta] is nearly unacceptable, [mad.ri.ta] is the second most preferred form for /madr-ita/. In order for [mad.ri.ta] to be selected as the optimal output form, DEP should dominate $]\text{stem} =]\sigma$ (the right edge of the stem should coincide with the right edge of the syllable) and Pr=Lex (“morpheme boundaries should coincide with the boundaries of prosodic constituents (i.e., a phonological word)”; Prince & Smolensky 1993).

Contribution. This paper contributes to a line of research on the typology of “morphological” epenthesis, which has been understudied as opposed to “phonological” epenthesis. Additional evidence for morphological epenthesis is found cross-linguistically: Italian compounds (*diet|g|terapia* ‘diet therapy’; Repetti 2012), Korean suffixation (*pap-iran* ~ *pap|g|-iran* ‘rice and’; Kim 2018), and English DIM suffix realizations (*Bettie* ~ *Bet|g|ie* ‘Elizabeth-DIM’; Kim 2021).

References. Crowhurst. 1992. Diminutives and Augmentatives in Mexican Spanish: A Prosodic Analysis. Harris. 1994. The OCP, Prosodic Morphology and Sonoran Spanish diminutives: A Reply to Crowhurst. Kenstowicz. 1994. Syllabification in Chukchee: a Constraints-Based Analysis. Kenstowicz. 2005. Paradigmatic uniformity and contrast. Kim. 2018. Variation in stem-final consonant clusters in Korean nouns. Kim. 2021. *Bettie* vs. *Betsie*: Morphological s-epenthesis in English diminutives. Norrmann-Vigil. 2012. Accounting for variation of diminutive formation in Porteño Spanish. Prince & Smolensky 1993. Optimality Theory: Constraint interaction in generative grammar. Repetti. 2012. Consonant-final loanwords and epenthetic vowels in Italian.

There are two derivations for associative plural (APL) constructions.

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The data. APL constructions can be split, typologically, into two broad groups: those that use the same morpheme as the common additive plural (1) and those that use something else (2).

- | | |
|---|---|
| <p>(1) <u>Manchu</u></p> <p>a. Arana-se
Arana-PL
'Arana and her people'</p> <p>b. gege-se
elder.sister-PL
'elder sisters'</p> | <p>(2) <u>Kanuri</u></p> <p>a. Áli-sò
Ali-COL
'Ali and friends'</p> <p>b. kóró-wa
donkey-PL
'donkeys'</p> |
|---|---|

In a cross-linguistically rare scenario, Turkish allows both options. Most widely discussed in the APL literature is the use of additive plural morphology *-lAr* to mark the associative (Vassilieva 2005, 2008; Görgülü 2011; Daniel and Moravcsik 2013; Cinque 2018) (3). Lewis (1967) and Göskel and Kerslake (2005) note the second option, *-gil*, a suffix indicating “group membership” (Göskel and Kerslake 2005) (4).

- | | |
|--|---|
| <p>(3) Ahmet-ler
Ahmet-PL
'More than one person called Ahmet' or
'Ahmet and his family'</p> | <p>(4) Ahmet-gil
Ahmet-APL
'Ahmet and his family/group'</p> |
|--|---|

On the surface we have what look like two exponents of the same morpheme - the associative plural. However, on closer inspection the two forms do not behave the same and I show that we are not dealing with two exponents of the same head. When the APL construction with *-lAr* contains a possessed noun, the possessor agreement morphology may be first or second person singular, but not first or second person plural.

- | | |
|--|---|
| <p>(5) a. ablamlar
b. ablanlar
c. *ablamizlar
d. *ablanizlar</p> | <p>'my elder sister and her friends'
'your(sg) elder sister and her friends'
'our elder sister and her friends'
'your(pl) elder sister and her friends'</p> |
|--|---|

This number restriction does not arise in the associative plural formed with *-gil*.

- | | |
|--|---|
| <p>(6) a. ablamgil
b. ablangil
c. ablamizgil
d. ablanizgil</p> | <p>'my elder sister and her friends'
'your(sg) elder sister and her friends'
'our elder sister and her friends'
'your(pl) elder sister and her friends'</p> |
|--|---|

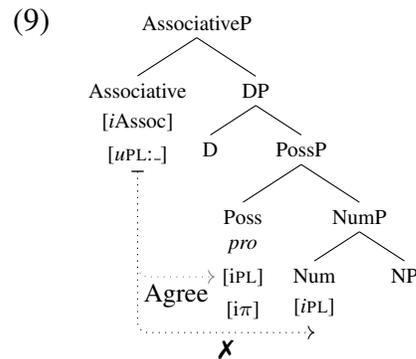
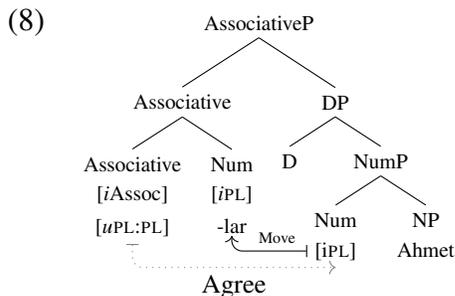
I show that for the existing accounts of APLs, it is a puzzle why (5c-d) are ungrammatical but (6c-d) are not. I propose a new account of APLs that captures the difference.

The puzzle. I follow Cinque (2018) in assuming the structure in (7a) for all APLs cross-linguistically, where an associative functional head is situated high, above DP (Cinque 2018 calls this NumberP_{Associative}). This is also similar to Görgülü's 2011 analysis of Turkish associatives – Görgülü calls the Associative Phrase 'GRP', for 'group'.

- | | |
|--|--|
| <p>(7) a. [AssociativeP [DP [Num(ber)P [NP [N <u>noun</u>] Num <u>additive plural</u>] D] Associative <u>assoc. plural</u>]]
b. Ahmet-ler
c. Ahmet-ler
d. Ahmet-gil</p> | <p>'More than one person called Ahmet'
'Ahmet and his friends/others'
'Ahmet and his friends/others'</p> |
|--|--|

On Cinque and Görgülü’s analysis, APL morphology is the realization of features on the associative head, distinct from the (sometimes) identical morpheme that heads the Number Phrase. That is, associative *-lar* and *-gil* are two possible exponents of the same morpheme - associative plural (7c-d) - while additive *-lar* is an exponent of a different morpheme - additive plural (7b). This approach fails to capture the contrast between (5c-d) and (6c-d). Why should the number of a nominal possessor affect which exponent of the APL morpheme is realized?

The analysis. I will show that the contrast between (5c-d) and (6c-d) can be captured if the APL construction with *-lar* is derived differently from the APL construction with *-gil*. In particular, I propose that the APL construction with *-lar* is derived via head movement of Num(ber) to Associative⁰. This movement is driven by a [uPL] feature on Associative⁰ (8): [uPL] Agrees with [iPL] on Num, which subsequently moves. When the noun is modified by a plural possessor, as evidenced by agreement morphology on the noun, I argue that there is a *pro* in the modifying Possessor Phrase with person and number features (9).



pro in (9), bearing [iPL], acts as an intervener for Agree. [uPL] on the Associative⁰ head cannot agree with [iPL] on Num in the presence of [iPL] on a possessor *pro*. Consequently, Num cannot undergo movement to Associative⁰ (which is required when the same morpheme functions for both regular plural and associative) in this configuration. (5c-d) are thus ruled out (I will also discuss why moving *pro* is not a possible derivation (on the immovability of *pro* see e.g. Takahashi 2000)). (5c-d) cannot be ruled out under an analysis that base generates *-lar* in Associative⁰ (i.e. Görgülü 2011, Cinque 2018), because there will be no intervention effect under that approach. Note that no intervention effect arises when the possessor is singular, as expected (5a-b). However, nothing prevents *-gil*, which is not used as a regular plural morpheme, from being base-generated in Associative⁰ as a unique APL marker. In fact, it is correctly predicted that this is the only way to derive an APL that also contains a plural possessor.

Conclusion. I have proposed that there are two ways to derive APL constructions: (i) head movement of Num and (ii) base-generation in Associative⁰. Turkish provides empirical evidence for this, whereby option (ii) is the only option available when there is a plural modifier present on the noun due to an intervention effect that prevents Agree with – and movement of – Num. I will show that these two options are available beyond Turkish, that is, that the two broad typological groups identified in (1) and (2) actually correspond to the two derivational options (i) and (ii), respectively, as part of a larger generalization about APL constructions.

Select references. Takahashi, D. (2000). Move F and raising of lexical and empty DPs. In R. Martin, D. Michaels, J. Uriagereka (Eds.) *Step by step: Essays on Minimalist Syntax in honor of Howard Lasnik*, 297-317. Görgülü, E. (2011). Plural marking in Turkish: Additive or associative? *Working papers of the Linguistics Circle* 21, 70-80. Cinque, G. (2018). On the Merge position of additive and associative plurals. In R. Petrosino, P. Cerrone, and H. van der Hulst (Eds.), *From sounds to structures, Beyond the veil of Maya*, 499-513.

How abstract is the abstract noun? Gender agreement in Russian restrictive relative clauses

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Introduction The Russian interrogative/relative pronoun *kto* ‘who’ shows variable gender agreement. In most cases it triggers default masculine agreement. However, in some contexts, if *kto* ‘who’ restricts a set of feminine individuals, feminine agreement is preferred. This applies to: adjectives in predicative position and finite verbs in relative clauses, but crucially not to finite verbs in non-embedded clauses. This data might seem problematic for Wurmbrand’s (2017) claim that semantic and formal agreement are associated with valuation of interpretable and uninterpretable features, respectively, since the same head (finite T) shows both semantic and formal agreement. I show that in fact, it is not problematic, and both default and “semantic” agreement in Russian relative clauses represent valuation of uninterpretable features on T. The difference is in the gender specification of the null head noun of the relative clause, which comes from the context by virtue of the restrictive operator ‘only’.

The data The interrogative pronoun *kto* ‘who’ triggers default masculine agreement on the finite verb in non-embedded interrogative clauses. This occurs even if the set of alternatives provided by the preceding context consists only of feminine individuals, as in (1):

- (1) *kto pobedi-l-∅* / **pobedi-l-a* v sostyazan-ii?
who win-PST-SG.M win-PST-SG.F in competition-PREP.SG
(Context: Three goddesses, Hestia, Athene, and Artemis, were competing.)
‘Who won the competition?’

If the predicate is an adjective, and the set of alternatives consists only of feminine individuals, both feminine and masculine agreement are possible, with a strong preference to the feminine:

- (2) *kto sama-ya* *krasiva-ya* / *??sam-yj* *krasiv-yj*?
who most-NOM.SG.F beautiful-nom.sg.f most-NOM.SG.M beautiful-NOM.SG.M
(Context: Three goddesses, Hestia, Athene, and Artemis, were competing.)
‘Who of them is the most beautiful one?’

The same pattern as in (2) is present within relative clauses. If the set restricted by the relative operator contains only feminine individuals, feminine agreement is preferred.

- (3) Afina – edinstvenna-ya, *kto pobedi-l-a* / *??pobedi-l-∅* v sostyazan-ii.
Athene only-NOM.SG.F who win-PST-SG.F win-PST-SG.M in competition-PREP.SG
‘Athene is the only one who won the competition.’

The contrast between (1) and (3) shows that finite verbs agree differently depending on whether they are in the embedded or in the main clause. If the set of individuals denoted by the relative clause is not restricted to feminine entities, default masculine agreement is obligatory on the finite verb:

- (4) Anna – edinstvenn-aya, *kto reši-l-∅* / **reši-l-a* étu zadač-u.
Anna only-NOM.SG.F who solve-PST-SG.M solve-PST-SG.F this.ACC.SG.F problem-ACC.SG
(Context: there are 3 male and 4 female students. Anna is the only student who solved the problem.)
‘Anna is the only one who solved this problem.’

The gender of the adjective *edinstvenn-* ‘only’ can be default at least for some speakers. However, this can only be interpreted as the choice from a set of individuals that is not restricted to feminine entities:

- (5) ?Anna – *edinstvenn-yj*, *kto reši-l-∅* ét-u zadač-u
Anna only-NOM.SG.M who solve-PST-SG.M this.ACC.SG.F problem-ACC.SG
a. (Context: there are 3 male and 4 female students. Anna is the only student who solved the problem.)
OK ‘Anna is the only one who solved the problem.’
b. (Context: there are 7 female students. Anna is the only one who solved the problem.)
*‘Anna is the only one who solved this problem’

Surface vs. deep anaphora The contrast in gender agreement in sentences like (4–5) has been used as a distinguishing property between surface and deep anaphora. Wurmbrand (2017) shows that in German deep anaphora constructions, agreement tends to be semantic (6a), while in surface anaphora environment, agreement tends to be formal (syntactic, 6b). She further associates two types of agreement with different specification of targets. The anaphoric null noun \emptyset_N involved in deep anaphora is only visible semantically and only requires

interpretable φ -feature values, hence semantic agreement on its modifiers. Under surface anaphora, the target of agreement has uninterpretable φ -feature values, and the agreement is formal.

- (6) a. Das Mädchen ist **die Einzige, die** blau angezogen ist.
 the.N.SG girl is the.F.SG only.SG who.F.SG blue dressed is
 ‘The girl is the only \emptyset_{+anim} who is dressed in blue.’
 is only felicitous if the set of individuals contains only one girl (deep ellipsis)
- b. Das zweite Mädchen ist **das Einzige, das** blau angezogen ist.
 the.N.SG girl is the.N.SG only.SG who.F.SG blue dressed is
 ‘The girl is the only ~~girl~~ who is dressed in blue’
 is only felicitous if the set of individuals consists of girls (surface ellipsis) (Wurmbrand 2018: 22–23)

The Russian data contrasts with the German data. What is likely to be a deep anaphora context, shows formal agreement on the finite verb and formal/semantic agreement on ‘only’ (4–5). What is likely to be a surface anaphora context, shows semantic agreement both on the finite verb and ‘only’ (3). Thus, I do not analyze the contrast between (3) and (4) as the contrast between surface vs. deep anaphora.

Analysis I suggest that Russian relative clauses with *edinstvenn-* ‘only’ in the head position and *kto* ‘who’ always involve a null noun. However, feature specification of this noun can vary. It can have a $[i\varphi:fem]$ feature, if the context presupposes that ‘only’ quantifies over a set of entities having the same $[+fem]$ gender specification. In this case, feminine agreement arises. The null noun can also have no feature specification, except for $[+anim]$ feature. In this case, the probe does not find interpretable features to match its uninterpretable features, and default masculine agreement arises. The availability of feminine agreement in relative clauses comes from the cyclic nature of long-distance agreement between the head noun and the finite verb within the relative clause. The interpretable gender feature on the null noun is introduced contextually by the ‘only’ operator.

I assume that restrictive relative clauses are complements of NP. Following Heck and Cuartero (2012), I assume that φ -agreement within relative clauses applies cyclically and involves feature sharing. First, T and C establish Agree within the relative clause. Then the head noun values the features of C. Since these features are located at the edge of the CP phase, they are accessible to the head noun. Due to the coalescence on the previous Agree-cycle, this also values the φ -features on T. In this way, the gender-specified null noun triggers gender agreement on the finite verb within the relative clause, while the non-gender-specified null noun does not.

What endows the null noun with interpretable gender? I suppose that this is the restriction of the context to individuals with the same gender specification. It is the ‘only’ operator that is responsible for that. I suggest that *edinstvenn-* ‘only’ is a determiner rather than an adjective, and its semantics includes an explicit contextual restriction:

$$(7) \quad \llbracket edinstvenn \rrbracket^{w.g} = \lambda P. \lambda x. P(x) \ \& \ x \in C \ \& \ \neg \exists y [y \neq x \ \& \ y \in C \ \& \ P(y)]$$

This contextual restriction defines the gender specification of the null anaphoric pronoun. If the contextual set consists of individuals with an interpretable $[+fem]$ feature, the null anaphoric noun inherits it from the context. Otherwise, there is no gender feature on the null noun. In the latter case, default (masculine) agreement arises.

Since it is not *kto* ‘who’ but the null noun that bears gender specification from the context, we do not see semantic agreement in non-embedded interrogative clauses with *kto* ‘who’ even if the set of individuals is gender-specified, as in (1). However, *kto* ‘who’ is needed for agreement to apply cyclically.

These findings contribute to the formal understanding of the Predicate Hierarchy (Comrie 1975, Corbett 2006), which claims that adjectives are less likely to agree formally (“syntactically”) than finite verbs:

- (8) The Predicate Hierarchy
verb – **participle** – **adjective** – **noun**
 syntactic agreement ← — — — — — → semantic agreement

My analysis suggests that “semantic” agreement in the Predicate Hierarchy is in fact *syntactic* agreement with the null noun. This explains why finite verbs in relative clauses and predicative adjectives can agree “semantically”, but finite verbs in independent clauses cannot.

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Phonetics/ Phonology

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Introduction: Latent segments often obey phonological locality restrictions. We document a glaring exception from auxiliary-induced segment-dropping in Iranian Armenian in which the floating segment is licensed by long-distance c-command. Such data needs an articulated syntax-morphology-phonology interface such as in (Kaisse, 1985; Elordieta, 1997; Pak, 2008).

Background: Iranian Armenian is spoken in Tehran. It is SOV, previously un-described, and data is from our fieldwork. The lect is highly periphrastic. For example, the infinitival verb *xəm-e-l* ‘to drink’ has a root *xəm-*, theme vowel *-e*, and infinitival *-l*. In the present tense, the verb is in the imperfective converb form with the suffix *-um* (in bold) while Tense/Agr is on a vowel-initial auxiliary: *e-m* 1SG ‘am’, *e-s* 2SG ‘are’, etc. In the basic SOV word order, the auxiliary is cliticized to the verb. But the auxiliary can shift to the left of the verb and attach to the negation marker, bare objects, and focused elements.

	Present 1SG	Negation	Bare	Focus
Syll.:	<i>xəm-um</i> =em <i>xə.mu.mem</i> drink-IMPF am ‘I am drinking’	<i>tʃ=em</i> <i>xəm-um</i> <i>tʃem</i> <i>xə.mum</i> NEG=am drink-IMPF’ ‘I am not drinking’	<i>tʃur=em</i> <i>xəm-um</i> <i>tʃu.rem</i> <i>xə.mum</i> water=am drink-IMPF’ ‘I am drinking water’	<i>esor=em</i> <i>xəm-um</i> <i>e.so.rem</i> <i>xə.mum</i> today=am drink-IMPF ‘TODAY, I am drinking’

Basic data: In the present perfect, the verb uses the perfective converb with the suffix *-er*. The suffix is *-er* when cliticized with the auxiliary, but *-e* if the auxiliary has shifted leftward. The phenomenon of liquid-deletion is morpheme-specific to this suffix.

	Perfect 1SG	Negation	Bare	Focus
Syll.:	<i>xəm-er</i> =em <i>xə.me.rem</i> drink-PERF am ‘I have drunk’	<i>tʃ=em</i> <i>xəm-e</i> <i>tʃem</i> <i>xə.me</i> NEG=am drink-PERF’ ‘I have not drunk’	<i>tʃur=em</i> <i>xəm-e</i> <i>tʃu.rem</i> <i>xə.me</i> water=am drink-PERF’ ‘I have drunk water’	<i>esor=em</i> <i>xəm-e</i> <i>e.so.rem</i> <i>xə.me</i> today=am drink-PERF ‘TODAY, I have drunk’

Auxiliary specific: The data seem to involve a latent segment *-e<r>*, also called a ghost or floating segment. The question is what exactly licenses the liquid to surface. The above data would suggest that the trigger is simply the presence of an adjacent vowel which syllabifies the liquid into an onset. This is false. the *r~∅* alternation is conditioned **only** by the presence of the auxiliary. Phrasal resyllabification seems possible (*=e.m#a...*) but does not affect the ghost; other clitics (not shown) also can’t license the liquid. If the verb precedes a vowel-initial word that’s not the Aux, we still find liquid-dropping. Phrasal resyllabification doesn’t license the liquid, only the auxiliary does.

Syll.:	<i>dʒonin</i> <i>təv-er=em</i> <i>at^hoɾə</i> <i>dʒo.nin</i> <i>tə.ve.re</i> <i>ma.t^ho.ɾə</i> John.DAT give-PERF=am chair.DEF ‘I have given the chair to John’	<i>dʒonin=em</i> <i>təv-e</i> <i>at^hoɾə</i> <i>dʒo.ni.nem</i> <i>tə.ve</i> <i>(*r)a.t^ho.ɾə</i> John.DAT=am give-PERF chair.DEF ‘to JOHN, I have given the chair’
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Long-distance: In the above, the auxiliary licenses the liquid and is *adjacent* to the liquid. However, data from coordination shows that the auxiliary can be non-adjacent to the verb but still license the liquid, as long as the auxiliary *scopes* over the perfect. Below, two perfect verbs are coordinated. On the left sentence, each verb has its own cliticized Aux. The liquid is licensed in both verbs. However, these coordinated phrases can omit the first Aux. When the first Aux is omitted, the first perfect still keeps its liquid. It does not matter whether

the intervening coordinator is consonant-initial *kam* ‘or’, or vowel-initial *u* ‘and’. Thus, what licenses the liquid on Verb1 is the auxiliary on Verb2.

Verb1=Aux1	Coor	Verb2=Aux2	Verb1	Coor	Verb2=Aux
<i>xəm-er =em</i>	<i>kam/u</i>	<i>ker-er =em</i>	<i>xəm-er</i>	<i>kam/u</i>	<i>ker-er =em</i>
drink-PERF=am	or/and	eat-PERF=am	drink-PERF	or/and	eat-PERF=am
‘I have drunk, or/and I have eaten’			‘I have drunk or/and eaten’		

In the above, the single auxiliary has scope over the two coordinated perfect verbs. It licenses the liquid on both verbs. Constituency matters. If we use two Aux’s, but the first is negated, then the first Aux shifts leftward and causes Verb1 to lose its liquid; the second Aux however stays constant and still licenses the liquid of V2. In contrast, if the coordination used only one Aux, then negation would shift this Aux and cause both verbs to lose their liquid.

Neg=Aux	Verb1	Coor	Verb2=Aux	Neg=Aux	Verb1	Coor	Verb2
<i>tʃ =em</i>	<i>xəm-e</i>	<i>kam/u</i>	<i>ker-er =em</i>	<i>tʃ =em</i>	<i>xəm-e</i>	<i>kam/u</i>	<i>ker-e</i>
NEG=am	drink-PERF	or/and	eat-PERF=am	NEG=am	drink-PERF	or/and	eat-PERF
‘I have not drunk or/and, I have eaten’				‘I have not drunk or/and eaten’			

Analysis: Thus the actual generalization for $/-e<r>/$ is that the latent segment is licensed not phonologically, but morphosyntactically by the presence of an auxiliary that bears Tense/Agreement, i.e., a to v-T feature chain (Elordieta, 1997). This auxiliary must linearly follow the verb and scope over the verb, i.e., be within the same vP/CP constituent based on c-command.

Rule: $\langle C \rangle \rightarrow C / [_ \dots \text{AUX}]$

Over the linear segmental string this scopal dominance can manifest either locally or non-locally. Locally, the context is that perfect is encliticized by the verb; non-locally, the perfect is coordinated with another verb such that both are dominated by the auxiliary. I illustrate a derivation for the above coordination sentences. The $\{ \}$ mark constituents based on c-command.

	‘I have drunk or have eaten’	‘I have not drunk or have eaten’
Input	$\{ xəm-e<r> =em \}$ kam $\{ ker-e<r> =em \}$	$\{ tʃ^h xəm-e<r> \}$ kam $\{ ker-e<r> =em \}$
Movement		$\{ tʃ^h =em xəm-e<r> \}$ kam $\{ ker-e<r> =em \}$
Docking	$\{ xəm-er =em \}$ kam $\{ ker-er =em \}$	$\{ tʃ^h =em xəm-e \}$ kam $\{ ker-er =em \}$
	‘I have drunk or eaten’	‘I have not drunk or eaten’
Input	$\{ xəm-e<r> kam ker-e<r> =em \}$	$\{ tʃ^h xəm-e<r> kam ker-e<r> =em \}$
Movement		$\{ tʃ^h =em xəm-e<r> kam ker-e<r> \}$
Docking	$\{ xəm-er kam ker-er =em \}$	$\{ tʃ^h =em xəm-e kam ker-e \}$

There is also a suffix *-alis*. For a handful of irregular verbs, these verbs use the suffix *-alis* to form the imperfective converb instead of *-um*. This suffix also has a latent *s* segment $/-ali(s)/$. This latent segment is licensed in the **exact** same conditions as for $-e<r>$. Furthermore, we document effects of code-switching and register on licensing.

