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The nature and origin of syntactic ergativity in Austronesian languages

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1 Introduction

In many languages with ergative alignment, it is only the DP with absolutive (nominative) case which can undergo syntactic movement. This restriction is commonly found in Austronesian languages like Tagalog. (1) illustrates the ergative[1] alignment in Tagalog. The subject of the intransitive verb in (1a) has the same nominative case as the object in the transitive example in (1b). The intransitive verb in (1a) is inflected with the intransitive perfective infix <*um*>, while the transitive verb in (1b) takes the transitive perfective infix <*in*>.

(1) a D<um>ating ang babae.
<INTR.PFV>arrive NOM woman
'The woman arrived.'

[1] It is not universally acknowledged that Tagalog is an ergative language. Most commonly, it is referred to as a language with a "symmetrical voice" system, in which different arguments are assigned nominative case without demotion of the other arguments (cf. Himmelmann 2005 and references therein). The locus of the controversy is the semantically transitive construction often referred to as the "actor voice", in which the external argument has nominative case and the theme direct object has genitive case. Aldridge (2012) argues that this is an antipassive construction in which the theme DP is demoted in the ways expected of a theme in an antipassive construction in uncontroversially ergative languages. Establishing that the semantically transitive "actor voice" construction is an antipassive allows Tagalog to be analyzed as a language with ergative alignment. I follow this position here. The Tagalog antipassive is discussed briefly in (3).

b B<in>ili ng babae ang isda.

<TR.PFV>buy GEN woman NOM fish

'The woman bought the fish.'

(2a) shows that a relative clause can be formed on the internal argument in this clause type. In contrast, the external argument with genitive case cannot be extracted, as shown in (2b).

(2) a isda-ng[2] b<**in**>ili ng babae

fish-LK <TR.PFV>buy GEN woman

'fish that the woman bought'

b *babae-ng b<in>ili ang isda

woman-LK <TR.PFV>buy NOM fish

'woman who bought the fish'

An external argument can only be extracted in an intransitive clause like an antipassive. In the antipassive in (3a), intransitive morphology appears on the verb, the external argument has absolutive case, and the object now is assigned inherent genitive case. (3b) shows that the external argument can undergo movement. But now the genitive object is ineligible for extraction, as shown in (3c).

[2] In Tagalog orthography, the linker and genitive case particle appear to have the same form, both being written as "ng". However, they have different pronunciations, as well as different functions. The genitive case particle is fully syllabic, pronounced [naŋ], while the linker is pronounced just as the velar nasal.

(3) a B<um>ili ang babae ng isda.
<INTR.PFV>buy NOM woman GEN fish
'The woman bought a fish.'

b babae-ng b<um>ili ng isda
woman-LK <INTR.PFV>buy GEN fish
'woman who bought a/the fish'

c *isda-ng b<um>ili ang babae
fish-LK <INTR.PFV>buy NOM woman
'fish that the woman bought'

This extraction restriction is widely considered to be a key characteristic of syntactic ergativity (Dixon 1994, Bittner 1994, Manning 1996, Campana 1992, Aldridge 2004, 2008), found not only in Austronesian languages but also in Inuit and Mayan languages, as well as some others, like the Australian language Dyirbal. However, such a correlation between A'-movement and nominative case-valuation seems surprising in light of the general lack of interaction between A and A' dependencies. In English, strict locality between DPs is found in A-movement to subject position.

(4) a [$_{TP}$ Mary [$_{vP}$ t_{Mary} saw Bill]].

b *[$_{TP}$ Bill [$_{vP}$ Mary [$_{VP}$ saw t_{Bill}]]].

But an object is perfectly free to move over the subject to an A'-position, as in (5a). Locality restrictions resurface, however, if both the subject object are *wh*-phrases.

(5) a [$_{CP}$ Who did [$_{TP}$ Mary see t_{who}]]?

b *What did who see?

Campana (1992) approaches the ergative challenge to Rizzi's (1990) principle of Relativized Minimality by proposing that subject position in syntactically ergative languages is an A'-position. Absolutive DPs move to this position in order to check nominative case, while ergative case is checked in a lower position.[3] Relativized Minimality then allows only the absolutive to undergo further movement to [Spec, CP], since movement of the ergative DP would require crossing the higher A'-position occupied by the absolutive. An obvious theoretical shortcoming of this proposal, however, is the stipulation of which positions are A-positions and which are A'-positions. It also relies on the assumption that movement takes place from the derived subject position to [Spec, CP], which in more recent Minimalist Theory is banned as a violation of Antilocality (Grohmann 2003[4]) or Criterial Freezing (Rizzi 2006).

In this paper, I develop the insight in Campana (1992) but dispense with his stipulation regarding A and A' positions. Instead, I propose that not all languages have the A/A' partition to begin with. Specifically, C-T Inheritance (in the sense of Chomsky 2008) does not take place, so the position for valuing nominative case is the same [Spec, CP] position which is the target for movements traditionally considered to have A' properties. Owing to the lack of separate A and A' positions, there is also no distinction between these types of movements, with the result that

[3] Campana (1992) uses the framework proposed by Murasugi (1992) to account for ergative alignment. Absolutives check their case in [Spec, AgrSP] subject position, while ergatives move to [Spec, AgrOP] to check their case.

[4] See Grohmann (2011) for additional references.

strict locality is observed between DPs for all types of movement. And since the DP movement landing site is the position where nominative case is valued, only the nominative DP can access this position.

In the following section, I summarize the theoretical framework assumed in this paper and show how the lack of an A/A' partition accounts for the extraction restriction in Tagalog. Section 3 presents evidence for the proposal in Austronesian languages, particularly the more conservative languages spoken in Taiwan, the homeland of Proto-Austronesian. In section 4, I propose that the extraction restriction be reconstructed to Proto-Austronesian (PAn) and show additionally how the manifestation of this restriction in high-order subgroups suggests that it originated in a language with accusative alignment which required object relative clauses to be nominalized so that the subject was assigned inherent genitive case and consequently not dependent on nominative case from C. Section 5 briefly considers other approaches to syntactic ergativity and suggests how the present proposal can provide a uniform analysis of this phenomenon across languages.

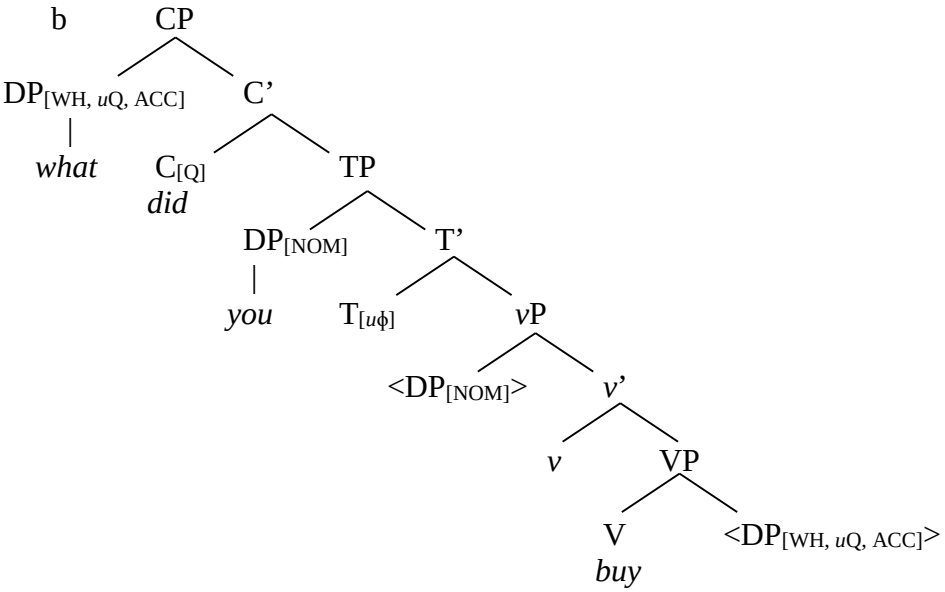
2 C-T Inheritance

The theoretical context for this paper is the framework of C-T Inheritance (Chomsky 2008). In this framework, the features responsible for licensing nominative arguments are not inherent to T but rather are inherited by T from C. For example, the [*u*ϕ] feature which licenses the subject in a language like English enters the derivation on the phase head C but is immediately passed to T. At this point, the [*u*ϕ] feature probes its c-command domain and undergoes Agree with the first matching [ϕ] feature it encounters, which is on the subject DP. As a result of this Agree relation, [*u*ϕ] on T is valued, the subject receives nominative case, and then the subject moves to the

[Spec, TP] subject position. If C has a feature licensing A'-movement like [Q], this is retained by C, allowing movement over the subject in [Spec, TP] if the clause contains an XP with a matching [*u*Q] feature, as in cases of object *wh*-movement.

(6) a What did you buy?

b



Ouali (2008), Legate (2014), Gallego (2014), Martinović (2015), Erlewine (2016), Aldridge (2017b), and others have proposed that C-T Inheritance (in the sense of Chomsky 2008) does not take place universally but can be obviated under certain circumstances. I propose with Richards (2007, 2012) that the presence of an unvalued feature, which is also uninterpretable, is what forces C-T Inheritance to take place. The reason is to ensure that newly valued features are appropriately deleted or retained when transferred to the interfaces. These features must not be present in the C-I (Conceptual-Intentional) Interface. But if they have an overt reflex, then they need to be retained and spelled out in the SM (Sensorymotor) Interface. Consequently, newly

valued features must be transferred immediately upon valuation so they can be deleted on their way to the C-I Interface but retained for access in the SM Interface. If they are deleted before Transfer, they will not be available in the SM Interface, and if they are retained after valuation, then they will become indistinguishable from valued and interpretable features and consequently will be incorrectly transferred to the C-I Interface. For this reason, unvalued features, e.g. [*u*ϕ] in a language like English, must be passed to a head in the domain[5] of C so that they are spelled out as soon as they are valued. This is summarized by the following condition, which I state generally for all uninterpretable features.[6]

(7) Condition on feature inheritance

Uninterpretable features on a phase head must be inherited.

