# Two kinds of bans on ergative extraction*

Norvin Richards, MIT

norvin@mit.edu

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Wh-extraction of ergative DPs is, famously, permitted in some ergative languages[1], and banned in others:

(1) *Maktxel max-Ø y-il ix ix?
who ASP-3ABS 3ERG-see CLF woman
'Who saw the woman?'[2] [*Q'anjob'al (Mayan)* (Coon, Mateo Pedro, and Preminger 2014, 193)]

(2) Mikəne milger kun-nin?
who.ERG gun.ABS buy-AOR.3SG.SBJ.3SG.OBJ
'Who bought a/the gun?' [*Chukchi (Chukotko-Kamchatkan)* (Polinsky 2017)]

A long literature on extraction in ergative languages (see Aldridge 2008, Deal 2016, Polinsky 2017, Rill 2017 for discussion) points out that languages can vary with respect to which particular types of A-bar extraction of ergatives are banned. It looks as though we can find three main kinds of ergative languages.

First, there are ergative languages (like Ch'ol and Basque) in which any type of A-bar extraction of ergative DPs is acceptable. The main goal of this paper will be to understand which ergative languages belong in this category, and which do not.

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[1] By "ergative languages" I will mean, throughout, languages with an ergative alignment of either agreement or case morphology (for any kind of nominal).

[2] This can mean 'Who did the woman see?'.

A second class of ergative languages (including Q'anjob'al and Gitksan) ban wh-extraction (and typically also relativization[3]) of ergative DPs. Languages of this kind appear to invariably[4] be verb-initial. The extraction ban in these languages is specifically on ergative DPs; any other kind of phrase can be extracted. And as we will see, for languages of this type, if they have morphology indicating the transitivity of the verb, this morphology always has certain morphological and phonological properties, which will be discussed in further detail below.

Finally, there is a third class of ergative languages (including West Greenlandic and Chukchi) which only ban relativization, but not wh-movement, of ergative DPs. These languages appear to generally be SOV. And relativization in these languages is banned, not only for ergatives, but in fact for every DP which is not absolutive.

The theory developed here of the second class of languages described above, which ban wh-extraction of ergatives (and usually relativization as well), will be based on Contiguity Theory (Richards 2010, 2016, 2019, Branan 2018, Yamada 2019, and other work). One of the claims of Contiguity Theory, to be discussed further below, is that the distribution of EPP effects (that is, requirements that certain heads have specifiers) is in principle determinable from phonological and morphological factors. In particular, when a syntactic head is a phonologically overt affix, it is possible to determine from the form of the affix, and the way in which the affix

[3] There is some work discussing languages in which wh-extraction but not relativization of ergatives is banned; see Douglas et al (2017) for a proposal about how to deal with Mayan languages with this pattern. I will regard these languages for now as belonging to this second group, leaving for future work the question of what mechanisms they are using to make relativization of ergatives possible. Douglas et al (2017) make the important observation that the Mayan languages which allow relativization but not wh-movement of ergatives are a subset of the languages which allow VSO order; if a Mayan language requires VOS order, it is never in this class. A possible modification of their proposal which would be consistent with the approach to be developed here would say that these are languages which have a type of short movement of ergatives to a position immediately following the verb, which can feed certain types of A-bar extraction but not others.

[4] The one apparent exception that I know of is Katukína-Kanamarí (Katukina, Brazil); see appendix A.

interacts with word-level stress, whether the syntactic head requires a specifier or not. The principle is referred to in Contiguity Theory as Affix Support.

I will argue below that in languages with overt morphology indicating the transitivity of the verb, Affix Support determines whether extraction of ergatives is possible or not. In particular, when transitivity morphology is of the type that requires a specifier, ergative extraction is possible, and when it is not, ergative extraction is blocked. I conclude from this that there is some position in the clause in the general area of *v*P (in other words, an area associated with verbal transitivity) which has an EPP requirement in some languages, but lacks it in others--and that this EPP position is a crucial 'escape hatch' for extraction of ergative DPs.

For the third class of languages described above—the languages in which wh-movement of ergatives is permitted, but relativization is restricted to absolutives—I will offer a different condition, ultimately tied to the morphology of the verbs of relative clauses in the relevant languages.

In section 1 below, I will review the important points of Contiguity Theory. Section 2 will outline a theory of extraction which derives the existence of bans on ergative extraction, crucially tying the possibility of extraction to the nature of transitivity morphology. In section 3, I will survey the data from a number of ergative languages, arguing that the generalization offered in section 2 is empirically accurate. Finally, in section 4, I will turn to the languages which ban only relativization, but not wh-extraction, of ergatives, and offer a proposal about the nature of this ban as well.

## 1. Contiguity Theory

A crucial component of Contiguity Theory is the idea that syntax and phonology are not as segregated as commonly thought; in fact, syntactic movement operations can be triggered by the

need to improve phonological representations[5]. Contiguity Theory posits two forces that can drive syntactic movement of phrases. Section 1.1 will discuss Affix Support; section 1.2 will be about Contiguity.

### 1.1. Affix Support

Affix Support is a condition on syntactic heads which are affixes. It requires the grammar to make sure that any affix has something that bears stress in the direction in which the affix attaches. The central idea can be related to a literature on clitics (Selkirk 1995, Werle 2009, Harizanov 2014, and much other work) that pursues the idea that what makes clitics special is just that they are prosodically deficient, and that conditions on how prosodic structures are built therefore guarantee that a clitic must be attached to some element to which stress is assigned. Affixes, on this view, are like clitics in being potentially prosodically deficient; they differ from clitics in that they have syntactic complements from which they may trigger movement of potential sources of support.

This is the cause, in this theory, of EPP effects of the classic type: languages like English and French have Tense suffixes, and a phrase must move to the specifier of TP to provide T with Affix Support. Some affixes introduce a stress beat of their own; for example, Oltra-Massuet (1999, 2000), Guerzoni (2000), Oltra-Massuet and Arregi (2005) argue that Tense suffixes in Catalan, Italian, and Spanish introduce stress on the syllable before them. These affixes therefore provide their own Support, and have no need of a specifier of TP, and consequently, they show no EPP effects:

[5] Since Contiguity Theory is specifically about the motivation of movement by the need to improve phonological representations, the movements it triggers are invariably overt. The resulting theory will therefore only account for ergative extraction bans in languages in which wh-movement is overt. At this point I do not know of any languages with covert wh-movement in which in-situ wh-phrases may not be ergative; if there are in fact no such languages, this is a point in favor of this theory.