Conclusion: In sum, Iranian presents a rare case of a floating segment getting licensed via syntactically-conditioned relationships, as has been proposed for phrasal tone (McPherson and Heath, 2016) and syntax-sensitive segmental phonology (Kaisse, 1985; Pak, 2008).

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L1 Influence on Initial Stop Consonants in Malaysian-English Bilingual Speakers

As many postcolonial countries retain English for internal use following their independence, a “new” English is formed with the influence of local varieties. Malaysian English is one of the Southeast Asian Englishes that has experienced long-term language contact and linguistic integration. Nevertheless, a lack of contribution in the phonological aspect of Southeast Asian Englishes is noticed. Thus, the present study aims to investigate the L1 influence on the English initial stop consonants produced by the three major ethnic groups in Malaysia and the extent of cross-linguistic influence. Voice onset time (VOT) and closure duration are investigated in four groups: Malay-English bilinguals (n=10), Mandarin-English bilinguals (n=10), Tamil-English bilinguals (n=10) and British monolinguals (n=9). The bilinguals’ English results are compared with their L1s and British English. Findings show the data distribution of English initial stop consonants produced by the bilingual groups lie at an intermediate position between L1s and British English, indicating cross-linguistic influence. While all bilingual groups reflect weaker voicing contrast in the English initial stop production, Malay-English bilinguals and Tamil-English bilinguals show smaller data variability and greater resemblance to respective L1s whereas Mandarin-English bilinguals display greater data variability and greater resemblance to L2. A linear mixed effects model analysis confirms the findings as well. The contrast of closure duration between two voicing categories is nevertheless evident in all bilingual groups although it is less noticeable in the findings of the British monolinguals. Hence, while the findings show evident L1 influence on the English initial stop production among the bilingual speakers, they lead us to the next question on the role of VOT and closure duration as an acoustic cue or perceptual cue in the English initial stop production of these bilingual speakers.

Keywords: Malaysian English, Bilingual Speakers, Cross-Linguistic Influence, VOT, Closure Duration

Emphatic ('Type-C') reduplication in Sakha

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Sakha (Yakut) is a Turkic language spoken in the Republic of Sakha (Yakutia). Like many other Turkic languages, Sakha allows reduplication. One pattern is a reduplicative prefix CVp-, which intensifies adjectives (e.g. *kirdex* 'dirty' → *kip-kirdex* 'very dirty'). It involves fixed segmentism of /p/ and is described in the literature as emphatic or 'Type-C' reduplication. This pattern is the focus of the present work. Data obtained from the existing literature (Stachowski, 2015) show that there are occasional alternatives to the fixed /p/ segment, partially conditioned by the OCP. This OCP effect is optional, as data from a consultant show that /p/ does not undergo place or voicing alternations. Using data from both sources, this study aims to capture: (i) the general pattern of fixed segmentism in type-C reduplication, (ii) optional OCP effects, and (iii) monophthongization or vowel shortening effects in the reduplicant. A traditional OT (Prince & Smolensky, 1993) approach will be used to formalize these generalizations.

Phonological distribution of /p/. We first examine the phonological distribution of /p/ in Sakha. The singleton voiceless /p/ does not occur intervocalically in Sakha words, although voiced /b/ and geminate /p:/ occur there. /p/ also does not occur word initially in native vocabulary, apart from onomatopoeically (Krueger, 1962). Word finally, it has been argued that /p/ only occurs as devoicing of underlying /b/ (Krueger, 1962).

<i>saba</i>	his thread	<i>tabar</i>	he hits	<i>sippax</i>	blunt, dull	<i>sibax</i>	plaster
<i>sap</i>	thread	<i>tap</i>	to hit	<i>xappax</i>	cover, lid	<i>xabax</i>	bladder

Phonological status of fixed /p/. When the prefix /CVp/ precedes a root with a consonant onset, /p/ does appear between two vowels. But this contradicts the word-internal observations, and spectrographic analysis shows that the fixed segment /p/ has properties of a coda consonant. We argue that the reduplicant and root behave as two phonological words, with the /p/ in the coda, with syllabification across the two words prohibited. Formally, this suggests that *C[+VOICE]]σ is ranked higher than *VPV.

<u>Word</u>		<u>Reduplicated form</u>	<u>Meaning of root</u>
<i>uhun</i>	→	<i>up-uhun</i>	long
<i>uraas</i>	→	<i>up-uraas</i>	clean
<i>uraax</i>	→	<i>up-uraax</i>	far
<i>æjɖææx</i>	→	<i>æp-æjɖææx</i>	smart
<i>atʃʃiuk</i>	→	<i>ap-atʃʃiuk</i>	hungry

RED-uhun	*C[+VOICE]]σ	*VPV
up-uhun		*
ub-uhun	*!	

Morphological status of /p/. Previous literature has analyzed fixed segmentism in a constraint-based approach as (1) default segmentism or (2) melodic overwriting (Alderete et al, 1999), both under correspondence theory. We argue that the former analysis cannot explain the fixed-/p/ for several reasons. (i) There is no independent evidence for /p/ as an unmarked segment; on the contrary, the distribution of /p/ is highly restricted as explained above. Furthermore, under a place-markedness hierarchy (Prince & Smolensky 1993, Lombardi 1997), *PL/LAB is high ranked (see also de Lacy, 2006), providing further support that /p/ does not have default status. (ii) The reduplicative affix requires /p/ to be a coda, which is a marked position. It is insufficient to rank NOCODA low, as it fails to account for why the presence of /p/ is preferred over the lack of /p/. Although /p/ is part of the Sakha inventory, and *C[+VOICE]]σ is also a general property of Sakha phonology, a reduplicative TETU analysis fails to account for fixed /p/; even with ALIGN(PrWd, R; C; R), the place of articulation of the coda is still not predicted. Instead, we argue for an overwriting analysis of fixed segmentism for two additional reasons. (i) Data from the literature show that contrasts among overwriting strings are possible. This suggests that the fixed segment is not unmarked, but obeys FAITH-IO constraints. (ii) The fixed /p/ is consistently right aligned to the reduplicative morpheme, which could be captured by ORDERING, which states that the underlying order

of morphemes should be maintained. Consequently, when the fixed segment is treated as an affix, ranking Max-IO above Max-BR would correctly capture the effect of fixed /p/ in type-C reduplication.

<i>kuhuul</i>	→	<i>kup-kuhuul</i>	red
<i>xara</i>	→	<i>xap-xara</i>	black
<i>tʃugas</i>	→	<i>tʃup-tʃugas</i>	close
<i>tastuŋ</i>	→	<i>tas-tastuŋ</i>	outer, outsider
<i>soŋuu</i>	→	<i>soj-soŋuu</i>	a cry, weep
<i>siikej</i>	→	<i>sin/p-siikej</i>	crude, raw

RED-p-uhun	ORDERING	Max-IO	Max-BR
☞ up-uhun			***
uh-uhun		*!	**
pu-uhun	*!		***

Optional OCP effects. An additional property of overwriting affixal strings is that they may alternate by suppletion or allomorphy, which is the case for Sakha when an optional OCP effect prevents /p/ before another labial consonant. These emerge from either irregular contrasts or phonological conditioning, which may be captured by ranking OCP-LABIAL above or below IDENT-(AFFIX)IO.

From Stachowski (2015)

<i>budaan</i>	→	<i>bus-budaan</i>	misty, foggy
<i>buurtax</i>	→	<i>buis-buurtax</i>	unclean
<i>maŋan</i>	→	<i>mak/t-maŋan</i>	white

From our consultant

<i>bæwæ</i>	→	<i>bæp-bæwæ</i>	strong, firm, sturdy
<i>bergen</i>	→	<i>bep-bergen</i>	accurate, well aimed
<i>maŋan</i>	→	<i>map-maŋan</i>	white

We explore an alternative approach to capturing OCP effects, namely as ‘phonologically conditioned suppletive allomorphy’ (PCSA), since there is no synchronic rule that alters $p \rightarrow s, k, t$ in Sakha. We attempt to capture Sakha OCP effects under both (a) the ‘P>>M’ schema, which states that phonological constraints outrank morphological constraints (McCarthy & Prince, 1993); and (b) the subcategorization model proposed by Paster (2006). We show that the former may only partially captures OCP in Sakha reduplication by ranking OCP >> LINKER = /P-/ (>> MORPHEXP), as it makes no predictions on what segment replaces /p/. On the other hand, a subcategorization model may better capture OCP in Sakha because the model does not require phonological optimization, and it is input-conditioned.

Construction A

[t/k- [#C[LAB, +nas]]_{adj base}]_{linker}

Construction B

[s- [#C[LAB]]_{adj base}]_{linker}

Construction C

[p- []_{adj base}]_{linker}

A subcategorization model predicts required adjacency between allomorphs and phonological elements from the stem that condition their distribution; we discuss the status of /p/ as a prefix or infix under the Generalized Determinant Focus Adjacency Condition (henceforth GDFAC) (Inkelas, 1990).

The reduplicant. The remainder of the reduplicant only copies the leftmost mora and the consonant onset if present, even if the root begins with a diphthong. We show that this pattern can be accounted for with TETU, where MAX-IO ranks above *VV, which ranks above MAX-BR.

<i>kien</i>	→	<i>kip-kien</i>	wide
<i>siijes</i>	→	<i>sip-siijes</i>	thin
<i>tuustaax</i>	→	<i>tup-tuustaax</i>	salted

/RED-p-kien/	MAX-IO	*VV	MAX-BR	DEP-BR
(a) ☞ <u>kip-kien</u>		*	e, ŋ	p
(b) <u>kien-kien</u>		***!	ŋ	p
(c) <u>kien-kien</u>	p!	**		

Conclusion. Overall, Sakha type-C reduplication provides support for both TETU and melodic overwriting. Further work may explore whether a uniform approach may account for other forms of Sakha reduplication, such as CVC reduplication.

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Psycholinguistics

Pragmatic Skills and Language Modeling in Children with Complex Communication Needs

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Introduction: Language modeling is an imperative approach to promote language acquisition in children with complex communication needs (CCN). It provides children with access to rich natural examples of language and a clear picture of how to use the language. For children with CCN resulting from a variety of disabilities, it is difficult for them to rely on their speech. As a result, using augmentative and alternative communication (AAC), which refers to the multimodal communication including vocalizations, gestures, facial expressions, body movements, eye gaze, and aided communication, for expressive language is imperative in children with CCN (Binger & Light, 2007). AAC provides these children with alternative modes for language input and output. Children with CCN usually have difficulties in responding to language models and stimuli provided in spoken language alone. Thus, language modeling that combines both spoken and AAC-based language is vital to support language learning in children with CCN. AAC-based language modeling benefits these children through converting spoken models into AAC symbols to enhance comprehension and showing children how to use AAC for language production. It has been demonstrated that AAC modeling is an effective instructional approach in facilitating the development of semantics (e.g., Ronski et al., 2010), syntax (e.g., Binger & Light, 2007), morphology (e.g., Binger et al., 2011), and pragmatic skills (e.g., Rosa-Lugo & Kent-Walsh, 2008) in children with CCN.

Findings in prior studies indicated several issues related to language acquisition in children with CCN. First, the language skills of children with CCN usually could not be fully developed because of the lack of appropriate support and resources in language acquisition for this population (Basil & Reyes, 2003). Furthermore, children with CCN have fewer opportunities to be involved in communication activities compared to their peers without disabilities which negatively affects the development of pragmatic skills (Kaiser et al., 2001). Pragmatic skills are integral as well as challenging for children with CCN. It is integral because cognitive and motor disorders significantly restrict the resources they can access. Pragmatic language skills and willingness to communicate is important for these children to be included in social activities. It is also challenging for children with CCN because it requires the use of various skills such as recognizing the demands of communication partners, using appropriate language within the context to respond to the demands, using various channels to deliver information (e.g., vocabulary, different structures of sentences, intonation), and being able to respond to the constant change of contexts (Prutting, 1982). However, the development of pragmatic skills in children with CCN, particularly resulting from significant disabilities, has received little attention in both research and educational practice (Senner, 2011). In addition, children with CCN have limited access to language models provided in both spoken language and AAC symbols. Effective language modeling requires instructors or partners to provide models that are in concert with the learners' expressive language systems. For children with CCN who employ alternative modes for output (e.g., AAC), it is pivotal to provide language models in the form of AAC symbols in addition to natural spoken models (Binger & Light, 2007). Thus, this study centers on how AAC language modeling is provided during story reading activities for children with CCN in home settings and its effect on the development of pragmatic skills (particularly focusing on communicative turn-taking) in this underrepresented population of learners.

Method: A single case of a child with Rett syndrome, a rare genetic neurodevelopmental disorder, who uses an eye-tracking AAC device (Tobii i-13) was investigated. Multiple data resources were collected and analyzed to examining AAC language modeling and its effect on the increase of pragmatic skills including participant observation of story reading activities between a caregiver and the participant, a semi-structured open-ended interview with the caregiver, and Tobii heat map (which helps to understand the participant's communication attempts). Examples of the core themes identified in the coding process were the caregiver's approaches of language modeling using the child's AAC device, the factors that may influence the modeling process, the participant's reaction and linguistic responses to the modeling approach, the appropriate communicative turns taken by the participant, etc.

Results and implications: Language modeling using AAC devices is an effective instructional approach in promoting communicative turn-taking and the acquisition of pragmatic skills in children with language impairments. The participant in this study demonstrated increases in taking communicative turns. Particularly, the participant made appropriate context-based responses such as greetings, making jokes, and sharing thoughts. In addition, the preliminary findings also indicate some essential techniques in effectively implementing AAC language modeling. For example, incorporating pause time, being responsive, attributing meanings to children's communication behaviors, modeling AAC symbols repeatedly, and adjusting environment. The findings of this study highlight the essential role of modeling AAC symbols in addition to natural spoken models in language learning of children with CCN and its effectiveness on the development of pragmatic skills in these children. This study also provides implications of instructional approaches to effectively support language acquisition in this underrepresented population of learners in future educational practice.

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Online processing effects of Pseudo Relative Clause Availability in Italian Attachment Ambiguity

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[Introduction] It is well-known that the interpretation of attachment preferences in ambiguous relative clauses (RC) varies cross-linguistically (Cuestos & Mitchell 1999; Dussias 2003; a.o.). Consider (1):

- (1) I saw the **son** of the **doctor** that was running.
 a. LA interpretation: ‘The doctor was the person who was running.’
 b. HA interpretation: ‘The son was the person who was running.’

Given the complex DP [the son of the doctor], this sentence is ambiguous between a low attachment (LA) interpretation preference for which is exhibited in Mandarin Chinese (Shen 2006), English (Frazier & Clifton 1996), and Romanian (Ehrlich et al. 1999), a.o. and a high attachment (HA) interpretation preference for which is seen in Dutch (Mitchell et al. 2000), French (Colonna et al. 2000), Spanish (Gibson et al. 1999), and Italian (De Vincenzi and Job, 1998). These results have been subjects of numerous studies, and they raise questions about the universality and/or variability of processing strategies across languages.

In this sense, Grillo & Costa (2014) have argued that RC attachment ambiguity resolution is largely dependent on whether a language allows for Pseudo-Relative Clauses (PR). They argue that what looks like a HA preference in some languages is a parsing preference for constructing a PR clause (necessarily modifying the HA NP) over a RC. Under this *pseudo-relative first* hypothesis, in PR languages (1) is ambiguous between three structures: a PR structure, a HA RC structure, and a LA RC structure. Since PRs can only structurally modify the highest NP, committing to a PR parse then gives rise to what looks like an HA preference. In unambiguous cases in which the PR interpretation is made unavailable, “HA” languages then show a LA preference (Grillo & Costa, 2014). In this study, we investigate the online effects of the availability of a PR structure on the processing of RC attachment in Italian.

[Experiment] We conducted a self-paced reading experiment with two factors crossed: the type of matrix verb (PR taking verbs: perceptual verbs (e.g. see) vs RC only verbs: non-perceptual verbs (e.g. meet)) and interpretation (HA vs LA). Our stimuli are temporarily ambiguous. When the parser encounters the relative clause verb, the ambiguity is resolved by number feature matching between the noun and the verb. According to Grillo & Costa’s hypothesis, when we force LA interpretation in PR-compatible contexts, we should observe a cost of integrating the disambiguating word because PRs can only take the first DP as the subject of the embedded clause. Thus, LA sentences are expected to be harder to parse than HA sentences in conditions with perceptual verbs. In contrast, in RC-only contexts, the opposite pattern is expected.

(2)	Verb	Interpretation		before	target	after	
a.	PR/RC (Perceptual)	LA	Gianni vide il figlio dei medici che Gianni saw the son-SG of the doctors-PL	che who	correvano were running-PL	la the	maratona marathon
b.	PR/RC (Perceptual)	HA	Gianni vide il figlio dei medici Gianni saw the son-SG of the doctors-PL	che who	correva was running-SG	la the	maratona marathon
c.	RC only	LA	Gianni viveva con il figlio dei medici Gianni lived with the son-SING of the doctors-PL	che who	correvano were running-PL	la the	maratona marathon
d.	RC only	HA	Gianni viveva con il figlio dei medici Gianni lived with the son-SING of the doctors-PL	che who	correva was running-SG	la the	maratona marathon

An example set of stimuli is in (2). We created 24 item sets distributed across four conditions with 48 fillers. We counterbalanced the number feature matching (singular vs plural) between first and second NP. The experiment was run on the web-based platform Ixet Farm using a self-paced, non-cumulative moving window design. The presentation of each sentence was followed by a comprehension task asking participants to identify an LA or an HA interpretation (e.g., *Who ran?*). The order of the given answer choices (NP1 vs NP2) on the screen was counterbalanced.

[Results] A summary of the responses from 74 native speakers of Italian are in Figure 1, Figure 2, and Table 1. The target region of the analysis was the relative clause verb, where the temporal ambiguity was resolved. **Figure 1** shows the average word-by-word reading times for the critical regions: the region right before the target region (1_before), the target region (2_target), and the region right after the target region (3_after). The exact average reading time on the target region is in **Table 1**. We used a two-way ANOVA for the analysis with two factors (a verb type and an attachment type) and found that there is a significant interaction effect ($p < 0.05$). HA sentences showed significantly slower reading times with non-perceptual verbs. Additionally, even though non-statistically significant, LA sentences showed slowdown tendencies with perceptual verbs within the target region. Accuracy rates for the answer to the comprehension question were above 83% for all participants (logistic regression model: $p > 0.05$).

[Discussion] Our results provide additional evidence from Italian in support of Grillo & Costa (2014)'s PR first hypothesis even in online processing. Particularly, the significant slowdown at the target region in the HA condition with RC-only verbs supports the idea that Italian speakers prefer LA over HA interpretation when there is no additional structural ambiguity. This suggests that, even in so-called HA languages, the parser prefers to initially build local relations between the RC and nearest DP very early on, which supports the universality of principles of locality in sentence processing. Building on the slower reading times for LA sentences with PR-licensing verbs, we conclude that although the ambiguity resolution process may involve the interaction of different factors, PR-availability plays a crucial role in modulating these effects and can (at least partly) explain cross-linguistic variation.

	HA	LA	<i>p</i> -value: (ANOVA Post Hoc Test: Fisher's LSD)
PR/RC (Perceptual)	647.58	709.45	0.18
RC only (Non-perceptual)	706.15	619.74	< 0.05

Table 1. Reading time (ms) average on the target region

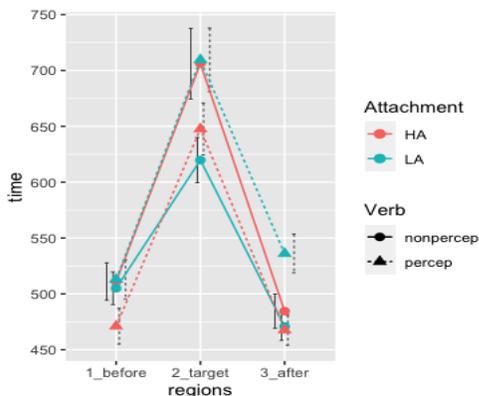


Figure 1. By-region reading time (ms) average

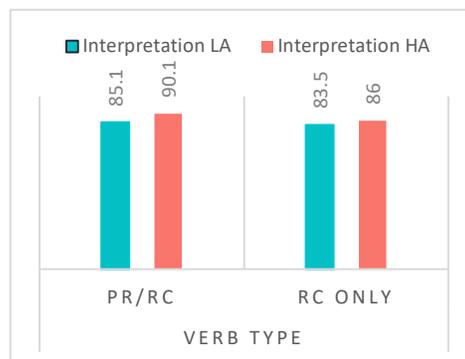


Figure 2. The results of the comprehension test

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Title: Prediction in Reading: Line Break and Clause Boundary Mismatch Effects

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Background: Previous research ^[1, 2] has demonstrated that sentences containing optionally transitive verbs such as “While Anna *dressed* the baby played in the crib” are initially misparsed when presented visually and without a comma to mark the end of the clause. While misanalysis effects of direct object/subject garden path sentences have mainly been achieved through the omission of punctuation, much less is known about the role of lineation. If a line break coincides with a clause boundary, the reader may be aided when processing such garden paths. On the other hand, the “scissoring” of a clause at the end of a line (enjambment) may have adverse effects on reading behaviour and comprehension ^[3].

Aims and Hypotheses: We explored whether line breaks can act as a “secondary system of punctuation”: much like a comma, the prosodic break at the end of a line may stand in for a “separator” of clauses. In line with this hypothesis, we expected the intransitive reading of a line-final optionally transitive verb to be facilitated compared to a transitive reading.

Our second aim was to examine whether the reader can form predictions based on preceding context as to whether an optionally transitive verb would be transitive or intransitive. To that end, we exposed readers to poem-like 5-line texts where successive lines were either syntactically complete or incomplete (recurring enjambments). In the latter case, the 1st, 2nd and 4th line would be syntactically incomplete; yet, we manipulated the transitivity of the verb positioned at the end of the 3rd line. Texts remained temporarily ambiguous in all conditions until the final line; if the verb was transitive, a disambiguating pronoun was present on the 5th line to be the subject of a new main clause. We hypothesized that cases of mismatch (e.g. preceding context signalling incompleteness but verb being intransitive) would lead to processing costs.

Methods: 39 native speakers of English participated in a self-paced line-by-line moving-window reading study. Using a Latin-square design, we manipulated Transitivity (transitive VS intransitive verbs) and Line Completeness (complete VS incomplete); for each one of the resulting 4 conditions, subjects read 8 items:

Lines:	TR-COM (Transitive – Line Complete)	TR-INCOM (Transitive – Line Incomplete)
1)	<i>Alice attended a talk</i>	<i>Alice once attended a [<- enjambment]</i>
2)	<i>that the speaker named James gave</i>	<i>talk that the speaker named James [<- enjambment]</i>
3)	<i>and because Alice heckled</i>	<i>gave and when Alice heckled [<- enjambment]</i>
4)	<i>James who was sickly and frail</i>	<i>James who was sickly and quite [<- enjambment]</i>
5)	<i>she was truly mortified</i>	<i>frail she was so mortified</i>
1)	INT-COM (Intransitive – Line Complete)	INT-INCOM (Intransitive – Line Incomplete)
2)	<i>Alice attended a talk</i>	<i>Alice once attended a [<- enjambment]</i>
3)	<i>that the speaker named James gave</i>	<i>talk that the speaker named James [<- enjambment]</i>
4)	<i>and because Alice heckled</i>	<i>gave and when Alice heckled</i>
5)	<i>James who was sickly and frail</i>	<i>James who was sickly and quite [<- enjambment]</i>
5)	<i>was a little mortified</i>	<i>frail was a bit mortified</i>
	Comprehension Question: <i>Who was it that was mortified? Options: Alice / James / Other(s)</i>	

* Coloured cells indicate line break and clause boundary mismatch.