The simultaneity of feature valuation and Transfer also ensures that all syntactic operations within a given phase take place at the same time, in parallel. Chomsky proposes that the features on both T and C begin probing as soon as Inheritance takes place. As a result, the subject and the

[5] The domain is the constituent which is sister to the phase head. According to the theory of phases and Multiple Spell-Out (Chomsky 2000 and subsequent work), a derivation proceeds phase by phase, with phases defined minimally as *v*P and CP. After all features merged on a phase head have been valued and or checked, the domain of that phase is transferred to the Interfaces, after which time it is no longer accessible to the syntactic computation.

[6] Aldridge (2018a) divides uninterpretable features into two classes, those which seek a value and those which do not. She further shows that the two types occur in a fixed order. Those seeking a value (like [*u*ϕ]) must be inherited in the domain of the phase head, while those which merely need to be deleted for convergence, e.g. focus features, surface in a higher position, but below interpretable features like [Q]. The reader is referred to Aldridge (2018a) for details on how this ordering is obtained. For the purposes of the present paper, I assume the simple view that all uninterpretable features are treated equally and are never retained on the phase head.

wh-phrase in a derivation like (6) undergo movement to their respective landing sites at the same time. If these operations were not simultaneous, then subject movement and Spell-Out of TP would take place before the object *wh*-word is able to undergo movement. The fact that the *wh*-word moves to [Spec, CP] rather than a lower position is because the [Q] feature on C is interpretable and so it does not need to be inherited by a lower head.

Given that the motivation for C-T Inheritance is the presence of an uninterpretable feature on C, C-T Inheritance should not be expected to take place if C does not enter the derivation with an uninterpretable feature. Specifically, I propose with Saito (2016) that subject licensing and DP movement are not driven by unvalued ϕ-features in languages which lack subject/verb agreement. For such languages, Saito (2016) proposes that licensing of DPs involves only the valuing of a case feature on the DP itself,[7] but there are no unvalued ϕ-features on the licensing head. According to my proposal in (7), then, the case feature on C need not be inherited by a lower head (because it does not seek a value), so if DP movement takes place, this argument moves directly to the CP layer. The main consequence of this proposal for syntactic ergativity is that there is only one landing site for DP movement, and this is the position for valuing nominative case. So a DP which moves to this position will value nominative case.

In the remainder of this section, I illustrate how this proposal accounts for the Tagalog extraction facts observed in section 1. I begin with object extraction in a transitive clause. With Woolford (1997, 2006), Legate (2002, 2008), Mahajan (1989), and others, I assume that ergative is inherent case assigned by transitive *v* to its specifier. I also follow Bok-Bennema (1991), Bittner and Hale (1996a, b), Woolford (1997), Ura (2000), Alexiadou (2001), and others in assuming that accusative case is unavailable in ergative clauses so the object is dependent on C

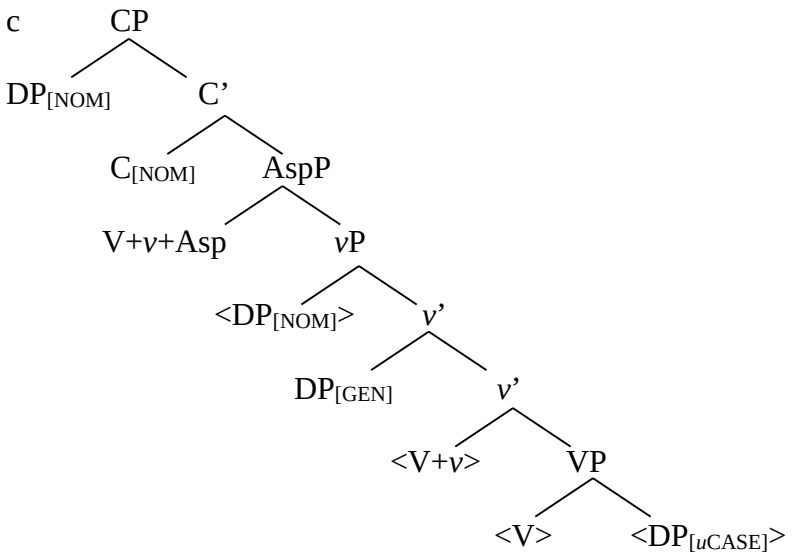
[7] This portion of Saito's proposal is adapted from Bošcović (2007).

to value nominative case. An additional proposal I make is that nominative case can be valued either under Agree, resulting in a declarative clause, or in a spec/head relation as the result of movement. It is clear that Tagalog absolutives do not need to undergo movement for licensing in declarative clauses, given that basic word order is VSO, and arguments typically surface in post-verbal position, as in (8a). So I propose that nominative case in declarative clauses is valued under c-command in an Agree relation with C.[8] I further assume with Aldridge (2004) that the verb achieves its position by undergoing head movement to an aspectual projection above *v*P. When extraction takes place, as in (8b), the object moves to [Spec, CP], because this is the the only position available for DP movement, and its case is valued in the landing site.

(8) a B<in>ili ng babae ang isda.
<TR.PFV>buy GEN woman NOM fish
'The woman bought the fish.'

b isda-ng b<in>ili ng babae
fish-LK <TR.PFV>buy GEN woman
'fish that the woman bought'

[8] This introduces a question as to how C can enter into Agree with a DP inside the *v*P phase, given that the VP domain of this phase head has already been spelled out at the time C is merged into the derivation. This question can be addressed by assuming with Rackowski (2002), Aldridge (2004, 2008), and Rackowski and Richards (2005) that absolutive objects in Tagalog undergo covert movement to [Spec, *v*P], where they receive a presuppositional interpretation, as per Diesing's (1992) Mapping Hypothesis. Note that Tagalog absolutives are always specific and typically definite.



The proposal that nominative case can be valued either under c-command or in [Spec, CP] accounts for another fact in the language, i.e. the distribution of the morphological nominative case marker on the absolutive DP. When this argument is spelled out in the clause, it surfaces with its case marker, but when it moves to [Spec, CP], the case marker does not appear. This alternation is straightforwardly accounted for as a consequence of the timing of Spell-Out. As summarized above, Spell-Out must take place simultaneously with feature valuation in order to ensure that the newly valued features are deleted before Transfer to the C-I Interface but retained for access in the SM (Sensorymotor) Interface. Consequently, a case feature which has been valued by C under c-command and spelled out in the domain of C will have an overt reflex, because the feature is spelled out as soon as it is valued. But if the DP in question moves to [Spec, CP], in the edge of the phase, then the case feature will not have an overt reflex. This is because the edge of the phase will not be spelled out until the next instance of Transfer, so the case feature is simply deleted as soon as it is valued.[9]

[9] This proposal is inspired by Saito's (2016) analysis of the role of morphological case in Labeling, though the technical implementation differs in significant ways. Saito proposes that overt case marking makes an argument

One final point needing clarification is the motivation for movement of the absolutive. Since this DP can value case in situ or in [Spec, CP], it is not clear why it should ever need to undergo movement. In section 3, I show that DP movement in Tagalog is found primarily in relativization. I follow Aldridge (2017b) in proposing that this type of movement is motivated not by morphosyntactic feature-checking but rather by the interpretation. If the DP is in a position where it can be modified by the rest of the clause, then the construction is interpreted as a relative clause.[10] DP movement is also found in topicalization, which I discuss in section 3.7.

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invisible to the Labeling Algorithm (Chomsky 2013, 2015), which in turn allows the argument to surface in a position where it does not check features with its sister. Among other things, this accounts for the possibility of scrambling in languages with morphological case. Descriptively, this generalization also applies to Tagalog. When nominative case is valued under c-command, the DP does not check any features with its sister VP or *v*P, so the case marker must appear. In contrast, the case feature does not surface when the DP occupies [Spec, CP], where it shares its nominative case feature with its sister. It is not necessary in the current paper to adopt Saito's technical analysis, since my approach to feature valuation and Transfer accounts for the same facts in Tagalog without the additional mechanisms involved in Labeling.

[10] Aldridge's (2017) account of the extraction restriction differs from mine in its details but is nonetheless parallel to it. Aldridge (2017) proposes that the head of a relative clause is a reduced and non-referential nominal category. Consequently, it does not need to value case. Her account of the locality restriction, then, is to claim that relativizing C does not have a case feature, so only the nominal phrase not needing to value case can move to [Spec, CP]. All other arguments in the clause are referential DPs and therefore need to value case. This sounds very different from my analysis but is actually completely parallel. On my analysis, it is precisely the nominal which needs case that can raise to [Spec, CP], since this is the position for valuing structural nominative case. All other DPs have had their case valued by other syntactic heads by the time C is merged. So these two analyses are actually mirror images of each other and account for the same range of facts in Tagalog. I choose the current view because it has broader typological application and does not rely on positing a separate non-referential category that can be merged as an argument in relative clauses.

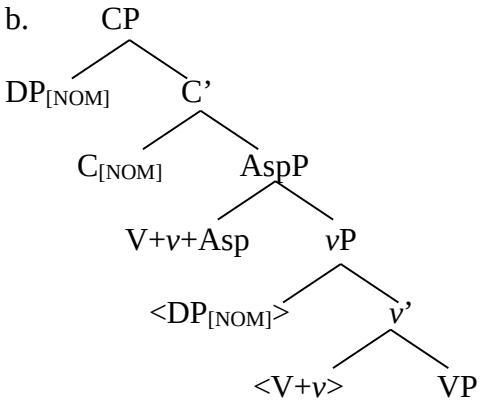
Returning to the analysis of extraction, in contrast to absolutive DPs, ergative DPs are not eligible for extraction in a transitive clause. Since its case feature has already been valued, it cannot enter into an Agree relation with C. Even if we were to assume with Bejar & Massam 1999), Yoon (2004), Jónsson (2009), and others that a DP can value multiple cases, then giving the nominative case to the ergative DP would prevent the absolutive object from being licensed.

(9) *babae-ng b<in>ili ang isda
woman-LK <TR.PFV>buy NOM fish
'woman who bought the fish'

An external argument can only be extracted in an intransitive clause like an antipassive. In contrast to transitive *v*, intransitive *v* does not assign inherent case to its specifier. Consequently, the external argument must value structural case, so it can move to [Spec, CP].

