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Labeling and verb-initial word order in Seediq

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Abstract

This paper proposes an analysis of VP fronting in the VOS Austronesian language Seediq in Chomsky's (2013, 2015) theory of Labeling. In the same vein as Massam (2001), I propose that verb-initial word order results at least in part from fronting the verb and object together in the VP when the object is indefinite and nonspecific, but the object vacates the VP when it is specific or definite in order to value case, followed by either verbal head movement or remnant VP fronting. However, I depart from Massam's approach when it comes to the motivation for VP fronting. First, I argue that VP movement does not target [Spec, TP] but rather moves no higher than the edge of the clause-medial phase. Consequently, the motivation cannot be satisfaction of the EPP, as Massam claims. Secondly, I show that whether verb-initial word order is obtained through verbal head movement or phrasal VP fronting is a consequence of Labeling (in the sense of Chomsky 2013, 2015). In particular, I go beyond Massam's approach and account for the fact that when the VP contains more than one internal argument, one of them must move to the case-checking position and the other must be pied-piped with the verb to the phase edge. Otherwise, it will not be possible to label the original VP.

Keywords: Predicate-fronting, VOS word order, Object shift, Seediq, Labeling

1 Introduction

It is widely accepted that VOS word order in Austronesian languages is generated by fronting some projection of the predicate to a position above the subject (Massam, 2001, for Niuean; Rackowski & Travis, 2000; Pearson, 2001, 2018, for Malagasy; Aldridge, 2004, for Seediq; Cole & Hermon, 2008, for Toba Batak; Medeiros, 2013, for Hawaiian; and Collins, 2016, for Samoan). According to Massam (2001), DP arguments in Niuean check their case within the extended projection of the verb, while the lexical VP raises to [Spec, IP] to check the EPP. The absolutive subject in (1) values its case in its base position.

(1) [$_{VP}$ Tagafaga **ika**] tumau ni a ia
hunt fish always EMPH[1] ABS he
'He is always fishing.' (Massam, 2001: 157, 165)

According to Massam, the object pied-piped with the verb is a bare NP. Consequently, it is not referential (nonspecific and indefinite) and does not need to value structural case. In contrast, a referential object, which is merged as a DP, must check absolutive case by moving to a position external to VP. Since both arguments require case licensing, the external argument receives ergative case in its base position, while the nominative object moves to a case-checking position below the external argument. The remnant VP then fronts to [Spec, IP], yielding VSO word order.

[1] The abbreviations used in this paper are as follows: ABS 'absolutive', APPL 'applicative', AV 'active voice', CAUS 'causative', DAT 'dative', DEF 'definite', EMPH 'emphatic', ERG 'ergative', GEN 'genitive', IRR 'irrealis', NOM 'nominative', PAST 'past', PFV 'perfective, PL 'plural, PRES 'present', Q 'question particle', SG 'singular', TR 'transitive'.

(2) [$_{VP}$ Takafaga t_{ABS}] tumau ni e ia **e** **tau ika**.
hunt always EMPH ERG he ABS PL fish
'He is always fishing.' (Massam, 2001: 157, 164)

In this paper, I propose a VP-fronting analysis of VOS word order in the Atayalic language Seediq.[2] As in Niuean, an indefinite theme object surfaces in immediate post-verbal position, as in (3a), while a definite object moves out of VP to a position where it is case-licensed, as in (3b). Seediq also has a type of ergative alignment, but I gloss the cases as 'genitive' and 'nominative', rather than 'ergative' and 'absolutive', for reasons that I discuss in the next section.

(3) a. Wada [$_{VP}$ m-ari **hulama**] ka Ape.
PAST AV-buy treat NOM Ape
'Ape bought a treat.'

b. Wada burig-un=na Ape **ka** **patis**.
PAST buy-TR=3SG.GEN Ape NOM book
'Ape bought the book.'

However, I depart from Massam's (2001) analysis in proposing that the alternation between object positions is motivated by Labeling (in the sense of Chomsky, 2013, 2015) and not simply case licensing. There is, of course, a certain amount of overlap between these approaches, since checking case in a VP-external position allows the object to be labeled with its sister in this position where it is separated from the verb that selected it. But case-licensing of objects alone does not

[2] Unless otherwise indicated, the Seediq examples in this paper come from fieldwork I conducted on multiple trips to the village of Qingliu in Nantou Prefecture in Taiwan. The dialect spoken in Qingliu is Tgdaya.

suffice to determine what fronts from the VP. I show in section 3 that a DP cannot always be separated from the verb, even if case is available for it VP-externally, and consequently must front together with it. I also show that Labeling plays a role in determining the size of the fronted VP. No more than one nominal argument can surface inside VP, since Labeling is only possible when the VP consists of the verbal head and its complement.

In the next section, I provide an overview of word order patterns in Seediq and discuss briefly how these are derived. Section 3 presents the VP fronting analysis in detail and argues that the motivation for remnant VP formation is Labeling and not simply case licensing.

2 Word order patterns in Seediq

Seediq is a Formosan language belonging to the Atayalic subgroup of Austronesian.[3] Formosan languages exhibit a type of split-ergative alignment[4] in their morphological case marking. When the verb is inflected with the prefix or infix *m*-/<*m*>, nominative case appears on the subject in both transitive and intransitive clauses, yielding accusative alignment. I gloss this morpheme as "active voice" (AV), since it reflects the active voice inflection of Proto-Austronesian (Aldridge, 2015, 2016). Note further that, though nominative is often overtly indicated with the case marker

[3] The term "Formosan" refers collectively to Austronesian language spoken in Taiwan. Taiwan is the commonly accepted to be the homeland of Proto-Austronesian, and several Austronesian subgroups are represented there. However, the Formosan languages as a whole do not constitute a subgroup, while all extra-Formosan languages do belong to the Malayo-Polynesian subgroup.

[4] This type of alignment is also often characterized as a special type of voice system, specifically a "symmetrical" voice system, in which different arguments are assigned nominative case without demotion of the external argument (cf. Himmelmann 2005 and references therein). This term is generally invoked to refer to the type of (split-)ergativity manifested by Austronesian languages spoken in Taiwan and the Philippines. I adopt the term "split-ergative" on the basis of its broader typological applicability. Substantively, there is little – if any – difference between the two views, since both characterize a language as possessing multiple transitive clauses types depending on which argument surfaces with nominative case.

ka, as in (4a), *ka* is not obligatory and often does not appear with nominative DPs, as can be seen in (4b).

(4) a. Wada **m**-ari hulama ka Ape.
PAST AV-buy treat NOM Ape
'Ape bought a treat.'

b. **M**-tutuy laqi=su. (Holmer, 1996: 35)
AV-awake child=2SG.GEN
'Your child is getting up.'

In the ergative clause type, an internal argument has nominative case, and the external argument appears with a different case, which in most of these languages is genitive. This is indicated by the form of the clitic pronoun doubling the ergative external argument. The verb in (5) is inflected with the suffix *-un*, and nominative case appears on the theme DP. One fact to note is that the nominative object in an ergative clause is always definite, in contrast to the object in active clauses, which can be definite or indefinite. Given that definiteness of the object correlates with a high degree of transitivity (Hopper and Thompson, 1980), I gloss the *–un* suffix as 'transitive' (TR).

(5) Wada burig-un=na Ape ka patis.
PAST buy-TR=3SG.GEN Ape NOM book
'Ape bought the book.'

Verbs in ergative clauses can also appear with one of two applicative morphemes. For example, when *s-* is prefixed to a verb, nominative case surfaces on an instrument, a benefactee, or a transported theme. (6a) shows a benefactee nominative object. With causative and "give" type ditransitive verbs, nominative case appears on the theme, as in (6b). If this type of verb is inflected with the basic transitive suffix, then nominative case appears on the goal or causee.[5]

(6) a. Wada [s-bari hulama]=na Ape ka laqi.
PAST APPL-buy treat=3SG.GEN Ape NOM child
'Ape bought the child a treat.'

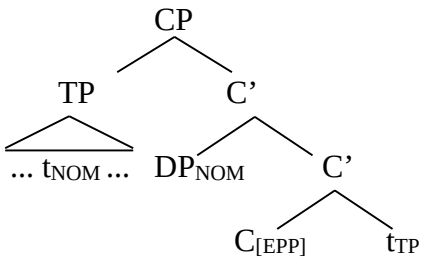
b. Wada=na s-tabu huling ka buuts rodux.
PAST=3SG.GEN APPL-feed dog NOM bone chicken
'She fed the chicken bones to a/the dog.'

The aspect of Seediq syntax of interest in this paper is word order. In all of the examples in (4) through (6), the nominative DP surfaces in clause-final position. Building on Pearson's (2001) approach to VOS word order in Malagasy, Aldridge (2004) proposes that the nominative DP moves to the left periphery of the clause, and the remnant TP then moves above it. The motivation for movement of the nominative DP is to check the EPP, which Aldridge proposes is located on C

[5] The other applicative is *–an*. When a finite verb takes this suffix, nominative case appears on a goal or locative DP. The use of *-an* as an applicative in verbal contexts, however, is relatively rare in Seediq, but I do discuss one example of this applicative in section 3.2. More frequently, *-an* serves as a nominalizer forming relative clauses on either theme or goal/locative gaps. The predominant use of this suffix in nominalizations may be due to its historical origin as a nominalizer in Proto-Austronesian (Ross 2009; Aldridge 2015, 2016). It continues to be used in nominalized relative clauses with theme or goal/locative gaps in Rukai and Puyuma. Ross (2009) proposes that the applicative *-an* was innovated when clausal nominalizations were reanalyzed as verbal and finite in Proto-Nuclear Austronesian. This subgroup includes all Austronesian languages except Rukai, Puyuma, and Tsou. However, it is possible that the reanalysis from nominalizer to applicative is not yet complete in Seediq.

and not T.[6] Part of the evidence for movement of the nominative DP to the CP layer rather than [Spec, TP] is the fact that the fronted TP contains tense auxiliaries, as can be seen in (6). The motivation for TP-fronting is related to information structure. The predicate typically receives a focus interpretation.

(7)



Additional evidence for movement into the CP layer comes from the positions of complementizers, as observed by Holmer (2005). Holmer shows that Seediq has both clause-initial and clause-final complementizers, as shown in (8a) and (8b), respectively.

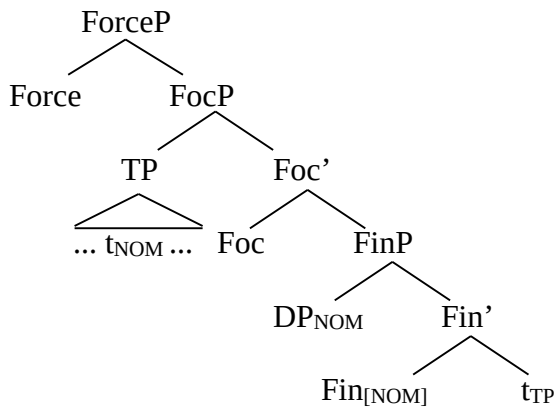
(8) a. **Ye**=su m<n>imah sino ciga? (Holmer, 2005: 190)
Q=2SG.NOM AV<PFV>drink wine yesterday
'Did you drink wine yesterday?'

b. M-dengu ka yqeyaq **do**, m-cceka dhenu. (Holmer, 2005: 177)
AV-dry NOM wet.field if AV-crack consequently
'When the wet field dries up, it (i.e. the mud) cracks.'

[6] In more recent Minimalist terminology, C-T Inheritance does not take place, so [Spec, CP] is the position for nominative DPs.