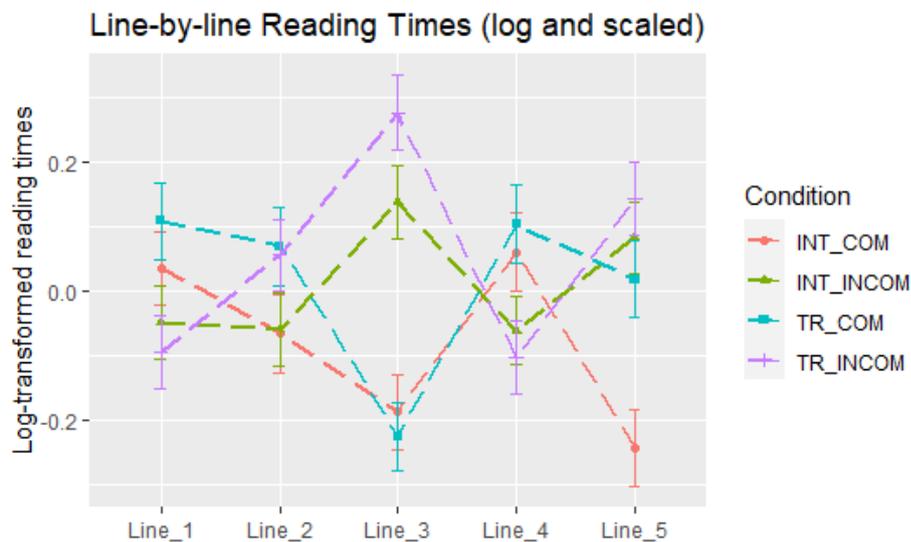
** Stimuli modelled on items from two previous studies ^[4, 5].

*** Line syllable count remained constant (n = 7) across all items and within-item conditions.

Results: Regarding our first hypothesis, reading time results suggest that the INT-COM condition where all line breaks coincided with clause boundaries was read the fastest at the critical disambiguating region (Line 5) compared to other conditions (p 's < 0.05). Regarding our second hypothesis (i.e. parsers making predictions re transitivity based on completeness of preceding lines), results suggest that subjects were first and foremost sensitive to enjambments and adapted their reading behaviour in their presence; the presence of line incompleteness slowed down reading rate on the 3rd line containing the verb (p < 0.01). On the 5th line, both conditions involving enjambments as well as the TR-COM one - where the verb is transitive but readers were primed with completeness - were processed significantly slower than the INT_COM one (p 's < 0.05).

In terms of comprehension question performance, the presence of the gendered pronoun on the last line clarifies the referent in both transitive conditions; as such, accuracy was high in these two conditions (TR-COM: 87.5%; TR-INCOM: 85.9%). However, in the intransitive conditions, a significant decrease in accuracy was observed (p < 0.05) when the reader was primed with preceding incomplete lines (INT-INCOM: 74.7%) compared to complete lines (INT-COM: 86.5%).

Conclusions: Based on these results, it can be concluded that readers benefit from having line breaks coincide with clause boundaries. When clauses are repeatedly scissored by line endings, the reader *may form an expectation of structural incompleteness*. We consider the relatively lower accuracy observed in the intransitive and incomplete condition to be a consequence of prediction error, although further research is needed to confirm this effect.



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How much and how does ungrammaticality differ from variation? A psycholinguistic study of verbal agreement in the Portuguese spoken in the city of Rio de Janeiro

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This study brings empirical evidence of gradual processing costs in reading between linguistic variation and ungrammatical constructions in the Brazilian Portuguese (BP) spoken in the city of Rio de Janeiro, within undergraduate students. Its departure point is in the fact that morphosyntactic violation using ‘ungrammatical’ stimuli is a common experimental paradigm in psycholinguistics and cognitive neuroscience to investigate agreement processing. Perhaps due to the lack of interdisciplinary studies, involving both socio and psycholinguistics (THOMAS, 2011), often *if* and *how* the processing these ungrammatical forms differ from linguistic variants is not considered. This is especially true for intra-subject variation and morphosyntactic variation (SOTO; ALMEIDA, 2021), which are both phenomena abundantly available in BP spoken in Rio de Janeiro, even among more literate subjects.

In recent literature, one topic that has been explored is the processing costs associated with the variation of third-person plural verb agreement, a phenomenon amply studied in Brazilian sociolinguistics given that verb agreement is a variant phenomenon in BP (cf. SCHERRE, 1994; BORTONI-RICARDO, 2008; MARCILESE et al., 2015; MOLINA, 2018; JAKUBÓW, 2018). In BP variation in agreement can be observed both in verbal and nominal phrases. Roughly, this phenomenon can be described as presenting variable rules: (i) redundant agreement, supported by Brazilian prescriptive grammars, in which all the phrasal elements receive an explicit number marking (e.g. eles moram, ‘they live’); (ii) non-redundant agreement, considered “incorrect” by prescriptive grammars, in which the explicit number morpheme is not applied to all phrasal elements (usually only the first element) (e.g. eles mora-Ø, ‘they live’). Although widespread, the non-redundant variant is often considered to be what Labov (2008; 1972) would call a sociolinguistic stereotype. Psycholinguistic studies on this topic in Brazil have shown that, among undergraduate students, reading or listening to sentences with the non-standard non-redundant agreement in the verb phrase demands more than reading or listening to sentences with the standard redundant agreement (MARCILESE, 2015; MOLINA, 2018).

One could interpret these increased processing costs for ‘non-standard’ agreement as a reflection of a dichotomy between “correct” and “incorrect” agreement, thus running the risk of not distinguishing between variation and ungrammaticality. Empirical data on whether there is a difference between processing variation versus ungrammaticality is currently lacking. The present study, then, seeks to understand *if* and *how* linguistic variation is different from ungrammaticality, using data collected from a self-paced reading experiment in which excerpts of made-up interviews are shown in three conditions: redundant agreement, non-redundant agreement, and ungrammatical agreement. Participants read, beyond 20 fillers, 15 stimuli of two sentences with three subject + verb occurrences each, as the example in (1). For each stimulus and filler there was a *prompt* that would work as the question asked in the interview. For the ungrammatical agreement, we combined third-person plural subjects with first-person singular verbs.

(1)¹ [Prompt: Você gosta de ir à praia?] Eu gosto, sempre vou com um amigo e uma amiga. Eles **gostam** (redundant) | **gosta** (non-redundant) | **gosto** (ungrammatical) de praia longe então **eles acabam** (redundant) | **acaba** (non-redundant) | **acabo** (ungrammatical) preferindo ir de carro. Daí na volta, eles **visitam** (redundant) | **visita** (non-redundant) | **visito** (ungrammatical) a família que mora numa cidade que fica no caminho.

To collect data remotely, the module PennController of the online platform PCIBEX was used and subjects (N=72), undergraduate students between 18 and 30 years old, were recruited through social media. A linear mixed effect model with reading times (RTs) of the post-verbal segment as dependent variable, condition and occurrence as fixed effects, and item and subject as random effects, was significant ($X^2=26.85$, $p < 0.000$). Post-hoc analyses show that RTs are overall fastest for redundant

¹ [Prompt: Do you like to go to the beach?] I like it, I always go with a male and a female friend of mine. They like going to distant beaches, so they end up going by car. Then when coming back they visit the family that lives in a city on the way. (This is the same sentence used as example in Fig. 1).

agreement and slowest for ungrammatical stimuli for all occurrences; whereas RTs for non-redundant agreement are only slower than redundant agreement the first occurrence, but are just as fast in the second and third occurrence, and are always significantly faster than ungrammatical stimuli (see Table 1 and Fig. 1).

Table 1: Average reading times, in milliseconds, for redundant, non-redundant and ungrammatical stimuli in the first spill-over segment (first word after the critical verbs)

Cond: Occ:	1	2	3
Redundant	357.3	359.2	364.2
Non-redundant	451.2	395.7	402.8
Ungrammatical	520.1	451.6	459.9

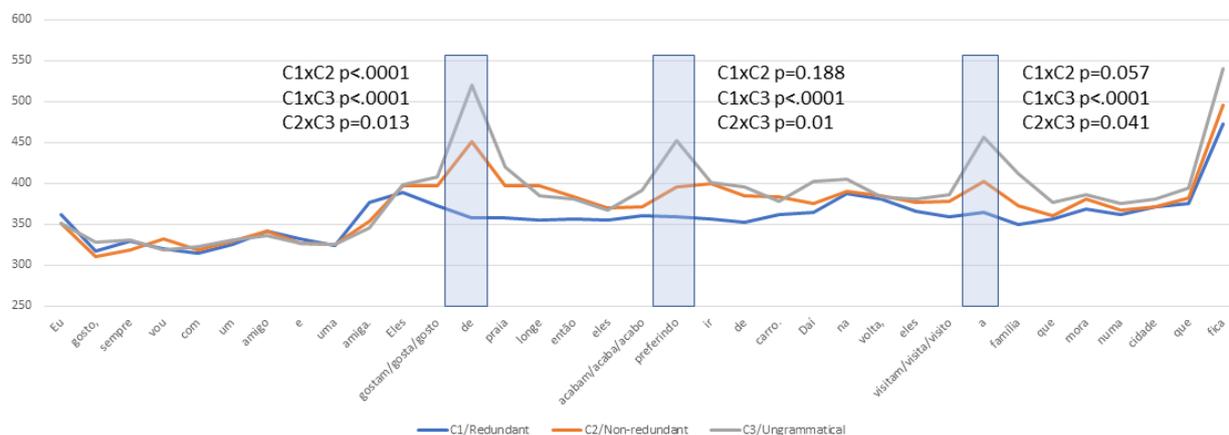


Figure 1 - Graph of reading timelines for the three conditions with p values of post-hoc analysis (Tukey) of RTs for the first spill-over segment (first word after the critical verb)

These results suggest, then, that speakers perceive and process ungrammaticality differently from linguistic variation, the former considerably more costly than the latter. And that non-standard variant processing is only more significantly costly than standard agreement in the first occurrence. Our claim is that it suggests a representation of a variable grammar in the speakers' mind, similar to what Adger and Smith (2007) and, specifically for BP, Jakubów (2018) suggest. We are aware, however, that our experiment is placing a variable extensively more common in orality into a self-paced reading experiment and that it may turn the variant more salient to the participants (i.e. the difference among conditions can be even stronger). Using other, more fine-grained temporal measures, such as EEG, and presenting the auditory stimuli, can help us investigate our claims further.

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Sociolinguistics

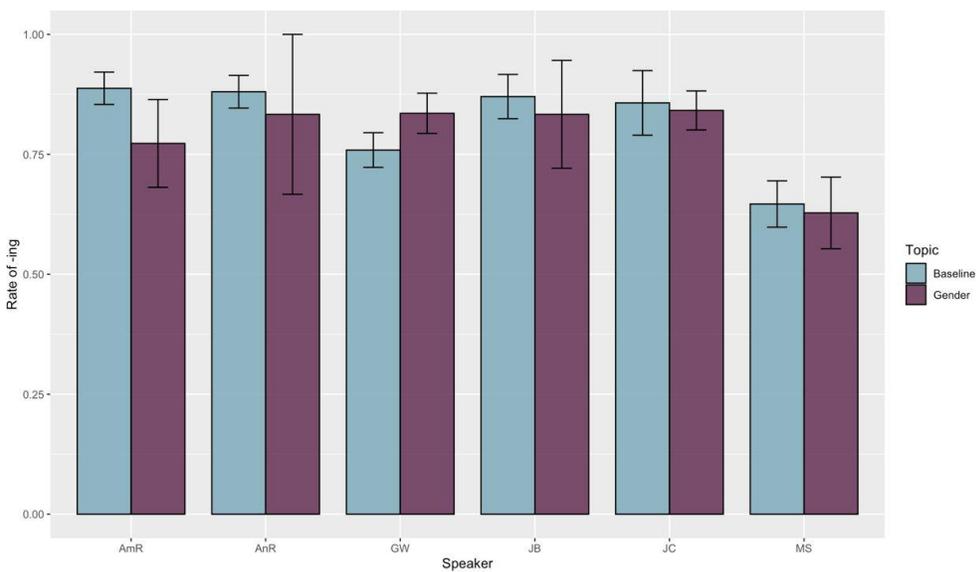
The effects of topic and part of speech on nonbinary speakers' use of (ING)

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Sociolinguistic research on trans speakers has tended to view them through the lens of adherence to cisgendered binary norms (Goldberg & Kuvalanka 2018). Speakers with identities outside the trans-and-cis-normative gender binary have, in turn, received very little attention (Garmpi 2020, c.f. Zimman 2017). The present study seeks to build upon this growing body of research on nonbinary-gendered speakers through an investigation of the variable usage of (ING) by nonbinary speakers across conversation topics.

Gratton (2016) provided an analysis of variation in nonbinary speakers' use of (ING). (ING) is a typically gendered variable (e.g., Trudgill 1974, Labov 2001) that is metalinguistically salient, making it a prime target for agentive sociolinguistic work (Campbell-Kibler 2007). Gratton (2016) compared two nonbinary speakers' use of (ING) across two contexts – speaking with a friend vs. a stranger – and found that in the public setting, both speakers increased their rates of the variant not typically associated with their gender assigned at birth. Gratton analyzed this as an agentive “resistance to cis-normative femininity and masculinity”, in response to a perceived threat of being misgendered as a binary gender. Additionally, work by Grieser (2019) found that African American speakers shift their production of African American Language (AAL) features based on topic: certain topics, such as African American community and family, showed speakers producing higher rates of AAL features compared to other topics.

The present study builds on this previous work by asking whether nonbinary speakers shift their rates of (ING) variation when discussing the salient topic of *gender*. 6 nonbinary speakers (3 AFAB and 3 AMAB, ranging from 21 to 27 years old) participated in sociolinguistic interviews conducted by the lead researcher, who is a nonbinary speaker that has familiarity with each interview participant. A modular interview guide was developed based on Labov's Q-GEN-II modules (1984) with modifications made to specifically obtain participant narratives on their experiences with gender identity and expression in addition to traditional narratives. Interviews were coded for topic (gender vs. other) and (ING) tokens were coded for lexical category. Results are shown in Figure 1. Table 1 shows the results of the best-fit mixed effects model, with main effects of Topic, Part of Speech, and Sex Assigned at Birth (SAB), and random intercepts for speaker and lexical item.



lmer(ING ~ style * sexbirth + PoS + (1 speaker) + (1 word))			
	Estimate	t-value	p value
(Intercept)	0.92	13.4	>0.001
Style (Gender)	-0.04	-0.62	0.5
Birth (AMAB)	-0.14	-2.03	0.1
PoS (noun)	0.08	0.90	0.38
PoS (something)	-0.03	-0.23	0.79
PoS (gerund)	-0.02	-0.17	0.82
PoS (verb)	-0.16	-2.47	0.01
Style: Birth	0.07	0.88	0.37

The results of the present study find that despite a markedly more deliberative style during gender topics, participants do not shift rates of (ING) across topics. This finding lends support to Gratton's (2016) argument that the perceived threat of being misgendered, rather than a factor such as attention paid to speech, is one of the major influences for shifting rates of (ING) in nonbinary speakers. The present study further finds that a speaker's assigned gender at birth *plays no predictable role* in rates of (ING). Taken together, these results suggest that nonbinary speakers form their own distinct linguistic community which should be analyzed as operating outside of the gender binary (Becker et al. forthcoming, Calder & King 2020). Future work will focus on investigating the consistency of these findings across other sociolinguistic variables.

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Examining the Relationship between Family Language Policy and Language-Ethnicity Dimensions among Chinese Foochow Families in Sarawak, Malaysia

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Abstract

Recent studies (e.g., Ting & Teng, 2021; Vollman & Soon, 2020; Ting & Ting, 2021) related to Chinese heritage languages in Malaysia have demonstrated a shift towards Mandarin as the common language to speak in many Chinese families (Carstens, 2018; Ong & Troyer, forthcoming). Such shift is motivated by the pull factors of standard languages, which pose greater instrumental values than heritage languages. For example, Albury (2021) found that many university students in Malaysia considered Mandarin as a necessary economic tool when compared to Malay, the sole national and official language of Malaysia. Ong and Ben Said (forthcoming) also found that mixed marriage between different Chinese dialectal groups has contributed to the shift to speak Mandarin due to no common heritage language between husband and wife. Nevertheless, many of these studies did not offer a comprehensive overview of the shift from the perspective of family domain. Hence, this is the gap that this study shall fill.

Narrowing down to the Foochow community in Sarawak, Malaysia, this study examines the relationship between family language policy and language-ethnicity dimensions to provide a holistic view of the shift from Chinese heritage languages (Foochow) to Mandarin. Specifically, it examines (a) family language practices, family language ideology in defining their characteristics of being a Foochow, and (c) family attitudes towards heritage language management. Semi-structured interview were conducted with nine Foochow families from urban Sarawak.

The findings demonstrate that Foochow was mainly spoken by grandparents while the children and grandchildren have shifted to use standard languages (Mandarin and/or English). All nine families held strong beliefs regarding their ethnic identity being inherited through birth and descent, which led to many of the grandchildren did not bother to learn Foochow. Still, some family members continued to practise Foochow customs and eat Foochow food, which indicates the phenomenological dimension of the language-ethnicity link. As Foochow was predicted to lose its role and status in the urban context, various language management strategies were suggested by the participants. The study concludes that the nine Foochow families' strong subscription to the paternity dimension of language-ethnicity relationship will eventually lead to the potential loss of Foochow in urban areas in Malaysia.

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Reappropriating heteronormative practices among Chinese gay couples in social media: variations and indexicality of pitch and sibilant fricatives

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By randomly selecting 25 pairs of Chinese gay couples' love vlogs in Bilibili (a video sharing platform), where they shared their self-positionings and dating experience, this study explores the multiplicity of gay men's speaking styles and intra-group sociophonetic variations among Chinese gay men in social media. After qualitative examinations of the holistic themes and conversations in these videos, this paper focuses on 20 vlogs where there was a clear local differentiation regarding these gay men's role types in their intimate relationships. Among these gay couples, one gay man usually self-identified as the role of 'lao gong' (husband) in their same-sex intimate relationship, whereas another one used 'lao po' (wife) to describe his role. To explore how this 'husband and wife' relationship is practiced among Chinese gay couples, this paper selects four phonetic variables, including mean pitch, pitch range, and two sibilant fricatives – /s/ and /ʃ/, which link to gender variations in Mandarin Chinese (e.g., Cao, 1986; Chan Marjorie, 1998; Li, 2017). After dividing speakers' utterances into intonational phrases, this study acoustically measures the mean pitch and pitch ranges by the average fundamental frequency (F0) and F0 range (Maximum F0 minus the minimum F0) on the speech analysis software- 'Praat.' Moreover, the fronting levels of two sibilant fricatives were also acoustically measured by the center of gravity (CoG) and spectral skewness of /s/ and /ʃ/ tokens in the monosyllabic words. After dividing gay men into two groups – 'gay husbands' and 'gay wives' according to their self-positioning in their vlogs, independent-samples t-tests were run to examine the statistical differences on each acoustic variable between two groups. As shown in Table 1, gay wives produced higher average pitch ($p=0.02<0.05$) and wider pitch ranges ($p<0.0001$) to adopt a 'marked' stereotypical feminine speech style with high-pitched voices and more dynamic speaking styles. Moreover, the higher center of gravity and more negative skewness for the two sibilant fricatives suggested that gay wives also spoke with a more anterior production of /s/ and /ʃ/, concurring to the phenomenon of 'feminine accent' (nǚ guo yin) as suggested in the previous literature (Cao, 1986). Adopting the theory of indexical orders by Silverstein (2003), I argued that gay couples reappropriated the phonetic resources ideologically derived from the speech variations between males and females (n-th indexical order) to create a new meaning of 'husband and wife' relationship among gay couples (n+1 st indexical order). This indexicality also indicated how the heteronormative ideologies of intimate relationships (where there should be a husband and a wife) could penetrate Chinese gay couples' construction of same-sex relationships in social media.

TABLE 1. MEANS FOR EACH VARIABLE & T-TEST RESULTS

Role types	Mean F0	F0 range	CoG_s	CoG_ε	Skewness_s	Skewness_ε
Gay husbands	124.81	79.34	2248.88	3010.45	4.59	1.38
Gay wives	139.81	134.37	5817.75	4650.89	-0.2	-0.1
	P <0.05*	P <0.0001***				

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Contact-induced sound change: A rapid and anonymous survey of /aʔ~əʔ/ merger in Shanghai Urban Dialect

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Introduction The two distinct checked vowels /aʔ/ and /əʔ/ in Shanghai Urban Dialect (SUD) has began to merge among speakers born after the 1940s (Xu and Tang, 1988). SUD is a Wu Chinese spoken in the city center of Shanghai, which can be further divided into central and peripheral areas. A survey conducted in the 1980s showed that 23% of middle-aged participants at that time had lost the /aʔ~əʔ/ contrast (Shi and Jiang, 1987). Crucially, since previous studies investigated /aʔ~əʔ/ merger in formal speech, little is known about this merger in spontaneous speech. This study filled the gap by investigating the status of /aʔ~əʔ/ merger using spontaneous conversations, with the goal of exploring effects of contact acceleration on sound changes. Because language contact can provide induction and/or acceleration of language change, and language contact is more intense in the peripheral area of Shanghai, we expected faster /aʔ~əʔ/ merger in the peripheral area than in the central area.

Method The target word in this study was *zəʔ-paʔ-lu* ‘(Bus) 18 Route’.³ If the vowel qualities of the first and second syllables were not distinct, the vowels in /aʔ/ and /əʔ/ would be considered as merged. The merger of /aʔ~əʔ/ was examined through a rapid and anonymous survey along bus route 18 (Labov, 1966). The investigator asked pedestrians for directions in SUD to induce the target word. The trigger was as follows:

noŋhɔ, tɛ^hiŋməŋ vudʒiŋ hiɿ sa ts^hoʔtsi hɔ tɔ zəŋmiŋkuaŋzəŋ/lueynkoŋfi?
‘Hello, is there a bus nearby that goes to People's Square/Lu Xun Park?’

If a pedestrian answered with our target word, we wrote down the person's merging of /aʔ~əʔ/, gender, estimated birth generation, and survey location. Because we avoided surveying during commuting hours and asked how to get to a place by public transportation, those who could answer the target words correctly were familiar with the neighborhood. Therefore, the survey location can, to some extent, reflect participants' residential areas.

Result Data from 151 participants were collected. 108/151 (72%) participants merged /aʔ~əʔ/. Merged proportions are shown in **Table 1** and **Figure 1**. We fitted a logistic regression model to examine the effects of social factors on /aʔ~əʔ/ merger. Whether /aʔ/ and /əʔ/ are distinct or not was the dependent variable. Gender and survey location were categorical and sum-coded. Estimated birth generation was continuous and centralized. Each social factor, the interactions of each two social factors and the three-way interaction were set as the predictors. The model output is shown in **Table 2**. The main effect of survey location, the interaction effect of generation and survey location and of generation and gender had significant effect on /aʔ~əʔ/ merger. The results together showed that /aʔ~əʔ/ merged faster in the peripheral area. Moreover, the aging effect is only prominent for participants from the peripheral area. That means, over time, the difference of /aʔ~əʔ/ merger between the peripheral and central areas becomes greater.

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³ SUD is transcribed in IPA according to Xu and Tang (1988). Tones are omitted.

Discussion Our findings suggested that most SUD speakers have lost the /aʔ~əʔ/ contrast. In addition, the results demonstrated that multilingual environments are prone to the loss of phonemic contrasts. Within a community where a certain language is in competition with other languages, native speakers of that language may not receive sufficient input. This gives rise to a lack of intra-group language transfer, thus inducing and accelerating language changes.

Gender	Merged proportion	NOBS
Female	0.698	63
Male	0.716	88

Table 1a: The merged proportion of /aʔ~əʔ/ among different genders.

Survey location	Merged proportion	NOBS
periphery	0.838	80
center	0.563	71

Table 1b: The merged proportion of /aʔ~əʔ/ among different survey locations.

Birth generation	Merged proportion	NOBS
1940s	0.703	37
1950s	0.688	64
1960s	0.76	25
1970s	0.72	25

Table 1c: The merged proportion of /aʔ~əʔ/ among birth generations.