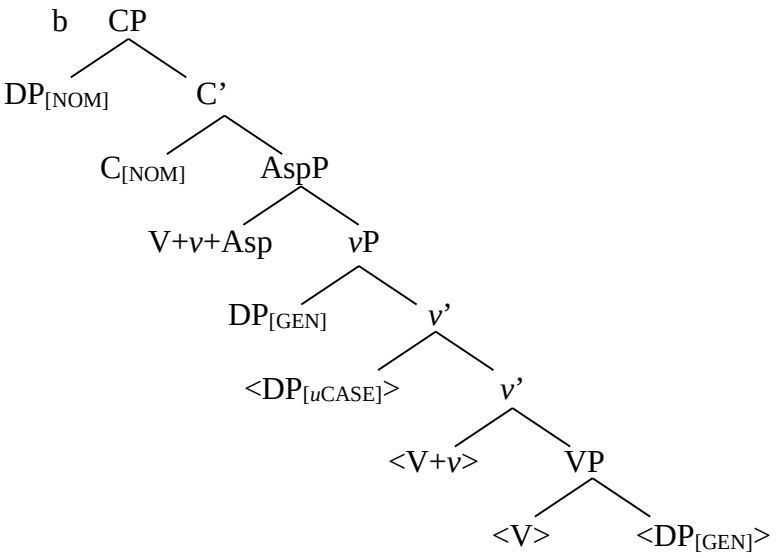
(10) a B<um>ili ang babae ng isda.
<INTR.PFV>buy NOM woman GEN fish
'The woman bought a fish.'
b babae-ng b<um>ili ng isda
woman-LK <INTR.PFV>buy GEN fish
'woman who bought a/the fish'

b.



Object movement is not possible in an antipassive, when the external argument needs to value structural case. If the object were to move to [Spec, CP], then the subject would fail to be licensed and the derivation would crash. I assume that inherent genitive case is assigned by the lexical verb to the object in an antipassive. Alternatively, we could assume that the object values structural case with *v* in an antipassive. In either case, the object's case feature is valued within *v*P, so it would not be able to enter into an Agree relation with C.

(11) a *isda-ng b<um>ili ang babae
fish-LK <INTR.PFV>buy NOM woman
'fish that the woman bought'



To summarize the proposal, the Austronesian DP extraction restriction results from the lack of C-T Inheritance. Nominative case is valued by C rather than by a lower head. Consequently, there is only one landing site for DP movement, with the result that only a DP valuing nominative case can undergo dislocation. In the next section, I provide support for this proposal from other Austronesian languages. Most of this section focuses on DP movement. I discuss non-DP movement in section 3.7 and show how it does not pose a problem for my analysis of DP movement.

3 Synchronic support

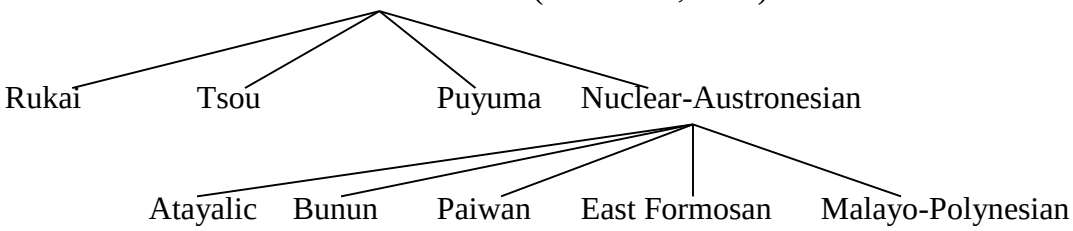
In section 2, I proposed that strict locality is observed in Austronesian DP movement, because the only available landing site is the nominative case-checking position, because nominative case is checked in [Spec, CP]. In this section, I provide evidence that DP movement is not motivated by other other features like [WH] or [Q]. Since a second goal of this paper is to identify the

diachronic origin of the extraction restriction, I focus the discussion here on the conservative Austronesian languages spoken in Taiwan, commonly referred to as “Formosan languages”.

3.1 Extraction restriction

It is widely accepted that Taiwan is the homeland of Proto-Austronesian, and members of its first-order subgroups are still spoken there (Tsuchida 1976, 1982; Blust 1977, 1999, 2009/2013; Starosta 1995; Ross 1995, 2009, 2012; and others). In recent work, Ross (2009, 2012) has proposed that there are four primary subgroups of Austronesian. Aside from Rukai, Tsou, and Puyuma, all other Austronesian languages, including the remaining Formosan languages and all of Malayo-Polynesian, are contained in the fourth subgroup, what Ross dubs “Nuclear Austronesian” (NAn).

(12) Austronesian (Ross 2009, 2012)



The extraction restriction is found in all Formosan and Philippine languages. Tagalog, discussed in sections 1 and 2, is a Malayo-Polynesian language spoken in the Philippines. I take up Paiwan and Rukai in section 4.1. For the discussion here, I illustrate the restriction with examples from Tsou. First, observe that Tsou has ergative alignment, as discussed at length by Chang (2011). Note also that transitivity is morphologically marked on verbs and auxiliaries. Of particular relevance here is the intransitive prefix *m-* in (13a), the transitive suffix *-a* in (13b), and the

dative/locative applicative *–i* in (13c). The intransitive prefix *m-* is cognate with Tagalog <*um*>. I discuss the importance of the transitive affixes in the development of ergative alignment in section 4.2.

Tsou (Chang 2011: 281-2)

(13) a **mi**-ta **m**-ongsi ’e pasuya
INTR.3SG INTR-cry ABS PN
‘Pasuya is crying.’

b i-ta teaph-**a** to kexpx ta pasuya ’e cxyx
TR-3SG put.into-TR OBL backpack ERG PN ABS lunch.box
‘Pasuya put the lunch box into his backpack.’

c i-ta teaph-**i** to cxyx ta pasuya ’e kexpx
TR-3SG put.into-APPL OBL backpack ERG PN ABS lunch.box
‘Pasuya put a lunch box into his backpack.’

Tsou also has the extraction restriction. The object can be relativized in a transitive clause, as in (14a), but not the external argument, as shown in (14b).

Tsou (Chang 2011: 301-2)

(14) a cuma na i-he papas-a
what ABS TR-3PL cut-TR
Lit. ‘What are the things they are cutting?’
‘What are they cutting?’

b *sia na i-he papas-a ’e evi

who ABS TR-3PL cut-TR ABS tree

Intended for ‘Who are cutting the wood?’

Examples like (14), where the interrogative constituent surfaces in clause-initial position are cleft constructions. The interrogative constituent is in matrix predicate position, while the presupposition constitutes a headless relative clause function as the subject. Note the nominative case marker selecting the clause. It is also possible for a copula *zou* to precede the matrix predicate. As I discuss in the next subsection, Tsou is a *wh*-in-situ language. I follow Cheng (1991) in understanding *wh*-clefts as a type of *wh*-in-situ, i.e. that the clause-initial *wh*-phrase is not moved from inside the clause to [Spec, CP] but rather is base-generated in its surface position as the matrix predicate. See also Georgopoulos (1991), Paul (2000), Pearson (2001), Massam (2003), Aldridge (2004, 2013), Potsdam (2006, 2007, 2009), and others for other analyses of *wh*-questions in Austronesian languages as clefts and not derived through *wh*-movement.

Tsou (Chang 2000: 2)

(15) a (zou) **sia** 'e [[m-i-ta *e* eobak-o ta mo'o] OP]?

EMPH who ABS INTR-3SG.NOM hit-INTR OBL Mo’o

‘Who is the one that hit Mo’o?’

b (zou) **sia** 'e [[i-si eobak-a *e* to pasuya] OP]?

EMPH who ABS TR-3SG.OBL hit-TR OBL Pasuya

‘Who is the one that Pasuya hit?’

The extraction restriction in Tsou can be accounted for in the same way as in Tagalog. But the connection with nominative case is even more obvious in Tsou, since the absolutive DP has a fixed position in declarative clauses. Basic word order in Tsou is VOS, and the absolutive DP must occupy clause-final position in declarative clauses, as can be seen in (13).[11] Consequently, operator movement in the headless relatives in cleft constructions can also be analyzed simply as movement of the absolutive to the nominative checking position in [Spec, CP], as shown in the bracketing in (15).

3.2 Lack of wh-*movement*

As discussed in section 2, *wh*-movement in a language like English is motivated by checking a [Q] feature on C. One the consequences of the partition between A and A' positions in languages like English is that it provides separate landing sites for the subject and a non-subject which can check the [Q] on C. The availability of these separate features and their concomitant landing sites is what enables a non-subject argument to undergo movement to a position above the subject, unlike in Austronesian languages with the extraction restriction. Interestingly, Puyuma, Tsou, and Rukai are essentially *wh*-in-situ languages.

[11] It may be wondered why the absolutive case marker is not deleted when the argument surfaces in [Spec, CP]. This is because these markers spell out interpretable features like visibility, i.e. whether the speaker has seen the referent of the argument, which are inherent to the DP. Since these features are interpretable, they will be deleted at Spell-Out and are passed to both interfaces.

Puyuma (Teng 2008: 224-225)

(16) a mi-walak **i** **manay**?

have-child SG.NOM who

'Who gave birth to a child?'

b ta=pu-ngalrad-anay **kan** **manay**?

1PL.ERG=put-name-APPL DEF.OBL what

'What name should we give him?'

c ulaya=yu **isuwa**?

exist=2SG.NOM where

'Where are you?'

Wh-in-situ is also found in Tsou. The interrogative constituent can only surface in clause-initial position in a cleft, as discussed in the preceding subsection.

Tsou (Chang 1998: 102)

(17) a i-si eobaka-a **no** **sia** 'e mo'o?

TR-3SG hit-TR OBL who ABS Mo'o

Lit: 'Mo'o was hit by whom?'

b te-ta mo-si ta pangka **no** **cuma** 'e pasuya?