Holmer proposes an elegant analysis of the relative positions of these complementizers by positing that they uniformly precede their complements underlyingly but occupy different positions in the structure, and only the lower complementizers like the conditional particle *do*, trigger raising of their complements. I modify Holmer's analysis somewhat and propose (following Rizzi, 1997) that there are minimally two positions in an expanded CP layer for complementizers. Low complementizers like *do* occupy the head of the finiteness phrase (FinP), which I propose is the landing site of the nominative DP, while the clause-initial complementizers like interrogative *ye* occupy the highest position on the clausal position on the clausal spine, i.e. Force. I further propose that the motivation for movement of the nominative DP is to value case and not simply to check an EPP feature. TP fronting targets a focus position between Force and FinP.[7]

(9)



Regarding the placement of the nominative DP in the projection of the lower complementizer, I assume that this is the result of Feature Inheritance Chomsky (2008). Chomsky proposes that the phase heads C and transitive *v* are each endowed with features for case licensing a DP. But these features do not remain on the phase head throughout the derivation. Rather, they are "inherited"

[7] I thank an anonymous reviewer for suggesting that Aldridge's (2004) analysis could be translated into a split-CP approach.

by lower heads, and this is why subjects generally move to [Spec, TP] rather than [Spec, CP]. As shown above in (6), nominative DPs in Seediq occupy a position outside of TP so I propose that features are inherited from C to Fin in Seediq, and this accounts for the position of the nominative DP outside TP but below the higher complementizer position.

Returning to the proposed derivation in (9), further evidence for TP fronting comes from locality. An interrogative phrase corresponding to the argument in the clause with nominative case surfaces in clause-initial position, functioning as the predicate in a cleft construction, as in (10a). The remainder of the clause is a headless relative clause. The operator inside the relative clause coindexed with the *wh*-word must be the nominative argument, since this is the only argument which has access to the left periphery, the operator moving to this position in order to value nominative case. A non-nominative interrogative pronoun can surface in-situ inside the TP fronted into the CP layer, as in (10b). But direct movement of non-nominative interrogative phrases to the left periphery is not possible. This is accounted for by TP fronting, given that the fronted constituent is an island to extraction.

(10) a. **Ima$_i$** ka [$_{ForceP}$ OP$_i$ [$_{TP}$ m-ari patis]]?
who NOM AV-buy book
'Who is it that buys/bought books?'

b. [$_{ForceP}$ [$_{FinP}$ [$_{TP}$ M<n>ari **inu** patis] Ape]]?
AV<PFV>-buy where book Ape
'Where did Ape buy books?'

c. *[$_{ForceP}$ **Inu** [$_{FinP}$ [$_{TP}$ m<n>ari t_{WH} patis] Ape]]?
where AV<PFV>-buy book Ape
'Where did Ape buy books?'

Finally, new or focused information in a Seediq clause appears inside the predicate, typically immediately following the lexical verb, while definite material follows the entire predicate, generally in the form of the nominative DP in clause-final position. For example, (11a) is used to introduce *qushia mutaso* 'clean water', where it appears immediately following the verb. In (11b), where this argument represents old information, it is the nominative DP and surfaces in clause-final position, while the argument representing new information *lukus* 'clothes' immediately follows the verb in the fronted predicate.

(11) a. [$_{TP}$ M<n>oda m-ari **qushia mutaso** Hori] ka Ape.
AV<PFV>go AV-buy water clean Puli NOM Ape
'Ape went to Puli to buy clean water.'

b. [$_{TP}$ Wada=na s-pahu lukus] ka **qushia mutaso**.
PAST=3SG.GEN APPL-wash clothes NOM water clean
'She washed clothes with the clean water.'

Another aspect of the analysis in (9) is movement of the nominative DP into the left periphery, unlike absolutives in Niuean, which move to a case-checking position in the lower phase, according to Massam (2001). But there is clear evidence in Seediq that the nominative case-checking position is located in the higher phase and not within the *v*P or VoiceP. First, Aldridge

(2004, 2008) shows that nominative case is not available in nonfinite clauses. (12a) is grammatical, because nominative case does not surface within the nonfinite embedded clause. It is not possible for a nominative object to surface in the embedded clause, as shown in (12b).

(12) a. M<n>osa [PRO m-ari patis taihoku] ka Ape.
AV<PFV>go AV-buy book Taipei NOM Ape
'Ape went to buy books in Taipei.'

b. *M<n>osa [PRO burig-un taihoku **ka** **patis**] ka Ape.
AV<PFV>go buy-TR Taipei NOM book NOM Ape
'Ape went to buy the books in Taipei.' (Aldridge, 2008: 977)

This contrasts with Tagalog, which does permit nominative objects to surface in nonfinite clauses, as in (13b).

(13) a. Nagba-balak si Maria-ng [PRO p<um>unta sa Maynila]
AV.PROG-plan NOM Maria-LK <AV>go to Manila
'Maria is planning to go to Manila.'

b. Nagba-balak ang babae-ng [PRO tulung-an **ang** **lalaki**]
AV.PROG-plan NOM woman-LK help-APPL NOM man
'The woman is planning to help the man.' (Aldridge, 2008: 977)

Tagalog and Seediq thus manifest two different types of morphological ergativity. In Tagalog, nominative case is available for an object in the lower phase, while this case is valued only at the

TP/CP level in Seediq. See Aldridge (2004, 2008), Legate (2008), and Coon, Mateo Pedro, and Preminger (2014) for analyses of these two types of ergative language.

Additional evidence that movement of the nominative DP targets the higher phase comes from the placement of clitic pronouns doubling the nominative argument. When they double the nominative DP, clitic pronouns in Seediq and other Formosan and Philippine languages occupy second position, attaching to the first prosodic word in a tensed clause, as in (14a). In contrast to this, the clitic doubling a genitive external argument in its base position must immediately precede this DP and cannot attach to an auxiliary, as in (14b).

(14) a. [$_{TP}$ M-usa=**ku** mu-huma kyuuri=na] ka **yaku**.
AV-go=1SG.NOM AV-plant cucumber=3SG.GEN NOM 1SG
'I went to plant his cucumbers.'

b. [$_{TP}$ Wada**(=*na)** [$_{VoiceP}$ burig-un=**na** **Ape**]] ka patis nii.
PAST=3SG.GEN buy-TR=3SG.GEN Ape NOM book this
'Ape bought this book.'

The different clitic positions shown in (14) can be accounted for by Roberts' (2010) analysis in which a clitic doubling an argument adjoins to the closest phase head in the syntax – C in (14a) and the lower phase head in (14b). The clitic is subsequently repositioned to follow its host post-syntactically. In other words, a clitic attaches to an auxiliary only when the argument occupies the higher phase. This conclusion is confirmed by the position of a genitive clitic when the external argument is topicalized, as in (15). According to Aldridge (2004), a topicalized genitive external argument is adjoined outside the clause, while the nominative object occupies the nominative case-

checking position in [Spec, FinP].[8] Note that the clitic doubling the topic attaches to the auxiliary, showing that a clitic attaches to an auxiliary when the argument it doubles occupies the CP phase. Consequently, it is clear that nominative DPs occupy the higher phase, since their clitics always attach to the first prosodic word in the tensed clause.

(15) [$_{\text{ForceP}}$ [$_{\text{TP}}$ Wada=**na** burig-un inu] patis nii] **ka** **Awi**?
PAST=3SG.GEN buy-TR where book this.NOM NOM Awi
'Where did Awi bought this book.'

Yet another piece of evidence for the high position of the nominative object in Seediq comes from c-command relations. Negative polarity items cannot surface with nominative case in Seediq. The NPI in (16a) does not have nominative case and surfaces inside VP, where it is c-commanded and licensed by negation. (16b) is ungrammatical, where the NPI has nominative case. This ungrammaticality can be accounted for if the nominative object moves out of TP to occupy the edge of the higher phase and is consequently not c-commanded by negation in its surface position.[9]

(16) a. [$_{\text{TP}}$ Wada ini bari **ani mumaanu**] ka Ape.
PAST NEG buy anything NOM Ape
'Ape didn't buy anything.'

[8] For this reason, Aldridge glosses the particle *ka*, which marks nominative DPs and clause-external topics, as a topic marker rather than as a nominative case marker.
[9] As suggested by an anonymous reviewer, the ungrammaticality of this example could also be due to the fact that the nominative DP must occupy a topic or other position reserved for referential DPs. Consequently, a non-referential NPI cannot occupy this position. Either explanation is compatible with my analysis that the nominative DP moves to a position for referential DPs in the left periphery of the clause.

b. *[$_{TP}$ Ini burig-i na Ape] ka **ani mumaanu**.
NEG buy-TR.IRR 3SG.GEN Ape NOM anything
'Ape didn't buy anything.' (Aldridge 2004: 214)

This also contrasts with Tagalog, where nominative objects can be licensed as NPIs in negated clauses. This is expected, since nominative case is available for the object inside the lower phase in Tagalog.

(17) Hindi niya t<in>anggap ang **anuman**-g mungkahi.
NEG 3SG.GEN <TR.PFV>accept NOM any-LK proposal
'He/she didn't accept any proposal.'

Given that the nominative DP moves to a position in the CP layer, it is necessary to posit that both VP and TP fronting have taken place in examples like (18). In (18), the verb and the object surface to the left of the genitive external argument in an applicative construction. Note further that the VP follows the tense auxiliary, indicating that it moves to a clause-medial position rather than to [Spec, TP] or higher. If VP fronting did not take place, then the verb and theme would be expected to surface between the genitive and nominative DPs, contra fact. According to Aldridge (2004), VP moves to the edge of the clause-medial phase, followed by movement of the nominative DP and remnant TP into the left periphery in later stages of the derivation. I follow Aldridge (2004) in assuming that both TP and VP fronting take place in Seediq, though in this paper, I focus only on VP fronting.

(18) [$_{TP}$ Wada [$_{VoiP}$ [$_{VP}$ s-bari hulama] na Ape t_{VP}]] ka laqi t_{TP} .
PAST APPL-buy treat 3SG.GEN Ape NOM child
'Ape bought the child a treat.'

Evidence of VP fronting can also be seen in Seediq causative constructions. In (19a), the causativized verb and theme front to the left of the causee. The theme cannot be stranded, as shown in (19b).

(19) a. Wada=ku [p-smalu **sapah**] Pawan.
PAST=1SG.NOM CAUS-build house Pawan
'I had Pawan build a house.'
b. *Wada=ku p-smalu Pawan **sapah**.
PAST=1SG.NOM CAUS -build Pawan house
'I had Pawan build a house.'

VP fronting also appears to be at work in AV ditransitive clauses, where the theme always precedes the goal.

(20) Wada [$_{VP}$ m-ari hulama] laqi ka Ape.
PAST AV-buy treat child NOM Ape
'Ape bought the child a treat.'

Pearson (2000) likewise shows that Malagasy has VP fronting, in addition to TP fronting. His starting point is the V-THEME-GOAL word order, which he claims is prevalent in VOS languages, in contrast to languages like English, in which the goal precedes the theme in double object constructions. He concentrates on Malagasy and proposes that this order results from movement of the VP containing the verb and theme to a position above the goal.

(21) [$_{TP}$ [$_{VP}$ Nanolotra ny dite] ny vahiny t_{VP}] ny zazavavy.
PAST.offer DET tea DET guest DET girl
'The girl offered the guests tea.' (Malagasy; Pearson, 2000: 329))

He also notes that the position for specific objects undergoing object shift is the opposite of what is found in OV languages like Turkish. Specific objects in Turkish move leftward out of the VP, as in (22a), while non-specific objects surface in immediate preverbal position, as in (22b). Note further that the shifted object in (22a) is marked with accusative case, while the non-specific object remaining in VP in (22b) is bare.