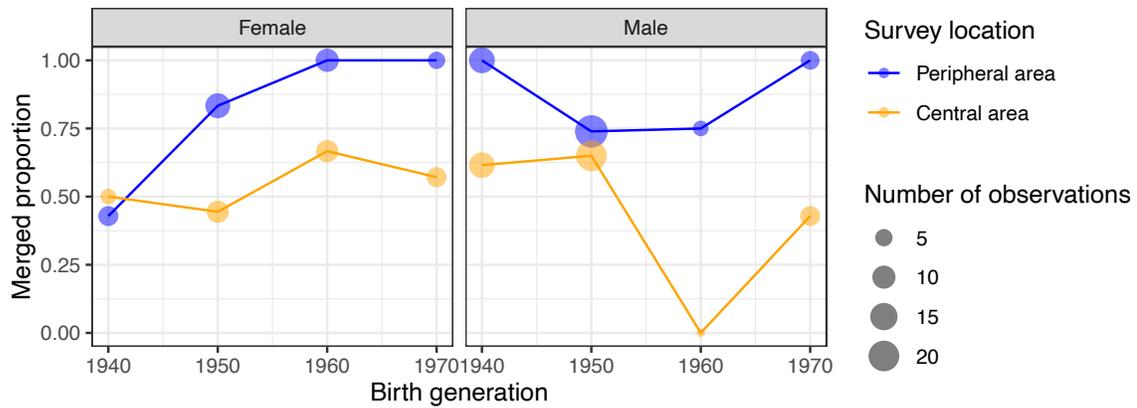


Figure 1: Averaged proportions of /aʔ~əʔ/ merger by gender, survey location, and birth-generation.

Predictor	Estimatio	SE	P-value
Generation	0.499	0.281	0.076
Location (Center-grandmean)	-1.08	0.309	0.000
Gender (Male-grandmean)	-0.330	0.309	0.286
Generation:Location (Center-grandmean)	-0.570	0.281	0.043
Generation:Gender (Male-grandmean)	-0.728	0.281	0.010
Location (Center-grandmean): Gender (Male-grandmean)	0.312	0.309	0.313
Generation:Location (Center-grandmean): Gender (Male-grandmean)	0.442	0.281	0.116

Table 2: Output of the logistic regression model for /aʔ~əʔ/ merger. The fitting detail of the model is in the text. Significant effects are shown with bolded p-values ($p < 0.05$).

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Undergraduate

Fragment Questions in Mandarin Chinese arise from and repair A-not-A questions

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Fragment Questions (hereafter FQs) in Mandarin Chinese (hereafter Chinese), exemplified in speaker B's response to A in (1) are **follow-up elliptical questions** interpreted as polar questions:

- (1) A: Lisi xihuan taozi. B: Li ne?
 Lisi like peach pear PART
 “Lisi likes peaches.” Literal: “Pears?” -- Intended: “What about pears? Does she like them?”

Contra previous analyses (e.g. Wei 2018), I argue that (i) **these constructions arise from A-not-A questions** (see Hagstrom 2006, Huang 2009, a.o.), and (ii) **the (obligatory) final particle *ne* is the realization of Att, the head of the AttP**. This study further shows that **ellipsis in FQs repairs otherwise ungrammatical A-not-A questions**, raising questions on the timing of ellipsis with respect to syntactic and morphological processes.

1. The source of FQs in Chinese. Although Wei (2018) assumes that yes/no questions are the source of Chinese FQs, I show that FQs arise from A-not-A questions. A-not-A questions contain a “V-not-VP” structure, functioning as constituent questions with two polar options. The “V-not” part is realized by reduplicating the first syllable of the VP and adding a proper negative particle (Huang 2009). There are two main differences between A-not-A and yes/no questions. First, while yes/no questions can be answered with particles such as *shi* or *dui* “yes”, A-not-A questions cannot, as in (2). Instead, they must be answered by repeating the verb *xihuan* “like”. If FQs were an elliptical form of a yes/no question, we would predict *shi* or *dui* to be acceptable, contrary to fact. Instead, Chinese FQs pattern with A-not-A questions in that they can only be answered by repeating the verb, as in (3). Second, the particle *ne* (which is obligatory in FQs and compatible with A-not-A questions) is incompatible with yes/no questions, as (4) shows:

- (2) A: Lisi xi bu xihuan taozi ne? B: *Shi | *Dui | xihuan (4) Lisi xihuan taozi (ma) *(ne)?
 Lisi like not like peach PART yes yes likes Lisi like peach PARTPART
 “Does Lisi like or not like peaches?” Lit: “She likes.” “Does Lisi like peaches?”
- (3) A: Lisi xihuan taozi. B: Li ne? A: *Shi | *Dui | (ye) xihuan
 Lisi like peach pear PART yes yes also like
 “Lisi likes peaches.” “What about pears?” Lit: “She (also) likes.”

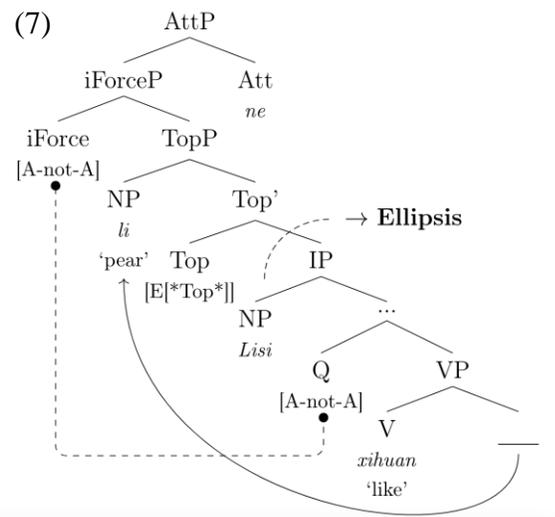
Wei (2018) points out that *ne* can be allowed in yes/no questions as a topicalizer that appears after a dislocated topic, as in (5a). I argue, however, that this configuration appears to be acceptable at first but must be interpreted as two separate questions, as in (5b) (which I analyze as an FQ followed by another question). Evidence that these are two separate questions comes from the prosody of this structure, characterized by an obligatory rising pitch on the question particle *ne* and a longer pause between the two questions, which is not required when *ne* functions as a topicalizer in regular topicalized sentences, as shown in (5c):

- (5) (a) *Lisi ne, qu le ma? (b) Lisi ne? Qu le ma? (c) Lisi ne, qu le.
 Lisi Top go ASP PART Lisi PART go ASP PART Lisi Top go ASP
 “As for Lisi, did she go?” Lit: “What about Lisi? Did she go?” “As for Lisi, she went.”

2. The syntax of FQs in Chinese. Wei (2018) analyzes the final particle *ne* in FQs as a question-final particle that bears an [E[*Top*]] feature that triggers topic movement and TP deletion. However, I claim that the *ne* particle that appears obligatory in FQs is actually the head of the AttP (see Pan 2019). According to Pan, the AttP is the highest layer of the Chinese CP, and an Att head like *ne* functions to “draw the attention of the hearer to a specific point in the statement.” As (6a) shows, when an A-not-A question is asked out-of-the-blue, the *ne* particle is ungrammatical. On the contrary, in the context of a dialogue, the absence of the *ne* particle makes the sentence unacceptable. This contrast is explained if the *ne* particle is indeed the Att head, so that a switch of the topic in (6b) requires the presence of *ne* to draw attention to the new topic.

- (6) (a) Out-of-the-blue (no antecedent) (b) In a dialogue context
 Lisi xi bu xihuan taozi (*ne)? A: Lisi xihuan li. B: Lisi xi bu xihuan taozi *(ne)?
 Lisi like not like peach PART Lisi like pear Lisi like not like peach PART
 “Does Lisi like peaches or not?” “Lisi likes pears.” “Does Lisi like peaches or not?”

This analysis explains why *ne* is obligatory in FQs. In other words, FQs are always follow-up questions with a switch of the topic, so the *ne* particle is always necessary to highlight the new topic. Therefore, I propose (7) as the syntactic structure of Chinese FQs. The structure of the A-not-A question is adapted from Huang (2009), where a Q particle both agrees with CP to type the question, and also triggers morphological reduplication of the VP and the insertion of the negative morpheme. Given that A-not-A questions arise from morphological reduplication, I claim that ellipsis is triggered in the syntactic component and prevents this morphological process from taking place. The Top head bears an [E[*Top*]] feature that triggers, first, movement of the topic, and second, ellipsis of the IP.



3. Ellipsis repairs (some) ungrammatical A-not-A questions. I

focus on two types of ungrammatical A-not-A questions: (i) reduplicative compounds, and (ii) non-negatable compounds. First, in Chinese many adjectives of the form AB can be reduplicated into the form AABB or ABAB, which adds “a life-like state perceptible to human senses” to its meaning (Liu 2013). (8a) shows the adjective *anjing* “quiet” reduplicated as *ananjingjing*. The follow-up FQ is grammatical. However, when these reduplicative adjectives are the leftmost elements of the predicate, they are not allowed to form A-not-A questions like (8b). That is, the reduplicative adjectives cannot be further reduplicated. Ellipsis in (8a) repairs the ungrammaticality in (8b).

- (8) (a) A: Xiaogou ananjingjingde. B: Xiaomao ne?
 Puppy quiet-RED Kitty Att
 “The puppy is quiet.” “Is the kitty quiet or not?”
- (b) *Xiaomao an bu/mei ananjingjingde ne?
 Kitty quiet not quite-RED Att
 “Is the puppy quiet or not?”

An assumption made in arguing that ellipsis repairs the ungrammaticality is that FQ has at least some syntactic identity relation to the antecedent. This assumption could be tested by the semantic distinction between base and reduplicative adjectives. As argued in Liu (2013), a reduplicative adjective must describe something life-like and perceptible. The *puppy* and *kitty* in (8a) both fulfill the requirement. However, an object like an AC cannot be life-like, so it cannot be described by the reduplicative adjective *ananjingjing* but only the base form *anjing*. As shown in (9a), given the antecedent A in (8a), neither a FQ nor an A-not-A question are allowed. Instead, only the base form adjective in (9b) is grammatical. This ungrammaticality of FQ in (9a) shows that the reduplicative adjective in the antecedent remains reduplicative in the FQ, supporting my assumption of the identity relation. Together, (8)-(9) shows that ellipsis repairs the ungrammaticality. Reduplicative verbs like *jianchajiancha* “review” or *bengbengtiaotiao* “hop” show a similar pattern.

- (9) (a) B: *Kongtiao (an bu ananjingjingde) ne? (b) B: Kongtiao an bu anjing ne?
 AC quiet not quiet-RED Att AC quiet not quiet Att
 Lit: “Is the AC quiet or not quiet?” “Is the AC quiet or not quiet?”

Secondly, McCauley (1994) points out that the presence of non-negatable compounds as the predicate of A-not-A questions makes them ungrammatical. These non-negatable compounds have “their first element transparently negate the second”. In (10), *wufa* “unable” is non-negatable (where *wu* means “not have” and *fa* means “method”). Given the antecedent in A, this compound cannot form A-not-A questions like in response B’ due to the negative morpheme. Again, ellipsis makes the corresponding FQ in response B’’ grammatical.

- (10) A: Lisi (*bu) wufa biaoyan. B’: *Lijie wu bu wufa biaoyan ne? B’’: Lijie ne?
 Lisi not unable perform Lisi unable not unable perform Att Lijie Att
 “Lisi is (not) unable to perform.” “Is Lijie able or unable to perform?” “What about Lijie?”

4. Conclusions. Contra previous proposals, I showed that FQs in Chinese arise from A-not-A questions and the final particle *ne* is the realization of the head of the AttP. In addition, I showed that ellipsis in FQ repairs A-not-A questions that are ungrammatical due to reduplicative compounds and non-negatable compounds.

Selected references: Huang 2009 “The Syntax of Chinese” | Wei 2018 in *Language and Linguistics*

Negation and Negative Polarity Items in Tigrinya

Angela Cao (Emory University) and Madison Liotta (University of Hawai'i at Manoa)

In this study, we discuss negation, negative polarity items (NPIs), and their syntactic constraints in Tigrinya, an understudied Semitic language. Currently, Tigrinya is (along with Arabic) the official language of Eritrea, and is spoken by almost 10 million people. We obtained data through elicitations with two male L1 speakers of the language who lived in Ethiopia and Eritrea before moving to the Atlanta area in the early 2000s. We draw comparisons across polarity items in other Afro-Asiatic languages, such as Berber and Jordanian Arabic. (Ouali 2014) Note that we used a modified version of IPA for transcriptions. The following table summarizes negation of different types in Tigrinya.

Verbs	prefix <i>a/aj-</i> + suffix <i>-yn</i> NEG + verb + NEG <i>a/aj</i> + verb + <i>yn</i>	y-bellG-3' allo-Ho 1.SG-eat-PST PROG-1.SG 'I am eating.'	aj -bellGe'-yn allo-Ho NEG-eat-NEG PROG-1.SG 'I am not eating.'
Imperatives	prefix <i>a/aj-</i> + suffix <i>-a</i> NEG + verb + NEG <i>a/aj</i> + verb + <i>yn</i>	et-a tuffaH bellG-aja the-SG.F apple eat-IMP 'Eat the apple.'	tuffaH aj -bellG-a apple NEG-eat-NEG 'Do not eat the apple.'
Jussives (Kogan 1997)	prefix <i>a/aj-</i> NEG + verb <i>a/aj</i> + verb	aj -jy-mut NEG-SBJ.3SG.M-die 'Let him not die!'	
Predicate adjectives	prefix <i>a/aj-</i> + suffix <i>-yn</i> NEG + adj + NEG <i>a/aj</i> + adj + <i>yn</i>	Hygge dixā happy 2.sg-are 'Are you happy?'	aj -Hyggus-yn dixā neg-happy-neg 2.sg-are 'Are you not happy?'
Relative clauses and non-predicate adjectives (Overfelt 2009)	prefix <i>z-</i> + prefix <i>-aj</i> REL + NEG + verb <i>z</i> + <i>a/aj</i> + verb	et-i Edēn zy-bellGe ze-ll-a megbi ab t'awla all-o the-SG.M Edēn REL-eat REL-PROG-SG.F meal on table be-SG.M 'The meal that Edēn is eating is on the table.'	
		et-i Edēn z- ej -ty-bellGe z-ell-a megbi ab t'awla all-o the-sg.m Edēn rel-neg-sbj.f-eat rel-prog-sg.f meal on table be-sg.m 'The meal that Edēn is not eating is on the table.'	

We present evidence that adverbial NPIs such as *fets'imu* are licensed strictly by the Spec-Head relation. Consider the figure below:

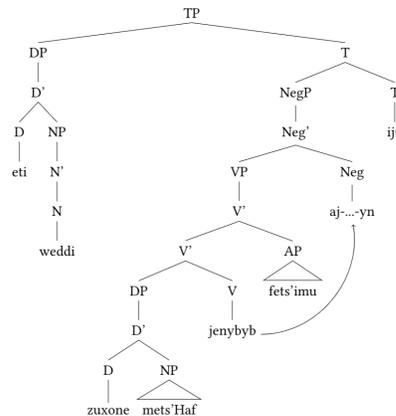


Figure 1: The adverbial NPI *fets'imu*.

(1) et-i weddi zuxone mets'Haf **fets'imu** aj-je-nybyb-yn ij-u

DET-3SG.M boy any book never NEG-3SG.M-read-NEG HAB-M.SG
 ‘The boy never reads any books.’

We also present evidence in the figure below that nominal NPIs such as *walla Hanti* are licensed through the c-command constraint. (Frank et al. 2000)

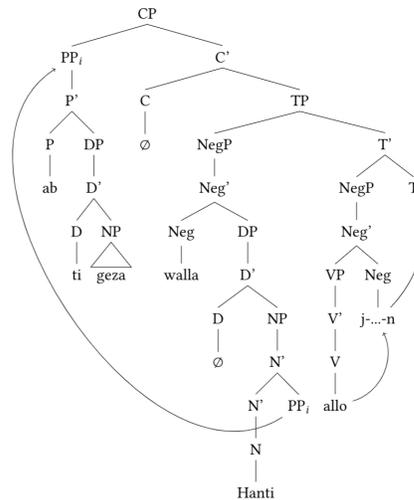


Figure 2: The nominal NPI *walla Hanti*.

(2) ab-ti geza **walla Hanti** j-elle-n
 in-DET.M.3SG house NEG one.NOM NEG-PROG-NEG
 ‘There is nothing in the house.’

Finally, evidence in the form of the idiomatic NPI *k’ejjaH santim* demonstrates that NPI-licensing in Tigrinya can occur across relative clause boundaries. Observe the figure below.

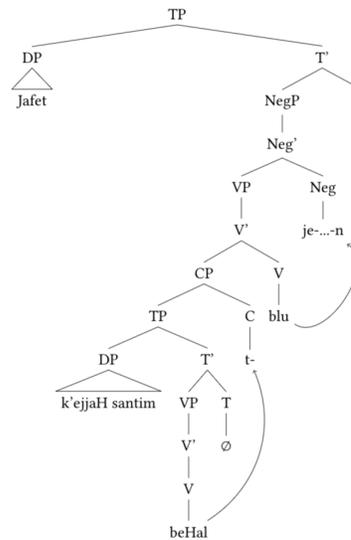


Figure 3: The idiomatic NPI *k’ejjaH santim*.

(3) Jafet **k’ejjaH santim** t-beHal je-blu-n
 Jafet red cent REL.F-call NEG-have-NEG
 ‘Jafet doesn’t have a red cent.’

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Linguistic Landscape of Howrah: A Comparative Study of Two Regions in a Multilingual City

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This paper aims to study the linguistic landscape of multilingual Howrah, comparing two regions specifically, in order to analyse the variations between areas speaking different languages. Howrah, a city in the state of West Bengal in India, is situated close to the capital Kolkata, and a majority of the people living here speak in Bangla, which is the standardised official language of the state. However, West Bengal was the third-most migrant-rich state in the country in 2001 (Census of India, 2001) and is home to many migrants and their children, and thus a myriad of languages also reside here. Of these, the most significant would be Hindi, the official language of the nation, and English, which is also constitutionally allowed to be used for official purposes (Constitution of India, 1950, Art. 343 – 344). Other than that, Urdu, Oraon, Santhali, and Nepali are also among the languages with a sizable population (Census of India, 2011) due to the aforementioned influx of migrants and its proximity to the respective speech communities. As such, it is easily possible to find Bangla, Hindi, and Urdu speaking regions in both Kolkata and Howrah.

Two regions have been chosen to conduct this study. One region is a Bangla-majority neighbourhood and it is predicted that most signboards, billboards, notices, posters, shop names, addresses and so on would be in either Bangla or English. The second region is a Hindi/Urdu speaking area and publicly visible text is expected to be in several languages, including Bangla. The primary aim of the study is to compare the observations obtained from the two places. Observed objects include signboards, advertisements, street names, address plates, shop names, posters, and notices, including official and private signs.

Studying the linguistic landscape – also called the linguistic cityscape (Gorter, 2006) – of a place or a street gives us an idea of the languages used by people in each region and how it connects to the residents' self-identity (Backhaus, 2006), as well as the general linguistic composition of the region. We can also ascertain how far the Bangla language is used in a mainly Hindi/Urdu neighbourhood, telling us about its popularity and the extent of acceptance among the people.

This study has implications for language planning in West Bengal, since there are significant extremist organisations that aim to impose a uniform language (Bangla) in the state. One such example would be Bangla Pokkho which claims to be an apolitical non-governmental organisation that works towards protecting Bengali rights and sentiments (বাংলা পক্ষ, n.d.). This idea also seems to be backed by the state government, which has mandated Bangla teaching in all schools across the state regardless of whether they are government-aided or private institutions (Banerjee, 2017). The chief minister herself has made prominent comments on her desire to make the knowledge of Bangla compulsory for all the residents of the state (Sengupta, 2019). This paper can provide assistance in working towards preserving the linguistic diversity of West Bengal, along with providing an example for similar scenarios in other places.

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Poster Session

How do English-Spanish bilinguals' two languages interact in the acquisition of English active and passive structures?

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Keywords: active, passive, monotransitive, DP-movement, adult input, English-Spanish bilinguals

This study investigates the acquisition of English active (1) and passive (2) structures, as examined in the longitudinal spontaneous data of English-Spanish bilingual children available in CHILDES (MacWhinney, 2000). These data are compared to those of English monolinguals, as reported in previous studies (e.g., Akhtar, 1999 for active monotransitives; Stromswold, 2005 for passives). Two main issues are addressed: potential crosslinguistic acquisition effects from Spanish into English (or lack thereof) and adult input effects in the children's spontaneous production.

(1) *I had it* [active monotransitive; Leo, 6;03, the FerFuLice corpus]

(2) *They got picked* [passive monotransitive; Leo, 3;03, the FerFuLice corpus]

We adopt the generative grammar approach (Chomsky, 1986), as far as both the syntactic analysis of English active and passive monotransitive constructions is concerned and the acquisition of passives with regards to the Maturational Hypothesis (Borer & Wexler, 1987). In particular, we explore whether bilinguals and monolinguals show similar onset patterns given the shared grammatical properties of actives in the bilinguals' two languages; and whether they differ in the onset of passives given the grammatical properties in English (canonical DP-movement) and Spanish (canonical DP-movement and *se*-passives). We also investigate the role played by adult input in child output. In order to do so, we analyze the spontaneous production data from eight English-Spanish bilinguals (ages: 1;01 to 6;11), and the adults that interact with them, as in Table 1.

Table 1. *The selection of the English-Spanish bilingual data*

Corpora	# files examined	Child	Gender	Age range	Social context in which the children were raised
Deuchar	11	Manuela	F	1;03–3;03	English (UK)
FerFuLice	115	Leo and Simon	M	1;01–6;11	Spanish (Spain)
Pérez	16	Alberto	M	1;08–3;00	English (USA)
	3	Antonio	M	2;11–3;02	
	21	Carla	F	2;00–3;03	
	6	John	M	2;00–3;03	
	2	Sheila	F	2;02–2;11	

Our data have revealed that bilinguals start producing passives at the age of 3, later than actives that emerge at the age of 2. This acquisition order effect is also seen in the lower incidence of passives when compared to actives, as in Table 2. These results have also been reported for English monolinguals in previous empirical works (e.g., Pinker et al., 1987 for actives; Marinis, 2007 for passives).

Table 2. *The overall production of English-Spanish bilingual children and adults*

	Active	Passive	Total
Children	10,393 (95.2%)	525 (4.8%)	10,918 (100%)
Adults	2,370 (94.6%)	135 (5.4%)	2,505 (100%)
Total	12,763 (95.1%)	660 (4.9%)	13,423 (100%)

The distributional properties of the two passive types in Spanish do not seem to have interfered in the bilinguals' acquisition of the English passive type, causing delay. These data suggest that the emergence and the incidence of the two constructions in bilinguals and monolinguals could be explained in terms of the DP-movement maturation (Borer & Wexler, 1987) and/or by resorting to adult input effects given the lower

exposure to passives with respect to actives as per the adult input. Therefore, these data indicate that two factors are potentially responsible for the English-Spanish bilingual and English monolingual children's order effect in the ages of first occurrence of the two target structures.

The first factor that can account for the delayed acquisition of passives is the biological maturation of the syntactic mechanism that allows the formation of these structures (namely, DP-movement) and that is not present in active monotransitives. This means that these data conform to the Maturation Hypothesis (Borer & Wexler, 1987) given that the underlying syntactic mechanism that forms passives and, more specifically, the movement of the object-DP into the subject-DP position is subject to maturation and, thus, is not available to the child in the initial stages of acquisition. The monolingual-like emergence patterns reflected in the English-Spanish bilingual children's earlier occurrence of English actives and later onset of passive monotransitive constructions suggests that the Autonomous Development Hypothesis is confirmed (Yip & Matthews, 2007). Thus, the emergence of the two target constructions and, more specifically, that of passives, does not appear to be determined by the availability of two types of passives in their other language (i.e., Spanish) causing either delay or acceleration in the acquisition of the one-type-passive language (i.e., English). Rather, as also observed in English monolingual children (e.g., Stromswold, 2005), this order effect appears to be caused by the fact that English-Spanish bilinguals are unable to form Argument-chains until they reach a maturational point (Borer & Wexler, 1987).