MOD-3SG INTR-put OBL table OBL what ABS Pasuya

'What will Pasuya put on the table?'

Chang (1998) demonstrates the lack of movement by showing that interrogative pronouns can surface in situ inside syntactic islands, like the *wh*-island shown in the example below.

Tsou (Chang 1998: 170)

(18) os-ko uci-a cohiv-i [$_{CP}$ mo m-hin-o no cuma
TR-2SG want-TR know-APPL INTR INTR-buy-INTR OBL what
na sia]?
NOM who
'Who is it that you wonder what they bought?'

The lack of *wh*-movement in the preceding examples is accounted for on my analysis, because the only available landing site is [Spec, CP], but the absolutive argument must value case with the head of this projection, so this position cannot be occupied by another constituent.

3.3 Lack of wh-*features*

My claim that [Spec, CP] is the position for valuing nominative case also strongly suggests that there is no other feature, such as [Q] or [WH], driving movement to this position. This is because case valuation alone suffices to license a DP in this position, so additional features would be superfluous. Indeed, the Austronesian languages that I am aware of do not provide morphological evidence for a *wh*-feature like that in English (***wh****o*, ***wh****at*, ***wh****ere*, ***wh****en*, ***wh****y*) that identifies the class of interrogative pronouns. Interestingly, interrogative pronouns in Austronesian languages do seem to divide into morphological classes, but this is based on lexical category and not on their status as indefinite or interrogative. For example, nominal interrogative

words have an incorporated determiner or case marker (Blust 2015; Kaufman 2017). In Tagalog, these are *si* for nominative personal names, *a* for nominative common nouns, and *ni* for genitive personal names.

		Tagalog	
(19)	a	***si****no* 'who.NOM.PN'	***si*** *Maria* 'NOM.PN Maria'
	b	***a****no* 'what.NOM.CN'	***a****-ng guro* 'NOM.CN-LK teacher'
	c	***ni****no* 'who.GEN.PN'	***ni*** *Maria* 'GEN.PN Maria'

It might be countered that the shared syllable *no* is a *wh*-feature, but this component is not shared by non-nominal interrogative pronouns like locative/dative interrogative words.[12] These interestingly appear to begin with a prepositional element, *ka(y)* marking dative personal names, or *sa* occurring with other goals or locatives.

		Tagalog	
(20)	a	***sa****an* 'where'	***sa*** *Maynila* 'in/to Manila'
	b	***ka****nino* 'to whom'	***kay*** *Maria* 'to Maria'

When adverbial interrogative words are considered, no 'wh' morpheme seems to be shared among them or with any other interrogative word in the language.

[12] An anonymous reviewer points out that *kanino* 'to whom' contains an instance of *no*, but this morpheme is part of the nominal complement *nino* 'whom' of the preposition *ka(y)* and not part of the PP, per se.

Tagalog

(21) a *kailan* ‘when’

b *bakit* ‘why’

c *ilan* ‘how many’

Paiwan, a Nuclear Austronesian Formosan language, mirrors this paradigm. The nominal interrogative forms contain an incorporated case marker and the locative form an incorporated preposition. The nominal forms in (22a-c) all contain string *–ma*, but this is not found in the locative form.

Southern Paiwan

(22) a ***ti****ma* ‘who.NOM.PN’ ***ti*** *Kivi* ‘NOM.PN Kivi’

b ***a****nema* ‘what.NOM.CN’ ***a*** *itong* ‘NOM.CN clothing’

c ***ni****ma* ‘who.GEN.PN’ ***ni*** *Kivi* ‘GEN.PN Kivi’

d ***i****nu* ‘where’ ***i*** *gade* ‘in the mountains’

The other adjunct forms contain neither of these affixes. It is interesting that temporal adverbials agree with the tense of the clause, but since the other interrogative pronouns lack this feature, it does not constitute evidence for the presence of a *wh*-feature in the language.

Southern Paiwan

(23) a *nu-ngida* ‘when.FUT’

b *ta-ngida* ‘when.PAST’

In sum, there is no evidence for an affix or other morphological flag identifying interrogative pronouns as a class. Though full discussion of this topic is beyond the scope of the current paper, I suggest that morphological realization of features triggering movement is related to Labeling (in the sense of Chomsky 2013, 2015). Aldridge (to appear) proposes that features shared by phrasal constituents for the purposes of Labeling must have an overt morphological expression. Even case features are not exceptional in this regard. Even though morphological nominative case does not appear in Tagalog when the absolutive DP occupies the [Spec, CP] position where its case is valued, as I proposed in section 2, the fact that this DP occupies a specific position in the clause structure does serve to identify its grammatical function. So the lack of morphological *wh*-marking suggests very strongly that movement in such a language is not driven by a [Q] or [WH] features. However, morphological incorporation of a case-marker in the nominal interrogative pronouns in (19) and (22) is quite suggestive of the connection I am proposing here between movement and case valuation. In other words, it is the case feature itself which licenses the movement.

Finally, it may be wondered how my analysis can derive the interrogative interpretation of questions if there are no [Q] or [WH] features on interrogative pronouns. I close this subsection by pointing out that this is not problematic for my analysis, since it does not preclude the presence of an interpretable [Q] feature on interrogative C. It is this feature, in combination with the inherent semantic properties of interrogative pronouns, which derive the interpretations of so-called *wh*-questions in languages like Tagalog and Paiwan. The proposal in this paper is concerned with the syntactic feature which a moving DP checks in [Spec, CP], which is nominative case and not the [Q] feature. Secondly, as I pointed out in section 3.1, *wh*-questions

which appear superficially to be derived through *wh*-movement in Austronesian languages are actually clefts. So the movement takes place inside of a relative clause, which is not interrogative to begin with. I mention the structural properties of clefts again briefly in the next subsection.

3.4 Lack of superiority effects

Another argument against movement being driven by a [WH] or [Q] feature is the lack of superiority effects. As is well known, without contextual support, English does not allow movement of an object *wh*-phrase over another *wh*-phrase in subject position. This is accounted for by locality, the [Q] on C attracting the closest matching [*u*Q], which is found on the subject.

(24) a Who bought what?

b ??What did who buy?

In Tagalog, either the subject or the object can be extracted in multiple *wh*-questions. Unsurprisingly, given my proposal, what determines which can be extracted is the valuation of nominative case. When the object moves over the subject, as in (25b), the subject must be genitive.

(25) a Sino ang [$_{CP}$ OP b<um>ili <OP> ng ano]?

who NOM <INTR.PFV>buy GEN what

'Who bought what?'

b Ano ang [$_{CP}$ OP b<in>ili nino <OP>]?

what NOM <TR.PFV>buy who.GEN

'What did who buy?'

Note that, like Tsou, Tagalog *wh*-questions formed on nominal interrogative phrases take the form of clefts. The interrogative constituent functions as the matrix predicate, while the presupposition takes the form of a headless relative clause in matrix subject position. So, as in Tsou, there is no direct movement of DP interrogative words in the language, another indication that placement of the interrogative constituent is not driven by a *wh*-feature.

Let me point out that Paiwan also lacks superiority effects. As in Tagalog, either the external or internal argument can appear in clause-initial position in a multiple *wh*-question. But the gap inside the presupposition must be the position for the nominative argument.

Southern Paiwan

(26) a Tima na-p<en>angul *e* ta tima?

who PFV<INTR>hit OBL who.NOM

'Who hit who?'

b Tima a p<in>angul nima *e* ?

who NOM <TR.PFV>hit who.GEN

'Whom did who hit?'

3.5 Long distance movement

I have proposed that DP movement in Austronesian languages is licensed solely by structural case, which is valued in [Spec, CP]. Consequently, there is no A/A' partition for the purposes of DP movement. This is confirmed in cases of long distance movement. For movement into a higher clause to be licit in Austronesian languages with the extraction restiction, there can be no nominative DP in that clause. (27b) is ungrammatical, due to the presence of a nominative external argument in the higher clause.

Tagalog

(27) a ang libro-ng [$_{CP}$ s<in>abi=**niya**-ng
NOM book-LK <TR.PFV>say=3SG.GEN-LK
[$_{CP}$ b<in>ili=mo sa Maynila]]?
<TR.PFV>buy=2SG.GEN in Manila
'the book that he/she said you bought in Manila'

b *ang libro-ng [$_{CP}$ nag-sabi=**siya**-ng
NOM book-LK INTR.PFV-say=3SG.NOM-LK
[$_{CP}$ b<in>ili=mo sa Maynila]]?
<TR.PFV>buy=2SG.GEN in Manila
'the book that he/she said you bought in Manila'

This is easily accounted for on my analysis. Valuing nominative case in the higher clause makes [Spec, CP] unavailable in that clause, preventing movement from the lower clause.

The same is true in the Atayalic language Seediq. Atayalic languages are also Nuclear Austronesian languages spoken in Taiwan. Seediq is a VOS language, the absolutive nominal appearing in clause-final position. (28a) is an antipassive; the matrix external argument surfacing in clause-final position. The interrogative pronoun occupies its base position in the embedded clause. Movement is not allowed because of the nominative subject in the higher clause. In contrast to this, the matrix clause in (28b) is transitive and the external argument has ergative (genitive) case. The lack of a nominative DP in the higher clause allows the interrogative pronoun to undergo movement. Note that this construction is a cleft, so the moving constituent is a null operator inside the headless relative clause following the nominative case-marker. Nominative case-marking is optional in Seediq.

Seediq (Aldridge 2004: 248)

(28) a H<**m**>eidaq [$_{CP}$ m-ari **maanu**] laqi ka tama?
<INTR>allow INTR-buy what child NOM father
'What did the father allow the child to buy?'

b **Maanu** (ka) gaga=na hdieq-**un** [$_{CP}$ m-ari *t*] laqi?
what NOM PRES=3SG.GEN allow-TR INTR-buy child
'What does he/she allow the child to buy?'