(3) a. **There** arrived a man. [*English*]

b. **Il** est arrive un homme. [*French*]

c. Va venir un home. [*Catalan*]

d. É arrivato un uomo. [*Italian*]

e. Apareció un hombre. [*Spanish*]

In a language in which Tense is not a suffix at all, Affix Support should never trigger a need for T to be preceded by a phrase. Languages like Greek and Tagalog therefore lack the EPP, since their Tense/Aspect morphemes are prefixes:

(4) **E-**stil-e o Petros to grama [*Greek*: Roussou and

**PAST**-send-3SG the Petros the letter Tsimpli 2006, 329]

'Petros sent the letter'

(5) **N**-ag-bili ang magsasaka ng bigas [*Tagalog*]

**PRF**-NOM.TRANS-sell ANG farmer UNM rice

'The farmer sold rice'

Contiguity Theory posits a derivation in which stress assignment takes place as early as possible; in other words, as soon as the kind of object to which the rules of stress make reference has been completely assembled, stress is assigned. As we have seen, there are cases where morphemes of particular classes trigger the assignment of stress; for example, as soon as T is Merged in a language like Spanish, Italian, or Catalan, stress may be assigned to a position before it. Other kinds of stress assignment rules assign stress to larger constituents. Some languages, like Finnish, generally have stress which is initial in the word (Karlsson 1999); stress of this kind could not be assigned until a complete word had been assembled. Stress in languages like English and French is of this kind; it cannot be assigned to the partial words to which

morphemes like T are attached, but must wait until the verb has been completely assembled, and the T morpheme must therefore seek Support outside the verb itself, in the form of a specifier of TP.

I will direct interested readers to Richards (2016) for further discussion of Affix Support. For our purposes, the condition can be summarized as follows:

(6) ***Affix Support***

If a head is an affix, there must be an element in the direction of affixation to which the rules of stress assignment make reference.

### 1.2. Contiguity

The condition of Contiguity applies to relations between Probes and Goals, and can be expressed as follows:

(7) ***Contiguity***

Between a Probe and a Goal, there can be nothing which is more prosodically prominent than the Goal.

The effects of (7) in a given language vary depending on the particular rules for the position of prosodic prominence in the language in question (see Richards 2016, 2019 for discussion). In some cases, Contiguity need not trigger any syntactic operations at all; the Probe-Goal relation between C and the wh-phrase in French, for example, can be satisfied while leaving the wh-phrase in situ:

(8) Tu as vu **qui**?
you have seen who
'Who did you see?'

In English, by contrast, the rules of prosodic prominence are such that the word order corresponding to (8) is typically intolerable; if the wh-phrase is left in situ, there will be material between C and the wh-phrase which is more prosodically prominent than the wh-phrase. The English wh-phrase therefore moves past this intervening material, becoming linearly adjacent to C:

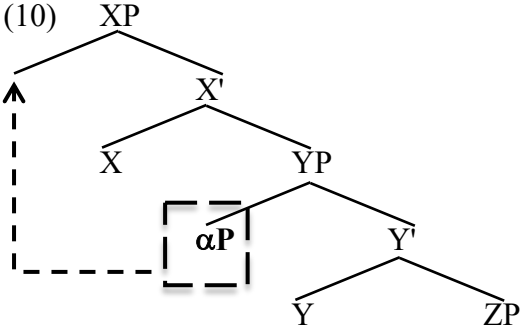
(9) **Who** did you see __ ?

Again, I will ask interested readers to turn to the existing literature on Contiguity Theory for more detailed discussion of the mechanics of Contiguity. All that will be necessary for our discussion is that Contiguity holds between Probes and Goals, and sometimes triggers an adjacency requirement between the Probe and the Goal (under conditions which have to do with independently verifiable parameters governing the distribution of prosodic prominence in different languages).

### 1.3 Affix Support, Contiguity, and Anti-locality

Consider a movement operation like the one in (10):

(10)




In (10), a phrase αP moves from the specifier of YP to the specifier of the head X which takes YP as a complement.

The move in (10) could be triggered by Affix Support. If X is the kind of head that requires Support from material to its left, then the movement in (10) will provide such support. Movement would therefore be motivated in this case.

Contiguity, on the other hand, could not trigger the movement in (10). Prior to movement of αP, X and αP are already linearly adjacent to each other. Consequently, there cannot be anything linearly intervening between X and αP which is more prosodically prominent than αP; in fact, there is nothing linearly intervening between them at all. The movement in (10) therefore could not be triggered by Contiguity.

If we think that movement operations can only take place if they are motivated either by Affix Support or by Contiguity, then we arrive at the conclusion that certain types of movements—the ones triggered just by Contiguity, and not by Affix Support—should be subject to a particular type of anti-locality; they should be unable to trigger a movement which does not cross an intervening specifier. As I discuss further in Richards (to appear), this is essentially the type of anti-locality posited by Erlewine (2016, 2020), and further discussed by Brillman (2017) and Brillman and Hirsh (2016).

In particular, Contiguity Theory makes a prediction about the nature of anti-locality effects; we should only find them with movements that are driven solely by Contiguity, and not by Affix Support. This prediction will be important in the account of the ban on extraction of ergatives.

## 2. Banning ergative extraction

In section 3 below, I will try to show that the following descriptive generalization holds:

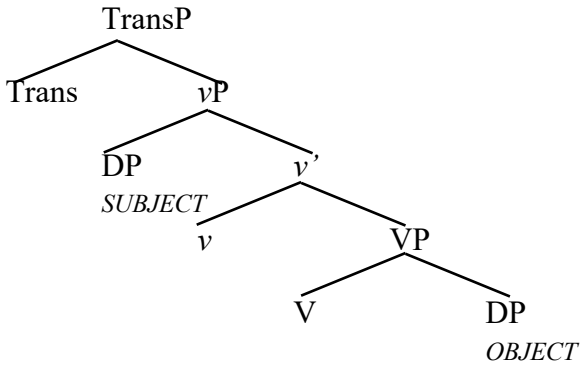
(11) In verb-initial ergative languages with overt morphology indicating the transitivity of the verb, if the transitivity morphology requires Affix Support to its left, then extraction of

ergatives is permissible; if the transitivity morphology does not require Affix Support, then extraction of ergatives is blocked.