The second factor that could explain the delayed emergence of passives is adult input. Bilinguals' lower incidence of passives when compared to their active counterparts mirrors the frequency of exposure to these structures in the adult input. That is, the English-Spanish bilingual children and the English monolingual children show a preference for the use and an earlier emergence of English active monotransitives in relation to passives as a result of the amount of exposure to these constructions in their parents' speech. This is also the case in the adult input-child output patterns found in the analyses done on English monolinguals' data (Chan et al., 2010). Bilinguals' production when compared to that of monolinguals entails that the bilingual input the English-Spanish bilingual children are exposed to has not interfered in the children's order effect regarding the incidence and the emergence of the two target constructions, as evidenced by the monolingual-like production and acquisition patterns reported in previous works discussed earlier.

The contribution of this study lies in the consideration of bilingual acquisition data and in the comparison between child output and adult input. Therefore, it contributes to elucidate how the bilinguals' two languages interact in the specific case of the acquisition and incidence of English actives and passives.

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Swabian (SW), a dialect continuum of Alemannic spoken in the Southwest of Germany, shows two progressive constructions that are formed combining *sein* ‘be’+AM/BEIM with an infinitive verb form (1). This presentation compares the status of the infinitive in these two constructions, showing that it retains its verbal properties in the AM-progressive, while the infinitive in the BEIM-progressive is nominal. The latter analysis has traditionally been described for *both* types in Standard German (SG) (Bhatt and Schmidt, 1993, Fagan, 2009, Flick and Kuhmichel, 2013, Krause, 2002). Evidence for the difference between these two constructions comes from (i) the properties of AM/BEIM, (ii) adjectival and adverbial modification of the infinitive, and (iii) event semantics and entailment relations. Data comes from the Upper Swabian branch of Swabian, elicited from three speakers.

Traditional grammars for Standard German (SG) and some later work argue that AM/BEIM is a fusion between the preposition *an/bei*+neuter dative definite determiner *dem*, thus rendering the infinitive a nominal complement of the preposition *AN* or *BEI* (2). This fusion is common in PPs in Standard German and Swabian and can be reversed for pragmatic purposes (3). However, this reversal is only possible for the BEIM-progressives in SG and SW (4), paralleling the contrast with nominal complements. Secondly, only the BEIM-progressive allows adjectival modification where the adjective agrees in number, neuter gender, and indefiniteness with the infinitive (5a,b). The AM-progressive allows only adverbial modification, which shows no agreement (5c,d). Lastly, the BEIM-progressive indicates a location reading that allows the cancellation of the progressive reading (6). This cancellation is not possible for the AM-progressive despite the past tense, ruling out an implied planning stage (Arregui et al., 2014).

As a preliminary analysis, I suggest for the BEIM-progressive in Swabian: [PPBEI [DP ‘M schwemmma]] and the infinitival is treated as a nominal. For the AM-progressive in Swabian, I follow Bhatt and Schmidt (1993), who argued that in Standard German and Colognian, AM is an aspectual head merging with a VP: [AspPAM [VP schwemmma]]. The association of infinitives with locative readings is due to semantic bleaching of location indicators such as prepositions and case; and a tendency of infinitives to become nominalized (Tamm, 2011). According to (Bybee et al., 1994), this has led to the close association of progressives, nonfinite verbs, and location semantics. It appears that Swabian progressives have only undergone parts of this process compared to Standard German, which also has progressives without BEIM/AM (7).

- | | | |
|--|--|------|
| (1) a. r’isch AM schwemm-a
he’s AM swim-INF
‘he is swimming’ | b. r’isch BEIM schwemm-a
he’s BEIM swim-INF
‘he is swimming’ | (SW) |
| (2)a. Ich bin AM schwimm-en
I am at.the.DAT swim-INF
‘I am swimming’ | b. Ich bin BEIM schwimm-en
I am at.the.DAT swim-INF
‘I am swimming’ | (SG) |
| (3)a. Ich bin AM/BEIM Haus
I am at.the.DAT house
‘I am at the house’ | b. Ich bin AN/BEI DEM Haus
I am at the.DAT house
‘I am at <i>the</i> house, (not the other)’ | (SG) |
| c. I be AM Haus
I am at.the.DAT house
‘I am at the house’ | d. I be AN/BEI deam Haus
I am at the.DAT house
‘I am at <i>the</i> house (not the other)’ | (SW) |

- (4)a. *Ich bin **AN DEM** schwimm-en wo es um etwas geht (SG)
 I am **at the.DAT** swim-INF where it at smth. goes
 ‘I am at the swimming (event) where something is at stake’
- b. Ich bin **BEI DEM** schwimm-en wo es um etwas geht
 I am **at the.DAT** swim-INF where it at smth. goes
 ‘I am at the swimming (event) where something is at stake’
- c. *I be **AN DEAM** schwemm-a wo’s om was got (SW)
 I am **at the.DAT** swim-INF where’it at smth. goes
 ‘I am at the swimming (event) where something is at stake’
- d. I be **BEI DEAM** schwemma wo’s om was got
 I am **at the.DAT** swim-INF where’it at smth. goes
 ‘I am at the swimming where there is something at stake’
- (5)a. r’isch **BEIM schnell-a** schwem-a b. *r’isch **BEIM schnell** schwemm-a (SW)
 he’s **BEIM fast-AGR** swim-INF he’s **BEIM fast** swim-INF
 ‘he is at the fast swim’ ‘he is swimming fast’
 (‘a competition, the fast lane’)
- c. *r’isch **AM schnell-a** schwemm-a d. r’isch **AM schnell** schwemm-a
 he’s **AM fast-AGR** swim-INF he’s **AM fast** swim-INF
 ‘he’s at the fast swimm’ ‘he’s swimming fast’
- (6)a. *r war **AM** schwemm-a aber war de ganze Zeit blos ontr dr Dusche (SW)
 he was **AM** swim-INF but was the whole time just under the shower
 ‘he was swimming but spent the whole time in the shower’
- b. r war **BEIM** schwemm-a aber war de ganze Zeit blos ontr dr Dusche
 he was **BEIM** swim-INF but was the whole time just under the shower
 ‘he went swimming but spent the whole time in the shower’
- (7)a. Ich bin schwimm-en(SG) b. I be schwemma (SW)
 I am swim-INF I am swim-INF
 ‘I am swimming’ ‘I am swimming’

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Privileges of the Rich

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Background: Based on recent ideas that parametric variation is at least in part deducible from an underspecified ordering of syntactic operations (cf. Biberauer & Richards 2006, Obata et al. 2015), Blümel et al. (2021) propose that the Core Functional Categories v , T and C enter the set-Merge computation either atomically or as bundles, formed by the operation external pair-Merge. Following Epstein et al.’s (2016) claim that next to set-Merge, pair-Merge applies freely either internally or externally, the combinations in (1) are expected, provided no independent principles bar them. Accordingly, English, German and Japanese instantiate (1a-c).

- (1) a. $\{_{CP} C \{_{TP} T \{_{VP} v \dots\}\}\}$ *analytical* (2) a. English: $\{?? XP C \{?? YP T \{?? ZP v \dots\}\}\}$
 b. $\{_{CP} C \{<v,T>P <v,T> \dots\}\}$ *mixed* b. German: $\{?? XP C \{<v,T>P YP <v,T> \dots\}\}$
 c. $\{<v,T,C>P <v,T,C> \dots\}$ *agglutinative* c. Japanese: $\{<v,T,C> XP <v,T,C> \dots\}$

As Blümel et al. (2021) show, next to (missing) adjacency of the relevant heads, several empirical consequences flow from the hypothesis, assuming that being hidden in the amalgams means that T in (1b) and T-C in (1c) do not entertain “SPEC-head agreement.” These ramifications are given in the table.

	Japanese	German	English
(i) expletive	No	No	Yes
(ii) VP-fronting	No	<v,T>P-fronting	Yes
(iii) VP-ellipsis	No	No	Yes
(iv) <i>wh</i> -movement	No	Yes	Yes
(v) Subj-V-agreement	No	Yes	Yes

Application: (1a) features simplex functional heads, (1b) and (1c) “rich” amalgams formed by external pair-Merge. We hypothesize (3), assuming labeling theory (Chomsky 2013/POP):

- (3) **The Labeling Algorithm (LA) privileges rich amalgams (RAs).**

Under simplest Merge, the label is not structurally represented. Instead, Minimal Search (MS) detects the prominent element in syntactic objects. A trivial case is the H(ead)-complement relation; MS finds H. The complicated case is what is called the {XP, YP} problem; MS finds two heads simultaneously, i.e., X and Y, and the LA cannot identify what this syntactic object is. According to POP, one way of solving this problem is moving one element (e.g., XP) out of this structure and the remaining syntactic object’s head becomes the label (i.e., Y). Another way is feature-sharing. In the case of a subject-T relation, the subject is in [SPEC,TP], hence yielding a {XP, YP} structure (i.e., {SUBJ, T’}). T and the subject are valued through Agree, sharing ϕ -features, and this becomes the label, i.e., $\langle\phi, \phi\rangle$. In a case of *wh*-movement, the label becomes $\langle Q, Q\rangle$; the *wh*-phrase and C share a Q-feature (see POP for details). In this way, English always has labeling problems whenever there is a specifier as shown in (2a) above. As is acknowledged in POP:fn. 35, German and Japanese type languages are fine with {XP, v P}. In these languages, the subject does not have to move to [SPEC,TP] and can stay *in-situ*, i.e., [SPEC, v P]. We propose that the LA prefers the “richer” amalgam when the amalgam is formed (notice that Chomsky 2015:12 suggests that $\langle R, v\rangle$ itself become the label). In German v and T are enter the clausal spine as $\langle v, T\rangle$, which functions as a label, whereas C is free-standing. This triggers *wh*-movement if the head is Q-bearing as shown in (4a), can solve the {XP, YP} problem in long-distance *wh*-movement (POP), or not solve it at all in root contexts, if Blümel & Goto’s (2020) claim is correct that the terminal syntactic object may remain unlabeled.

- (4) a. $[\langle Q, Q\rangle [_{QP} Q \text{ wh}]_i [C_Q \dots t_i \dots]]$ b. $[\langle v, T, C\rangle P \dots \text{wh} \dots \langle v, T, C\rangle]$

$\langle v, T, C\rangle$ is the head of the Japanese clause, i.e., T-C are not free-standing heads. As a consequence, no *wh*-movement is triggered, i.e., *wh*-phrases remain *in-situ* (4b). According to (3), in the language types (2b)/(2c) the LA finds Y in {XP, YP} iff $Y = \langle v, T\rangle / \langle v, T, C\rangle$ while disregarding X. In this sense, RAs function as “label inducers” (cf. Miyagawa et al. 2019). The cross-linguistic tendency of OV-languages to allow subjects that remain VP-internal and scrambling suggests that these languages feature RAs in the sense of (3). Another consequence of (3) is the (un)availability of scrambling. English neither has multiple scrambling nor long-distance scrambling as shown in (5a), (5b) and (5c). As for German, it allows short scrambling

(6a), whereas long-distance scrambling is disallowed (6b). In Japanese, scrambling, including multiple long-distance scrambling, is possible as shown in (7a)/(7b).

(5)a. John put that book on the table.

b. *On the table_j, that book_i, John put *t_j t_i*. (Fukui 1988)

c. *On the table_j, that book_i, Bill thinks that Jon put *t_j t_i*.

(6)a. dass [dem Subjekt]_j [den ersten Platz]_i das Objekt *t_j t_i* streitig macht
that the.DAT subject the.ACC initial place the.NOM object contested makes
'That the object competes with the subject for the initial place. (Haider 2006)

b. *dass [IP [dieses Buch]_i [IP Hans dem Studenten gesagt hat [CP dass Maria *t_i* besitzt]]]
that this book H. the student told has that M. owns
'Hans told the student that Mary owns this book' (Grewendorf and Sabel 1999)

(7) a. {Taroo-ga, Hanako-ni, sono hon-o} age-ta
T.-NOM H.-DAT that book-ACC give-PAST
'Taro gave that book to Hanako'

b. {Hanako_i-ni, sono-hon_j-o} Jiro-wa [Taroo-ga *t_i t_j* age-ta] to omot-te-iru.
H._i-DAT that book_j-ACC J.-TOP T.-NOM give-PAST C think-te-PROG
'Jiro thinks that Taro gave that book to Hanako.'

These examples are explained from the current proposal on labeling. In English, {XP, YP} cannot be solved in (5b)/(5c); multiple DPs cannot be scrambled without having extra functional heads for each DP for a feature sharing strategy. In (6), clause-bound scrambling is possible by virtue of the amalgam, (i.e., $\langle v, T \rangle$): In $\alpha = \{DP_{OBJ}, \beta\}$, with $\beta = \{DP_{SUBJ}, \langle v, T \rangle P\}$, and the direct object is scrambled to the outer $\langle v, T \rangle P$ -edge. Application of LA to β delivers $\langle v, T \rangle P$, due to (3). Application of LA to α likewise delivers $\langle v, T \rangle P$, due to (3). (3) thus derives important differences between English on the one hand, and Japanese and German on the other. Once scrambling applies via [SPEC,CP] in German as in (6b), a suggestive hypothesis is that A'-movement cannot feed into scrambling of the type just characterized – an instance of improper movement, insofar as $\langle v, T \rangle P$ -SPECs are A-positions. On the other hand, Japanese does not have such a restriction as shown by (7b): Scrambling multiple elements out of the embedded clause is possible due to the amalgam $\langle v, T, C \rangle$ – no improper movement is induced. Extension: (1c)/(2c) amounts to the claim that Japanese C is rendered defective, a “cancelled” phase (cf. Epstein et al. 2016), unlike set-Merged C in English and German. Empirical evidence for the presence/absence of C's phasehood comes from Chomsky's (2008) phase edge condition (cf. Gallego and Uriagereka 2007), formulated in (8).

(8) *Extraction from phasal edge*: *YP_i ... [CP [XP ... *t_i* ...] C [TP, where XP is on a CP phase edge

(9)?? Who_i do you wonder [CP [which picture of *t_i*]_j Mary bought *t_j*]?]

(10) a. Ich denke [CP [VP das Buch gelesen]_i [C' hat_k [keiner *t_i t_k*]]]

I think that book read has no one
'I think no one read the book'

b. *Was_j denkst du [CP [VP *t_j* gelesen]_i [C' hat_k [keiner *t_i t_k*]]]? (Müller 1998)
what think you read has no one ('What do you think no one read?')

(11) a. [IP John-ga [CP [IP [CP Mary-ga sono hon-o katta to]_i [IP Bill-ga *t_i* itta] to] omotteiru]
J.-NOM M.-NOM that book-ACC bought that B.-NOM said that think

b. [IP sono hon-o_j [John-ga [CP [IP [CP Mary-ga *t_j* katta to]_i [IP Bill-ga *t_i* itta] to] omotteiru].
that book-ACC J.-NOM M.-NOM bought that B.-NOM said that think

(9)-(11) show sub-extraction from a moved XP located in a left peripheral specifier position of an embedded clause, i.e., [SPEC,CP]. In English and German the sentences become degraded (9)/(10b) when sub-extraction applies to *wh*-phrases from a fronted complex DP and VP in [SPEC,CP]. In Japanese, the embedded CP is scrambled to an embedded [SPEC,CP]-position in (11). (11b) shows that scrambling of the NP 'that book-ACC' to the edge of the matrix CP is grammatical. Given (8), these examples suggest that English and German have a clear/strong C-phasehood, whereas Japanese does not, supporting (1).

Anecdotal evidence in second language acquisition and its implications

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In this paper, we argue for the value of anecdotal evidence in the field of second language acquisition. We claim that any valid theories of SLA should be compatible with any kind of evidence, anecdotal or obtained in a controlled setting. We consider the cases of (a) M. M. Miklukho-Maklay who acquired Bongu, (b) Manjirō, one of the first Japanese people in the US who acquired English, and (c) William Buckley, an English convict who, living with an aboriginal community, acquired the Wathaurong language. Upon careful analysis of available written evidence and accounts of these cases, we conclude that they are somewhat in conflict with the thesis on impossibility of ultimate attainment, Fundamental Difference Hypothesis, and hypothesis on critical/sensitive periods in language acquisition.

The primary purpose of the theory of human language, grammar is to be able to tell well-formed sentences from those not well-formed: this has been the working hypothesis in generative grammar ever since Chomsky (1955). The very minimal requirement of the grammar is that it be compatible with the observable facts about language. Same is true for language acquisition: theories should be fully compatible with whatever observational data comes their way, as well as with the data obtained in controlled conditions. One variety of data which is not obtained in the lab but is observed is *anecdotal* data. It is the value and the role of this data that we would like to highlight presently.

Anecdotal evidence and case studies have been repeatedly shunned from language acquisition inquiry (with only a few notable exceptions of case studies, e.g., Lardiere 2007), yet the reasons for this are rarely made clear. In this paper, we argue that anecdotal evidence actually presents researchers with an invaluable tool to *inform their hypotheses* while not necessarily serving as a great tool to test those hypotheses in a controlled setting. We investigate three historical cases which pose nontrivial questions to some modern theories of second language acquisition generally and the critical/sensitive period hypotheses in particular. The cases are:

- (a) that of Miklukho-Maklay, a Russian explorer who documented his (incomplete) acquisition of Bongu -- a Papuan language of Madang family (in Miklukho-Maklay 1874);
- (b) that of Manjirō, one of the first Japanese people to visit the United States whose acquisition of English was documented to some extent (in Bernard 1992);
- (c) and that of William Buckley, an English convict who was transported to Australia, escaped, and lived in an Aboriginal community for many years, acquiring the Wathaurong language (in Morgan and Gregory 1980).

After careful analysis of the documented evidence (see below), we consider the manner in which each of these cases challenges modern theories of second language acquisition. Relevant background for these cases is given in Table 1 below. Our main argument is that all these cases point to inviability of the fundamental difference hypothesis (FDH) and related hypotheses of critical period/sensitive periods as well as the thesis on impossibility of ultimate attainment -- all of which resurface every decade since Lenneberg (1967) in one incarnation or another (cf. Abrahamsson and Hyltenstam (2009), Bley-Vroman (2009), and Meisel (2011) and also see an overview of critical/sensitive period(s) in Wang (2018)). The central claims we lay are as given below.

	<i>Age group</i>	<i>Previous language(s)</i>	<i>Language acquired</i>	<i>Duration of exposure</i>	<i>Type of evidence</i>
N.N. Miklouho-Maklay	adult	Russian, French, German, Spanish	Bongu, incomplete	~1.5 year	diary
J. Manjirō	teens	Japanese	English	~5 years	oral account, letters
W. Buckley	adult	English	Wathaurong	~20 years	oral account

Table 1. Relevant language background for the cases considered

The Miklukho-Maklay (MM) case. Although the acquisition of Bongu was incomplete and the time of exposure was limited, MM was able to communicate with Natives with a significant degree of fluency, as evidenced by his notes in the diary. Further, the collected by WW items of phraseology and distinct lexical items let us gauge the depth of MM's command of the language (subjunctive, imperative moods; wide range of tenses, etc.). Given the limited time of his exposure (about one year) and additional -- albeit less significant -- contact with over 13 other aboriginal languages, such rapid acquisition runs decidedly counter against "sensitive period" for SLA. It up to speculation, however, whether MM

managed to reach nativelike proficiency, to which his diaries do not attest. Account of William Buckley, however, does attest to such proficiency, hence our second case¹.

The William Buckley case. Buckley was at least 23 years old when he left for Australia as a convict (past the last “sensitive” period of 17 years). He escaped and chanced upon Wathaurong people who he lived with for about 20 subsequent years, becoming the head of their tribe. Notably, Buckley recollects the silent period in his acquisition, and points to the fact that just after two years of exposure he acquired nativelike fluency of a language drastically different from his native English. Again, the rapidity of acquisition under these circumstances -- which can be corroborated by socio-ethnic considerations (Natives only treated him as “one of them” upon ultimate attainment) -- is not accounted for by the critical/sensitive periods or fundamental difference hypothesis which do not allow ultimate attainment *per se*. Our third case, however, offers ambiguous evidence.

The Manjirō case. Manjirō, a Japanese boy of 14 years (end of the last sensitive period), was shipwrecked and saved by an American whaling ship. Manjirō was the youngest of the five companions picked up by the Americans and over the period of 11 months (Jan-Nov) he managed to acquire the language to the degree that he was able to work with the crew and communicate with the captain with marked fluency. Notably, Manjirō remarks that the oldest of their crew was much less successful in acquisition of English. We look into the factors which could have contributed to this in our analysis. Further, Manjirō’s letters from his time in the US are available and can be scrutinized to see a clear trajectory of acquisition. Once again, the rapidity of the acquisition points to Manjirō’s level after a year of exposure being compatible to that of MM’s. This as well runs somewhat counter to the sensitive periods and the fundamental difference hypothesis.

It has not been our objective to claim that FDH, etc. are fundamentally wrong just by looking at these cases. Instead, we aimed to point out that not looking at naturalistic acquisition seems illogical. Concluding, it is important to note that naturalistic language acquisition² should have been one of the first places to look for mechanisms of language acquisition unblemished with external variables, but very few studies did so (save early studies like Felix (1981), Pica (1983)). Instead, based on decidedly limited evidence obtained in the classroom or in a laboratory setting, a number of theories which are directly incompatible with evidence in plain sight were conceived. While our elaboration does not present resolute data against FDH, etc., we hope that it lends itself for didactical, instructive purpose and demonstrates quite plainly that hypotheses and theories of language acquisition -- just any other hypotheses and theories -- can and should be informed by the available anecdotal evidence. Compatibility with anecdotal evidence, in turn, can serve as a litmus test for any hypothesis.

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¹ MM’s diaries also mentioned an aboriginal boy of 14 years who was fluent in Russian after 4 months on a ship with MM. We consider this case in passing only.

² Importantly, not “immersive” instruction in a classroom which does not constitute naturalistic acquisition.

Diachrony and directionality of clitic placement in Romance: evidence from French

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BACKGROUND: This study investigates the diachrony of clitic placement in French and contextualizes the findings with other Romance languages in order to assess the microparametric changes at work (as defined by Roberts 2019).

Canonical Romance languages have (optional) clitic climbing (henceforth, CC) when the infinitive is introduced by a modal, an aspectual or a motion verb (the core class of restructuring verbs, Rizzi 1982), that is the clitic complement of the infinitive cliticizes on the main verb (1). Where CC fails to obtain, enclisis is found on the infinitive (2).

- (1) **La** voglio vedere. [clitic climbing, Standard Italian]
3SG.FEM=want.PRES.1SG see.INF
I want to see her.
- (2) ... per veder**la**. [enclisis, Standard Italian]
to see.INF=3SG.FEM
... to see her.

As is now well known, Modern French lacks both orderings and has systematic proclisis instead. Old French, on the other hand, patterned with other Romance languages in having both CC and enclisis.

RESEARCH QUESTIONS:

- How does clitic placement in Old French compare with that of other (Old) Romance languages?
- Do the losses of CC and enclisis result from the same microparametric change in French?
- Did clitic placement evolve in a similar fashion across Romance?

METHODS AND FINDINGS: We have investigated a corpus of French legal texts over a period of 700 years (1150-1856). This register was chosen to avoid literary constructions and verse, in which clitic placement is likely to be affected by the Tobler-Mussafia law.

Before this investigation, there was no quantitative study of clitic placement with infinitives for the early periods of French. 3,546 clauses involving cliticization have been analyzed: CC and enclisis are

found in Old French, yet they both disappear, and proclisis is found in later French instead (Figure 1).