An anonymous reviewer makes the astute observation that long distance movement results in the DP valuing case multiple times. This would be problematic if we assumed the Activation Condition of Chomsky (2000, 2001). Since the case feature of the DP has already been valued by *v*, the DP should no longer be an active goal for case valuation. However, the Activation

Condition has come under fire as an independent principle of syntax by Bošcović (2007). Furthermore, many languages have been argued to allow multiple case valuation, including Niuean (Bejar & Massam 1999), Korean (Yoon 2004), Icelandic (Jónsson 2009), among others.

I also assume that moving DPs in Austronesian languages can value case multiple times, and this is a consequence of the lack of the A/A' partition, which results in the nominative case-checking position being the only landing site for DP dislocation. Regarding how a DP which has already valued case can move into another case-checking position, I propose that this is another consequence of the timing of Spell-Out that I discussed in section 2. If the nominative DP is spelled out as soon as its case feature if valued, then the value of the case feature can have an overt reflex. This happens when the DP does not undergo dislocation. But if this feature is valued in the edge of a phase – which happens as a consequence of movement – the feature will be deleted before Transfer and not receive an overt reflex.[13] Consequently, this case feature cannot be pied-piped to a higher phase if the DP continues to undergo movement, meaning that the DP is free to land in another case-checking position.[14] Furthermore, given that the only landing site for DP movement is [Spec, CP], this position must be available not only for local but also for

[13] Note that deletion does not target case features of DPs if the case was valued in the domain of the phase head before movement and not through feature-checking in the landing site. As proposed in section 2, nominative case in Tagalog can be valued under c-command or by raising the DP to [Spec, CP]. Consequently, deletion does not target internal argument DPs undergoing scrambling to the edge of *v*P in languages like Japanese and Korean, since accusative case is valued *v*P-internally and not checked by *v* with the argument in the edge of this phase, given that the outer specifier *v*P is a movement escape hatch (Chomsky 2000, 2001) and not a licensing position.

[14] See also Aldridge (to appear) who proposes that a case feature lacking a morphological reflex must be determined in the phase where the DP is spelled out. This means that when a moving DP crosses a phase boundary, it must move to a case-checking position so it can be licensed in that phase.

long distance movement. The reader is also referred to Davies and Kuniawan (2013), who have proposed that long distance movement in some Indonesian languages like Sundanese also traverses through the position for nominative case-checking, a process they refer to as "successive cyclic A-movement".

3.6 Raising

Finally, I show how some unexpected characteristics of raising in Austronesian languages follow from my proposal that case is the sole motivator of movement. (29a) shows a Southern Paiwan object control structure in which the controller in the matrix clause is the absolutive argument in that clause with nominative case. In (29b), raising of the embedded object has taken place. This object now appears in the matrix clause with nominative case. The controller now appears in oblique case.

Southern Paiwan (Wu 2013: 251)

(29) a ʼu-RuqeRuq-en ti kapi a [pa-vay tjay kivi ta pakiaw].
1SG.GEN-force-TR NOM Kapi LK CAUS-give OBL Kivi OBL money
'I have forced Kapi to give money to Kivi.'

b ʼu-si-RuqeRuq tjay kapi a [pa-vay tjay kivi *t*]
1SG.GEN-APPL-force OBL Kapi LK CAUS-give OBL Kivi
a pakiaw.
NOM money
'I have forced Kapi to give money to Kivi.'

What is mysterious about this movement is that it crosses several DPs seemingly occupying A-positions as it moves in order to undergo Agree with C in the matrix clause and value nominative case. Minimally, these are the embedded goal argument *Kivi* and the matrix object *Kapi*. Consequently, it is clear that this is not pure EPP-driven movement, which would be expected to target the closest DP to the probe. What is happening instead is that the probe can find any DP which has not been case-licensed. Specifically, all other DPs in the clause are marked with inherent case, either genitive or oblique. These can then be skipped by the case probe in order to find the most deeply embedded object *pakiaw* 'money'.

3.7 Topic and focus

Before concluding this section, I briefly consider other features which are generally invoked to license movement in other languages, i.e. topic and focus. As mentioned in section 3.1, *wh*-questions formed on DPs are clefts in the Austronesian languages under consideration. The same is true of other DP focus constructions. The focused constituent occupies the matrix predicate position, and the presupposition takes the form of a headless relative clause. Clefting of referential DPs is also subject to the extraction restriction. (30) shows that the absolutive object can be extracted in the relative clause but not the ergative subject.

Seediq

(30) a Rulu [$_{DP}$ ka [$_{CP}$ [b<n>ari=na *e*] OP]].
car NOM <TR.PFV>buy=3SG.GEN
'What he/she bought is a car.'

b *Tama [$_{DP}$ ka [$_{CP}$ [b<n>ari *e* ka rulu] OP]].

Father NOM <TR.PFV>buy NOM car

'Father is the one who bought the car.'

This is accounted for in exactly the same way as relativization and *wh*-question derivation. The movement takes place inside the embedded clause and is licensed by valuing nominative case in [Spec, CP]. The interrogative or focus interpretations are obtained in the matrix clause. Note that the interrogative or focused constituents do not move to the [Spec, CP] nominative case-checking position in the matrix clause, as they are the predicates in these clauses. This is at least suggested by the fact that nominative case appears not on these constituents but on the headless relative clauses following them. See also Georgopoulos (1991), Paul (2000), Pearson (2001), Massam (2003), Aldridge (2004, 2013), Potsdam (2006, 2007, 2009), and others for analyses in which the focused constituents in Austronesian clefts are predicates and do not move to [Spec, CP].

Turning to topicalization of DPs, this movement also observes the extraction restriction.

Tagalog

(31) a [[Ang libro-ng ito] ay] b<in>ili=ko sa Maynila.

NOM book-LK this TOP <TR.PFV>buy=1SG.GEN in Manila

'As for this book, I bought (it) in Manila.'

b *[[Si/ni Maria] ay] b<in>ili ang libro sa Maynila.

NOM/GEN Maria TOP <TR.PFV>buy NOM book in Manila

'As for Maria, (she) bought the book in Manila.'

It may be wondered why the nominative case marker appears on the topicalized DP in spite of the fact that the DP surfaces in the left periphery of the clause, suggesting that nominative case is valued after the DP moves to the edge of the CP phase. However, on my analysis, this is actually not the case. The topic DP is contained within a larger constituent headed by the topic marker. This outer structural layer imposes an additional phase boundary, forcing the DP to be spelled out before movement takes place. Consequently, the case feature of the DP must be valued before movement to [Spec, CP].

Up to this point, I have not discussed movement of non-DPs. This is possible in some Austronesian languages.[15] (32b) shows fronting of a PP in Tagalog. This movement typically results in a focus interpretation for the fronted constituent.

Tagalog

(32) a I-b<in>igay ng babae ang kendi **sa bata**.
APPL-<TR.PFV>give GEN woman NOM candy to child
'The woman gave the candy to the child.'

b **Sa bata** i-b<in>igay ng babae ang kendi.
to child APPL-<TR.PFV>give GEN woman NOM candy
'*To the child*, the woman gave the candy.'

This is clearly not the same type of movement observed with DPs. First, non-DP movement does not result in a cleft structure. Note the absence of a nominative case marker following the fronted

[15] See Aldridge (2004) on the typology of non-DP fronting in Austronesian languages.

constituent in (32b). Secondly, DP and non-DP movement can co-occur, the non-DP targeting a lower position than the DP.

Tagalog

(33) Ito-ng libro ay saan=mo b<in>ili?
this-LK book TOP where=2SG.GEN <TR.PFV>buy
'This book, where did you buy (it)?'

Non-DP fronting introduces a question for my proposal, since non-DPs do not move to case-checking positions. This type of movement also does not compete with DP-movement; non-DP movement is not blocked by the presence of a nominative DP, and both types of movement can co-occur in a single clause. I therefore consider these two types of movement as targeting different positions and being licensed through separate mechanisms. I propose here that non-DP movement is driven by an uninterpretable focus feature [*u*Foc]. Bearing in mind the condition on feature inheritance I proposed in section 2, this feature must be inherited, because it is uninterpretable.

(34) Condition on feature inheritance

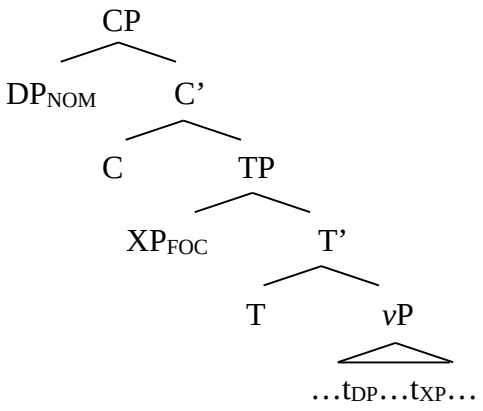
Uninterpretable features on a phase head must be inherited.

This forces focus movement to target a lower position than movement of the nominative DP, accounting for the order (33). Concretely, focused constituents move to [Spec, TP][16]. In contrast,

[16] This projection might be given a separate label, e.g. "FocP". I use "TP" in order to keep the connection with feature inheritance simple.

DP movement cannot target this landing site. The reason is because the DP would not be case-licensed in this position, as the nominative case feature remains on the phase head.

(35)



To summarize this section, I have provided several arguments that DP dislocation in Austronesian – especially Tagalog and Formosan – languages is licensed by case checking and not by other features like focus or *wh*-features, which are commonly assumed to drive dislocation in other languages. Non-DP movement is driven by [*u*Foc], but DPs cannot be attracted by this feature, since movement to the focus position would not allow them to be case licensed. In the next section, I explore the diachronic origin of the extraction restriction. I argue that this restriction was present already in Proto-Austronesian, but reconstruction of the restriction to the proto-language also supports an analysis of this language as having accusative rather than ergative alignment, which in turn suggests that syntactic "ergativity" is not limited to languages with ergative alignment.

4 Diachronic origin of the extraction restriction

In this section, I discuss the reconstruction of the Austronesian extraction restriction and the alignment of Proto-Austronesian (PAn). Since all Formosan languages exhibit the extraction restriction, I reconstruct it to PAn. This in itself is not a controversial proposal, since Starosta et al. (1982), Blust (2009/2013), Ross (2009, 2012) also assume that the restriction was found in PAn.