In this section, I will show how the descriptive generalization in (11) can be made to follow, using the principles of Contiguity Theory just sketched in section 1.

I will join Halpert (2012), Coon et al (2014), and Coon et al (2021) in positing a projection above *v*P connected to the licensing of DPs, which I will call Trans(itivity)P:

(12)




The external argument is still projected, as usual, in the specifier of *v*P. The Trans head is then Merged, and Agrees with all the DPs in its search domain. In languages with overt morphology indicating transitivity, this morphology indicates whether Trans has found a single DP to Agree with, or multiple DPs. We might also imagine that Trans is responsible for Dependent Case phenomena; just when Trans has Agreed with multiple DPs, it assigns marked Case to one of its Goals, in the manner specified by Dependent Case theory.

The transitive version of Trans is also a phase head, on this theory, and *v* is not. Relatedly, Trans also has the property, often ascribed to *v*, of having a wh-probe, which can move wh-phrases to its edge to allow them to escape Spellout.

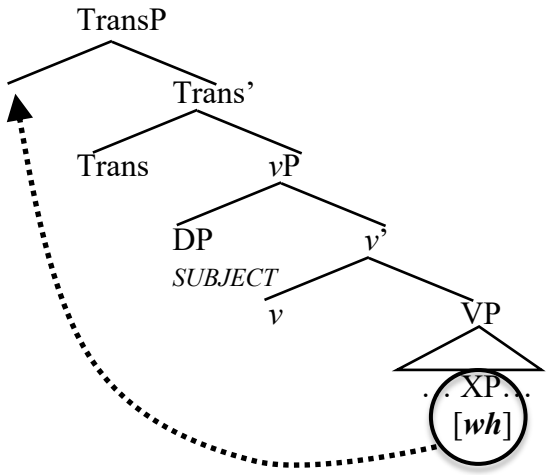
Finally, Trans, like any other syntactic head, can have a variety of kinds of morphological and phonological realization. It can in principle be a prefix, or a suffix, or a free-standing morpheme, for example, and it can be associated with stress (like Tense in Spanish, Italian, and

Catalan) or not (like Tense in English and French). In many languages, of course, Trans is phonologically null, but I will assume that null morphemes are just as morphologically diverse as overt ones. On the theory of Affix Support sketched in section 1.1 above, the morphological form of Trans will have syntactic consequences: Trans will either require a specifier, or it will not, depending on what kind of morpheme it is and how it interacts with stress.

Let us consider what this model predicts about wh-movement, starting with the case of a language in which Trans is not the kind of affix that triggers Affix Support.

If Trans does not need Affix Support, then wh-movement to its specifier must be triggered by Contiguity. In most cases, Contiguity will in principle be able to trigger overt wh-movement:

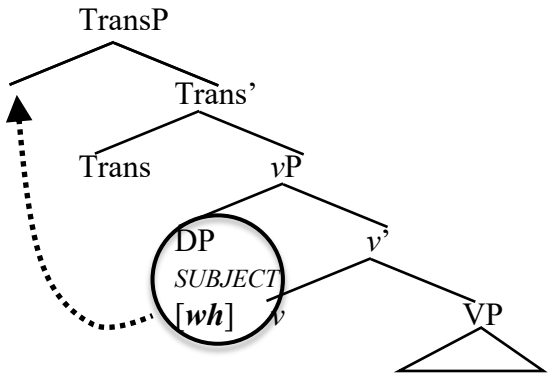
(13)




In (13), since the subject intervenes between Trans and the wh-phrase, the anti-locality reasoning outlined in the last section will not apply; if the language is one with overt wh-movement, wh-movement in this case will move the wh-phrase past an intervening specifier, and the wh-phrase will therefore be able to escape the TransP phase.

On the other hand, if the wh-phrase is the transitive subject, then we expect it to be unable to escape:

(14)




As discussed in section 1.3 above, the movement in (14) is too short to be driven by Contiguity alone: the subject and Trans are already linearly adjacent before movement takes places, and Contiguity therefore cannot drive movement of the subject to the specifier of TransP. In an ergative language in which Trans has no need of Affix Support, then, wh-extraction of a transitive subject should be blocked; the transitive subject will be trapped by Spellout of the TransP phase.

In languages in which Trans does require Affix Support, on the other hand, the movement in (14) will be legitimate; Trans requires some phrase to its left, and the movement in (14) satisfies this requirement, and is therefore motivated. In other words, we have an account of part of the descriptive generalization offered in (11) above; in verb-initial ergative languages, if Trans requires Affix Support, extraction of the ergative subject is possible, and if it does not, extraction of the ergative subject is blocked.

In section 3, I will offer evidence that the descriptive generalization just given is true. Before moving on to that job, I will close this section with two subsections intended to address possible questions readers might have about the account just described. The first will be about why the reasoning just discussed only applies to verb-initial ergative languages; why do we not find nominative-accusative languages which cannot extract transitive subjects, for example? Second, I will briefly discuss the connection of the proposal outlined here with another

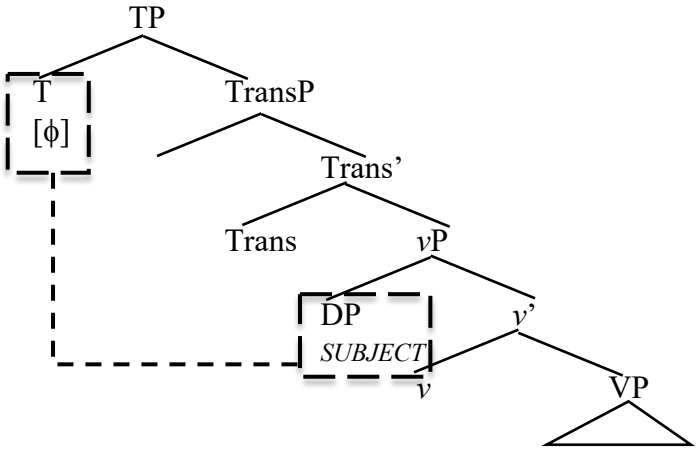
distinction between morphologically ergative languages, having to do with whether their absolutive arguments are in 'high' or 'low' positions.

### 2.1 Why is this reasoning specific to verb-initial ergative languages?

General bans on extraction of transitive subjects seem to be limited to morphologically ergative languages. Why should this be the case, on the account developed above?