(22) a. Ali **bir** **piyanoyu** hemen kiralamak istiyor.
Ali one piano.ACC immediately rent.INF wants
'Ali wants to rent a (specific) piano immediately.'

b. Ali hemen **bir** **piyano** kiralamak istiyor.
Ali immediately one piano rent.INF wants
'Ali wants to rent a piano immediately.' (Turkish; Pearson, 2000: 331))

Object shift in SVO languages like Icelandic also targets a position to the left of the verb, as in (23b). The non-specific object remains in its base position in VP, as in (23a).

(23) a. Hann las ekki **bokur**.
He read not books
'He didn't read books.' (Icelandic; Diesing, 1996)

b. [$_{TP}$ Nemandinn las [$_{vP}$ **bókina** [$_{v'}$ < nemandinn >
students.the.NOM read book.the.ACC
[$_{v'}$ <las> [$_{VP}$ ekki [$_{VP}$ <las> <bokina>]]]]]]
not
'The students didn't read the book.' (Icelandic; Thráinsson, 2001)

In contrast to this, specific objects in Malagasy appear to shift rightward. A non-specific object immediately follows the verb, as in (24a), while the specific object follows a manner adverb, as in (24b).

(24) a. Nijinja **vary** haingana ny mpamboly.
PAST.cut rice quickly DET farmer
'The farmer harvested rice quickly.'

b. Nijinja haingana **ny** **vary** ny mpamboly.
PAST.cut quickly DET rice DET farmer
'The farmer harvested the rice quickly.' (Malagasy; Pearson, 2000: 331)

Pearson (2000) proposes that the goal DP undergoes object shift to the specifier of a case-checking position outside VP but within the extended verbal projection *v*P[10], followed by phrasal movement of the remnant VP to a position above this, yielding a linear order in which the theme precedes the goal.

In section 3, I implement an analysis similar to Pearson (2000) to account for different object positions in Seediq. What is less clear from previous work on Austronesian predicate fronting, however, is the motivations for this movement in both Seediq and Malagasy. Both Pearson (2000, 2001) and Aldridge (2004) propose that the verb undergoes head movement to a position external to *v*P, in addition to phrasal fronting of the remnant VP itself. Consequently, it would be difficult to claim that the motivation for VP fronting is related to checking features on the verb. Aldridge (2004) does offer a motivation for phrasal fronting, proposing the following PF condition, which flags a derivation in which a DP surfaces in the highest position in a phase edge. VP fronting takes place optionally in the syntax, but if it does not take place when a DP, e.g. the external argument in a transitive clause, remains in its base position, then the derivation crashes at PF.

(25) Stranded DP Constraint (SDPC)

The highest constituent in a phase edge cannot be a DP.

The idea behind this constraint is similar to Massam's (2001) insight that verb-initial Austronesian languages have predicate fronting rather than subject movement, so clause-initial position can never be occupied by a DP. Furthermore, Aldridge argues that VP fronting does not always take place in Seediq. For example, the verb undergoes head movement over the frequency adverb *riong*

[10] See also Lasnik and Saito (1991); Johnson (1991); Koizumi (1993, 1995); Runner (1993, 1998); Lasnik (1995, 1999); Travis (2010); and others for analyses of VP-internal accusative case-checking positions.

and does not front together with the object. This is allowed by the SDPC, because the external argument has moved out of its base position to value nominative case in the CP layer. Since there is no DP in the edge of *v*P, VP fronting is not required.

(26) [$_{TP}$ M-imah **riong** sino] ka Awi.
AV-drink often wine NOM Awi
'Awi often drinks wine.' (Aldridge, 2004: 207)

In contrast, causative constructions do require VP fronting. Asymmetries like the one observed above in (19), repeated below, are accounted for, because the causee remains in its base position in the lower *v*P edge. Consequently, the phrasal VP must front, preventing stranding of the object, as in (27b).

(27) a. Wada=ku [p-smalu sapah] Pawan.
PAST=1SG.NOM CAUS-build house Pawan
'I had Pawan build a house.'
b. *Wada=ku p-smalu Pawan **sapah**.
PAST=1SG.NOM CAUS -build Pawan house
'I had Pawan build a house.'

However, even if the SDPC can account for certain word order patterns in Seediq, its status as a principle of grammar is highly dubious. First and foremost, it goes against the grain of standard Minimalist assumptions that dislocations are motivated by matching pairs of interpretable and

uninterpretable features. Furthermore, there are empirical problems with the proposal. Though the nominative argument typically follows the TP in basic VOS word order, it is also possible for it to be topicalized in clause-initial position. Note that the nominative case marker does not appear when this DP precedes the rest of the clause.

(28) **Awe** m-ita patis inu?
Awe AV-look book where
'Where is Awe reading a book?'

Aldridge assumes that the SDPC applies not only at the *v*P level, but also in the CP layer. This is part of the motivation for TP fronting in Seediq. Because the nominative DP must move to [Spec, FinP] in order to value case, TP fronting is also required in order to circumvent a violation of the SDPC. Thus, it is mysterious on her approach how topicalization cases like (28) can be accommodated, since a DP surfaces in the edge of CP.

In this paper, I propose an alternative to the SDPC based on Chomsky's (2013, 2015) theory of Labeling. I show how the clear cases of verb-object adjacency, as well as evidence for head movement of the verb, as in (26), are accounted for straightforwardly using current Minimalist assumptions. It may be wondered whether the SDPC could be replaced with Massam's (2001) proposal that the predicate checks the EPP on T, especially given that both of these analyses share the insight that DPs do not typically surface in clause-initial position in languages like Seediq and Niuean. In section 3.1, I point out some obvious difficulties with Massam's (2001) analysis. I then turn to my proposal for Seediq in section 3.2. Section 3.3 considers but ultimately rejects an analysis of VP fronting based on prosody.

3 Derivation of VP fronting in Seediq

In this section, I propose the Labeling analysis of VP fronting in Seediq. I propose that the verb must move to the edge of the clause-medial phase VoiceP so that it can undergo Local Dislocation Merger with aspectual morphology in the next higher phase. This can be accomplished by head movement of the verb itself or by phrasal VP fronting. The result is phrasal movement rather than head movement if head movement were to strand an internal argument in a position which cannot be labeled. I also argue against Massam's (2001) approach to VP fronting by showing that the landing site for VP movement must be lower than T.

3.1 Against the EPP approach

Massam (2001) proposes that phrasal VP fronting takes place in Niuean in order to check the EPP feature on T. However, Aldridge (2004, 2014) shows that even in Niuean, the evidence suggests that VP fronting targets a position lower than T. As in Seediq, the Niuean verb follows negation and tense auxiliaries.

(29) a. To nakai liu feleveia foki a taua.
FUT NEG again meet also ABS we
'We will never again meet.' (Niuean; Massam, 2000: 101)

b. … nākai muhu mena mahuiga.
NEG have.plenty thing sought.after

e falu a atu-motu Polinesia

ABS some ABS group-island Polynesia

'…some Polynesian islands don't have a surplus of material goods.'

(Niuean; Massam, 2001: 174)

Collins (2016) offers similar evidence from Samoan. Samoan exhibits the same type of alternation as in Niuean, in which a bare nonspecific object immediately follows the verb in VOS order, while a specific object is overtly marked and follows the subject in VSO order.

(30) a. Sā [$_{VP}$ tausi pepe] le teine.

PAST care baby SPEC girl

'The girl took care of babies.'

b. Sā [$_{VP}$ tausi t_{OBJ}] le teine le pepe.

PAST care SPEC girl SPEC baby

'The girl took care of the baby.' (Samoan; Collins, 2016)

Collins adopts Massam's VP fronting approach to Samoan word order, but he argues that the landing site is lower than T. He follows Massam (2000) in proposing that tense auxiliaries move to C. But the verb is still preceded by negation and also by clitic subjects, which he argues occupy [Spec, TP]. Consequently, the fronted VP must occupy a position lower than [Spec, TP].

(31) ‘Ole’ā ‘ou lē alu.
FUT 1SG NEG go
‘I will not go.’ (Samoan; Collins 2016)

I also do not adopt the EPP as the motivation for VP fronting in Seediq. As in Niuean and Samoan, Seediq verbs always occupy a position below tense and negation.

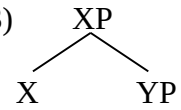
(32) a. Wada=ku [p-smalu sapah] Pawan.
PAST=1SG.NOM CAUS-build house Pawan
‘I had Pawan build a house.’
b. Wada ini [bari ani mumaanu] ka Ape.
PAST NEG buy anything NOM Ape
‘Ape didn’t buy anything.’

What I concentrate on in this paper is why movement of the verb in Seediq is typically accompanied by an object. In the next subsection, I propose that verbs can – and do – undergo head movement from their base positions in VP to *v*, as this is necessary for them to be labeled, as proposed by Chomsky (2013, 2015). But further head movement is blocked if an internal argument would be stranded in a position where it could not undergo Labeling with its sister.

3.2. Labeling approach to VP fronting in Seediq

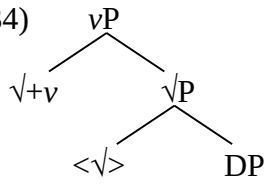
Chomsky (2013, 2015) proposes that the label of each syntactic object formed through Merge is determined by an algorithm which searches for the closest head within this constituent. When a head merges with a phrase, that head is closer than the one embedded in the phrase and consequently determines the label of the newly created syntactic object.

(33)



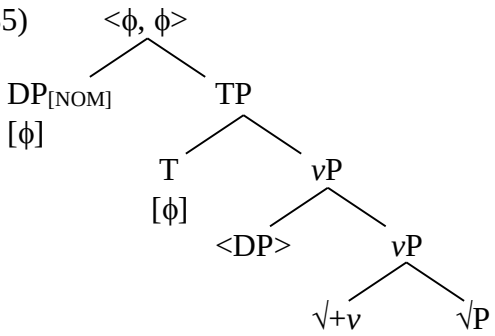
When it comes to Labeling the category containing a lexical verb and its internal argument, Chomsky (2015) assumes with Marantz (1997) and subsequent work in the field of Distributed Morphology that, as a lexical root, the verb is not inherently specified for category and therefore cannot project a label on its own. A lexical root must merge with an appropriate functional head, *v* to be labeled as a verb and *n* to be labeled as a noun. This forces the root in a configuration like (34) to undergo head movement. In (34), the root moves to *v*, and it is the amalgam of *v* together with the lexical root that projects the label of the *v*P. Regarding the syntactic object containing the lower copy of the root and the internal argument, Chomsky (2013) proposes that copies of moved constituents are invisible to the Labeling Algorithm, since they are parts of discontinuous elements. Consequently, this syntactic object is labeled by the argument DP itself. This DP then combines with the amalgam √+*v* to form the *v*P.

(34)



Determining the label when two phrases are merged is more complicated, because neither of these constituents is a head. For example, in the case of TP, T determines the label of the syntactic object formed by merging T with *v*P, since T is a head. But another mechanism is necessary to label the constituent formed when the subject merges with this TP. For languages with agreement like English, Chomsky proposes that ϕ-feature sharing between the subject and its sister is the mechanism which allows this syntactic object to be labeled. Specifically, when the Labeling Algorithm searches the two sisters, DP and TP, it discovers that they each have a set of identical ϕ-features, the subject having valued the [*u*ϕ] feature on T as part of the process of valuing nominative case and being licensed as the subject of the clause. This pair of agreeing features is then found by the Labeling Algorithm, resulting in the label <ϕ, ϕ> for the projection immediately dominating the subject and TP.