From Figure 1, enclisis and proclisis appear to have been infrequent orderings in the early periods. This is in fact not the case. When we sort

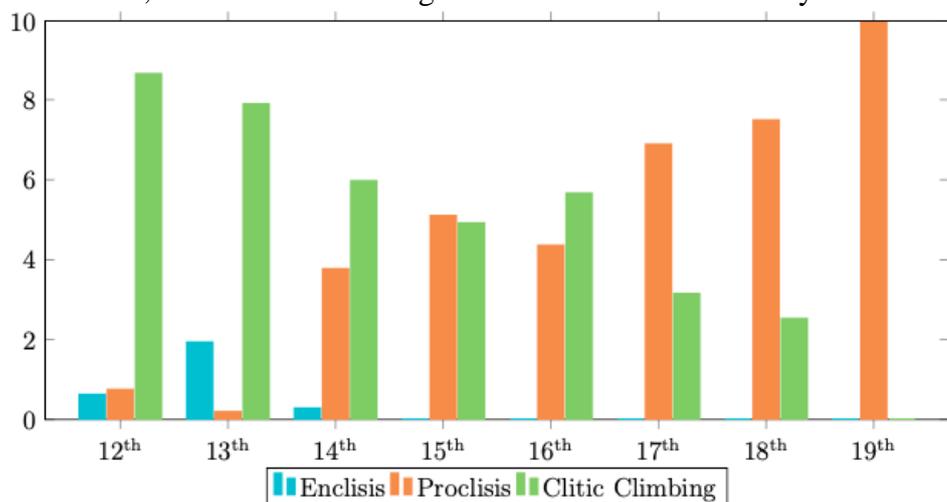


Figure 1: Clitic placement in the corpus

out the findings by context, we actually find that CC reaches high frequencies in restructuring clauses until an advanced stage (100% of the data for the 14th and 15th centuries, Figure 2), whilst in non-restructuring clauses (i.e. where CC fails to obtain), enclisis is the most frequent ordering in Old French (Figure 3). The data for the 12th century are admittedly insufficient (5 cases of enclisis and 6 of proclisis).

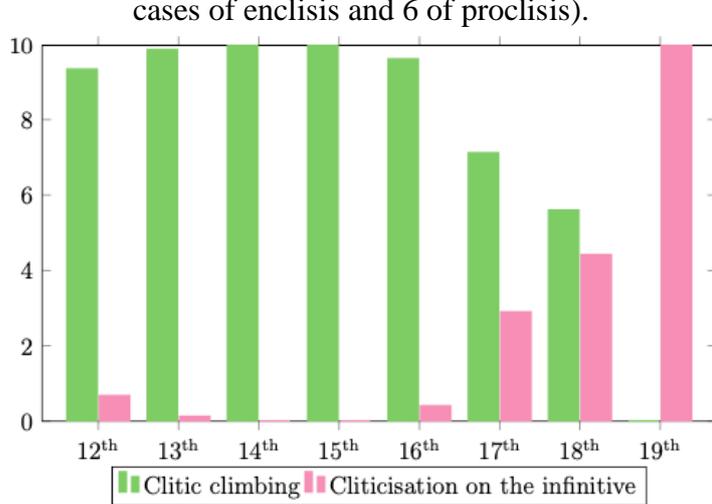


Figure 2: Clitic placement in restructuring contexts

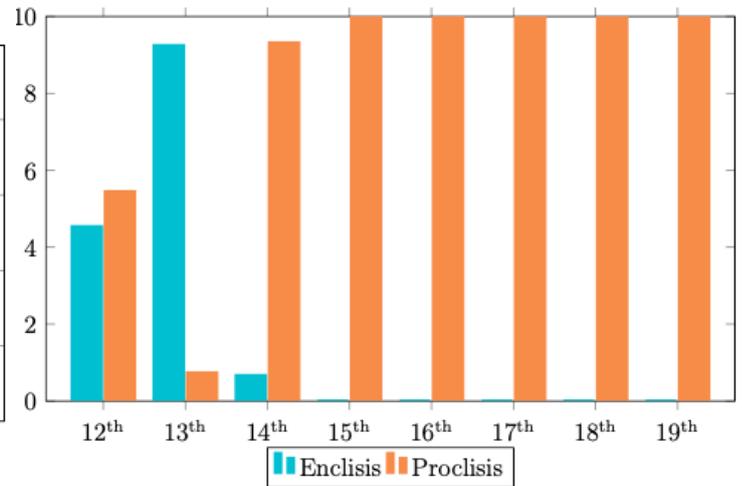


Figure 3: Clitic placement in non-restructuring contexts

DISCUSSION: We observe two changes in French. First, clitic placement in non-restructuring contexts shifts from mainly enclisis to systematic proclisis shortly after 1300 (Figure 3). Second, CC rarefies during the 17th and 18th centuries and it is not found anymore from the 19th century on (Figure 2). These findings have very important repercussions on what we know about clitic placement microparameters in Romance. In French, more than four centuries separate the two changes: it appears unlikely that the second shift is a direct reflex of the first one. There is further evidence that enclisis and CC do not depend on the same microparameter: let's briefly consider the microvariation we observe in different Romance systems today. Brazilian Portuguese lacks both enclisis and CC, Sardinian lacks enclisis but has CC, Catalan has both enclisis and CC, and Borgomanerese has enclisis but lacks CC. In sum, all combinations exist, which supports our view that the changes observed in French are not necessarily dependent on each other.

Furthermore, we observe that CC is preferred (if not obligatory) in restructuring clauses until the 16th century. Similar findings have been reported for Old Spanish (Davies 1995), Old Portuguese (de Andrade and Namiuti-Temponi 2016), Old Catalan (Fischer 2000) and Old Occitan (Bekowies and McLaughlin 2020). In all these languages today, CC is not obligatory anymore, yet it remains optional. As seen above, Modern French, Brazilian Portuguese and Borgomanerese have not retained the construction, they have lost it altogether. In Romance, only Sardinian seems to retain obligatory CC in restructuring clauses. Interestingly, no variety appears to have kept both obligatory CC in restructuring contexts and enclisis in non-restructuring ones: the directionality of change seems consistent across the language family, that is CC weakens (to such an extent that it is lost in some languages), whilst other parameters affect patterns of en-/proclisis (see for instance clitic placement in relation to verb movement, Kayne 1991, Roberts 2010 and Schifano 2018).

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conditions or constraints, etc. Such is the case of $C(x)$ in the analysis of Northwestern Catalan in (8) – this predicate will have been defined to return \top only for the consonants of Northwestern Catalan. In this way, the boundary symbol $\#$ will be rewritten as $[o]$ only if the boundary symbol is directly preceded and followed by consonants, which violates the phonotactics of the language. The predicate $out(x)$ defines what gets output – only segments that belong to the phonological inventory of the language, which will have been defined beforehand by the user-defined predicate $seg(x)$.

- | | | | |
|----|--|----|---|
| 8) | $l\#pare \rightarrow lopare$
$o_o(x) = \text{if } \#_i(x) \text{ then}$
$\text{if } C(p(x)) \text{ then } C(s(x)) \text{ else } \perp$
$\text{else } o_i(x)$
$out(x) = \text{if } seg(x) \text{ then } \top \text{ else } \perp$ | 9) | $sofa+inho[dim] \rightarrow sofazinho$
$z_o(x) = \text{if } +_i(x) \text{ then}$
$\text{if } [dim]_i(s(x)) \text{ then}$
$\text{if } V(s(x)) \text{ then } V(p(x)) \text{ else } \perp$
$\text{else } z_i(x)$ |
|----|--|----|---|

In Brazilian Portuguese, as shown in (9), the morpheme boundary symbol $+$ gets rewritten as $[z]$ only if certain conditions are met – the following segment is part of a diminutive suffix ($[dim]_i$), and there is a vowel ($V(x)$) directly on each side of the morpheme boundary.

Finally, Serbo-Croatian $[t]$ -insertion is done in (10); the user-defined predicate $outseg(x)$ will return \top only for all members of the set \mathcal{O} of output segments. $+$ is rewritten as t only if e is directly preceding it, and there is some output segment directly following:

- 10) $tele+a \rightarrow teleta$
 $t_o(x) = \text{if } +_i(x) \text{ then}$
 $\text{if } e_i(p(x)) \text{ then } outseg(s(x)) \text{ else } \perp$
 $\text{else } t_i(x)$

Syntactically conditioned epenthesis. In Donceto (Northern Italian), empty functional heads of the Infl layer (11) or the Comp layer (12) are realized with an epenthetic schwa:

- | | | | |
|-----|---|-----|---|
| 11) | $\text{\textcircled{a}} be:v$ 'I drink'
$\text{\textcircled{a}} bu'vi$ 'you.PL drink' | vs. | $i 'be:v\text{\textcircled{a}}n$ 'they drink' |
| 12) | $\text{\textcircled{a}} be:v\text{\textcircled{a}}t$ 'do you.SG drink?'
$\text{\textcircled{a}} be:v\text{\textcircled{a}}n\text{\textcircled{a}}j\text{\textcircled{a}}$ 'are they drinking?' | | (Cardinaletti & Repetti, 2004) |

In Russian PPs (13), a prothetic n is inserted before 3rd person pronouns if the pronoun following the preposition is also the *head* of the complement of P^0 (Petrovic & Bailyn, 2021).

- 13) a. $u + ego \rightarrow u \text{nego}$ 'at him' b. $u \text{ego brata}$ 'at her brother's' (* $u \text{nego brata}$)

If the flattened tree structure serving as input to the morphological module retains the necessary syntactic information, represented by boundary symbols (brackets), these processes are easily accounted for in a system of string transductions. Computational complexity is thus reduced to that of (sub)regular relations.

Conclusion. Morphological epenthesis is a means of avoiding listed allomorphy. BMRSSs are both input- and output- oriented, and implement hierarchically ranked predicates; in this way, they directly capture morphological and phonological generalizations, retaining the computationally restrictive nature of such processes by formalizing them as string transductions.

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A direct interpretation approach to English *if (not)*-stripping construction

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This study investigates English *if (not)*-stripping construction where so-called Stripping or Bare Argument Ellipsis (Hankamer and Sag 1976, among others) occurs in *if*-clauses. This construction has at least two sub-patterns: *if*-stripping and negative *if*-stripping. As in the typical stripping, the ellipsis site of *if (not)*-stripping remains with a lexical or phrasal remnant and other components are unexpressed, but it receives a sentential interpretation, as given in (1):

- (1) a. Trading with the company has become *arduous*, **if not dangerous**. (1992 FIC)
- b. The listed amperage is the *best*, **if still imperfect**, indicator of power. (1991 MAG)

The remnant in (1a) has a propositional meaning such that trading with the company has not become dangerous. The remnant in *if*-stripping stands in a contrastive focus relationship to its correlate of the antecedent clause. However, note that the remnant can either have an overt correlate or a covert one in the antecedent clause. For instance, in (2a), the remnant *slowly* has its overt correlate *steadily* in the antecedent, whereas the remnant in (2b) *slowly* lacks any explicit linguistic correlate.

- (2) a. The economy is recovering *steadily*, **if slowly**. (2014 NEWS)
- b. Asian populations continued to grow, **if slowly**. (1991 MAG)

This paper tries to investigate such elliptical properties of *if*-stripping together with a corpus investigation using COCA (Corpus of Contemporary American English).

Myers and Yoshida (2015) have suggested that *if (not)*-stripping undergoes clausal ellipsis to capture the propositional meaning of the stripped clause. Their supporting arguments concern syntactic connectivity effects such as binding condition, preposition stranding, and island sensitivity constraints. At first glance, corpus data also seem to support this direction. Consider the following instance:

- (3) a. Binding condition A: He can motivate others if not **himself**. (1995 MAG)
- b. Preposition: The words “through grace” may either refer to Apollos, or to the Christians who had believed. **If to him**, it means that he was enabled by grace to strengthen the brethren there. (2012 WEB)

The presence of the reflexive *himself* in (3a) can be easily accounted for with the assumed clausal source *He cannot motivate himself*. Also in (3b), the only possible preposition is *to*, which is associated with the expression *refer to* in the antecedent clause.

Appealing this sentential analysis seems to be, our corpus investigation yields data that challenge such a sentential analysis. In particular, attested examples like the following question the postulation of a sentential source for *if*-stripping examples:

- (4) a. Case mismatch: While working with Nik to solve the mystery, Mikayla has come to realize that *Maddix* wasn't the killer. **But if not him**, who was? (2011 MAG) [if not him = if he was not the killer]
- b. Finiteness and polarity mismatch: The strengthened staff will allow *the department to train more new officers than ever before*. “That’s one of the most important jobs in the department”, Recruitment Sgt. Jerry Hildeman said, “because **if they**, then there are bad cops out on the street.” (2015 NEWS) [if they = if they don’t train more new officers than ever before]

Our corpus investigation also shows that *if (not)*-stripping has idiosyncratic distributions whereby some remnants allow implicit subject and verb with no corresponding correlate as in (5). Such examples are challenging in that the remnant needs additional elements to be fully reconstructed such as a deictic subject (*it/this/that*) or an existential expletive pronoun (*there*) with a conjecture from the context. A possible explanation can be found from some predicational fragment answers in certain discourse contexts rather than in the typical stripping, which is analyzed as ‘limited ellipsis’ suggested by Merchant (2005).

- (5) a. The dictum, even **if artificial**, seemed to work. (1993 FIC)
b. Rest for 30-60 seconds, **if needed**, then repeat entire circuit. (2005 MAG)
c. If he’s not better, have him go see the doctor again. **If still nothing**, bring him back here. (2007 FIC)

Another potential issue emerges from the distributions of *if*-stripping embedded under the predicates like *know* or *wonder*, as in (6).

- (6) COURIC: Were you surprised when you got it?
Ms-WINOKUR: I don’t know **if surprised**. (2002 SPOK)

Stripping is in general disallowed in embedded contexts, and thus such an example contradicts Wurmbrand’s (2017) ‘Embedded Stripping Generalization (ESG)’, which states that stripping of embedded clauses is only possible when the embedded clause lacks a CP.

A further complication arises from the locality restrictions that apply to *if (not)*-stripping remnants. As suggested in the literature, stripping is sensitive to islands (Depiante 2000, a.o.). However, we observed some data which are assumed to be island-insensitive as follows:

- (7) a. In doing that, she didn’t have to give a moment’s thought to the threat that was implicit in Tapinza_i’s tone, **if not his_i words**. (2001 FIC) [Complex Noun Phrase Island]
b. This is a reality that most, **if not all**, enterprises face whether or not they are run by or employ Indigenous people. (2019 ACAD) [Left Branch Island]

In the examples, if the stripping results from a sentential source, the correlate is then contained within an island, which violates the Complex Noun Phrase Constraint and the Left Branch Constraint. This suggests that the movement-and-deletion operations may not be applied to account for the ellipsis site of *if (not)*-stripping.

Resolving such empirical challenges to distributional and structural issues, we propose a direct interpretation (DI) approach (see Ginzburg and Sag 2000, Culicover and Jackendoff 2005), where the remnants in *if (not)*-stripping can be mapped into non-sentential utterances, and this leads to sentential interpretations directly instantiated from the following Head-Fragment Construction.

- (8) Head-Fragment Construction:
Any category can be projected into a NSU (non-sentential utterance) when it functions as a salient utterance (SAL-UTT).

Since the remnant functions as a salient utterance, it can be projected into a head-fragment construct together with the relevant discourse information such as DGB (dialogue-game-board), MAX-QUD (maximal question-under-discussion), etc. This approach accounts for the direction that once the remnants are directly generated, no island-sensitive operations nor filler-gap dependency are involved.

Along with the DI approach, our observations indicate that *if (not)*-stripping is a special type of stripping which shares some properties with stripping and fragment, and provide the nature of *if (not)*-stripping.

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Inherent case masquerading as structural case

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Since Chomsky 1981, a distinction has been drawn between *structural* and *inherent* cases in terms of their respective licensing conditions. Based on their morphological properties, Moksha (Uralic) cases are dividable into two groups, which seem to correspond to *structural* and *inherent cases*. DAT(ive), however, presents a puzzle: distributionally, it behaves as an *inherent case*, but morphologically it patterns with the structural ones. To resolve this discrepancy, I argue that *inherent cases* are always headed by a P (see also McFadden 2004, Polinsky 2016, who show that some oblique case forms are syntactically PPs). I further provide a finer classification of P-heads (including free-standing Ps) based on their morphosyntactic properties. I show that the observed properties of the Moksha DAT follow from the underlying structure of DAT phrases, which contain an internal GEN(itive) layer (GEN being a *structural case* in Moksha). The remaining *inherent cases* in are realized as P-heads of a different kind, which crucially contain no GEN.

Data and problem: The division of morphological cases in Moksha into two groups is mainly based on the order of case marking and possessive marking: (i) case marker follows possessive marker (NOM(inative), GEN, DAT) (1a-b); (ii) case marker precedes possessive marker (all other cases), (1c) (Simonenko & Leontjev 2012). Another distinguishing property is that DAT forms, like GEN ones, are specified for number (1a-b), while cases like IN(essive) (1c) are not specified for number.

- (1) a. *vel'ə-c'ə-n'd'i* b. *vel'ə-t'n'ə-n'd'i* c. *vel'ə-sə-t*
 village-2SG.POSS.SG-DAT village-2SG.POSS.PL-DAT village-IN-2SG.POSS
 ‘to your village’ ‘to your villages’ ‘in your village(s)’

The grouping of DAT with {NOM, GEN} rather than with *inherent cases* (ii) is unexpected, given that the former are *structural*, but Moksha DAT does not seem to be. DAT encodes recipient/benefactive as well as goal, which also can be marked with ILL(lative) case (2). In both functions, DAT follows possessive markers, unlike other *inherent cases* (see Toldova & Pleshak 2018 for further discussion of DAT in Moksha as *inherent case*, e.g., in contrast to NOM and GEN: DAT is incompatible with distributive numerals and cannot be replaced with ablative in numerical constructions).

- (2) *pet'e suva-s' mon' kud-əz'ə-n'd'i / kud-əzə-n*
 Peter enter-PST3SG 1SG.GEN house-1SG.POSS.SG-DAT house-ILL-1SG.POSS
 ‘Peter entered my house.’ (Kholodilova 2018: 87)

Proposal: I argue that both DAT and other *inherent cases* are exponents of P heads, which come in two different types. Type I takes indefinite bare complements (3) and allows for possessive agreement with definite GEN complements (4), while Type II requires GEN marking of an indefinite complement (5), and no agreement is possible with non-pronominal definite GEN complements (6). Crucially, the type of P head found with each case is not arbitrary: as I will show in the talk, Type I corresponds to grammaticalized relational nouns, and Type II corresponds to genuine (non-relational) postpositions.

Table 1: Properties of two types of P heads in Moksha

	Indefinite complement		Definite complement (other than pronoun)		Pronominal complement	
	Marking	Agreement	Marking	Agreement	Marking	Agreement
Type I	bare	no	GEN	yes	GEN	yes
Type II	GEN	no	GEN	no	GEN	yes

- (3) *pet'ε s'id'ə-stə jaka-j zabər(??-ən') kuvalmə-va*
 Peter often-EL walk-NPST3SG fence-GEN length-PROL
 ‘Peter often walks along fences.’ (Muravjeva & Kholodilova 2018: 229)
- (4) *ki-t' kuvalmə-va(-nzə) jota-s' mašina*
 road-DEF.SG.GEN length-PROL-3SG.POSS pass-PST3SG car
 ‘A car passed by on the road.’ (ibid: 233)

(5) *pet'ε s'id'ə-stə korn'-i zabər*(-ən') kuvalmā-va*
 Peter often-EL say.FREQ-NPST3SG fence-GEN length-PROL
 ‘Peter frequently talks about fences.’ (ibid)

(6) *es' er'a-f-ənc kuvalmā-va(*-nzə) at'ε-z'ə*
 REFL live-PTCP.RES-3SG.POSS.SG.GEN length-PROL-3SG.POSS grandfather-1SG.POSS.SG
pek kel'k-si az-ən-kšn'-əma-nc
 very like-NPST.3SG.S.3SG.O say-FREQ-FREQ-NZR-3SG.POSS.SG.GEN
 ‘My grandfather loves talking about his life.’ (ibid)

DAT does not pattern with other *inherent cases* morphologically, because it is in fact headed by a Type II P-head. An independent argument for the postpositional nature of DAT is its behavior in the pronominal case paradigm; it behaves like postpositions (of Type II) (7) (for comparison, true locative cases like IN do not appear on pronominals). In both the pronominal (7) and the nominal (Table 2) case paradigm, DAT markers but not IN markers contain (or follow, depending on the analysis) GEN markers.

Table 2: GEN, DAT and IN markers

	GEN	DAT	IN
INDEF	<i>-n'</i>	<i>-n'd'i</i>	<i>-sə</i>
DEF	<i>-t'</i>	<i>-t'i</i>	*
POSS 1SG	<i>-z'ə- n'</i>	<i>-z'ə- n'd'i</i>	<i>-sə-n</i>
POSS 3SG	<i>-nc</i>	<i>-ncti</i>	<i>-sə-nzə</i>

(7)

GENUINE POSTPOSITION	DAT
<i>(ton') kolga-t</i>	<i>(ton'-)d'ejə-t</i>
2SG.GEN about-POSS.2SG	2SG.GEN-PRON.DAT-POSS.2SG
‘about you’	‘to you’

These facts confirm the analysis according to which Moksha DAT markers expone a P head rather than case. In particular, DAT is a P head that assigns structural GEN to its complement, explaining why the morpheme order (see (1a-b), above) is the one found with structural cases.

Conclusion and implications: Moksha shows an unexpected grouping of cases based on their morphosyntactic properties: DAT behaves as a *structural case*, not as an *inherent case*, despite having the distribution of the latter. I have argued that Moksha DAT markers are the exponence of a P head rather than genuine case forms. The talk will also provide a further classification of P heads, which is responsible for a distinction in the morphological properties of these so-called “case” markers: the nature of a postposition (relational vs. non-relational) gives rise to two different patterns once a postposition is grammaticalized into a case marker, and thus the case marker continues to echo the relational vs. non-relational nature of the postposition it came from.

More generally, my analysis reveals that the kinds of morphosyntactic properties used to group case forms in the study of Uralic are sensitive to the relational vs. non-relational nature of P heads, rather than to the *structural vs. inherent case* distinction as previously thought.

Selected references: Kholodilova M. 2018. Morfologija imeni [Nominal morphology]. In S. J. Toldova et al. (eds.), *Elementy mokshanskogo jazyka v tipologicheskom osveschenii*. M.: Buki Vedi. 63–121 (in Russ); McFadden T. 2004. *The position of morphological case in the derivation*. PhD diss., University of Pennsylvania; Muravjeva A. & Kholodilova M. 2018. Poslelogi I reljacionnye imena [Postpositions and relational nouns]. In S. J. Toldova et al. (eds.), *Elementy mokshanskogo jazyka v tipologicheskom osveschenii*. M.: Buki Vedi. 212–248. (in Russ); Polinsky M. (2016). *Deconstructing ergativity: Two types of ergative languages and their features*. Oxford University Press; Simonenko A. & Leontjev A. 2012. “Morfosintaksis imennogo kompleksa”. [Morphosyntax of the noun complex.] In Ariadna I. Kuznecova (ed.) *Finno-ugorskije jazyki: fragmenty grammatičeskogo opisaniya*. Formalnyj i funkcionalnyj podxody, 259–337. Moskva: Russkije slovori (in Russ). Toldova S. & Pleshak P. 2018. Grammatical and lexical case distinction in Moksha and Hill Mari // Talk at the 4th Workshop on Languages of the Volga-Kama Sprachbund, Moscow, NRU HSE / IL RAS, 16-18 November 2018.

DOC-less Dialects with Apparent DOC Effects

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Issue 1: Establishing that the entire class of *allege*-type verbs productively allows ECM in certain dialects of English Since Postal (1974, 305 ff.; 1993), it has been standard in generative circles to assume that there is a large class of 30-50 verbs in English (and other languages) that involve “defective” ECM. I.e., it is assumed to be a core feature of the language that these verbs license a *to*-infinitival complement clause only when the overt subject of that clause does not surface in the position normally associated with direct object case valuation by the matrix verb (i.e., when the result is not an ECM or, more recently, an R2 construction). Postal’s slightly modified paradigm in (1a-d) illustrates this with the verb *allege*.

- (1) a. *He alleged **Melvin** to be a very untrustworthy individual.
- b. **Melvin**, he alleged ___ to be a very untrustworthy individual.
- c. **Melvin** was alleged ___ to be a very untrustworthy individual.
- d. **Who** did they allege ___ to be a very untrustworthy individual?