I will assume, I think not particularly creatively, that nominative-accusative languages are unlike ergative-absolutive languages in having a version of T that bears a phi-probe and Agrees with the subject:

(15)




In a language with nominative-accusative agreement morphology, the Probe-Goal relation depicted in (15) will exist, while in a language with ergative-absolutive agreement morphology[6] it will not[7]. If we assume Chomsky's (2001) version of the Phase Impenetrability Condition,

[6] The account developed here leads us to expect that it is the agreement morphology, rather than the case morphology on the nominals, which determines whether transitive subjects can be extracted. This leads to several interesting predictions about languages in which case and agreement do not have the same alignment, which I will have to leave as open questions for future research. Is it the case, for example, that in a language (like Warlpiri) with a nominative-accusative alignment for agreement and an ergative alignment for case morphology, that ergative subject extraction will always be possible, regardless of the morphological nature of transitivity morphology? It will also be interesting to study the role of transitivity morphology in extraction of ergative DPs in languages which have overt case morphology on nominals but no agreement system at all: since such languages could in principle be versions of Warlpiri "in disguise", with (morphologically null) nominative-accusative agreement morphology, we might discover languages of this type in which ergative extraction is unexpectedly licit.

[7] There may, of course, be cases in nominative-accusative languages in which T Agrees with more than one DP; this idea is part of one kind of account of the PCC effects that arise with Icelandic nominative objects, for example (Anagnostopoulou 2003, Coon and Keine 2021, and much other work).

then the TransP phase will not become opaque to extraction until C is Merged. A nominative-accusative language, then, even if its version of Trans does not require Affix Support, will still have a chance to move the subject out of the TransP phase before C is Merged.

Crucially, this will be true even if T also has no need of Affix Support. Because T and the subject are not adjacent to each other (because the head Trans, if nothing else, linearly intervenes between them), movement of the subject past the material intervening between it and T should always be a way to create Contiguity, and will therefore always be motivated, as long as the Probe-Goal relation depicted in (15) exists. The situation is crucially different from the one in which Trans attempts to trigger movement of the subject out of *v*P: in this case, Trans and the subject are literally adjacent, and movement therefore cannot be triggered by Contiguity (though it can be triggered by Affix Support, as we have seen).

What about ergative languages that are not VSO? Or, for that matter, nominative-accusative languages which are not head-initial? Can we guarantee that such languages will not be subject to bans on ergative extraction of the type just described?

Trask (1974) points out (and see Mahajan 1994 for further discussion) that we never find ergative languages in which SVO word order is required: there are ergative languages (like Warlpiri) with fairly free word order, and SOV ergative languages (like Basque), and verb-initial ergative languages (like the Mayan languages), and V2 ergative languages which are underlyingly SOV (like Kashmiri), but the (cross-linguistically very popular) SVO word order is just not attested among ergative languages[8].

[8] Richards (2016) makes an attempt at deriving this generalization, which sadly is incompatible with the structure assumed here for ergative languages (in particular, Richards (2016) assumes that the ergative subject is the specifier of a phase head; for the account developed in this paper, this is true for some ergative languages, but not all of them).

The ergative languages under discussion so far have been head-initial; it follows from Trask's generalization that the only other languages to consider are languages that are SOV (at least in the TP domain), or languages with very free word order. But in fact we expect both of these kinds of languages to exhibit 'scrambling' processes that allow for the reordering of DPs; as Corver and van Riemsdijk (1996) observe, SOV languages very generally have some freedom of word order at least in the preverbal field[9]. For SOV languages, then, whether ergative or nominative-accusative, we are in a position similar to the one described above for nominative-accusative languages; there may indeed be SOV languages which share all of the relevant properties with the ergative languages which ban extraction of ergatives, but such languages will also have scrambling processes that ought to give DPs another chance to escape the TransP phase (just as the subject in a nominative-accusative language has another way to escape the TransP phase, via its Agree relation with T). We therefore expect, apparently correctly, that the particular kind of ban on ergative extraction that we are discussing here will be confined to verb-initial ergative languages.

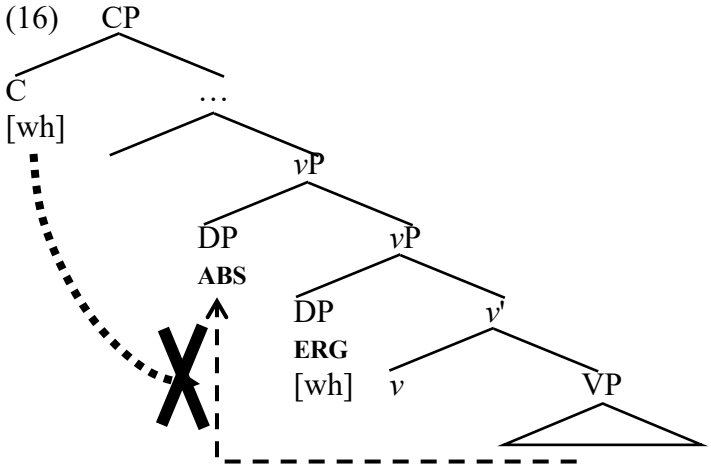
### 2.2 High and low absolutives

One popular approach to bans on ergative extraction holds that what distinguishes languages which can extract ergatives from languages which cannot has to do with the position of absolutive DPs. In particular, the idea (inspired by an observation by Tada (1993) about the Mayan languages) is that some languages require absolutive DPs to move to a position above the ergative argument, while others do not—and that it is specifically the languages with 'high' absolutives which ban extraction of ergatives. For theories along these lines, see Aldridge (2004), Coon et al (2014), Coon et al (2021), Tollan and Clemens (2022), and much other work.

[9] Again, see Richards (2016) for one attempt to derive this generalization.

On one class of theories of this kind, the problem with extraction of ergative arguments is one of minimality; the absolutive argument intervenes for extraction of the ergative argument, either because of the PIC (as in Coon et al (2014)) or because the Probe triggering A-bar extraction is specified to be able to see the absolutive intervener and be blocked by it (Aldridge (2004), Coon et al (2021)).

(16)




Assmann et al (2015) point out that on this kind of theory, where it is the absolutive DP itself which prevents Probing by interrogative C of the lower ergative DP, we ought to expect that in a clause containing an absolutive DP, not only ergative DPs, but any DP at all which is not absolutive should be inaccessible for extraction. As they note, this is often untrue:

(17) a. Achoq chi re n-Ø-u-ya' a Karlos jun sik'wuj?