(35)



Incidentally, this analysis of Labeling by feature sharing also provides a motivation for why the external argument DP must vacate its base position in a structure like (35). This is because it does not enter into an Agree relation with its sister *v*P. As summarized above, √+*v* is able to project the label for the *v*P dominating √+*v* and the internal argument, but since this *v*P, as well as its sister DP, are phrasal categories, the two must share features in order to create a legitimate syntactic object. The lack of an Agree relation between the subject and *v*P prevents this syntactic object from being labeled. However, this problem is solved by moving the subject to a higher position. Given that lower copies of a movement chain are invisible to the Labeling Algorithm, the copy of the subject in its base position will be ignored, allowing the *v*P to project its label and become the sister of T.[11]

In this subsection, I propose that VP – strictly speaking *v*P – fronting in the derivation of VOS word order in Seediq is motivated by Labeling. Labeling can take place between an internal argument and its sister in two ways. Either the object can remain in *v*P and be pied-piped to the edge of the clause-medial phase, VoiceP, with the verb or it can move to a case-checking position, where Labeling is the result of valuing the object's case feature. Verbal head movement beyond *v* cannot strand the object in its base position if there are other intervening constituents, since this would place the object in a position which cannot be labeled.

The main ingredients of the analysis I propose are two features on the lower phase head Voice. One is a [u*v*] feature to attract a projection of the verb. The other is a case feature to license an

[11] Note that movement is not forced to take place when the argument in question is base merged as sister to a head, as in the case of a theme subject in an unaccusative construction. This is because the head √+*v* itself is able to project a label for this syntactic object. Chomsky (2013, 2015) proposes a different mechanism, discussion of which is beyond the scope of this paper, to ensure that movement of internal argument subjects takes place in languages like English which require it. Incidentally, the fact that heads can project labels in the absence of feature sharing also accounts for the possibility of long distance agreement under c-command with a nominative object. Since the verbal head √+*v* can project its label without entering into an Agree relation with the object, the object can remain in its base position inside *v*P and need not be in a sister relation with the c-commanding head that it shares features with.

internal argument. As per Chomsky's (2008) proposal of Feature Inheritance, I assume that features which case license internal argument DPs are merged on the phase head Voice but can subsequently be inherited by a lower head if a position is required to license a DP. Chomsky (2008) takes the head inheriting features from the clause-medial phase head to be the lexical verb, but I follow Lasnik and Saito (1991), Johnson (1991), Koizumi (1993, 1995), Runner (1993, 1998), Lasnik (1995, 1999), Travis (2010), and others in assuming that this head is a functional category. I propose that the head inheriting the case feature from Voice is the case-checking head Agr. Given the considerations of Labeling sketched above, this proposal results in a derivation consisting of the following three main steps. First, the lexical verb raises to *v* directly above VP in order to label this root. I use the label "V" in the trees for clarity of exposition, but the verb root should be understood as a lexical category lacking an inherent category label, and the need to acquire a label is what motivates it to move to the functional category *v*. The next step is for a definite or specific object to be ejected from the VP and move to [Spec, AgrP], along the lines of Pearson's (2000) proposal for Malagasy. Finally, either *v* or *v*P fronts to the edge of VoiceP, and the choice between the two is determined by considerations of Labeling. The remainder of this subsection shows how this proposal accounts for various word order permutations in Seediq.

As observed in section 2, frequency adverb placement clearly shows that verb movement takes place, since the adverb intervenes between the verb and the direct object.

(36) a. [M-imah **riong** sino] ka Awi.
AV-drink often wine NOM Awi
'Awi often drinks wine.'

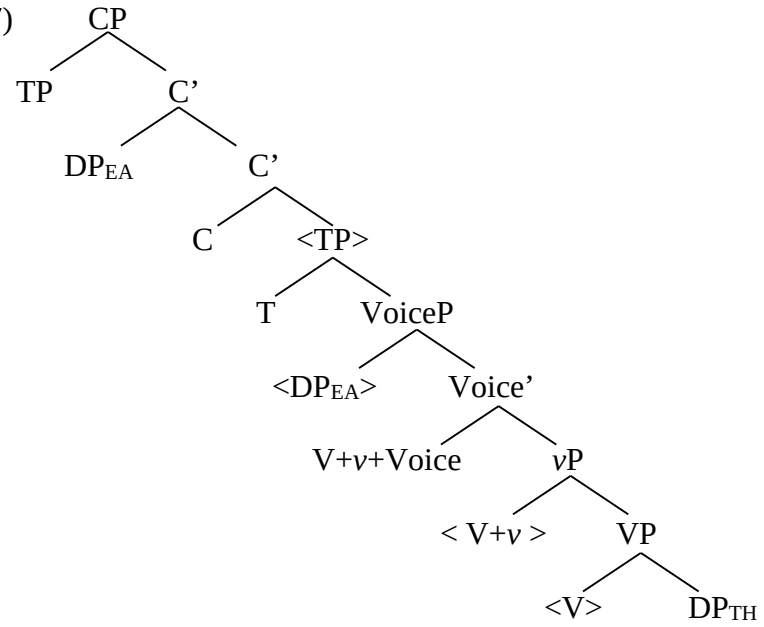
b. [M-ari **riong** hulama] laqi ka Ape.
AV-buy often treat child NOM Ape
'Ape often buys the child a treat.'

c. [S-bari **riong** hulama]=na Ape ka laqi.
APPL-buy often treat=3SG.GEN Ape NOM child
'Ape often buys the child a treat.'

The first step in all of these derivations is for the verb to move to *v*. In (36a), the object is indefinite and nonspecific. Accordingly, Massam (2001) would treat it as a bare NP. The analysis proposed in this paper can also accommodate such a categorical distinction but does not rely on it, so long as the bare nominal can be analyzed as a *n*P so that it can be labeled. For the sake of simplicity, I assume that nominal arguments are all merged as DPs and consequently must value case. This can be accomplished in one of two ways. A DP internal argument can remain in its base position in VP and value case under c-command. In this position, it will receive a nonspecific interpretation post syntactically, as per Diesing's (1996) Mapping Hypothesis. Alternatively, Inheritance can take place, and the DP moves to [Spec, AgrP]. Since this DP vacates its base position in VP, it will be interpreted as definite and specific. Given that the object in (36a) is nonspecific, I assume that Inheritance has not taken place, and the object remains in its base position. The choice between these alternatives, i.e. whether or not Inheritance takes place, may at first glance appear to be arbitrary, and in this particular example, I assume that both strategies are available, each yielding a different interpretation for the object. However, there are other structural contexts in which one option or the other is forced, as I demonstrate later in relation to (36b, c).

Returning to (36a), the complex verb in *v* is attracted by a [u*v*] feature on Voice. Though it is not possible to conclude on the basis of surface order whether verbal head movement or phrasal *v*P fronting takes place, I assume that head movement takes place when possible, since it is more economical than pied-piping the object together with the verb. Head movement in (36a) is possible on the Labeling approach, because the object DP is the sole complement of the complex verb after it moves to Voice. This is because the Labeling Algorithm ignores copies of moved categories, i.e. parts of discontinuous elements (Chomsky 2013: 44), so the object will project its label until it becomes sister to the complex verb. I propose that *v*(P) must be located in the edge of VoiceP so that it can be inflected with aspectual affixes like the perfective marker <*n*>. I propose that this is accomplished by Local Dislocation Merger (Embick and Noyer 2001), which utilizes linear precedence and adjacency rather than hierarchical structure. Consequently, even a verb contained inside a fronted phrasal *v*P can be targeted by Local Dislocation, since the verb will be linearly adjacent to the aspectual feature in T in the Morphological Component. Since (36a) is an active voice clause, the external argument also raises to the left periphery to value nominative case, followed by fronting of the TP to the focus projection above this. For simplicity, the tree diagrams in this section represent the left periphery as multiple specifiers of CP rather than indicating the specific landing sites of DP and TP fronting in FinP and FocP.

(37)

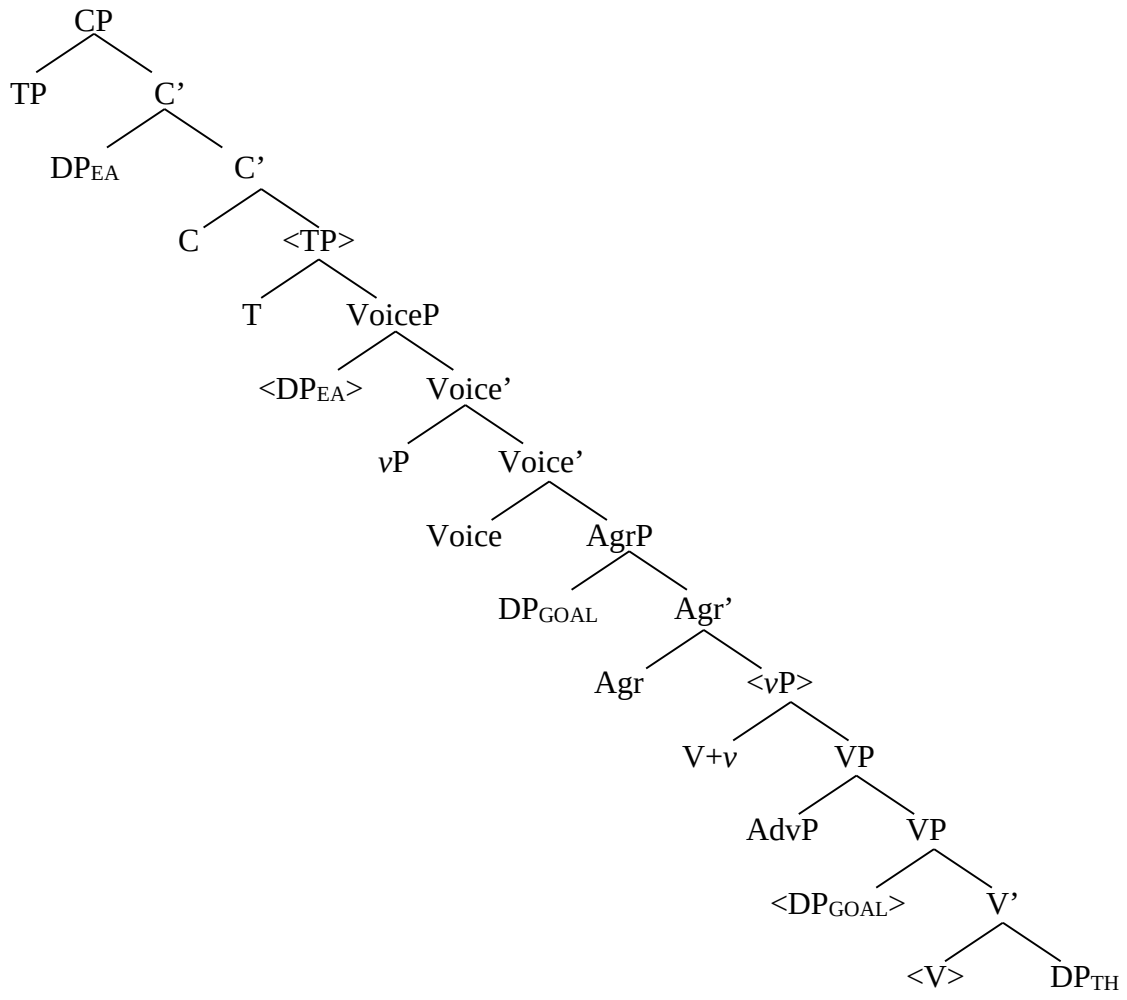


In active voice ditransitive clauses like (36b), two internal arguments are merged in VP. The theme surfaces to the left of the goal, which I propose below is the result of its being pied-piped with the verb to [Spec, VoiceP]. Note that the theme is indefinite and nonspecific, and I assume that this is because it remains in VP throughout the derivation. I assume that Multiple Agree (in the sense of Hiraiwa, 2005) allows both DPs to value case under c-command, but the goal must also move to [Spec, AgrP] so that it can share its case feature with Agr. Consequently, when two DPs are merged in VP, Inheritance must take place, and this is a consequence of Labeling, as I explain below. Note further that the goal is definite and specific, which is accounted for since it must move to [Spec, AgrP] to value case.