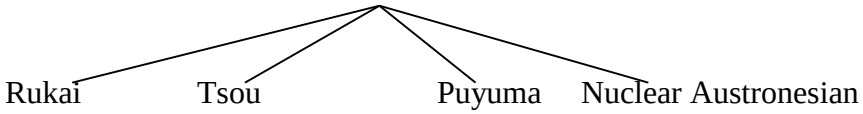
However, these authors also assume that PAn had the same type of non-accusative alignment generally found in Formosan languages today. On this point, my analysis departs from tradition, since I argue that PAn should be reconstructed as a language with accusative alignment. This is because the extraction restriction allows object movement only in nominalized relative clauses. This would be difficult to explain if PAn were an ergative language, since the nominative object should be able to extract directly in a finite verbal context. On the other hand, in an accusative language, it is the subject which values nominative case in a finite clause. Subject extraction is therefore free, but extraction of a lower argument requires that the subject to be given inherent case in order to make [Spec, CP] available for another constituent. This can be accomplished by nominalizing the clause and assigning genitive case to the subject. Thus, the requirement in Rukai and Puyuma that object relative clauses be nominalized constitutes evidence that PAn was an accusative language and not ergative.

4.1 Nominalized relative clauses

In this subsection, I present evidence that object extraction in PAn required a nominalization. The evidence comes from first-order subgroups that retain this characteristic, Puyuma and Rukai.

As introduced in section 3, the subgrouping I assume in this paper is based in large part on Ross (2009, 2012), though I revise this in section 4.2.

(36) Austronesian (Ross 2009, 2012)



I first discuss Puyuma, a language with ergative alignment. Intransitive subjects and transitive objects are marked with nominative case. (37b) shows a basic transitive clause in which the theme has nominative case. (37c) is an applicative construction in which a pseudo-argument is licensed with nominative case.

Puyuma realis

(37) a t<**em**>a<ka>kesi=*ku* (Teng 2008:135)

<INTR><RED>-study=1SG.NOM

'I am studying.'

b tu=trakaw-**aw** *na* *paisu* kan isaw (Teng 2008:147)

3.ERG=steal-TR DEF.NOM money SG.OBL Isaw

'Isaw stole the money.'

c tu=trakaw-**ay**=*ku* dra paisu kan isaw (Teng 2008:147)

3.ERG=steal-APPL=1SG.NOM INDEF.OBJ money SG.OBL Isaw

'Isaw stole money from me.'

Turning to extraction, subject relative clauses in Puyuma are formed by simply moving this DP in a finite clause. The same intransitive infix <*em*> can appear on the embedded verb. Consequently, it can be said that extraction of subjects takes place directly from verbal finite domains.

Puyuma (Teng 2008: 135)

(38) [a [$_{CP}$ OP [ta<ka>kesi *e*]]]=ku

INDEF.NOM <INTR><RED>-study =1SG.NOM

'I am a student.' (lit 'I am one who studies.')

But when a relative clause is formed on object position, the clause must be nominalized. Note in particular that the transitive suffix *–aw* does not appear. In its place we find instead the nominalizer *–an*. And perfective aspect is marked with the infix <*in*>, which Teng (2008) points out surfaces only on nominalized verbs.

Puyuma (Teng 2008: 105)

(39) a ala amuna sadru [[tu=tr<**in**>ekelr-**an**] na asi]

maybe because many 3SG.GEN=<PFV>drink-NMLZ DEF.NOM milk

'Maybe because the milk he drank is a lot.'

b tu=lasedr-aw=dar i tralru-tralrun nantu

3SG.GEN-hide-TR=FREQ LOC RED-grass NOM.3SG

[[**in**-abak-**an**	kana	walak]	na	padrekan]
PFV-pack-NMLZ	DEF.OBL	child	DEF.NOM	backpack

‘She often hid the backpack in which she packed the child in the field.’

In contrast to Puyuma, the Rukai dialects are all accusatively aligned and do not reflect the transitive and applicative affixes found on finite ergative verbs in Puyuma and Tsou like *–aw, -ay, -a,* and *–i*. The examples below show that subjects have nominative case in both transitive and intransitive clauses.

Tanan Rukai

(40) a uduri=**aku** sa bɨlbɨl
plant=1SG.NOM INDEF banana
‘I plant bananas.’

b labuwal=**aku** kɨla
walk=1SG.NOM come
‘I come walking.’

But Rukai is similar to Puyuma in how it manifests the extraction restriction. Subject relative clauses are verbal, as evidenced by the appearance of tense morphemes. The future tense marker can be seen in the root clause in (41a) and the subject relative in (41b).

Tanan Rukai

(41) a luða **ay**-kɨla ku tina=li

tomorrow FUT-come NOM mother=1SG.GEN

'My mom will come tomorrow.'

b [kuaDa **ay**-suwasuwaw] ka muka-baru-barua

DEM FUT-clean TOP girl

'The one who will clean is the girl.'

In contrast, object relatives are nominalized. They can contain aspect markers but not tense. Note further that the nominalizer *-anɨ* is cognate with the nominalizer *–an* in Puyuma and the applicative *–an* in Tagalog.

Tanan Rukai

(42) w-aga=su sa aga sa [**a-kani-ani**=ta ki maum]

PAST-cook=2SG INDEF food INDEF IMPFV-eat-NMLZ=1PL.INCL P night

'Did you cook dinner (the food that we will eat tonight)?'

In addition to the nominalizing suffix, the <*in*> aspect marker, which like in Puyuma surfaces only in nominalizations, can be found in earlier Tanan Rukai. Li (1973) shows that this infix appeared when an object undergoes extraction, as in (43b). Note that subject extraction in (43a) does not result in nominalization. This is evidenced by the presence of a tense marker, which can only surface in finite verbal contexts. Basic word order in Rukai is VSO. Li refers to fronting

constructions like those in (43) as “emphatic”. My consultants translate examples of this type as clefts, with the clause-initial DP in focus.

Tanan Rukai (Li 1973: 108-9)

(43) a ku lacing **wa**-baay naku-a sa Lima ka ‘aysu.
NOM Lacing PAST-give 1SG-ACC OBL five LK money
‘Lacing gave me five dollars.’

b kay ‘aysu b<**in**>aay-an naku-a ina maruDang.
this money <PFV>give-NMLZ 1SG-ACC that old.man
‘This money was given to me by that old man.’

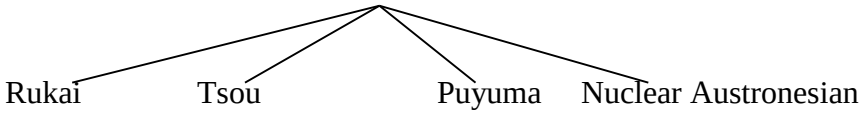
To summarize, Puyuma and Rukai display clear morphosyntactic differences between finite and nominalized clauses, and a relative clause must be nominalized when object extraction takes place. Ross (2009, 2012) reconstructs the nominalizing morphology, as well as nominalized relative clauses, to PAn. But he also assumes that PAn was an ergative language. In the next subsection, I show how the requirement that object relative clauses be nominalized actually warrants reconstructing PAn with accusative, rather than ergative, alignment. Before that, I first summarize Ross’ (2009, 2012) proposal that PAn was an ergative language.

4.2 Proto-Austronesian alignment

There are two distinguishing characteristics of Ross’ (2009, 2012) reconstruction of PAn morphosyntax and subgrouping hypothesis, shown again below. One of them is positing the Nuclear Austronesian subgroup containing all Austronesian languages other than Rukai, Tsou,

and Puyuma. As I pointed out in section 2, this includes all Malayo-Polynesian languages, as well as the majority of Formosan languages like Paiwan and Seediq, discussed in that section.

(44) Austronesian (Ross 2009, 2012)



Ross proposes that the defining innovation of the Nuclear Austronesian (NAn) subgroup was the reanalysis of embedded nominalizations, specifically relative clauses, as finite root clauses. Such a change was first proposed by Starosta et al. (1982), who claim that the affixes marking transitive (ergative) verbs in many Philippine languages originally had a nominalizing function, and that the transitive clause type found in these languages today resulted when a cleft containing a nominalized relative clause was reananalyzed as monoclausal. I illustrate this with an example from Budai Rukai. The input to the reanalysis is a cleft structure like (45). The presupposition is a headless relative clause in subject position, indicated by the brackets. The focused constituent is the matrix predicate, shown in bold. Note also the nominalizer *-ane*, which has cognates in Puyuma, as well as in other dialects of Rukai, as shown in the previous subsection. It is generally reconstructed to PAn as *-*an*.

Budai Rukai (Chen 2008:84)

(45)	[Ta-badh-*ane*	ki	tina-ini	ki	lalake-ini]
	NONFUT-give-NMLZ	GEN	mother-3SG.GEN	OBL	child-3SG.GEN

ka **laimai**.

NOM clothes

'The clothes are what the mother gave her child.'

Starosta et al. (1982) propose that biclausal cleft constructions like (45) were reanalyzed as monoclausal transitive sentences with genitive subjects and nominative objects. The translation of (45) thus becomes: 'The mother gave the clothes to her child.'[17]

Ross' contribution to the Starosta et al. (1982) proposal was to identify the languages in which this innovation has taken place and argue that they belong to a single subgroup of the Austronesian family, his Nuclear Austronesian (NAn). Reflexes of PAn nominalizing morphology like *–*an* continue to function solely as nominalizers in Puyuma and Rukai, but they are employed as verbal affixes in NAn languages, e.g. the locative applicative in Tagalog.

Tagalog

(46) B<*in*>ilh-**an** ng babae ng isda *ang* *tindahan=ko*.

<TR.PFV>buy-APPL GEN woman GEN fish NOM store=1SG.GEN

'The woman bought a/the fish at my store.'