Q PREP DET INCOMPL-3SG.ABS-3SG.ERG-give CL Carlos INDEF book

'To whom does Carlos give a book?'

b. Achoq r-ik'in n-Ø-u-sël ri ti'ij

Q 3SG.ERG-RN.INSTR INCOMPL-3SG.ABS-3SG.ERG-cut DET food

ri a Karlos?

DET CL Carlos

'With what does Carlos cut the meat?'

c. Akuchi n-Ø-u-ya' ri ti'ij ri a Karlos?

Q.3SG.ERG.RN.LOC INCOMPL-3SG.ABS-3SG.ERG-give DET food DET CL Carlos

'Where does Carlos put the meat?' [*Kaqchikel* (Assmann et al 2015, 352)]

Kaqchikel (Mayan) freely permits extraction of indirect objects, instruments, and locatives, despite being a language in which extraction of ergative DPs is generally banned (Assmann et al 2015, 345):

(18) *Achike n-Ø-u-löq' jun sik'iwuj?

Q INCOMPL-3SG.ABS-3SG.ERG-buy INDEF book

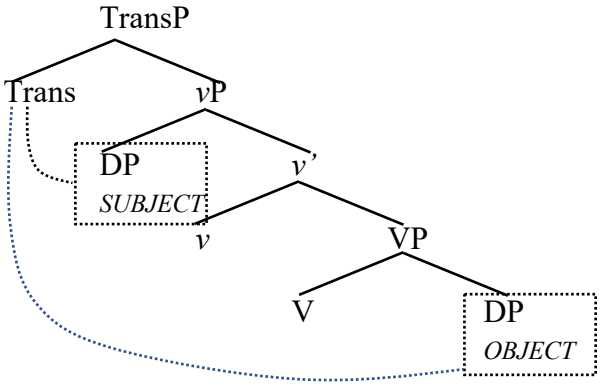
'Who buys a book?'

Theories which make use of high absolutives as "interveners" to block extraction of ergatives will have to be carefully phrased to avoid the point which Assmann et al (2015) raise. On the theory developed in this paper, on the other hand, we expect difficulty in extraction to be specific to ergative DPs; anything lower than an ergative will be far enough away from Trans for Contiguity to be able to trigger movement past the intervening ergative and out of the TransP phase, regardless of the morphological properties of Trans.

The theory developed in this section does predict a relation between the height of absolutive DPs and the possibility of extraction of ergatives. As we'll see, the height of absolutives is not what is causing difficulty with extraction; rather, absolutive height and a ban on ergative extraction can both be caused by the same factor (in this case, the morphological properties of Trans). We'll also see that the relationship between absolutive height and the ban on ergative extraction is not as straightforward as it would be in some other theories.

Consider again the derivation in a language in which Trans does not need Affix Support. We have said that Trans, once Merged, Agrees with both the subject and the object:

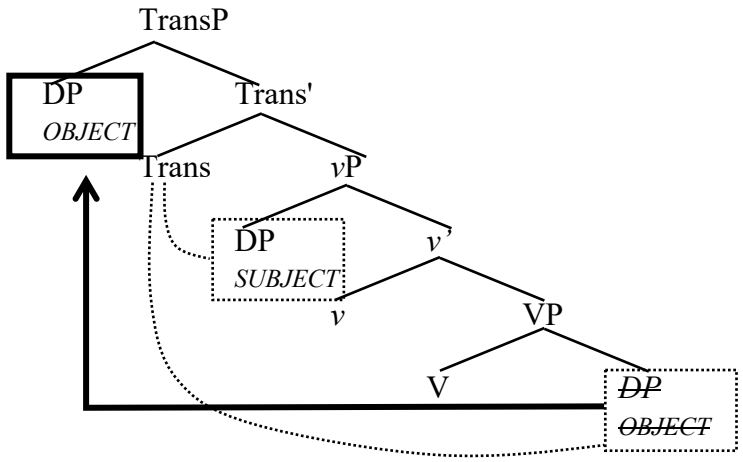
(19)




Suppose that Trans now seeks to create Contiguity with both the subject and the object.

Contiguity with the subject exists immediately: Trans and the subject are adjacent. But Trans is not adjacent to the object; there is, at least, the subject intervening between them, along with some heads in the clausal spine. And the shortest movement that the object could undergo which would not disrupt an existing Contiguity relation will move it to the specifier of TransP:

(20)




Movement of the object to the specifier of TransP makes Trans and the object linearly adjacent, creating Contiguity between them. If the object were to land in a specifier of *v*P above the subject, this would also create Contiguity between Trans and the object, but would disrupt Contiguity between Trans and the subject. The derivation in (19-20) is of the type discussed by Deal (2021) and Branan (to appear), in which a Probe finds multiple Goals and triggers movement of the second one, because considerations of anti-locality prevent movement of the higher Goal[10].

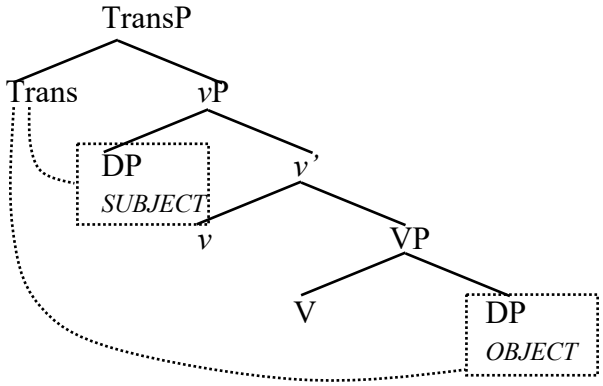
As mentioned above in section 1.2, languages vary with respect to how they satisfy Contiguity, in ways that follow from variation in the rules for position of prosodic prominence. The reasoning outlined above would be true for what Richards (2016, 2019) calls "Left-prominent" languages; these would be the languages we would expect to have overt wh-movement, for example. There should also be another class of languages which ban extraction of ergatives, which would be "Right-prominent"; these languages ought to permit the option of wh-in-situ, and (by the same token) would not need to raise the object to the specifier of Trans to create Contiguity between Trans and the object. In other words, the theory developed here

[10] One important problem, which I will have to leave to future research, is how to prevent multiple-wh questions from invoking the same logic.

predicts that languages with high absolutives will ban extraction of ergatives, but there should also be a class of languages with a ban on overt wh-extraction of ergatives in which absolutives can be left low.