After movement of the goal DP, the complex verb in *v* is attracted by the [u*v*] feature on Voice. Phrasal fronting of *v*P takes place as an indirect consequence of Labeling, as I explain below. Finally, since (36b) is an active voice clause, so the external argument again raises to the CP layer,

where it values nominative case. Following this, the remnant TP fronts to the focus position above it.

(38)



I now turn to how Labeling works to ensure that the two crucial movements take place in the derivation just sketched, specifically, phrasal movement of *v*P and raising of the goal DP to [Spec, AgrP]. First, *v*P fronting is forced because if head movement of the complex verb V-*v* were to take place, thereby stranding the theme, then the theme would end up being sister to the Agr head on Chomsky's (2013, 2015) analysis of Labeling. This is because the lower copies of the moved verb

and goal DP would be ignored by the Labeling Algorithm, with the result that only the label of the theme DP would be projected until the theme is sister to Agr. But this would result in a syntactic object which cannot be interpreted, since there is no semantic or selectional relationship between Agr and the theme DP. This is a reasonable assumption, given that Agr is merely a functional category hosting a case feature to license a DP and has no semantic content that would allow it to function as a predicate and select an argument. Consequently, Agr can only combine with a predicate that introduces an argument to be licensed. Since the theme DP cannot be stranded as the complement of Agr, it must be pied-piped together with V-*v* to [Spec, VoiceP].

The Labeling approach to *v*P fronting also provides a clear motivation for movement of the goal DP out of the VP in a ditransitive clause, motivation for which is less clear on Massam's (2001) approach to remnant VP-fronting. First, the relative ordering of internal arguments in Seediq ditransitive constructions is fixed; the goal cannot precede the theme.

(39) a. [M-ari hulama] **laqi** ka Ape.
AV-buy treat child NOM Ape
'Ape buys the child a treat.'

b. *[M-ari **laqi** hulama] ka Ape.
AV-buy child treat NOM Ape
'Ape buys the child a treat.'

An obvious explanation for this is locality, since the goal is structurally closer to the probe on Agr than the theme. As to why the goal must move and not remain inside VP, this is where Labeling plays a crucial role in the derivation. If the goal did not move to [Spec, AgrP], then it would be

sister to a phrasal category, i.e. the theme DP, since the lower copy of the moved verb would be ignored by the Labeling Algorithm. But these two DPs do not share any features with each other, so the syntactic object that they comprise would not be labeled. In this way, the Labeling approach correctly predicts that the goal cannot remain inside the VP.

This analysis, however, leads to a question regarding the status of the adverb in (36a-c), since it also occupies *v*P, together with the theme DP. One possible solution to this problem is to assume late insertion of adjuncts, as per Lebeaux (1988). Another possibility is to adopt Chomsky's (2013) approach to adjunction as formed via Pair-Merge, which is able to label the newly created syntactic object by forming an ordered pair rather than a set. I leave exploration of the analysis of adjuncts to future research and assume for present purposes that adjuncts are not relevant for the analysis of Labeling developed in this paper.

Incidentally, the derivation of ditransitive clauses is less clear on Massam's (2001) approach. Massam assumes that bare NP objects do not need to value case, and this is why they remain in VP, which results in VOS word order in Niuean. However, a problem obtains if the goal argument is also merged as a bare NP. Massam's approach predicts that it, too, could remain in the VP, but this would lead to ungrammaticality in Seediq, as shown in (39b). In fact, even if both internal arguments were merged as DPs, Massam's analysis predicts that they could remain in VP and value case under c-command, as pointed out by Medeiros (2013).[12]

This, however, introduces a new question for my analysis. For the purposes of Labeling, it is only necessary for one of the internal arguments in a ditransitive VP to move to [Spec, AgrP]. If both are base merged as DPs, then locality will ensure that the goal is the one to move, as I pointed

[12] Medeiros (2013) adopts a Massam-style VP fronting approach to pseudo-noun incorporation in Hawaiian but opts for a different approach to remnant VP creation. His approach crucially relies on morphological incorporation of the object to the verb in the derivation of VOS order and consequently cannot be adopted for Seediq, given that not only the direct object but also an adverb can be contained in the fronted VP in Seediq.

out above. However, this suggests the possibility that a theme DP might be able to move over the goal if the latter is merged as a *n*P instead of a DP. I propose that this is not in fact possible and this is also a consequence of locality. Cagri (2005) shows that nonspecific *n*P (for him a bare NP) subjects are defective interveners for DP movement in Turkish. The head of the relative clause in (40a) can move, because the subject is an internal argument, but movement of this DP in the unergative clause in (40b) is blocked. This is because the subject occupies [Spec, *v*P], while the locative DP *saha* 'track' originates in a position adjoined to VP. Cagri argues that relative clauses with subject relativizing morphology (*-an*) are produced by EPP driven A-movement of the head nominal to [Spec, TP], followed by A'-movement to [Spec, CP]. Cagri also argues at length that nonspecific nominal arguments in Turkish are *n*Ps and not DPs.

Turkish

(40) a. [su ak-an] dam
water pour-SUBJ.REL roof
'the roof water pours/drips from' (Turkish; Cagri 2005: 136)

b. *[atlet-ler koș-an] saha
athlete-PL run-SUBJ.REL track
Intended: 'the track where athletes run' (Turkish; Cagri 2005: 129)

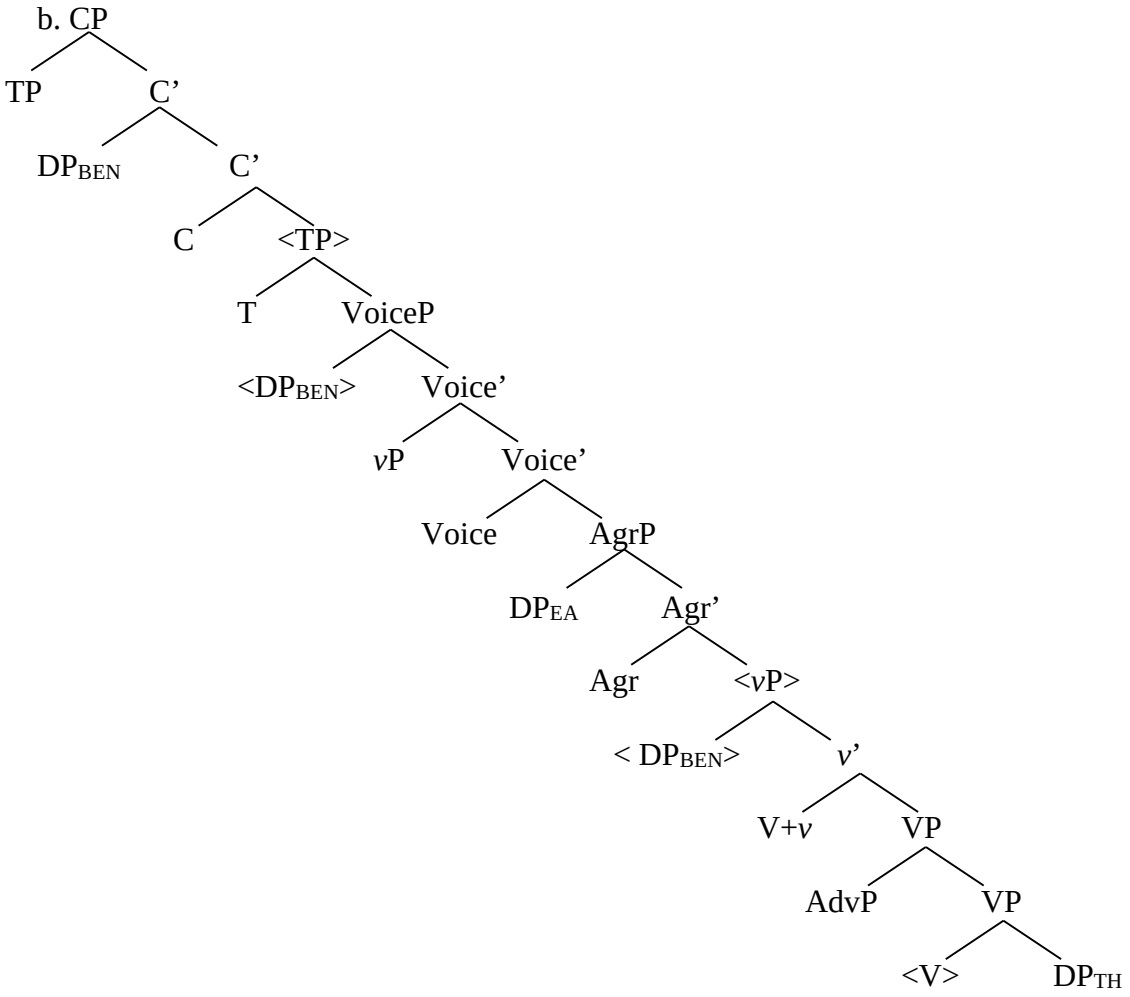
Consequently, it is reasonable to assume for Seediq as well that, even if the goal were a nonspecific *n*P and the theme a specific DP, the theme DP would not be able to raise to [Spec, AgrP] over the goal *n*P. Furthermore, the goal will always be base merged as a DP, because requirements of Labeling will force it to move to [Spec, AgrP], where it will be interpreted as definite and specific.

In short, on my approach, it is not necessary to stipulate whether an argument is a DP or a smaller category.

Turning to (36c), repeated below, this is an applicative construction, in which the external argument has genitive case, and nominative case appears on an internal argument, in this example an applied benefactive argument selected by the applicative *s*-. I take the position occupied by *s*- to be the *v* that labels the lexical verb rather than naming this position "Appl". One reason is to simplify the derivation, since movement of the verb to this position allows it to be labeled and also to acquire the *s*- applicative prefix. Analyzing *s*- as a light verb also helps to connect this prefix with its most probable diachronic origin as a verb **Si* meaning 'wear, carry'.[13] This verb can be viewed as having grammaticalized into a light verb selecting a moved theme or accessory and then becoming a bound form on the verb.

(41) a. [S-bari **riong** hulama]=na Ape ka laqi.
APPL-buy often treat=3SG.GEN Ape NOM child
'Ape often buys the child a treat.'

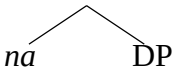
[13] The verb **Si* 'wear, carry' is reconstructed by Teng (2014), who also claims that it grammaticalized into a bound verbal form expressing instrumental and possessive functions. Teng does not claim that this verb is the origin of the applicative **s*-, though she also does not offer arguments against such a connection. Furthermore, the form **Si*- is identical to the universally acknowledged reconstruction of the applicative. The semantic and syntactic plausibility also strongly suggests that this verb could easily have grammaticalized into the applicative.