The morphological evidence for NAn is very compelling. I also agree that PAn should be reconstructed as having the dichotomy between verbal and nominalizing morphology, because Puyuma and Rukai provide clear evidence that PAn had nominalized relative clauses. On this

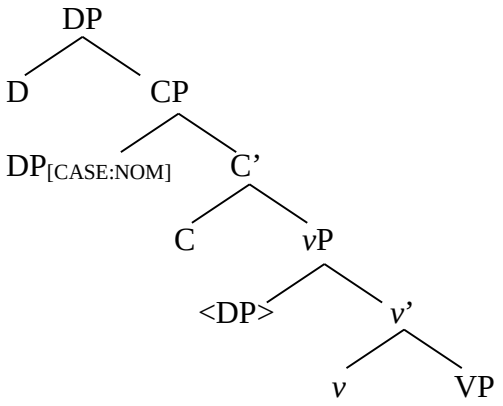
[17] See Gildea (1998) for a similar account of the reanalysis of nominalizations as ergative clauses in Cariban languages.

basis, I also adopt the NAn hypothesis. However, I do not agree with the other distinguishing characteristic of Ross' family tree in (44) that PAn should be reconstructed with ergative alignment.

Ross' proposal for alignment in PAn is based on the fact that ergative alignment is found in Puyuma, Tsou, and Nuclear Austronesian languages, so the principle of majority rule in comparative reconstruction compels him to reconstruct PAn as an ergative language. However, he offers no independent evidence for this. Nor does he provide an explanation for the accusative alignment found in Rukai other than his speculation that the morphology distinguishing transitive/ergative from intransitive verbs found in the other daughters of PAn was lost without a trace, and the language was reanalyzed as accusative.

Another problem is how to account for the extraction restriction. Ross assumes that PAn also required nominalization for object relative clause formation, as in Puyuma. But there is no obvious reason why an ergative language should require a nominalization in order to extract an object, given that transitive verbal clauses afford nominative case to the object, which should enable it to move, as is the case in NAn languages in Taiwan and the Philippines today. On the other hand, if accusative alignment is posited for the proto-language, then the nominalization requirement for object relatives receives a straightforward explanation. This is because it is only in a language with accusative alignment where the need for nominalization arises. The reason is because, given the extraction restriction, an object cannot be extracted over a subject in a finite clause, since the subject in an accusative language must value nominative case. Because of this, [Spec, CP] is not available for movement of the object.

(47)

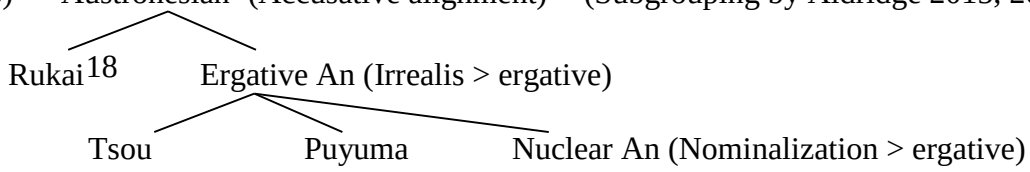


Extracting an object over the subject requires a different strategy for case licensing the subject. This is accomplished in a nominalization, since the subject can be given inherent genitive case, allowing the object to move over it.

As pointed out above, object extraction in Tsou does not require nominalization but rather takes place in finite clauses. This is unproblematic for my analysis of the extraction restriction, since Tsou has simply lost these affixes. As Ross (2009) points out, nominalizing morphology survives in some lexical nominalizations in Tsou, establishing that this language did inherit them from PAn. But they do not appear in clausal contexts, so the only reasonable conclusion is that these morphemes were lost in Tsou. In the absence of nominalizing morphology, then, the extraction restriction can be satisfied by targeting the nominative argument in finite clauses for dislocation. As for why Puyuma employs nominalizations in object extraction contexts, I assume that this is merely a retention from PAn.

The alternative that I adopt is Aldridge's (2015, 2016) proposal refining Ross' (2009, 2012) subgrouping hypothesis by reconstructing PAn with accusative alignment and proposing that ergative alignment was first innovated in PAn's daughter, the Ergative Austronesian (EAn) subgroup. Rukai retains the accusative alignment of PAn.

(48) Austronesian (Accusative alignment) (Subgrouping by Aldridge 2015, 2016)



Aldridge (2015, 2016) proposes that ergative alignment first emerged in irrealis clauses. Evidence for a derivational relationship between realis and irrealis verb morphology can be found in Puyuma. Recall first the realis paradigm of Puyuma verbal affixes: <*em*> 'intransitive', -*aw* 'transitive', and –*ay* 'applicative'.

Puyuma realis

(49) a t<**em**>a<ka>kesi=*ku* (Teng 2008:135)

<INTR><RED>-study=1SG.NOM

'I am studying.'

b tu=trakaw-**aw** *na* *paisu* kan isaw (Teng 2008:147)

3.ERG=steal-TR DEF.NOM money SG.OBL Isaw

'Isaw stole the money.'

c tu=trakaw-**ay**=*ku* dra paisu kan isaw (Teng 2008:147)

3.ERG=steal-APPL=1SG.NOM INDEF.OBJ money SG.OBL Isaw

'Isaw stole money from me.'

[18] This proposal is in agreement with Starosta's (1995, 2001) claims that Rukai is a primary subgroup of PAn, though there are significant differences between the bases for the two claims.

Next, examine the following irealis clause type. The sentences in (50) are imperative constructions. The basic transitive suffix is *–u* and the applicative is *–i*.

Puyuma imperatives (Teng 2008:216)

(50) a pilang-**u** i temuu
take-TR.IMP SG.NOM your.grandmother
m-uka i drena-drenan
INTR-go LOC RED-mountain
'Take your grandmother to the mountains.'

b puka-**i** dra tidrul dra samaya
put-APPL.IMP INDEF.OBL wasp INDEF.OBL some
'Put some wasps (in).'

Aldridge proposes that the *–aw* and *–ay* affixes of the realis paradigm were derived diachronically from a subjunctive base ending in **–a* by adding the imperative suffix **–u* and the applicative **–i*. Evidence for the subjunctive function of **-a* comes from its use marking embedded verbs in Puyuma purpose clauses, as in (51a). Evidence for the applicative function of *–i* comes from its synchronic use as a locative or dative preposition in many Austronesian languages, such as Paiwan in (51b).

(51) a drua-drua me-na'u-**a** a trau (Puyuma; Teng 2008:113)
RED-come INTR-see-A INDEF.NOM person
'Many people came to see.'

b	talem	ti	ina	ta	qarizang	**i**	**gade**	(Southern Paiwan)
	<INTR>plant	NOM.PN	mother	OBL	bean	P	mountain	

‘Mom plants beans in the mountains.’

In a revised version of this proposal, Aldridge (2018b, 2019) follows Starosta (1995) suggesting that *–u* and *–i* both originated as nominal markers, a definite determiner and preposition, respectively. According to Starosta, these were incorporated to the verb, resulting in their reanalysis as verbal affixes. As for the ergative alignment, Aldridge (2018b, 2019) proposes that incorporation of the determiner and preposition resulted in the loss of the case licenser for the object, forcing the object to exceptionally enter into an Agree relation with C in order to value structural (nominative) case. In this way, the language came to have nominative objects in transitive clauses. As for ergative subjects, this was due to the morphological properties of pronominal clitics, the vast majority of which lack a distinction between nominative and non-nominative cases in Puyuma and Tsou. Assuming that PAn also lacked this case distinction in the clitic pronouns, when the object valued nominative case with C, the subject pronoun was reanalysed as a non-nominative argument, resulting in a full ergative-nominative case pattern in transitive clauses.

These changes, which Aldridge (2015, 2016, 2018b, 2019) posits to have occurred in Proto-Ergative Austronesian, resulted in an ergative case-marking pattern only in irrealis mood. As evidence for this proposal, she shows that the affixes marking transitive (ergative) verbs in Puyuma and Tsou are cognate with affixes found only in irrealis clauses in NAn languages. For example, the subjunctive suffix *–o* in Seediq derives historically from *–aw*, which is the basic

transitive suffix in Puyuma. The suffix *–i* appears in Seediq imperative and negated clauses, and is cognate with the Tsou applicative *-i*.

Seediq (Holmer 1996:45)

(52) Qtay-**i** hari! Da-**o**=su takun!
see-TR.IMP a bit pass-TR.SBJV=2SG fall
'Careful! You might fall!'

Aldridge also adopts Ross' (2009, 2012) NAn hypthesis, which entails a second innovation producing ergative alignment in realis clause types through the reanalysis of nominalizations as finte root clauses, as discussed above. Consequently, Proto-Nuclear Austronesian employed two sets of transitive verbal affixes, one for realis and one for irrealis. Most Formosan NAn languages retain this dichotomy. In Seediq, the basic transitive affix in negated clauses is *–i*, while it is an erstwhile nominalizer *–un* in realis mood.

Seediq negation and realis

(53) a Ini=mu burig-**i** kanna.
NEG=1SG.GEN buy-TR.IRR all
'I didn't buy all of them.'

b Wada=mu burig-**un** ka patis-ni.
PAST=1SG.GEN buy-TR.REAL NOM book-DEF
'I bought the book.'

But in Puyuma, the embedded nominalizations did not undergo reanalysis as finite root clauses. Instead, Aldridge proposes that the embedded subjunctive clause type was reanalysed as a finite root clause when the auxiliary introducing this clause type was lost. Evidence for an erstwhile auxiliary comes from the placement of clitic pronouns in Puyuma. Weak pronominal subjects in intransitive clauses in Puyuma are enclitics, while they procliticize to the verb in transitive clauses. Note the lack of an auxiliary verb, the main verb occupying clause-initial position.

Puyuma

(54) a bəray=**ku** ɖa kuraw ɖa ŋiaw (Tan 1997:11)
give=1SG.NOM OBL.INDEF fish OBL.INDEF cat
'I gave a fish to a cat.'

b **tu**=trakaw-aw na paisu kan isaw (Teng 2008:147)
3.GEN=steal-TR DEF.NOM money SG.OBJ Isaw
'Isaw stole the money.'