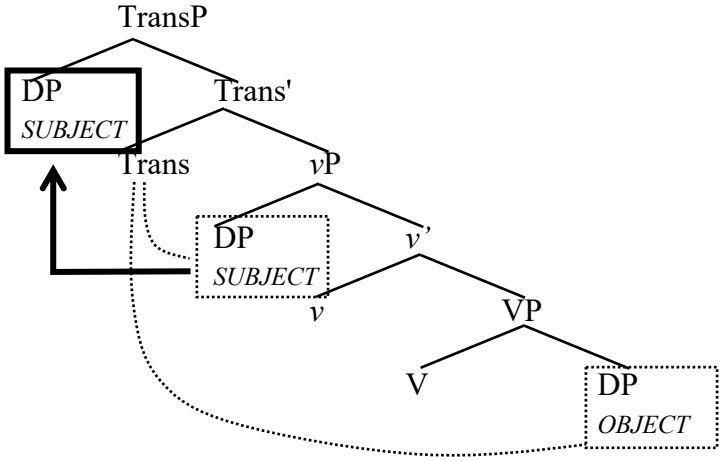
Let us now consider the behavior of languages without bans on ergative extraction; these are the languages in which Trans requires Affix Support, making it possible for the subject to escape the TransP phase. As before, the derivation will begin with Trans Agreeing with both the subject and the object:

(21)




Since Trans requires Affix Support, it will trigger movement of the subject, which is the first phrase it Agrees with, into its specifier.

(22)




Movement of the subject in (22) provides Trans with Affix Support, and also recreates the Contiguity relation between Trans and the subject, since the two are (still) adjacent. Now Trans

can seek Contiguity with the object. But there is no reason for movement of the object to land above the subject: such a move would leave the subject between Trans and the object. Movement of the object, if the conditions on prosodic prominence in the language in question required it at all, might tuck in below the subject, or might land in a specifier of *v*P, but there would be no reason for the object to be any higher than the subject.

We thus arrive at a conclusion that resembles a popular one in the literature on ergative extraction, ultimately inspired by Tada's (1993) observation about the Mayan languages: languages in which the absolutive object is higher than the ergative subject will be languages in which ergative subjects cannot extract. In the account developed here, this is not because the absolutive itself blocks extraction of the ergative; rather, 'high' absolutives and bans on ergative extraction are both caused by a common factor (a version of Trans which lacks the need for Affix Support). Moreover, we expect to find a class of languages which ban extraction of ergatives, but which do not have absolutives higher than ergatives (we would also expect these to be languages that allow wh-in-situ).

## 3 Ergative extraction and transitivity morphology: some case studies

The previous section proposed that the difference between ergative languages which ban extraction of ergatives and those which do not has to do with morphological and phonological properties of the head Trans. In particular, if Trans is the kind of head that requires a specifier because of Affix Support, then extraction of ergatives is possible, and if it is not, then extraction of ergatives is blocked. We saw how this generalization could be made to follow from the principles of Contiguity Theory.

In this section I will offer some evidence that the generalization is correct, concentrating on ergative languages with overt transitivity morphology on their verbs. We will begin in

section 3.1 by considering some languages in which extraction is acceptable, and then turn in section 3.2 to languages in which ergative extraction is banned.

It will be important to set aside, in what follows, the phenomenon of *anti-agreement*. It is common in the Salish languages, for example, to have anti-agreement for extraction, both of ergatives and of absolutives:

(23) łwét $t^{\theta}$ə ni? k'$^{w}$íc'-ət(***-əs)** $t^{\theta}$ə sməyəθ?

who DET AUX butcher-TR-**3ERG** DET deer

'Who butchered the deer?' [*Halkomelem (Salish)* (Gerdts 1982, 69)]

(24) a. nilh s-John wi s-Bill wa7 alkst(***-wit**)

FOC NOM-John and NOM-Bill PROG work-**3PL.INTR**

'It is John and Bill who are working'

b. nilh wi s-John múta7 s-Bill

FOC PL.DET NOM-John and NOM-Bill

i ats'x-en(***-wít**)-án-a lhkúnsa

PL.DET see-TR-**3PL.OBJ**-1SG-DET now

'It was John and Bill that I saw' [*St'át'imcets (Salish)*, Roberts 1999, 288-9]]

Notice that although the verbs in these examples lose some of their agreement morphology, their transitivity morphology is unaffected; the transitive verbs in (23) and in (24b) are still marked with transitive suffixes (glossed TR). I will not offer a theory of anti-agreement in this paper; we are concerned entirely with languages in which ergatives cannot be extracted, and in which the 'repair' for extraction of an ergative involves detransitivizing the verb.

### 3.1 Ergative languages in which ergative extraction is acceptable

Recall that these are languages in which the Trans head requires a specifier for reasons of Affix Support, which allows the ergative subject to move to the edge of the TransP phase and be accessible for further movement once C is Merged. We therefore expect these to be languages in which the Trans head is a suffix and is not preceded by any morphemes to which the rules of stress make reference.

#### 3.1.1 Some Mayan languages[11]

Ch'ol (Mayan) verbs have suffixes, referred to in the Mayanist literature as *status suffixes*, which indicate whether the verb is transitive or intransitive (Coon 2010, 35):

(25) a. Tyi k-mel-**e** waj
ASP 1ERG-make-**TR** tortilla
'I made tortillas'

b. Tyi yajl-**i** jiñi x-k'aläl
ASP fall-**INTR** DET CL-girl
'The girl fell'

Mayan status suffixes show allomorphy for various factors, including aspect, but when they appear, they are invariably suffixes. I will regard these status suffixes as overt instances of the Trans head.

Ch'ol stress is typically word-final (Coon 2010, 22-23):

[11] I am tremendously grateful to Jessica Coon for helpful discussion about Mayan languages. She definitely should not be held accountable for the errors in what follows.

(26) a. wäy-él

sleep-NML

'sleep'

b. Wäy-äl-óñ

sleep-INTR-1ABS

'I am sleeping'

c. Wäy-äl-oñ-lá

sleep-INTR-1ABS-PL

'We are sleeping'

Mayan languages have a variety of stress systems (for an overview, see Bennett (2016), England and Baird (2017)). Some, like Ch'ol, have word-final stress, while others have word-initial stress, and still others have the position of stress in the word affected by syllable weight. What they seem to have in common, however, is that stress is assigned to complete words, not to morphemes; there are appear to be no syntactic classes of morphemes that reliably receive stress, in the Mayan languages.