Pesetsky (2019: 21-28) develops a Minimalist account of this paradigm and provides convincing arguments against earlier case-theoretic approaches. He suggests that *allege*-type verbs lack what he calls an R2 φ -probe possessed by a verb like *believe* or *consider*. This means that the Exfoliation (the “peeling away” of the embedded CP and TP) found in R2 (ECM) structures like (2) below is not triggered in (1a), although it can be if other probes are present, such as the R1 φ -probe in passives (1c) or the A-bar probe on the matrix v in (1d).

- (2) I firmly believe [_{CP} **this** to be true].

As Pesetsky (2019:4) also observes, his derivational approach to the determination of complementation “size” rests on arbitrary selection and thus provides an instance in which complementation cannot be made to fall out of separate (semantic) considerations, contra hypotheses in Givón (1980), Noonan (2007), and others.

In the present paper, we first observe that Pesetsky’s proposals predict that there may be dialects of English (and other languages) in which *allege*-type verbs do have an R2 feature, contra the prevailing view. We show that this predication is borne out in the strongest possible way, providing examples of ECM structures for every member of the *allege*-class of verbs that the author(s) and other native speakers found fully grammatical. One representative sentence is given below:

- (3) You should read *The Market for Financial Advisor Misconduct*, which **alleges** such unethical practices to be quite pervasive in the industry.

Issue 2: Accounting for examples in which ECM with the *allege*-class is cross-dialectally precluded

Nonetheless, the very speakers who accept ECM structures with *allege*-type verbs do behave like speakers of “defective ECM” dialects under two specific scenarios. The second goal of this paper is to explain why.

#1 *Allege*-type verbs always disallow ECM with embedded dynamic verbs: As noted e.g. in Quirk et al (1985), Mair (1990: 175, 189), Noël (1997: 34), and Wurmbrand (2014: 430-431), many “classic” ECM verbs (4) accept complement clauses headed by “dynamic” verbs, but *allege*-type verbs (5) never do. They behave like *believe* in accepting only embedded infinitival stative verbs (*to be*), generic/habitual infinitives, and perfective infinitives (e.g. *to have done X*).

- | | |
|--|--|
| <ol style="list-style-type: none">(4) a. I predicted Mary to win the race. b. We expected them to visit us. c. I couldn’t get them to sign the contract. d. That might also cause it to split. | <ol style="list-style-type: none">(5) a. *I admit her to win the race.
 (cf. <i>I admit that she is winning the race.</i>) b. *We assumed them to visit us. c. *I know John to sign the contract. |
|--|--|

Since every speaker of English reports this contrast, it clearly reveals something fundamental about ECM (and other infinitival) configurations. We agree with Abusch (2004) and Wurmbrand (2014) that it should be approached semantically. More specifically, we first follow Abusch in assuming that there exists a class of “futurative” (F-) matrix verbs (6) that contrast with strictly simultaneous (B-)verbs (7) in that only the former select for a complement clause containing a non-overt substitution operator (SUB₂) that “shifts” the

evaluation time of the embedded clause from the time of matrix (**now** or *n*) to a future time interval that may include the last moment of **now**. Since B-verbs lack a SUB operator, their complement clauses are always understood to hold at the same time as the matrix. The standard adverb tests in (6a) and (7a) establish that the matrix verbs in (4) fall into Abusch’s F-class in (6), while the verbs in (5) are B-verbs, like *believe* in (7).

- (6) a. Guido is **predicted** to win the race **today/next week/*last week**.
 b. [_{CP} λ*n* [_{IP} *n* predicted [_{SUB}₂ [λ*n* [_{IP} *n* VP]]]]]
 (7) a. Guido is **believed** to be in Stockholm **right now/*next week/*last week**.
 b. [_{CP} λ*n* believed [_{IP} ***n*** VP]]] The most embedded *n* (in bold) = *to* in I.

We next follow Taylor (1977) and others in assuming that stative verbs (the matrix verbs in (5) and (7)) differ from dynamic ones like the embedded verbs in (4)-(6) in that only the former refer to properties that hold at every moment picked out by a given tense. For this reason, only they can be truthfully asserted at a single moment of time, which, under Taylor’s approach to the English simple present tense, explains why *Mary believes you*. is well-formed on an episodic reading, while *John wins the race*. is not. Given the preceding considerations, we then conclude that the ill-formedness of (5a-c) follows from the contradiction that results from the lexical semantics of the matrix verbs (which asserts that the complement holds at every moment) and that of the embedded non-stative verbs (which cannot hold at a single moment). In contrast the sentences in (4) are licit because the SUB₂ operator “breaks” any tense dependency between the matrix and embedded verbs. In sum, the “defective” ECM behavior in (5) for our speakers is only apparent for the *allege*-type verbs. It is due to separate, core, semantic considerations. Time permitting, we will show that this analysis addresses problems faced by Wurmbrand’s approach, namely, the latter’s inability to accommodate statives in the progressive (e.g. *Stop being so mean.*), as well as the fact that there are non-statives (*sing, dance*) with the subinterval property.

#2: Postal paradigm effects Speakers who accept ECM with *allege*-type verbs sometimes report a “defective ECM” effect for a specific example. E.g., an informant may find (1b-d) fully acceptable but (1a) less so. Given the variable, case-by-case nature of these judgments, we advocate an approach based on extra-grammatical factors, specifically, pragmatics and processing. With respect to the former, we observe that ECM structures like (1a) pragmatically “compete” with tensed complement clauses in ways that the rest of the constructions in (1b-d) do not. I.e., a speaker could equally well use *He will only admit his age to be somewhere between 40 and 70.* and *He will only admit that his age is somewhere between 40 and 70.* since they are very close paraphrases. However, the syntax and semantics of the former is marked. The reduced complement size entails temporal “linking” between the matrix and embedded clauses; it sets up referential linking (binding); and it puts the embedded subject in a focused position. This option is therefore the most co-operative one only when the context clearly fits one or several of these criteria. In short, when examples like (1a) are encountered “out of the blue” they can leave too much context unspecified for certain speakers in ways that an example like (3) does not.

We will show that processing considerations also come into play. E.g., we note that ECM verbs like *allege* contrast with *believe* in that only in the case of the former will Frazier & Fodor’s (1978) Principle of Minimal Attachment result in an initial parse as an ungrammatical garden path, cf. **He alleged Melvin.* vs. *He believed Melvin./The physician turned and considered her patient.* We also explore how frequency effects can militate against the use of ECM with an *allege*-type verb.

Pied-piping out of adjunct islands: an experimental approach to Cinque (1990)

Background: Weak islands are characterized by their opacity for some but not all kinds of extraction. Various characterizations have been proposed for what can and can't be extracted from a weak island. Here, we focus on Cinque's (1990) proposal that weak islands are sensitive to the syntactic category of the extractee:

- (1) An NP can be extracted from a weak island; a PP cannot be.

This generalization is supported by data such as (2); extraction of a PP from an adjunct island as in (2b) is relatively degraded compared to analogous extraction of NP as in (2a).

- (2) a. **Who** did you cry [_{Island} after talking to ⟨ ⟩]?
b. > **To whom** did you cry [_{Island} after talking ⟨ ⟩]?

This motivates for Cinque an analysis according to which the apparent extraction in (2a) is *only* apparent; according to Cinque, the fronted *who* is not be *extracted*, but base-generated high, and the apparent gap site is in fact a null resumptive pronoun. According to this analysis, (2b) is degraded because it involves genuine island-violating extraction. There is no resumptive PP, meaning the base-generation-plus-null-resumption strategy of (2a) is inapplicable to (2b).

Problem: Cinque's analysis of the PP-NP asymmetry of (2) assigns special importance to the presence of an island domain: it is precisely because the island blocks ordinary extraction that the alternative null-resumption strategy is required. However, we note that the PP-NP asymmetry occurs in many different extraction contexts, not just in extraction from islands. The same asymmetry occurs in embedded questions (3), in free relative clauses (4), and even in ordinary matrix *wh*-questions (5).

- (3) a. I don't know [**who** I should talk to ⟨ ⟩].
b. > I don't know [**to whom** I should talk ⟨ ⟩].
(4) a. I want you to meet [**who** I talked to ⟨ ⟩ yesterday].
b. > I want you to meet [**to whom** I talked ⟨ ⟩ yesterday].
(5) a. **Who** did you talk to ⟨ ⟩?
b. > **To whom** did you speak ⟨ ⟩?

The contrasts pattern in the same direction across the board, motivating the generalization (6).

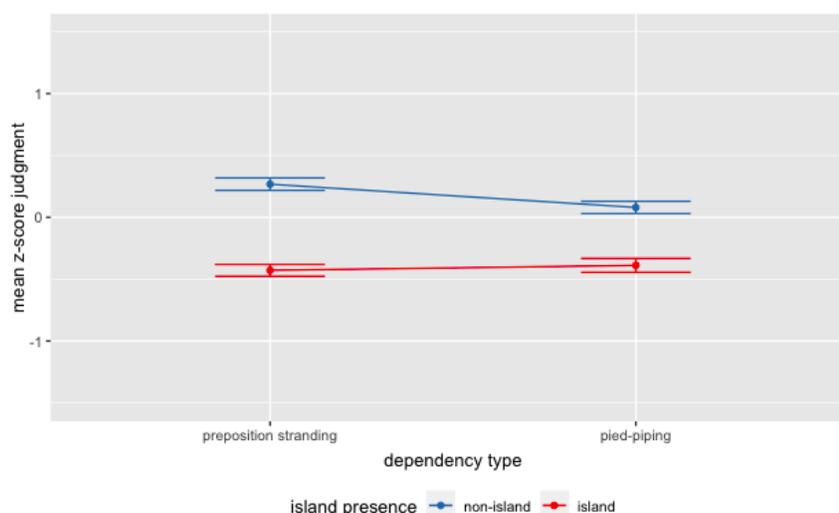
- (6) Extraction of PP is degraded compared to extraction of NP.

There are therefore two potential hypothesis about the contrast in (2). On one hand, it could follow from the independently motivated principle (6). On the other hand, it could follow from Cinque's principle (1). Given that (6) is independently motivated, the latter hypothesis (Cinque's [1]) is *a priori* less parsimonious. (1) therefore represents a departure from the null hypothesis (which would adopt [6] only). Our question here is whether this departure is fact justified. We reason that, while the *direction* of the contrasts is the same (compatible with the null hypothesis), the null hypothesis would have to be rejected if the *magnitude* of the effects differ. Specifically, we think that some speakers may hold the intuition that (5b), while worse than (5a), is not ungrammatical; in contrast, (2b) is ungrammatical. If this is a *superadditive* difference (Sprouse & Hornstein, 2014 i.a.), then mechanisms beyond (6) alone are required. In other words, if the effect of (2) is superadditive compared to (5), then we can infer (1). But if the effect is not superadditive, then we should reject (1).

Experiment: We conducted an experiment to test this prediction. We used a 2×2 factorial design where *island presence* (extraction from an island clause vs. a complement clause) served as the first factor while *pied-piping* (extraction of PP vs. NP) served as the second factor. A sample item is given in (7).

- (7) $\left\{ \frac{\textit{Which ear}}{\textit{Into which ear}} \right\}$ was Lee disturbed $\left\{ \frac{\textit{that}}{\textit{because}} \right\}$ Terry had screamed $\left\{ \frac{\textit{into} \langle \rangle}{\langle \rangle} \right\}$?

Figure 1 summarizes our results via an interaction plot of the effects. The results of a linear mixed effects model found a main effect for $[\pm\text{island}]$ (7a/b vs. 7c/d; $p < 0.001$) but no effect for $[\pm\text{pied-piping}]$ (7a/c vs. 7b/d; $p = 0.07$). This indicates that while participants were overall sensitive to the presence of an adjunct island, they were insensitive to $[\pm\text{pied-piping}]$. Within the



$[-\text{island}]$ contexts, participants rated examples with pied-piping lower than those with p-stranding; however planned pairwise comparisons showed that this effect only approached significance ($p = 0.056$). No effect was found in the $[\text{+island}]$ contexts.

Discussion: Our $[-\text{island}]$ results trend in the direction predicted from informal judgments (see [5]), but did not reach significance. In addition, our $[\text{+island}]$ results contradict predicted judgments, showing a numerical (not statistically significant) advantage for pied-piping (where literature reports a degradation relative to p-stranding; see [1]). We believe these results for the island contexts are explained in terms of a confound in the design of our materials. In (7d) in particular, participants are intended to resolve the pied-piped filler at the gap $\langle \rangle_2$, not at the gap $\langle \rangle_1$ as shown in (8). If participants resolved the filler at $\langle \rangle_1$, then our comparison between (7c) and (7d) would be between p-stranding out of an island (7c) and a subcategorization mismatch (7d). Similar concerns carry over to $[-\text{island}]$ pied-piping like (7b).

(8) **Into which ear** was Lee upset $\langle \rangle_1$ [because Terry had screamed $\langle \rangle_2$].

We believe our results wrt (7d) are the result of some or all participants resolving the pied-piping dependency in the matrix clause. The resulting judgments of unacceptability are irrelevant for our comparison. We conclude that a follow-up experiment is required which can control for this unintended reading in (7d). Specifically, we have designed and are conducting a follow-up experiment in which all items come with a contrastive context compatible with the intended embedded-gap reading but not with the confounding matrix-gap reading, exemplified by (9).

(9) *Context:* It seemed like Lee was upset $\left\{ \frac{\text{that}}{\text{because}} \right\}$ Terry had been screaming into their left ear all day. But really...

Target item: Their right ear was the one $\left\{ \frac{\text{which}}{\text{into which}} \right\}$ Lee was upset $\left\{ \frac{\text{that}}{\text{because}} \right\}$ Terry had been screaming $\left\{ \frac{\text{into } \langle \rangle}{\langle \rangle} \right\}$ all day.

We plan to complete data collection by December 2021. Results will be analyzed in the same manner as in the experiment reported on here. We anticipate that these results will bear directly on Cinque (1990)'s analysis, as described above.

Abridged references: Cinque, G. (1990). *Types of \bar{A} -dependencies*. MIT Press.

Sprouse, J. & N. Hornstein. (2014). *Experimental Syntax and Island Effects*. CUP.

Syntactic limitations on Phonological dominance

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The ‘no dominant prefixes’ generalization It has been observed that in languages with dominant-recessive harmony systems, while either roots or suffixes can be dominant (i.e., they can trigger a phonological change in their surrounding elements), prefixes are always recessive (Clements 2000, Baković 2000, Casali 2003 a.o.). Thus in Kipsigis (Kalenjin; Kenya) (see (1)), a language with [ATR] vowel harmony, a [+ATR] vowel anywhere in the word will cause all [-ATR] vowels to shift to [+ATR] (Hall et al. 1974). Either roots (1a-b) or suffixes (1c) can be harmony triggers, but prefixes are always recessive [-ATR] morphemes (1b,c,d).

- (1) a. /ŋo:k-ɪ/ → ŋo:gi
dog-DEM
- b. /ka-kɪ-pet/ → kaɣibet
PST-1PL-get.lost
- c. /a-tʃam-e/ → aɬame
1SG-love-IPFV
- d. /ka-ɔ-tʃam/ → kaɔtʃam
PST-2PL-love

Our main claim: ‘no dominant high affixes’ While the ‘no dominant prefixes’ generalization is acknowledged in most studies of dominant harmony systems, there is, to our knowledge, no systematic explanation for the pattern. Some accounts treat this as an accidental property of the prefix inventory (Baković 2000), others suggest that the juncture between prefixes and the (lexical) root/stem has a different status from that between stem and suffixes (Moskal 2015).

We propose that the generalization is epiphenomenal, a special case (when it holds) of a broader generalization that phonological derivations of morphologically complex words proceed in stages, which may correspond to syntactic phases. Specifically, following Newell 2008, Fenger 2020 a.o., we propose that elements in the first domain may have unrestricted phonological interactions, including structure-changing operations, but that beyond the first phase/domain, phonological operations may not change material that is fixed on the first cycle. For vowel harmony, this predicts that ‘low’ affixes may be dominant (root-altering) or recessive, but that ‘high’ affixes that participate in vowel harmony (contra Fábregas & Krämer 2020) may only be recessive. Since it is independently established that prefixes tend to represent syntactically higher morphemes than suffixes (Julien 2002), ‘no dominant prefixes’ as a trend falls out as a special case.

Support Key support for our proposal comes from a close investigation of the suffixes as well as the prefixes in Chukchi (Chukotko-Kamchatkan), Kipsigis, and Turkana (Nilotic). We show that by replacing ‘no dominant prefixes’ with ‘no dominant high affixes’, we gain two advantages: i) we can account for ‘exceptionally’ dominant prefixes and we can also provide an explanation for dominance patterns in suffixes (which are not usually discussed in this context in the literature), ii) following Fenger (2020), we can provide a principled explanation for why morphemes high in the syntactic structure cannot be dominant.

The data Table 1 schematizes the differences between our generalization and the no dominant prefix generalization, using inflection vs. derivation as a rough (but imperfect) proxy for syntactic height of affixes. Our investigation of verbs in Kipsigis (Toweett 1979 and original fieldwork) and Chukchi (Skorik 1977, Dunn 1999), two unrelated languages that have been mentioned as lacking dominant prefixes, confirms that the ‘no dominant high’ generalization is more accurate:

	INFL high	DERIV low	ROOT	DERIV low	INFL high
no dom high	✗	✓		✓	✗
no dom pref	✗	✗		✓	✓

Table 1: Distribution of dominant affixes under two approaches

the most peripheral affixes in both languages are always recessive. This is particularly striking in Chukchi, which has a rich agreement system where there are about 20 agreement suffixes none of which influence the vowel quality of the root. An approach that treats prefixes as special misses this generalization. There is one dominant inflectional suffix in Kipsigis, but importantly, it is an aspectual suffix. Under Fenger’s (2020) proposal (for stress in Turkish and pitch accent in Japanese) the relevant phase boundary delimiting the cut-off between high and low (verbal) affixes is not precisely derivation vs. inflection but instead between Aspect and Tense. Thus the existence of a Kipsigis dominant aspectual suffix conforms to our theory. Turning to the prefixes, we note that many sources (Bogoras 1922, Skorik 1977, Weinstein n.d.) do in fact report dominant prefixes in Chukchi, however these are all derivational (hence plausibly low) and perhaps analyzable as compounds (which participate independently in vowel harmony in Chukchi).

Beyond verbs While our proposed generalization thus seems to provide a better description of the distribution of dominant elements in verbs than the ‘no dominant prefixes’ generalization, it remains a theoretically open question what the prediction is for nouns and adjectives. If Fenger (2020) is correct that the relevant morphophonological domain in verbs is the ‘phase’ boundary between Aspect and Tense, where, if anywhere, is the corresponding boundary in complex nouns? Our investigation of Kipsigis, Turkana and Chukchi suggests that nouns have no corresponding internal phase boundary. In Chukchi, various case suffixes—the most peripheral affixes in the nouns—may be dominant and will overwrite the vowel quality of preceding morphemes including the root and prefixes. In Kipsigis, an adjectival plural marker is dominant. Our proposal thus does not, in principle, exclude dominant prefixes in nouns in these languages, although there are very few nominal prefixes (as compared to verbal ones) in these languages. We do note that dominant prefixes are reported for Tunen and Kibudu (Moskal 2015) in both cases within the nominal system.

Conclusion and Discussion Fenger (2020), developing ideas in Newell (2008) and elsewhere, proposes that the mapping from morpho-syntactic structure to phonological structure proceeds in ‘phases’. In the verbal system, the first domain includes derivational morphemes (and root compounds in Chukchi) as well as the lowest inflectional morphemes (Aspect). When this domain is spelled out, phonological operations may occur in any direction, and dominant affixes may overwrite the quality of the root vowel. After this step, certain phonological properties of the first domain are fixed and may no longer be overridden, and thus subsequently integrated morphemes may only be recessive. Coupled with the trend for prefixes to be ‘high’ (Julien 2002), the no dominant prefix generalization in verbs, where it holds, is a special case of a broader generalization that also restricts the distribution of dominant elements in suffixes.

Sel. Refs Baković 2000. *Harmony* PhD Rutgers. • Casali 2003. [ATR] value asymmetries. *Linguistic Typology* • Dunn 1999 *Chukchi* PhD. Australian Nat’l U. • Fábregas & Krämer 2020 In *Evolutionary Linguistic Theory*, 84-111. • Fenger, P. 2020 *Words* PhD UConn. • Julien 2002. *Syntactic Heads* OUP. • Moskal, B. 2015 *Domains* PhD UConn. • Newell, H. 2008 *Aspects* PhD McGill. • Skorik 1961-1977 *Grammatika chukotskogo jazyka* Nauka • Toweett 1979. *Kalenjin linguistics*.

Differential Island Effects in Sluicing and the Role of Discourse

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1. Background. In sluicing, the TP complement of a *wh*-phrase is unpronounced (see strikethrough in 1).

(1) *John was talking to a student, but I don't know which student; ~~John was talking to ___;~~*

In relation to syntactic islandhood (Ross, 1969), sentences like (1) exhibit a puzzling pattern. Sluicing with **an indefinite correlate** is immune to island effects (2), whereas island insensitivity does not hold where the correlate is **f-marked**, known as “contrast sluicing” (3) (Merchant 2001:115, 2008:148).

(2) Abby wants to hire someone who speaks **a Balkan language**, but I don't know which (Balkan language) ~~she wants to hire someone who speaks ___.~~

(3) *Abby wants to hire someone who speaks **Greek**, but I don't know which other languages ~~she wants to hire someone who speaks ___.~~

Merchant proposes a *repair approach*; focus movement, as in (3), is island sensitive as it leaves an uninterpretable trace undeleted at Spec, CP, whereas (2) is acceptable as all offending traces are deleted at PF. This approach treats islands as *structural* constraints that are part of the grammar (Chomsky 1973, Sprouse et al. 2012); however, island effects have also been attributed to discourse (semantic-pragmatic) factors (Erteschik-Shir, 1973, a.o.). Much recent literature on discourse effects (e.g., Chaves & King, 2019, Abeillé et al., 2020) has focused on ill-formedness of extraction from an NP in *subject* position, known as a “subject island” effect (4a); this contrasts with well-formed extraction from an NP in *object* position (4b).

(4) a. Subject subextraction (=island): *Which hotel did [the design of ___] mesmerize Jane?

b. Object subextraction (baseline): Which hotel did Jane admire [the design of ___]?

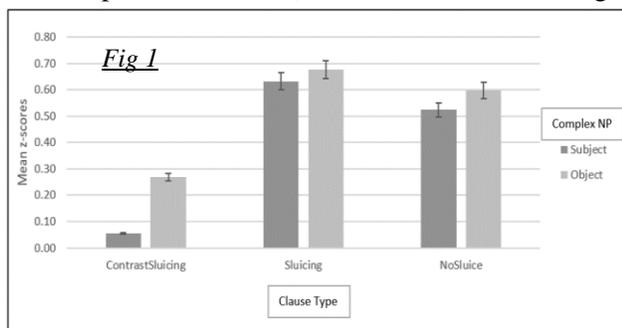
In view of these developments, the current paper revisits island repair under sluicing, asking whether the mechanism behind such repair is purely structural. We investigate, first, how sluicing and contrast sluicing respond to subject vs object NP-subextraction (as in 4; Expt 1), and second, whether subject island effects in contrast sluicing can be attenuated by extra-grammatical factors, such as by a prior discourse (Expt 2).

2. Experiment 1. We administered a 3x2 (within-subject) acceptability rating study; clause type (= sluicing; contrast sluicing; no sluicing) was crossed with position (subject; object) of the NP in which the sluice correlate is situated (see Table 1). A total of 24 items were presented together with 16 fillers in 6 lists according to a Latin-square. 36 native speakers of English (recruited from a university community) rated each item on a scale of 1 (= unacceptable) to 7 (= acceptable).

	<i>Table 1</i>	Complex NP_{subj} (=potential island)	Complex NP_{obj} (=baseline)
Clause type	No sluicing (= baseline)	[The design of a hotel] mesmerized Jane, but her husband is unsure about the complimentary breakfast.	Jane admired [the design of a hotel], but her husband is unsure about the complimentary breakfast.
	Sluicing	[The design of a hotel] mesmerized Jane, but her husband is unsure about which hotel.	Jane admired [the design of a hotel], but her husband is unsure about which hotel.
	Contrast sluicing	[The design of the Ritz-Carlton] mesmerized Jane, but her husband is unsure about which other hotel.	Jane admired [the design of the Ritz-Carlton], but her husband is unsure about which other hotel.