As in Niuean, ergative (genitive) DPs remain in their base positions and are licensed with inherent case, as per proposals by Mahajan (1989), Woolford (1997, 2006), Legate (2003, 2008), and others. I propose that licensing of the ergative DP and its position within VoiceP are consequences of Feature Inheritance. Recall first that internal arguments in ergative clauses value nominative case in the CP layer, so they are not licensed by Voice or Agr, as objects are in active voice clauses. Rather, I propose that the case provided by the ergative Voice head is the genitive case for the external argument. Furthermore, within the Feature Inheritance model, this case will be inherited from Voice to Agr in order to license a full DP ergative subject. Since the external argument is

selected in this position, I further assume that its θ-role is also inherited from Voice to Agr. Assignment of genitive case in this position provides the label for AgrP through case feature sharing between Agr and the external argument. I propose that the marker *na* preceding the argument is an agreement clitic, pace Holmer (1996), Chang (1997), and Aldridge (2004), who analyze *na* as a case marker when it immediately precedes a possessor in DP or external argument in VoiceP. However, *na* surfaces only in the presence of definite third person singular arguments. Furthermore, *na* has precisely the form of a genitive third person singular clitic pronoun. Consequently, there is no evidence to claim that it is a case marker rather than a clitic pronoun. I therefore analyze it as a pronoun, merged together with the argument that it doubles as part of an extended DP, along the lines of Uriagereka (1988), Roberts (2010), Nevins (2011), and others.

(42)



This analysis provides a straightforward account of the asymmetry observed between in-situ and topicalized genitive subjects observed above in (14b) and (15), repeated below as (43a) and (43b), respectively. When the external argument surfaces in its base position, [Spec, AgrP], it is immediately preceded by the clitic, as in (43a). But if the external argument is topicalized, the clitic follows the first prosodic word in the clause, as in (43b). I follow Roberts (2010) in proposing that clitics move to the closest phase head, so the clitic in (43a) raises to Voice and attaches post-syntactically to the closest preceding prosodic word, which is the verb in (43a). But the clitic raises to the higher phase head in (43b). This again is an indirect consequence of Labeling. First, the fact that the clitic is located in the higher phase suggests that Inheritance does not take place when the

external argument is expressed only as a weak pronoun. This is in fact accounted for on my analysis. If Inheritance were to take place, then the pronoun would be base generated in [Spec, AgrP]. But since the pronoun, as a clitic, must move to the closest phase head, this would require it to vacate [Spec, AgrP] and attach to Voice. But this would create a problem for Labeling, because the Agr head would be stranded as the complement of Voice. This is because copies of moved constituents are invisible to the Labeling Algorithm, so Agr is visible to the Labeling Algorithm, while the *v*P copy base merged as complement to Agr is ignored. In other words, when the Labeling Algorithm searches the syntactic object immediately dominating the Voice head, it finds Voice and the head Agr. Because both of these constituents are heads and equally local to the Labeling Algorithm, the algorithm is unable to unambiguously identify a label. Consequently, this syntactic object fails to be labeled and the derivation crashes. This is how Labeling accounts for the asymmetry between (43a) and (43b). Inheritance takes place in (43a) in order to provide a position for the full DP external argument to be licensed. But Inheritance cannot take place in (43b) when the external argument is base merged as a pronoun, as discussed above. Consequently, a pronominal external argument can only be base merged in the edge of VoiceP, from which position it undergoes further movement to the next higher phase head, i.e. C. Since Inheritance does not take place in VoiceP, Agr is not generated, so the Labeling problem discussed above does not arise.

(43) a. [$_{TP}$ Wada [$_{VoiP}$ burig-un=**na** **Ape**]] ka patis nii.
PAST buy-TR=3SG.GEN Ape NOM book this
'Ape bought this book.'

b. [$_{TP}$ Wada=**na** burig-un inu patis nii] **ka** **Awi**?
PAST=3SG.GEN buy-TR where book this.NOM NOM Awi
'Ape bought this book.'

Returning now to the derivation of (41a), the applied object base merged in [Spec, *v*P] cannot be case licensed inside VoiceP, since the external argument occupies [Spec, AgrP]. Even if the applied object were to value case with Agr under c-command, it could not remain in its base position, since it is merged in the specifier of a functional projection which does not check features with it, so the syntactic object consisting of the applied object and the *v*P would not be labeled.[14] Consequently, the applied object must raise to the edge of the higher phase in order to value nominative case. I propose along the lines of Bošković (2007) that this raising is the result of agnostic movement in order to value its case feature. Given these two considerations, the applied object cannot remain in its base position and must undergo movement in order to value its case feature. The first step is to move to the edge of the VoiceP phase in order to avoid violating the Phase Impenetrability Condition (PIC) of Chomsky (2000).

Regarding the order of constituents in the edge of VoiceP, I follow Bošković (2016) in assuming that movement always targets a labeled category. Movement of *v*P is motivated by the [u*v*] feature on Voice. Sharing of this feature provides the label for the resulting syntactic object. But the applied DP undergoes agnostic movement. It must proceed all the way to the next phase before it can value nominative case, so its movement to the edge of VoiceP is not feature driven but rather motivated solely by the PIC. Consequently, the landing site of the applied object is not labeled. According to Bošković (2016), *v*P cannot merge with the unlabeled category immediately

[14] The theme DP can value case under c-command, since the V-*v* head will project the label for the syntactic object where it resides.

dominating the applied argument. The result is that movement of the applied argument must target the outermost specifier in the edge of VoiceP.

Another consequence of this analysis is that the theme must remain in the VP and front together with the verb. It can value case under c-command, but it cannot raise to [Spec, AgrP], since this position is occupied by the external argument. Consequently, the theme can only remain inside *v*P and be pied-piped to [Spec, VoiceP]. It also could not be stranded by head movement of the verb to Voice, since it could not be interpreted as the sister of Agr.

(44) *[S-bari riong t_{hulama}] na Ape **hulama** ka laqi.
APPL-buy often GEN Ape treat NOM child
'Ape often buys a/the treat for the child.'

Comparing once more the derivations of (36a) with (36b) and (36c), there is unambiguous evidence for *v*P fronting in (36b) and (36c) but not in (36a). In (36b) and (36c), a DP occupies [Spec, AgrP], which according to the Labeling approach I adopt, forces the phrasal *v*P to move to the edge of VoiceP in order to avoid an inappropriate category from becoming the sister of the Agr head. Though the motivation for predicate fronting is different, my analysis nonetheless derives the effects of Aldridge's (2004) Stranded DP Constraint. Phrasal predicate fronting is required to take place precisely when a DP would otherwise intervene between the lexical verb and an internal argument. But my analysis derives this correlation in a principled way utilizing universally available operations in the syntactic component.

Moving on to a different type of example, an indefinite theme immediately follows the verb in the presence of a definite locative constituent, as in (45a). But if the locative is focused, then the

object is typically definite and is separated from the verb, as in (45b, c). The focused locatives in (45b) and (45c) are pronounced with focus stress.

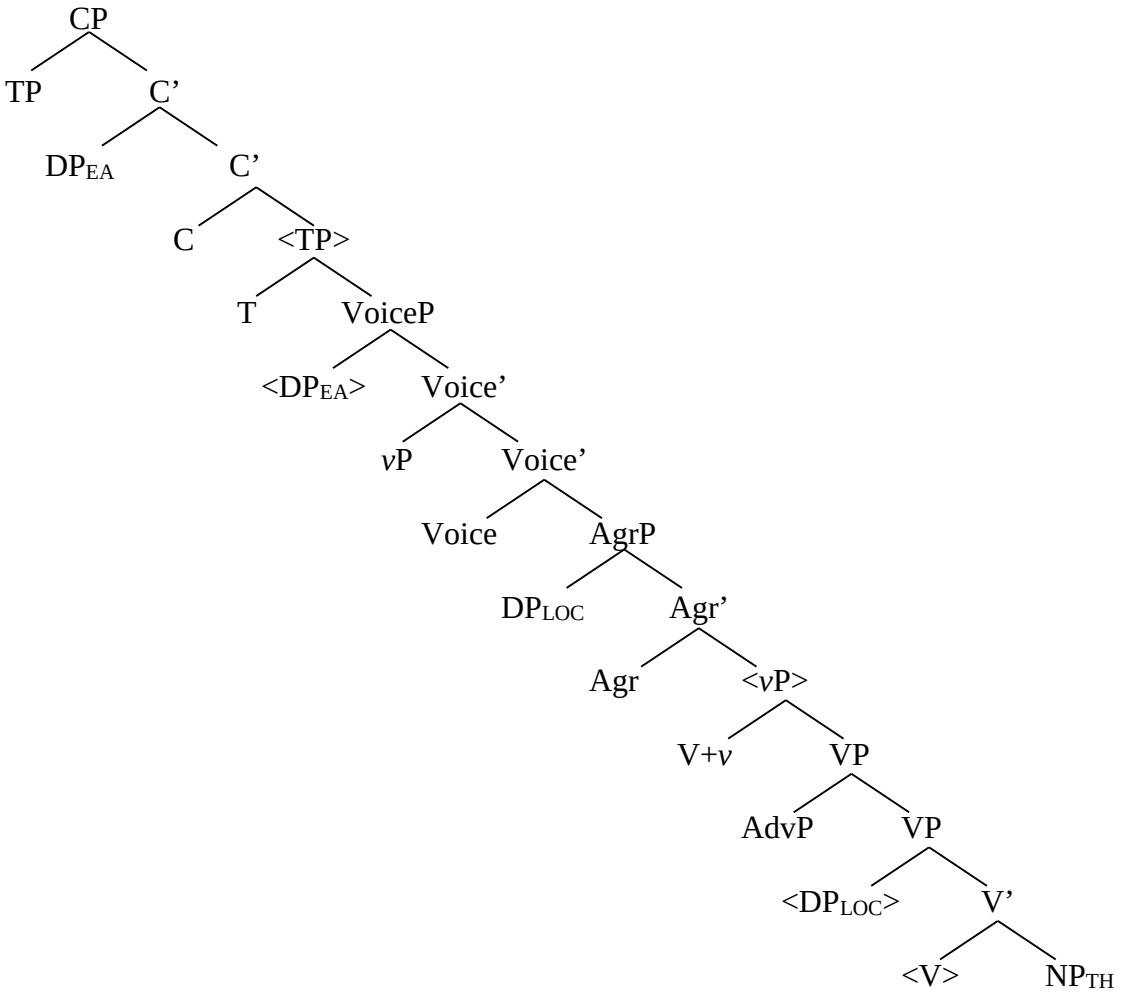
(45) a. [M<n>ari **sapah**] Purishia ka Pihu.
AV<PFV>buy house Puli NOM Pihu
'Pihu bought a house in Puli.'

b. M<n>ari *hiya* **patis** **nii**.
AV<PFV>buy there book this
'(He/she) bought this book *there*.'

c. M<n>ari *inu* **patis** Ape?
AV<PFV>-buy where book Ape
'Where did Ape buy the book?'

Consider first the derivation of (45a). A locative nominal follows the theme. Interestingly, locative phrases in Seediq are not accompanied by adpositions but appear as bare nominals. Since the locative expression in (45a) refers to a specific place, it is reasonable to assume that it is a DP and consequently needs to be case licensed. This allows (45a) to be analyzed in the same way as a ditransitive clause with two nominal internal arguments. The locative DP moves to [Spec, AgrP] to value case, and the *v*P containing the indefinite theme fronts to [Spec, VoiceP].