Thus, Ch'ol is a verb-initial ergative language in which the Trans morpheme is a suffix, attaching to a domain to which no stress should be assigned. We have just seen that Ch'ol stress, and possibly Mayan stress more generally, is assigned to complete words, but any verb to which Trans is attaching is, by definition, not a complete word (since it lacks, at the very least, the Trans morpheme itself to be morphologically complete). Ch'ol Trans therefore ought to require Affix Support, and by the theory developed in the last section, we expect Ch'ol to license extraction of ergatives. This expectation is borne out (Coon, Mateo Pedro, and Preminger 2014, 193):

(27) Maxki tyi y-il-ä jiñi wiñik

who ASP 3ERG-see-TR DET man

'Who saw the man?'[12]

Other Mayan languages which share relevant properties with Ch'ol (stress assigned to the word level, status suffixes which are reliably present on transitive verbs, and the ability to extract ergatives) include Itzaj (Hofling 2017, 734), Lakandon (Bergqvist 2007, 2008; Hofling 2017), Mocho' (Palosaari 2011, 157), Mopan (Hofling 2017, 734), and Tojol-ab'al (Curiel Ramírez del Prado 2017, 596).

Another Mayan language, Yukatek (Tonhauser 2003, Norcliffe 2009, Hofling 2017), has status suffixes, and also has the kind of anti-agreement illustrated for some Salish languages in the introduction to section 3 (Tonhauser 2003):

(28) Máax il-ik-ech?

person see-TR.INCL-2SG.ABS

'Who sees you?'

The verb in (28) bears the transitive status suffix (in the allomorph indicating Incompletive aspect, *-ik*), but is missing the ergative agreement morpheme that would ordinarily appear. As I said above, the theory developed here will not account for the distribution of anti-agreement phenomena; since the verb in (28) is still marked transitive, I will regard this example as one in which an ergative nominal has been successfully extracted.

For some kinds of languages, we will have to be careful in assigning a status suffix to a particular syntactic position. The status suffixes discussed so far have been instances of Trans, but we may find other kinds of status suffixes, generated in different positions in the tree, whose

[12] This sentence is ambiguous: it can also mean 'Who did the man see?'

morphological properties will not have the same kinds of syntactic consequences that those of Trans do. Tektiteko, for example, has status suffixes which distinguish transitive from intransitive verbs, which are also sensitive to aspect. Somewhat unusually, the Tektiteko status suffixes are also sensitive to whether the verb contains a 'directional' morpheme or not:

(29) a. o ka wita-n a
1PL.ABS STAY sleep-INTR EXCL
'We (exclusive) sleep'

b. Ø t-ipa-j
3SG.ABS 3SG.ERG-endure-NONDIR.TR
'He put up with it'

c. Ø xi j-q'oma-' na
3SG.ABS GO 1PL.ERG-say-DIR.TR EXCL
'We (exclusive) said it' [*Tektiteko (Mayan)*, (Stevenson 1987, 48)]

The verb in (29a) bears the intransitive status suffix *-n*. In (29b), the verb bears the status suffix *-j*, which marks it as a transitive verb with no directional morpheme attached (and also indicates that it is in the perfective aspect). In (29c), the verb bears a different status suffix, *-'*, which is triggered by the presence of the directional morpheme *xi* 'GO', indicating in this case an action directed away from the subject.

Thus, Tektiteko would at first appear to be like the other languages discussed in this section; it has status suffixes, which indicate whether the verb is transitive or not. But in fact, Tektiteko bans extraction of ergatives; for a transitive subject to be extracted, the verb must first be made intransitive (Pérez Vail 2007, 417). We might account for these facts by appealing to the unusual property of Tektiteko status suffixes alluded to just above; unlike their counterparts

in the other languages described in this section, Tektiteko status suffixes show allomorphy conditioned by whether the verb bears a directional morpheme or not. Suppose we conclude that these particular status suffixes are in fact not instances of Trans; they are housed in some other functional head, somewhere in the structural vicinity of Trans, which is responsible for introducing directionals (and they exhibit allomorphy conditioned by the contents of Trans). On this account, since the Tektiteko status suffixes are not instances of Trans, their morphological status does not have the effects on extraction that Trans morphology has.

The properties of status suffixes in various Mayan languages will be important in what follows. The following table summarizes the facts of the languages just discussed, and will be updated in future sections:

(29)

| *language name* | *transitive status suffixes?* | *ergative extraction?* | *information source* |
|---|---|---|---|
| Ch'ol | always | yes | Coon (2010) |
| Itzaj | always | yes | Hofling (2017) |
| Lakandon | always | yes | Bergqvist (2007) |
| Mocho' | always | yes | Palosaari (2011) |
| Mopan | always | yes | Hofling (2017) |
| Tojol-ab'al | always | yes | Curiel Ramírez del Prado (2017) |
| Yukatek | always | yes (with anti-agreement) | Hofling (2017) |
| Tektiteko | not in Trans? | no | Stevenson (1987), Pérez Vail (2007) |

### 3.1.2 Salish languages

Like the Mayan languages in the previous section, Salish languages typically have transitivity-indicating suffixes on their transitive verbs:

(30) áts'x-**en**-as ta sqáycw-a ta smúlhats-a

see-**TR**-3ERG DET man-DET DET woman-DET

'The woman saw the man' / 'The man saw the woman'

[*St'át'imcets*, (Roberts 1999, 279)]

(31) leŋ-**n**-Ø=lə=sən cə steŋ

see-**TR**-3ABS-PAST-1SG.NOM DET thing

'I saw it, the/a thing' [*Lummi (Straits Salish*), (Jelinek 1999, 218)]

(32) ni c'éw-**ət**-əs $k^{w}$θə swáyʔqeʔ łə słéniʔ

AUX help-**TR**-3ERG DET man DET woman

'The man helped the woman' / 'The woman helped the man'

[*Halkomelem,* (Gerdts 1982, 42)]

These languages are like the Mayan languages in the last section in having Trans suffixes. Are these suffixes attaching to categories to which stress is assigned?