We normalized the ratings via z-score transformation and used the output as the dependent variable in a mixed-effects linear regression (clause type coded with Repeated Contrasts). Results are shown in Fig 1.

There was no difference in ratings between “no sluicing” and “sluicing” conditions and no interaction ($ps > .22$), but contrast sluicing was significantly degraded compared with sluicing, overall ($t = -9.1, p < .0001$), and the interaction with correlate position was also significant ($t = 2, p = .05$). Planned comparisons indicate that subject NP subextraction is significantly degraded compared with object NP

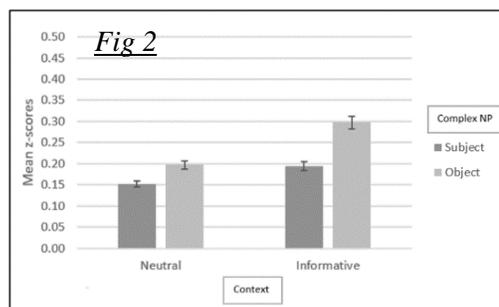


subextraction ($t = -3.4, p < .001$) only in contrast sluicing, and not in sluicing ($p = .49$) or in no sluicing ($p = .23$). Thus, subject islands are repaired in sluicing but not contrast sluicing; this supports Merchant (2008). Interestingly, we also find that degradation in contrast sluicing compared with regular sluicing holds for extraction from *both* complex NP subjects and objects. This shows that contrast sluicing is degraded compared with regular sluicing, independent of islandhood, and reason might be pragmatic constraints; sentences in Expt 1 were presented out of blue, and creating a contrast without a supporting context may be difficult for comprehenders. We examine this in Expt 2.

3. Experiment 2. The aim was to investigate whether acceptability of contrast sluicing and subject island effects are sensitive to a prior discourse. If discourse alters the subject island effect, this would challenge a pure syntactic approach to subject islands and island repair in sluicing. We thus looked exclusively at contrast sluicing as this is where subject islands manifest. We further investigated whether the nature of the discourse has an effect. We ran a 2x2 rating study, manipulating (i) position of complex NP (in a subject vs in an object, as in Expt 1), and (ii) the degree of informativity of a prior discourse context in terms of whether the correlate (e.g., *the Ritz-Carlton* in Table 2) and a salient focus alternative (e.g., *the Conrad*) are explicitly mentioned (= “informative”) or not (= “neutral”). Example stimuli are in Table 2.

Table 2	Correlate in NP _{subj} (=island)	Correlate in NP _{obj} (=baseline)
<p>Prior informative context: Jane and her husband travel a lot. They mostly stay at least two nights wherever they go. Finding accommodation is tricky for them. Her husband cares about cleanliness. Jane is interested in architecture. She particularly loves staying at the Ritz-Carlton or the Conrad. Her husband can never remember the details.</p>	<p>Target sentence: [The design of the Ritz-Carlton] mesmerizes Jane, but her husband is unsure about which other hotel.</p>	<p>Target sentence: Jane admires [the design of the Ritz-Carlton], but her husband is unsure about which other hotel.</p>
<p>Prior Neutral context: Jane and her husband travel a lot. They mostly stay at least two nights wherever they go. Finding accommodation is tricky for them. Her husband cares about cleanliness. Jane has other priorities. Her husband can never remember the details.</p>		

We created 16 item sets and 16 fillers. 30 native speakers of English (recruited from MTurk) were asked to read each context carefully and then rate the target sentence on a scale of 1 to 7. Ratings were z-score transformed; results are shown in Fig. 2. As with Expt 1, we found a main effect of islandhood; with sentences with the correlate in a subject NP rated lower than in an object NP ($t = -2, p = .045$). There was no significant effect of context ($p = .1$). However, planned comparisons indicate that islandhood is marginally significant in the informative context ($t = -1.91, p = .057$), but not significant in the neutral context ($p = .35$). This suggests that the subject island effect in contrast sluicing is ameliorated when there is a supporting context. Interestingly, such amelioration is not observed in the informative condition when context contains the correlate and a focus alternative. We hypothesize that this is because the focus alternatives in our “informative contexts” were always presented in a *non-topical* position (e.g., object of *stay at*; Table 2), which matches with the non-topical position of the correlate in the NP_{obj} condition but clashes with the topical position in the NP_{subj} condition.



General Discussion: We provide novel evidence showing a differential subject island effect across sluicing and contrast sluicing, and supporting a view that non-syntactic factors can attenuate subject island effect. This outcome highlights how *both* syntax and discourse may concomitantly impact the well-formedness of movement operations. **Selected References:** Merchant (2008) in *Topics in ellipsis*, Sprouse et al. (2012) *Language*, Chaves and King (2019) *Cognitive Linguistics*.

Local *wh*-subjects under Brazilian Portuguese *nunca* ellipsis

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Introduction. I show there is an elliptical construction in Brazilian Portuguese (BP) involving *nunca* 'never' which is restricted to locally *wh*-moved subjects and provide an account of this peculiar restriction.

The data. *Nunca* ellipsis is only available with a local *wh*-subject (1B, 2B). With *wh*-objects (1B'), long distance (LD) *wh*-arguments, including subjects, (2B',B"), and *wh*-adjuncts (3), this ellipsis is disallowed. The sentences in A correspond to the discourse antecedent of the elliptical constructions in B. As indicated, the non-elided versions of the ellipses being examined are acceptable. As we can see, only local *wh*-subjects are allowed in *nunca* ellipsis constructions, whereas non local *wh*-subjects (i.e., *wh*-objects, long-distance *wh*-arguments, *wh*-adjuncts) are not. (1)-(3) also show that *nunca* corresponds to the licenser of deletion, given that in elliptical constructions this element cannot be followed by anything other than the ellipsis site.

(1) A: Pedro beijou João. (*Peter kissed John.*)

B: Quem nunca [~~beijou João~~]? (cf. Quem nunca beijou João?✓)
who never kissed John (*Who has never kissed John?*)

B': *Quem Pedro nunca [~~beijou~~]? (cf. Quem Pedro nunca beijou?✓)
who Peter never kissed (*Who has Peter never kissed?*)

(2) A: Maria disse que Pedro beijou João. (*Mary said that Peter kissed John*)

B: Quem nunca [~~disse que Pedro beijou João~~]? (cf. Quem nunca disse que Pedro beijou João?✓)
Who has never said that Peter kissed John?

B': *Quem Maria nunca [~~disse que beijou João~~]? (cf. Quem Maria nunca disse que beijou João?✓)
Who has Mary never said kissed John?

B'': *Quem Maria nunca [~~disse que Pedro beijou~~]? (cf. Quem Maria nunca disse que Pedro beijou?✓)
Who has Mary never said Peter kissed?

(3) A: Pedro beijou João ontem. (*Peter kissed John yesterday.*)

B: *Quando Pedro nunca [~~beijou João~~]? (cf. Quando Pedro nunca beijou João?✓)
When has Peter never kissed John?

Analysis. It was independently argued by Bošković (2021, in press) that there is a position in the left periphery dedicated to locally *wh*-moved subjects. He argues for the existence of two *wh*-positions above IP, a higher one and a lower one. I will call the former HCP and the latter LCP for ease of exposition. Local *wh*-subjects move to Spec, LCP , and all other *wh*-XPs, including long-distance (LD) *wh*-subjects, move to Spec, HCP . One argument for separate HCP and LCP projections concerns (4), where *wh*-movement interacts with topicalization: only non local *wh*-subjects are allowed above the topic (i.e., the object in 4a, the LD subject in 4b), locally moved *wh*-subjects being disallowed in this position (4c).

(4) a. ?Mary wonders which book, for Kim, Peter should buy.

b. ??I wonder which student, for Kim, Mary said should buy that book.

c. *Mary wonders which student, for Kim, should buy that book. (Bošković in press)

Consider also Igbo in (5). In this language, moved *wh*-objects and long-distance moved *wh*-subject are followed by overt C (i.e., FOC). This indicates that the projection to where such phrases move is different from the one hosting locally moved *wh*-subjects, since they must be headed by different heads: FOC and a null head, respectively, with the former higher than the latter.

(5) a. Ònyé *(ka) Òbí hùrù n'-áhiá?
who FOC Obi saw P-market
Who did Obi see at the market?

b. Ònyé *(ka) hùrù Ádá n'-áhiá?
who (*FOC) saw Ada P-market
Who saw Ada at the market?

(Amaechi and Georgi 2019)

That LD *wh*-subjects pattern with *wh*-objects can also be seen in (6), where the one-word restriction on the contraction of auxiliaries hosted by *wh*-XPs applies only to non-(local) subject *wh*-phrases (Kaisse 1983, Bošković in press).

(6) a. What's Mary buying?

b. *Whose food's the dog eating?

- c. Whose food's burning? (Kaisse, 1983)
 d. *Which man's Peter claiming will leave first? (Bošković in press)

Accordingly, Bošković suggests LCP is restricted to subjects because it corresponds to a mixed A/A' position to which local *wh*-subjects move without passing through Spec,IP , being able to satisfy EPP there (while also undergoing *wh*-movement to that position). This accounts for the apparent voiding of the EPP in West Ulster English. (7b) shows that a subject in Spec,IP is unable to float a quantifier in theta-position in this example. If there was a trace of *who* in Spec,IP in (7a), the sentence should also be ungrammatical (these data also conclusively show that local *wh*-subjects do not stay in Spec,IP , as is sometimes suggested, since then (7a-b) would be the same in the relevant respect). Therefore, local *wh*-subjects (and only these) must go straight to Spec,LCP .

- (7) a. Who was arrested all in Duke Street?
 b. *They were arrested all last night (McCloskey 2000)

I will show that Bošković's claims apply to BP. To illustrate with one point, BP (8) patterns with English (4) regarding the interaction between *wh*-movement and topicalization.

- (8) a. ?*Maria quer saber qual livro, pro Pedro, João comprou.*
 Mary wants to.know which book for Peter John bought
 b. ??*Eu quero saber qual aluno, pro Pedro, Maria disse que comprou o livro*
 I want to.know which student for Peter Mary said that bought the book
 c. **Maria quer saber qual aluno, pro Pedro, comprou o livro.*
 Mary wants to.know which student for Peter bought the book

Crucially, considering that the only element that survives *nunca* ellipsis is the one in Spec,LCP , the A/A' position to where local subjects *wh*-move, the natural conclusion is that the complement of the head LC° is deleted in *nunca* ellipsis. Also, *nunca* must head LCP in these constructions, otherwise the fact that nothing can follow *nunca* would remain unaccounted for. That *quem* and *nunca* are in the same projection can be shown by the fact that no intervening C-like element is allowed between them: *Quem (*que) nunca?* (lit. 'who (*that) never'). When there is no ellipsis, however, *que* is optional: *Quem (que) nunca beijou João?* (lit. 'who (that) never kissed John?'). For the latter case, I show *nunca* is base generated below Comp . For the former, it must be generated in LC° , since that's the ellipsis licensing position.

Conclusion. The reason why only the element moving to Spec,LCP survives the ellipsis in question is because this ellipsis targets the complement of LC° , realized by *nunca*. Also, such ellipsis cases are not restricted to local *wh*-subjects, with focalized subjects showing the same behavior in (9), which indicates that local subject focus movement also targets Spec,LCP (Bošković in fact argues that the same holds for English).

- (9) a. *Maria beijou João, mas Pedro_{FOC} nunca [beijou João].*
 Mary kissed John but Peter never kissed John
 b. **Maria beijou João, mas Pedro_{FOC} Maria nunca [beijou].*
 Mary kissed John but Peter Mary never kissed
 c. **Joana disse que Marcos beijou João, mas Pedro Joana nunca [disse que beijou João].*
 Joan said that Mark kissed John but Peter Joan never said that kissed John

Notice that the ellipsis under inquiry is different from Sluicing. In Sluicing, deletion can apply to the complement of regular C° , so *wh*-objects can also survive it (e.g., *Mary kissed someone, but I don't know who*). Besides providing evidence for the recent claim that there is a dedicated position for locally *wh*-moved subjects, this work will also address one of the major questions existing in the ellipsis literature, namely, the licensing question: "What heads or positions or structures allow for 'ellipsis', and what are the locality conditions on the relation between these structures and ellipsis?" (Merchant, 2016:03). The analysis presented here will be shown to indicate that both heads **and** positions are relevant to ellipsis licensing, since *nunca* licenses ellipsis only when it heads LCP , being unable to instantiate deletion lower down (or higher up) in the structure. So, for ellipsis licensing, both the lexical head and the syntactic position it occupies are relevant.

Sel. Ref: Bošković, Ž. in press. The Comp-Trace Effect and Contextuality of the EPP. *Proceedings of WCCFL 39*; Bošković, Ž. 2021. Merge, Move, and Contextuality of Syntax. Ms., University of Connecticut; Merchant J. 2019. Ellipsis: A survey of analytical approaches. *The Oxford handbook of ellipsis*.

Particle *hI* and Speaker Expectations
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Abstract: The emphatic particle *hI* in Hindi (Kaul 2008; Kachru, 2006; McGregor, 1972) appears with a variety of word categories and their sub categories and renders different meanings. An attempt to unify lexical meaning of *hI* (Bajaj, Syrett 2016) has already been made that includes exclusivity and scalarity as the main meaning components. *hI* (Bajaj, Syrett 2016) is felicitous with the MIN and MAX endpoints on the scale of propositional alternatives depending on the salient endpoint in a given context. However, this work presents some new data where it can be observed that in some contexts such a scale is not required or not relevant for the interpretation of the particle. For example,

1. *sItaa ne raam se hI shaadI kI*
Sita-ERG Ram-INST HI marriage did
“Sita married Ram (and not anybody else)”

If Sita and Ram were seeing each other and if she married Ram then *hI* can modify Ram asserting that Sita married him and nobody else. The context sets the likelihood for Ram to be the most likely to get married to Sita as they were seeing each other, hence the expectation that he'll be married to Sita. In this context, a set including Ram and other alternatives arranged on a scale is not relevant or required for a scalar interpretation as if X is less likely than Ram, and Y is even less likely than X to marry Sita. The context only requires likelihood of Ram, hence expectation related to Ram, for *hI* to felicitously modify Ram in the utterance.

Another example is where for a dish all the ingredients are equally important and *hI* can modify any of these in a negative sentence. For example,

2. *mujhe khiir banani thi magar doodh/shakkar/chaawal hI nahii hai.*
I-ACC porridge make.F was.F but milk/sugar/rice HI not is.
“I wanted to make some porridge but there's no milk/sugar/rice.”

hI can modify any of the ingredients, milk, sugar or rice in a context where the ingredient is missing. To make an Indian porridge all the ingredients are equally important. They cannot be arranged on a scale of importance. Scalarity seems to be context sensitive. What explains the modification by *hI* here is a pragmatic aspect of meaning, that of speaker expectations. By using *hI*, speaker simply expresses that his expectation is not met. The expected ingredient (modified by *hI*) is not present. This work attempts to demonstrate that a pragmatic analysis of the particle can be more successful in capturing the core meaning of the particle. The paper proposes that the core function of the particle *hI* is to convey speaker expectations which is an essential pragmatic component of meaning in *hI* sentences (alongside the other dimensions of meaning noted before (Bajaj 2015; Bhatt 1994; Varma 2006)). Also, speaker expectations, at different levels of fulfilment can be expressed using *hI*. For example,

Meeting expectations

3. *dono hI log karyakram dekhne aaye.*
both HI people programme see came
“Both of them came to watch the programme.” (The speaker expected both of them and they came.)

Under expectations

4. *maine papa-se hazaar rupaye maange the magar unhone paanch sau hi diye.*

I father-INSTR thousand rupees ask-PST.PL be-PST.PL but he-ERG.HON. five hundred HI give-PST.PL

“I had asked my father for a thousand rupees but he gave me just five hundred rupees.” (The speaker received less amount of money than had expected.)

Contrary to expectations

5. *arey ye to toot hi gayaa*

AREY this TO broke HI went

“Oh ! It just broke.” (The speaker did not, at all, expect the toy to break but it did.)

The paper employs the Questions Under Discussion (QUD) methodology (van Kuppevelt, 1995; Roberts 1996; Benz, Jasinskaja 2017) to unify this pragmatic aspect of meaning, the speaker expectation.

This paper proposes that for an utterance containing *hi*, the kind of QUD it addresses is a question asked out of expectation (QUE) as opposed to a question simply seeking information (QUI). The two types can be differentiated on the basis of whether the speaker and the addressee share the background knowledge. As QUEs are asked out of expectation, the speaker and addressee share a background while in QUIs they don't.

Keywords: emphatic particle, speaker expectation, questions under discussion

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“Parts” of fractions: A cross-linguistic study

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Issues: This study investigates how fractions are linguistically realized in human languages, on the basis of a wide range of cross-linguistic data. Fractions consist of a numerator and a denominator. It will be shown that the numerator and the denominator can include a covert/overt “part” noun in fractions. We provide an analysis for the syntax and semantics of fractions.

Data: As shown in (1), in German, the denominator (i.e. “three”) is followed by the suffix *-tel*, which is a shortened form of *Teil* ‘part’.

- (1) *Jan hat zwei Drittel des Buches gelesen.* [German]
Jan have two three.part of.the book read
‘Jan has read two thirds of the book.’

Fractions including “part” are common cross-linguistically. The distribution of “part” is summarized in (2).

- (2) Patterns of fractions with “part” (order irrelevant)
- a. **[Numerator PART] [Denominator PART]:**
E.g. Burmese [Sino-Tibetan], Garo [Sino-Tibetan], Xong [Hmong–Mien]
 - b. **[Numerator PART] [Denominator]:**
E.g. Mokilese [Austronesian], Telugu [Dravidian]
 - c. **[Numerator] [Denominator PART]:**
E.g. Cantonese [Sino-Tibetan], Catalan [Romance], English [Germanic], German [Germanic], Japanese [Japanese], Mandarin [Sino-Tibetan], Portuguese [Romance], Samoan [Austronesian], Spanish [Romance], Vietnamese [Austro-Asiatic]

What the data shows is that either the numerator, or the denominator, or both can occur with “part” cross-linguistically. For instance, in Garo both the numerator and the denominator occur with the classifier for “part” as in (3).

- (3) *bak-gittam-ni bak-gini* [Garo, Burling (1961:53)]
CLS_{part}-three-of CLS_{part}-two
‘two thirds’

In Samoan, the numerator appears with “part” as in (4). Here, the particle *e* appears before the numeral. The same particle is also used when post-nominal adjectives modify a noun.

- (4) *lua [vaega e fitu]* [Samoan, Neffgen (1918: 39)]
two part E seven
‘two sevenths’

The last pattern where the “part” element is associated with a denominator is observed in many languages. Fractions in German like (1) belong to this type. In Japanese, *bun* ‘part’ follows the denominator. *No* is a linking element which typically intervenes between a nominal modifier and the modified noun. The “part” element *bun* thus forms a constituent with the denominator but not with the numerator in (5).

- (5) *[[san-bun] no ichi] no zyosei* [Japanese, Hayashishita & Ueyama (2012: 597)]
three-part GEN one GEN women
‘one third of the women’

Analysis: Based on the cross-linguistic patterns of fractions summarized in (2), this study pursues a uniform analysis in which the numerator and the denominator each combine with a covert/overt “part”. The denotation of the covert/overt “part” noun in fractions is given in (6).

Investigating Ordering Restrictions on Code-Switching

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INTRODUCTION: Recent behavioral and neuroimaging studies interested in how bilinguals switch languages within a sentence suggest that bilinguals have a single computational system that can build mixed-language expressions (e.g., Declerck et al., 2020; Phillips & Pylkkänen, 2021). How can a single computational system build structures when switches occur where the languages involved differ in their canonical word orders? There are two competing models about how a single computational system builds mixed language expressions: Myers-Scotton (1993) proposes the Matrix Language Frame Model (MLFM), where the language of the functional element (e.g., determiner) heading the clause determines word order; whereas MacSwan (2000) offers an approach within the Minimalist Program, namely, the PF Interface Condition (PFIC), where ordering and agreement relations are determined by ordering restrictions of lexical items in the derivation. There has been support for both theories in the literature when looking at determiner phrase (DP)-internal switches (see Parafita Couto & Stadthagen-Gonzalez, 2019 in favor of the MLFM, and Sedarous, in press in favor of the PFIC). In this study, we test which of these two theories best accounts for how mixed-language DPs are syntactically composed during comprehension across three different bilingual groups (Korean/English, Arabic/English, Spanish/English). Our preliminary results fail to support either model, and instead suggest nominal word order depends on the noun.

METHODS & PREDICTIONS: 15 Korean/English, 18 Arabic/English, and 23 Spanish/English bilingual adults were recruited to participate in an online eye-tracking study hosted on Gorilla Experiment Builder (Anwyl-Irvine et al., 2020). Participants saw a four-field visual world that contained four different objects and heard two different types of stimuli: determiner-adjective-noun phrases (“the red house”) and determiner-noun-adjective phrases (“the house red”). Because these two stimulus types are not psycholinguistically comparable across all three bilingual groups, we present only the results on the responses elicited from the determiner-adjective-noun phrases.

We recorded two types of behavioral data. Participants’ eye-gaze were recorded via the eye-tracking beta feature during the auditory stimulus presentation. After hearing the three-word stimulus, they were asked to click on the object that matched the phrase they heard. The time it took for participants to click on the target object (response times) were also recorded. The auditory stimuli varied by whether and where the language switched, resulting in four language switching levels: no switch (“the red house”), word 2 switch (“ku/el/la red house”), word 3 switch (“the red

Design & Predictions

Switch?	Determiner?	Adjective?	Word 1	Word 2	Word 3	PFIC?	MLFM?
No Switch	English	English	the	red	house	good	good
	Korean	Korean	ku	bbalkae	jip	bad	bad
	Arabic	Arabic	el	ahmar	bayt	bad	bad
W2 Switch	Spanish	Spanish	la	rosa	casa	bad	bad
	Kor Ara Spa	English	ku el la	red	house	good	bad
	English	Korean	the	bbalkae	jip	bad	good
W3 Switch	English	Arabic	the	ahmar	bayt	bad	good
	English	Spanish	the	rosa	casa	bad	good
	English	English	the	red	jip bayt casa	good	good
2X Switch	Korean	Korean	ku	bbalkae	house	bad	bad
	Arabic	Arabic	el	ahmar	house	bad	bad
	Spanish	Spanish	la	rosa	house	bad	bad
2X Switch	Kor Ara Spa	English	ku el la	red	jip bayt casa	good	bad
	English	Korean	the	bbalkae	house	bad	good
	English	Arabic	the	ahmar	house	bad	good
2X Switch	English	Spanish	the	rosa	house	bad	good

Figure 1: Experimental design for all three bilingual groups (distinguished by color) and corresponding predictions for each condition

word 2 switch (“ku/el/la red house”), word 3 switch (“the red

jip/bayt/casa”), and double switch (“*ku/el/la red jip/bayt/casa*”). If bilinguals have a single computational system, we would not expect a main effect of language-switch on our participants’ behavior. We, instead, tested whether the PFIC or the MLFM best predicted the ill-formed phrases that would elicit smaller proportion of looks to target and longer reaction times.

RESULTS & DISCUSSION: While analysis of the proportion of looks to the target suggests all three bilingual groups wait to commit to a structure until all three words are presented (Frazier & Rayner, 1987), performing a 4 x 2 ANOVA on the reaction times revealed a significant interaction between switch site and the language of the adjective across all three groups (Korean/English $p < 0.01$; Arabic/English $p < 0.01$; Spanish/English $p < 0.01$). However, comparing all language pair combinations using Tukey’s Honest Significant Difference test indicated that neither PFIC nor MLFM fully predicted which phrases were more degraded and thus elicit significantly longer reaction times. Participants’ reaction times either trended towards or were significantly shorter when adjective placement was determined by the noun (e.g., English noun (“house”) preferred adjectives pre-nominally). Based on these results, we propose an alternative analysis following Grimshaw’s (2000) theory of extended projections. Our analysis thus extends theories about single-language nominals to mixed-language nominals, supporting current ideas about bilinguals having a single computational system for building hierarchical, linguistic structures.

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