(46)



Supporting evidence for the analysis of referential locative phrases as DPs comes from the fact that they can be the argument selected by an applicative and value nominative case. As mentioned in section 2, Seediq has a second applicative, the suffix *–an*. When functioning as an applicative, *-an* is merged in *v* and selects a locative pseudo-argument in its specifier. This argument then moves to [Spec, FinP] to value nominative case and appear in clause-final position. Thus, it clearly is a DP.

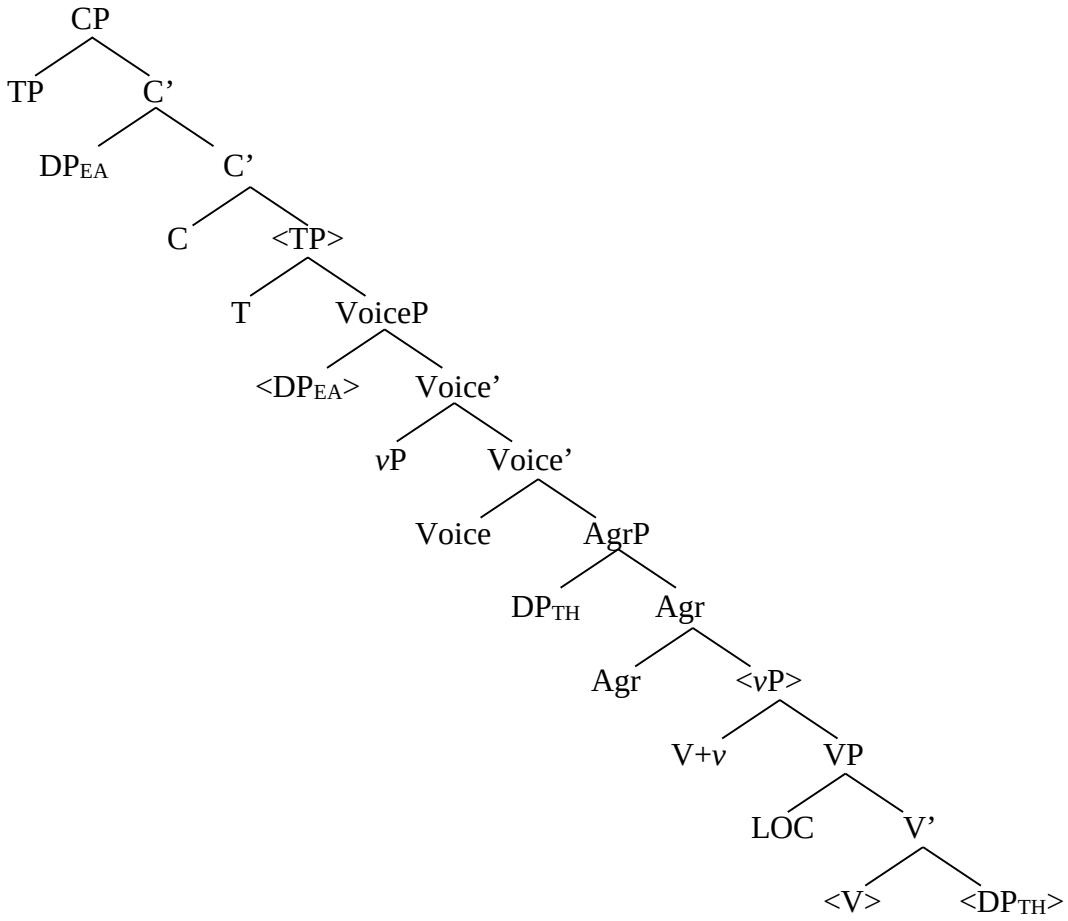
(47) P<n>uq-**an**=daha damac pngerax kiya. (Holmer, 1996: 37)

<PFV>eat-APPL=3PL.GEN food bowl that.NOM

'They ate food from that rice bowl.'

When the locative is focused, as in (45b) and (45c), the theme typically follows it in surface order, which is accounted for if the theme moves out of VP to [Spec, AgrP] before fronting of the remnant *v*P. This yields the order in which the theme follows the locative.

(48)



Regarding how the theme DP is able to move over the focused locative, I suggest that this is due to a difference in the motivations for the movements involved. The only probe which can attract a definite DP is a case feature; consequently, strict locality between DPs obtains when the DPs in question are probed only by a case feature. In contrast, the fronted predicate is the locus of focused material. As I mentioned in section 2, the motivation for TP fronting in the higher phase is to check a focus feature in the left periphery. It is therefore reasonable to assume that *v*P fronting to the edge of the lower phase serves to feed focus movement in the higher phase. For this to happen, focused consituents must remain inside the VP, while presupposed material is ejected from it. This is possible, of course, since the locative DP[15] can be case licensed under c-command with Agr, as I proposed above. But because the focused locative DP must remain inside VP for the correct interpretation to obtain, the theme can exceptionally raise over it to [Spec, AgrP]. The fact that one of these DPs must move to [Spec, AgrP] is forced by Labeling, since a syntactic object consisting of two DPs cannot be labeled, as discussed above. The other of these two DPs can remain inside VP, since the complex verb can determine the label for the *v*P containing it and one internal argument.

It is possible, however, for a locative interrogative pronoun to move to [Spec, AgrP], as predicted by locality. In (49), the themes are indefinite and nonspecific and surface in immediate postverbal position since they remain inside VP and are pied-piped with the verb to the edge of VoiceP.

[15] The status of *inu* as projecting a DP is also suggested by the prefix *i-*, which is identical to the prefix appearing on free form, non-clitic personal pronouns, e.g. *isu* '2SG'. See Ross (2006) for a reconstruction of **i* as a case-neutral determiner in Proto-Austronesian.

(49) a. Awe [m-ita patis] **inu**?
Awe AV-look book where
'Where is Awe reading a book?'

b. Bubu maha [pure ido] **inu**?
mother will cook rice where
'Where will Mother cook rice?'

This means, however, that the focused constituent will remain inside the domain of VoiceP rather than fronting to the edge of this phase. But closer examination of the examples in (49) reveals a clue that suggests that this analysis is on the right track. Note that the nominative DP is topicalized in clause-initial position. Topicalized DPs can precede or follow the predicate in Seediq. However, the subject precedes the predicate in all of the examples I have collected in which an indefinite object precedes an interrogative pronoun. This can be accounted for if the nominative DP occupies [Spec, FinP], but TP fronting has not taken place. This is accounted for on my analysis, because the motivation for TP fronting, i.e. the focused material expressed by the *wh*-word, remains embedded inside the domain of the VoiceP phase and is not visible to the probe in the CP layer.[16]

It also bears establishing that focused constituents do not move independently to the focus projection but rather are pied-piped within the fronted predicate. This is clearly suggested by the fact that they always follow the verb in the clause where they are selected, as in (45b, c). This can also be demonstrated by examples in which a focused constituent appears inside an embedded clause. The interrogative pronoun in (50b) must remain inside the embedded clause, while the

[16] I leave exploration of this possibility to future research. However, if it eventually pans out, then it would constitute evidence against an alternative analysis of Seediq DP positions as rightward specifiers rather than following predicates as the result of VP and TP fronting. I offer additional evidence against positing rightward specifiers in (50a).

entire clause is pied-piped with the matrix verb to the edge of VoiceP. Note that the object controller precedes the clause in (50a), while the order is switched in (50b). On my analysis, the order in (50b) is derived by movement of the controller to [Spec, AgrP], followed by remnant fronting of the *v*P containing the verb and the embedded clause.

(50) a. H<m>eidiq laqi$_i$ [$_{CP}$ PRO$_i$ m-ari rulu] ka tama.
<AV>allow child AV-buy car NOM father
'The father allowed the child to buy a car.'

b. H<m>eidaq [$_{CP}$ PRO$_i$ m-ari **maanu**] laqi$_i$ ka tama.
<AV>allow AV-buy what child NOM father
'What did the father allow the child to buy?'

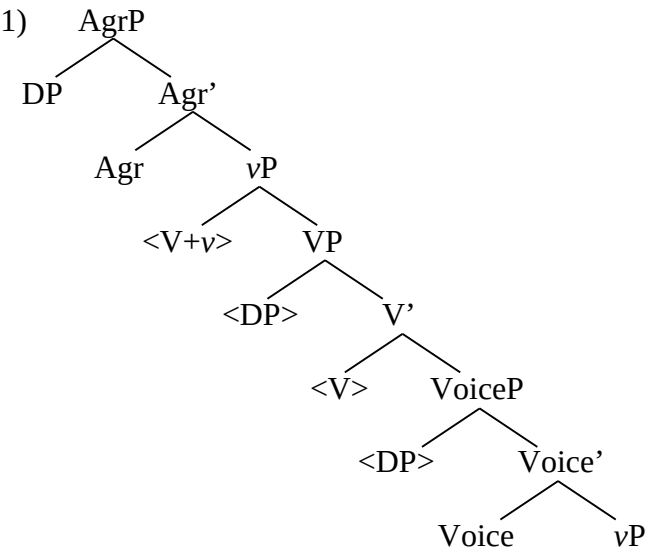
An anonymous reviewer points out that most of the word order facts presented in this paper can also be accounted for by simply positing that DPs occupy rightward specifiers in Seediq. This would obviate the need for *v*P fronting, resulting in a less complicated derivation. However, examples like (50a) above present a challenge for the rightward specifier approach, since the object controller in (50a) precedes the embedded clause. Assuming that the controller must c-command the subject position inside the clause in order to establish the control relation, this DP must occupy a specifier position from which it can c-command into the embedded clause. Consequently, the DP must be located in a leftward specifier. The word order in (50a) would then be derived by moving the controller to [Spec, AgrP].

This derivation, however, poses a question for Labeling if we assume that the embedded clause is a CP. Specifically, after movement of the controller and the complex verb, the sister of the Agr

head will be this CP. This is because the lower copies of moved categories are invisible to the Labeling Algorithm, so CP will project its label up to the syntactic object which is sister to Agr. I pointed out above that an argumental DP cannot surface as sister to Agr, because Agr cannot select such a category; nor does Agr share features with DP. In the same way, CP is also not an appropriate complement for Agr.