Aldridge follows Starosta et al. (1982) and Ross (2002, 2006) in proposing that clitics in PAn were all enclitics and that proclitics in the languages that have them are the result of the loss of a clause-initial auxiliary verb. Note that the auxiliaries have been retained in Tsou; all finite clauses in Tsou are introduced by an auxiliary. In this way, Puyuma and Tsou realis affixes on ergative verbs originate from an embedded subjunctive clause type, while realis affixes on NAn ergative verbs are erstwhile nominalizers. In contrast to this, Rukai retains the accusative alignment of PAn.

An anonymous reviewer points out that the NAn subgroup proposed by Ross (2009, 2012) and the PEAn subgroup frist proposed by Aldridge (2015) are established solely on the basis of syntactic innovations and are not substantiated by phonological evidence. However, this does not weaken the proposals in any way. The new subgroups for the most part do not contradict earlier subgrouping hypotheses based entirely on phonological and morphological evidence. Aldridge (2015) is merely a regrouping of Ross' (2009) proposal, positing a closer relationship among Tsou, Puyuma, and NAn than in Ross' view. But the internal boundaries separating these languages and subgroups are not altered. Ross (2009), in turn, bases his subgrouping on the seminal work by Blust (1999), who posits ten primary subgroups of PAn on the basis of phonological and morphological evidence.

(55) Austronesian (Blust 1999:45)[19]

Puyuma

Rukai

Tsouic: Tsou, **Kanakanavu, Saaroa**

Northwest Formosan: Saisiyat, Kulon-Pazih

Atayalic: Atayal, Seediq

Western Plains: Thao, Taokas, Favorlang-Babuza, Papora, Hoanya

Bunun

Paiwan

East Formosan: Basay-Trobiawan, Kavalan, Amis, Siraya

Malayo-Polynesian: all extra-Formosan languages

In other words, Ross' NAn subgroup is nearly completely just a larger grouping of smaller subgroups (shown in bold in 55) already established on the basis of phonological and morphological evidence. The sole exception is Blust's assumption of the Tsouic subgroup. Blust follows Tsuchida (1976, 1982) in grouping Kanakanavu and Sa'aroa together with Tsou as the Tsouic subgroup, while Ross classifies Kanakanavu and Sa'aroa as NAn languages. Ross (2012) also presents phonological arguments against Tsuchida's proposed Tsouic subgroup. If Ross' (2012) arguments against Tsuchida are credible, then none of the subgrouping boundaries proposed by Ross or Aldridge contradicts any of the subgrouping hypotheses which have been established by more traditional historical linguistic methodology. The morpho-syntactic

[19] The order of subgroups listed by Blust (1999:45) is different from that given here. I have made this change in order to make the list more directly comparable with Ross' (2009) subgrouping.

innovations proposed by Ross and Aldridge merely provide evidence for more fine-grained groupings within these otherwise well established subgroups.

In this section, I have proposed that the extraction restriction be reconstructed to PAn. But PAn was a language with accusative alignment. The consequence of the extraction restriction was to force object relative clauses to be nominalized so that the subject had inherent case and made [Spec, CP] available for object to move to. In the next section, I show how my analysis of the extraction restriction can be extended to other syntactically ergative languages. I also point out that morphosyntactic characteristics of many of these languages suggest that their transitive clauses also have a diachronic connection to nominalization.

5 Extensions and conclusion

In this paper, I have proposed that the constraint whereby only absolutive (or nominative) DPs can undergo extraction in syntactically ergative languages is due to a restriction that movement to a phase edge is motivated only by structural case licensing. I have provided evidence for this proposal from Austronesian languages. For reasons of space, I am unable to explore this hypothesis in detail for other ergative languages. But existing proposals for these languages do suggest that my approach may be on the right track.

First, the idea of deriving the privileged status of absolutive arguments from their need to move to value nominative case is not new, as discussed in section 1. Keenan and Comrie's (1977) relativization hierarchy makes essentially the same point if "subject" is understood as the DP which values nominative case. According to their findings, there are a significant number of languages in which only the nominative argument is to undergo movement in relative clause formation.

Accessibility Hierarchy for Relativization (Keenan and Comrie 1977)

(56) SU > DO > IO > OBL > GEN > OCOMP

Many of the languages in their survey exhibiting this constraint are plausibly analyzed as ergative, like Malagasy, but some others are not, like Indonesian/Malay. On the other hand, as we observed in the case of Rukai, the extraction restriction does not correlate with alignment, per se, but rather is found in languages in which nominative case is the sole feature motivating DP dislocation.

A more recent proposal correlating extraction with the need to value nominative case is Coon et al. (2014). An interesting empirical fact suggesting this correlation is the correlation between the surface position of absolutive clitics in Mayan languages and the source of absolutive case. In Q'anjob'al. the clitic attaches to the auxiliary preceding the main verb.

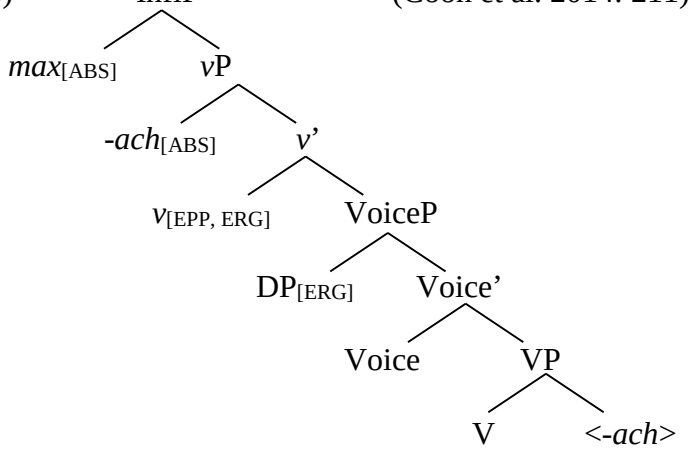
Q'anjob'al (Coon et al. 2014:190)

(57) a Max-**ach** y-il-a'.
ASP-2.ABS 3.ERG-see-TR
'She saw you.'

b Max-**ach** oq'-i.
ASP-2.ABS cry-INTR
'You cried.'

They propose that the object moves to the edge of *v*P in order to value its case with Infl, where it attaches to the auxiliary. Since *v*P is a strong phase, Infl cannot probe the clitic in its base position. In the edge of the *v*P phase, the clitic blocks extraction of lower constituents.[20]

(58) (Coon et al. 2014: 211)



As expected, Q'anjob'al exhibits the extraction asymmetry. The absolutive object can be extracted in (59b) but not the ergative subject in (59c).

Q'anjob'al (Coon et al. 2014: 192-3)

(59) a Max y-il[-a'] naq winaq ix ix. (Transitive clause)

ASP 3.ERG-see-TR CL man CL woman

'The man saw the woman.'

[20] This analysis is highly reminiscent of Aldridge's (2004, 2008) account of the extraction restriction in some Austronesian languages like Seediq.

b Maktxel$_i$ max y-il[-a'] naq winaq __$_i$? (ABS extraction)

who ASP 3.ERG-see-TR CL man

'Who did the man see?'

c *Maktxel$_i$ max y-il[-a'] __$_i$ xi xi? (*ERG extraction)

who ASP 3.ERG-see-TR CL woman

'Who saw the woman?'

The analysis I propose in the paper can also be extended to this type of Mayan language, while at the same time dispensing with the Coon et al. stipulation of phase based locality. All that need be said is that movement of absolutives is motivated to value case, and that the case position itself is in the edge of the relevant phase.

A related proposal is made by Deal (2016). In this analysis, probes on C are sensitive to the type of case valued on a DP, with "unmarked case" (in the sense of Marantz 1991, Bobaljik 2008) being the most accessible. Consequently, languages in which nominative case is morphologically unmarked are most likely to exhibit the extraction restriction. This turns out to be true for Mayan and Inuit languages but not for Austronesian, since nominative is typically marked in many of these languages, as can be seen in Tagalog example below.

(60) D<um>ating ang babae.

<INTR.PFV>arrive NOM woman

'The woman arrived.'

Before concluding, I briefly mention the account of syntactic ergativity proposed by Polinsky (2016). Rather than correlating extraction with any property of the absolutive, Polinsky attributes the relative mobility of absolutives to the inability of ergative DPs to undergo movement. Specifically, she claims that the type of inherent case assigned to this DP in syntactically ergative languages freezes it in place and prevents it from extracting. Polinsky gives a host of convincing arguments that ergative DPs are not structurally case-marked, and I agree that inherent case-marking on external arguments plays a significant role in accounting for the extraction restriction. As I proposed in section 2, it is inherent case assignment to the external argument which allows the case probe on C to probe past it and undergo Agree with an absolutive object. However, as evidenced by the fact that the extraction restriction is not confined to languages with ergative alignment, as evidenced in this paper by Rukai, it cannot be attributed to a property specific to ergative syntax.

In this paper, I made a second proposal that the extraction restriction in Austronesian languages traces its diachronic origin to a proto-language with accusative alignment in which object extraction is only permitted in nominalizations, since this is the environment in which an external argument can be licensed with inherent case and allow an internal argument to be visible to the case probe on the phase head. These nominalized clauses were later reanalyzed as transitive ergative clauses.

This diachronic connection is very suggestive when considering other ergative languages with the extraction restriction. One additional fact which I believe to be highly significant is that the extraction restriction tends to be found in languages in which ergative clauses bear some resemblance to nominalizations. This is highly suggested by the syncretism between ergative and genitive case. The same case is used to mark transitive subjects and possessors in both Mayan

and Inuit languages. I illustrate this below with Inuktitut. As pointed out in section 4, genitive is used to mark ergative subjects in Nuclear Austronesian languages as well.

Inuktitut (Johns 1992:68)

(61) a. Jaani-**up** taku-ja-a-nga
John-REL see-PASS.PART-3SG/1SG
'John saw me.'

b. Jaani-**up** nasa-a
John-REL hat-3SG
'John's hat'

Interestingly, Johns (1992) argues that ergative clauses in Inuktitut are synchronically derived from nominalizations.[21] To my knowledge, no such proposal – synchronic or diachronic – has been made for Mayan languages, so I leave the possibility as a suggestion for future investigation.

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[21] See also Kaufman (2009) for a similar approach to Tagalog.

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