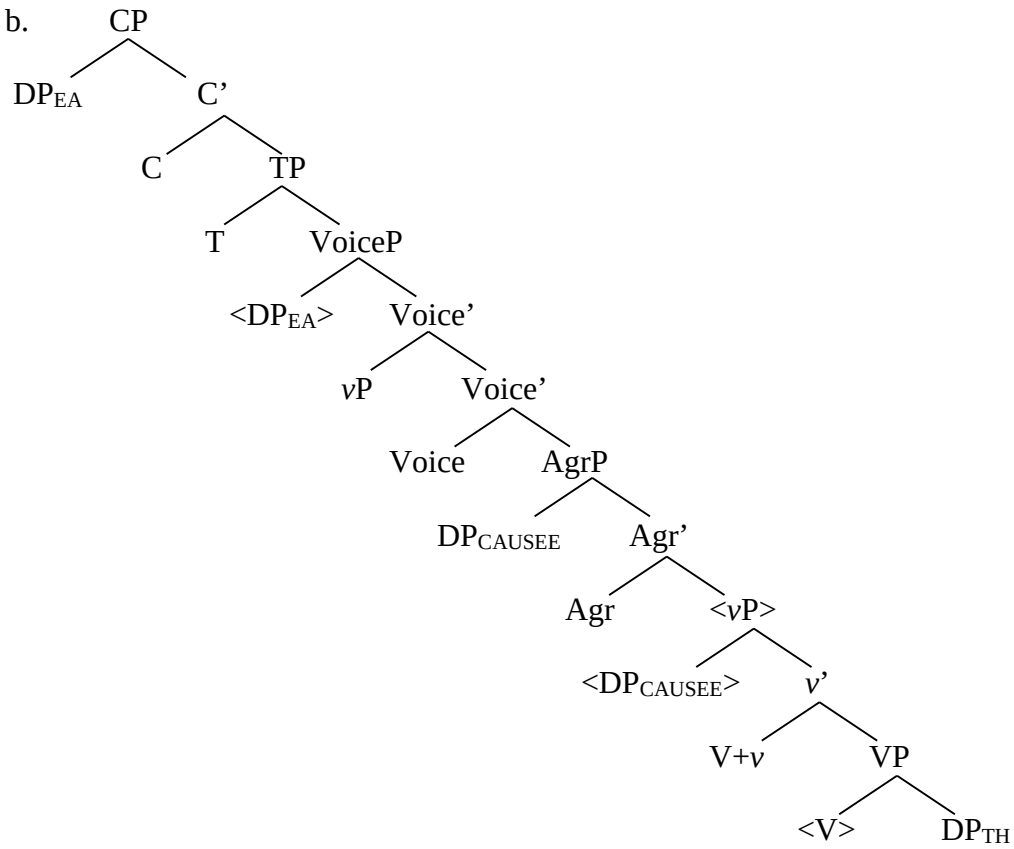
On the other hand, there is an alternative derivation which circumvents this problem. I propose that the embedded clause is not a full CP but rather just a VoiceP. I further follow Hornstein (1999, 2001, 2003), Boeckx and Hornstein (2003, 2004, 2006), and others in proposing that the controller is base generated in the embedded clause and subsequently moves into the higher clause, first into the thematic position in matrix VP and then to [Spec, AgrP]. Support for the reduced embedded clause structure comes from the fact that no auxiliaries or aspect marking of any kind is permitted on embedded verbs in control clauses, suggesting the complete absence of an inflectional layer. If the embedded clause is VoiceP, the selection issue is solved, because the complement of Agr is now a verbal predicate, an appropriate category for selection by this head.

(51)



Before closing this section, I turn to *v*P fronting in causative constructions. Here, the causativized verb and theme DP front to a position above the causee. I adopt an analysis of Seediq causative constructions similar to Legate's (2014) proposal for the corresponding construction in Acehnese. Even when the lexical VP is transitive, the causee is analyzed as an applied argument rather than as a true external argument. Consequently, I treat it as being merged in the specifier of *v*P like other applied objects in Seediq. The causative prefix is the spell out of this *v* head.

(52) a. Wada=ku [p-smalu **sapah**] Pawan.
PAST=1SG.NOM CAUS-build house Pawan
'I had Pawan build a house.'



My proposal accounts for the fact that the theme cannot be stranded following the causee. This is because there is no position for it to move to. The causee is not merged inside the VP projected by the lexical verb, so it cannot undergo fronting inside *v*P. Consequently, it needs to move to [Spec, AgrP] so that it can share features with its sister in order to circumvent problems for Labeling. This in turn leaves no option for the theme to be licensed outside of the VP, which means that the lower argument must remain in the VP. Once again, it also cannot be stranded by head movement of the verb to Voice, since this would strand the theme as sister to Agr.

(53) *Wada=ku p-smalu Pawan **sapah**.
PAST=1SG.NOM CAUS -build Pawan house
'I had Pawan build a house.'

This section has presented my analysis of *v*P fronting in Seediq based on Labeling. The proposal overlaps to a large degree with Massam's (2001) proposal for pseudo-noun incorporation in Niuean, but I have also argued that the Labeling approach accounts for certain facts that a pure case-based approach does not. In particular, my analysis allows verbal head movement to take place but only when this does not prevent Labeling of the syntactic object stranded by this movement. I also account straightforwardly for the fact that only an object directly selected by the verb can surface inside the fronted *v*P, and no more than one argument can be moved inside the *v*P. Before closing this section, I consider (and ultimately reject) a possible alternative approach.

3.3 Against a prosodic approach

Clemens (2014) proposes an alternative account of Niuean pseudo-noun incorporation which does not rely on VP (or *v*P) fronting. She proposes that verb movement takes place uniformly in the derivation of Niuean clauses, resulting in VSO word order as in (54a). VOS order, as in (54b), is produced in PF as the result of movement of a bare NP object to be prosodically phrased with the verb that selected it.

(54) a. [$_{VP}$ Takafaga t_{DP}] tumau ni e ia **e** **tau** **ika**.
hunt always EMPH ERG he ABS PL fish
'He is always fishing.' (Massam, 2001: 157, 164)

b. [$_{VP}$ Tagafaga **ika**] tumau ni a ia
hunt fish always EMPH ABS he
'He is always fishing.' (Massam, 2001: 157, 165)

Prosodic movement of the object is motivated by the categorical selection feature shared between the object and the verb. Clemens adopts a feature sharing approach to categorical selection in which a verb carries an uninterpretable version of the category feature of the complement it selects. Upon selection, the verb and the object come to share this feature, as per the Pesetsky and Torrego (2007) approach to feature sharing. Clemens proposes the following condition in order to ensure that verbs and objects are spelled out in the same phonological phrase, even if they do not form a constituent in the syntax. In other words, an object moves at PF in order to be adjacent to the verb which shares its category feature.

(55) Argument Condition on Phonological Phrasing (Clemens 2014: 142)
A head H with a categorical feature [c] and head C with the same [c] feature must constitute a φ-phrase.

As a verb can select either a DP or NP object, it is thus expected that both objects will incorporate, contrary to fact. NPs must incorporate, but DPs never do. Clemens circumvents this potential difficulty by proposing that, because they are phases, DP objects are spelled out as soon as the next

phase head, i.e. *v*, is merged. Consequently, DP objects are no longer present in the derivation at the time when the CP phase is evaluated and an NP object is moved to the vicinity of the verb in C.

Clemens' arguments against VP fronting are directed entirely at Massam's (2000, 2001, 2010, 2013) various proposals for Niuean. Most of these arguments either do not apply to Seediq or are nullified by the analysis I have proposed above. The argument which is relevant to Seediq regards the landing site for VP fronting. As I also demonstrated in section 3.1, Clemens points out that the verb and its NP object follow markers of tense and negation, which calls into doubt Massam's proposal that VP fronting targets [Spec, TP].

(56) … nākai muhu mena mahuiga.
NEG have.plenty thing sought.after
e falu a atu-motu Polinesia
ABS some ABS group-island Polynesia
'…some Polynesian islands don't have a surplus of material goods.'

(Niuean; Massam, 2001: 174)

However, since VP (*v*P) fronting targets the edge of VoiceP on my approach, this problem does not arise, because the landing site is lower than the positions of tense and negation.

It is also questionable as to whether the prosodic approach adds any empirical coverage not accounted for in the analysis I have proposed. Since Clemens' motivation for PF movement is matching of a categorical selectional feature, the moving category will always be an internal

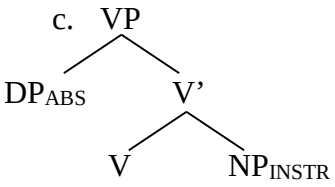
argument directly selected by the lexical verb. This is precisely the pattern observed above for Seediq and can also be accounted for on the *v*P fronting I have proposed.

There are also some empirical questions raised by Clemens' analysis. Niuean has a type of double object construction in which an instrument is pseudo incorporated to the verb, and the theme has nominative case. Clemens accounts for the possibility of incorporation by proposing that instruments are base generated as an NP complement to the verb, as in (57c).

(57) a. Kua fakahū he ekekafo e tohi **he** **vakalele**.
PFV send ERG doctor ABS letter LOC airplane
'The doctor sent the letter on the airplane.'

b. Kua [fakahū **vakalele**] he ekekafo e tohi.
PFV send airplane ERG doctor ABS letter
'The doctor sent the letter on the airplane.' (Niuean; Clemens 2014: 26)

c.



Given this structural possibility for a ditransitive VP, the following asymmetry observed above for Seediq is surprising. On Clemens' approach, either of the objects should be able to be selected as an NP and undergo PF movement to be adjacent to the verb, but this is only possible for the theme.[17] I accounted for this in the previous subsection in terms of syntactic locality. The goal,

[17] This specific problem does not arise for Niuean, because the instrument cannot be selected as a DP in this language. But both direct and indirect objects can be merged as DPs in Seediq.

merged in the specifier of VP, is closer to Agr than the theme, so only the goal can be ejected before the *v*P moves to the edge of VoiceP.

(58) a. [M-ari hulama] laqi ka Ape.
AV-buy treat child NOM Ape
'Ape buys the child a treat.'

b. *[M-ari laqi] hulama ka Ape.
AV-buy child treat NOM Ape
'Ape buys the child a treat.'

Given this empirical challenge, as well as the fact that Clemens' approach relies crucially on the same underlying verb-object structural relation that a VP fronting approach does, I see no reason to adopt the additional assumptions and derivational steps required by her prosodic approach.

4 Conclusion

In this paper, I have argued that the alternation between VP fronting and verbal head movement in Seediq is motivated by Labeling. Phrasal fronting of the verbal predicate is triggered by the need to check a [u*v*] feature on the clause-medial phase head. This feature can be checked by moving either the verb or the phrasal *v*P. The determination between these two is made by the needs of the Labeling Algorithm. Specifically, principles of economy dictate that the verb moves by itself when it can. Phrasal VP fronting is required in order to prevent stranding of an internal argument in a position where it cannot be interpreted or undergo Labeling. Thus, VP fronting is most commonly

observed when another phrasal constituent is also merged inside VP. Since these two phrasal arguments do not share any features with each other, one of them must vacate the VP by moving to a case-checking position, leaving the other object inside VP. The remaining object must then be pied-piped together with the verb so that it is sister to a head that can select it.

The Labeling analysis of V(P) fronting also suggests a straightforward account of the basic difference in word order between Seediq and the VSO language Tagalog. Verb-initial word order in Tagalog seems to be derived simply and straightforwardly through head movement of the verb to a position in the inflectional layer, as proposed by Aldridge (2004). VP fronting does not generally take place in this language. Consequently, regardless of whether the object is definite and values structural nominative case, as in (59a), or whether it is indefinite (and nonspecific) and receives inherent genitive case from the verb, as in (59b), it can freely follow the external argument.

(59) a. Bi-bilh-in ng babae **ang** **isda**.
RED-buy-TR GEN woman NOM fish
'The woman will buy the fish.'

b. B<um>ili ang babae **ng** **isda**.
<AV.PFV>buy NOM woman GEN fish
'The woman bought a fish.'

A recent proposal by Saito (2016) suggests a possible analysis of this asymmetry between Seediq and Tagalog word order. Saito proposes that morphological case serves to make a DP invisible to the Labeling Algorithm. Since morphologically case marked DPs are ignored by the Labeling Algorithm, such DPs can surface relatively freely in positions where they do not enter into an

Agree relation with their sisters. Accordingly, the indefinite, nonspecific object in the Tagalog clause in (59b) can be separated from the verb, because its case is overtly marked.[18] This contrasts with bare objects in Seediq, which must remain in the VP so that they can be labeled together with the verb. I save exploration of this possibility for future research.

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[18] An anonymous reviewer asks why verbal head movement is able to strand internal arguments in any language, for instance in the derivation of V2 order in Germanic languages. The answer to this question is precisely the same as the explanation suggested above for Tagalog VSO order. Such languages have morphological case.

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