St'át'imcets stress is generally trochaic, from left to right (Roberts and Shaw 1994, Caldecott 2007). In other words, in St'át'imcets, as in the Mayan languages just discussed, the Trans suffixes is added to a domain to which stress has not been assigned; St'át'imcets stress is computed over morphologically complete words.

Stress in a number of other Salish languages is more complicated than in St'át'imcets. Bianco (1998), for example, describes Halkomelem-Cowichan as a language in which stress is preferentially on one of the first two syllables of the word, preferably the more sonorous of the two (stress on schwa, for example, is avoided if possible), with initial stress if the two vowels are equally sonorant. Coelho (2002) describes Thompson River Salish as a language in which both roots and suffixes are lexically specified as either accented or unaccented, and stress falls on the

rightmost accented syllable (or the first syllable, if no morphemes are accented). For other discussions of stress in Salish languages, see Idsardi (1991), Czaykowska-Higgins (1993), and Dyck (2004).

What the Salish languages seem to generally lack are any classes of morphemes to which stress is reliably assigned. There is no Salish equivalent, in other words, of the Tense suffixes in Spanish, Italian, and Catalan, which are reliably preceded by stress (according to Oltra-Massuet (1999, 2000), Guerzoni (2000), and Oltra-Massuet and Arregi (2005)). If Richards (2016) is right that the narrow syntax cannot make reference to any lexically idiosyncratic information (perhaps because such information is inserted postsyntactically), then these Salish languages all appear to have Trans suffixes which are attached to unstressed material. They should therefore all allow extraction of ergatives, which they do (sometimes with accompanying anti-agreement, as mentioned above):

(33) šwat kʷu ác'<u>x</u>-**ən**-aš ta nk'yáp-a?
who IRR see-**TR**-3ERG DET coyote-DET
'Who saw the coyote?' [*St'át'imcets*, (Davis et al 1993, 84)][13]

(34) wet=lə'=Ø kʷ leŋ-**n**-əxʷ?
who=PAST=3ABS DET see-**TR.**NC-1PL.ACC
'Who (was it that) saw us?' [*Lummi (Straits Salish)*, (Jelinek 1999, 217)]

(35) łwét tᶿə niʔ kʼʷíc'-**ət** tᶿə sxməyəθ?
who DET AUX butcher-**TR** DET deer
'Who butchered the deer?' [*Halkomelem,* (Gerdts 1982, 69)]

[13] Davis et al (1993) and Roberts (1999) appear to be using different orthographies to represent St'át'imcets. I haven't attempted to reconcile them.

### 3.2 Ergative languages in which ergatives cannot extract

Next we can turn to ergative languages in which extraction of ergatives is banned. We expect these to be languages in which Trans has no need of Affix Support; the ergative subject is therefore trapped in the TransP phase, unable to move to its edge, since Contiguity between Trans and the subject will hold without need for movement of the subject.

#### 3.2.1 Gitksan

Gitksan (Tsimshianic) has suffixes that mark transitive verbs (Brown et al 2020, 15):

(36) T'isi'yt Henry.
t'is-**ə**-'y=t Henry
hit-**TR**-1.II=DM Henry
'I hit Henry'

But Gitksan stress is reliably on the verb root (Rigsby 1986, Forbes 2015). Transitivity suffixes are therefore attaching to a verb root to which stress is reliably assigned, and therefore have no need of Affix Support from a specifier; their need for Support is satisfied within the verb.

We therefore expect, correctly, that Gitksan will ban extraction of ergatives. Ergative extraction involves a construction in which the verb loses its transitive suffix (Rigsby 1986, Brown 2016):

(37) Naa an=t gya'a=hl 'ul?
who AN=3.I see=CNC bear
'Who saw the bear?'

#### 3.2.2 Some Mayan languages

We saw in section 3.1.1 that there are Mayan languages which bear suffixes, called *status suffixes* in the Mayanist literature, which indicate the transitivity of the verb (and also often

exhibit allomorphy conditioned by other factors, including aspect). The Mayan languages in that section permitted extraction of ergatives, as we expect.

There are other Mayan languages in which status suffixes only appear if they are immediately before an intonational phrase boundary (or if the verb they attach to ends in a consonant cluster, so that the status suffix can help with syllabification):

(38) Ta ch-Ø-a-kol cham, ch-ach hin-kol-**o'**

COND ASP-3ABS-2SG.ERG-help CLF ASP-2ABS 1SG.ERG-help-**TR**

'If you help the old man, I help you' [*Q'anjob'al* (Mateo Toledo 2017, 537)]

Both of the verbs in (38) are transitive, but only the second one bears the transitive status suffix, because it is at the end of the sentence[14]. For further discussion of this phenomenon, see Aissen (1992), Henderson (2012), and Royer (2022b).

In the Mayan languages discussed in section 3.1.1 above, in order to know that a suffix was to be inserted in the Trans head, it was only necessary to know that the head Trans was about to be Merged; every instance of Trans, in those languages, is an instance of a suffix. In Q'anjob'al, by contrast, it is not sufficient to know that Trans is about to be Merged into the syntactic structure; the derivation must wait to establish whether Trans will appear at the end of an intonational phrase boundary. At the point in the derivation at which Trans first enters the structure, the fact that Trans is a suffix has not been established, and the derivation will therefore not be motivated to supply Trans with Affix Support. Consequently, in the theory under development here, Q'anjob'al should not allow extraction of ergatives. And in fact it does not:

[14] Mayanists standardly distinguish, in discussion of status suffixes, between *root transitives*, which generally have the shape CVC, and *derived transitives*, which are transitive verbs that need not be CVC. Q'anjob'al derived transitives invariably end in vowels, and they have a status suffix *-j* which always appears, even if it is not phrase-final (Acker 2016, 18-19). In the account being developed here, I will have to regard this as a fact about Q'anjob'al phonology; status suffixes can be motivated to appear by phonological idiosyncracies of the root to which they attach, but the narrow syntax always ignores idiosyncracies of this kind.

(39) *Maktxel max-Ø y-il ix ix?

who ASP-3ABS 3ERG-see CL woman

'Who saw the woman?' [*Q'anjob'al* (Coon et al 2014, 193))

Languages which are like Q'anjob'al, both in having transitive status suffixes which appear only at the ends of intonational phrases and in banning extraction of ergatives[15], include Akatek (Zavala 1997), Chuj (Coon 2019, Coon et al 2021), Ixil (Adell 2019), K'iche' (Can Pixabaj 2017), Popti' (Jakaltek) (Day 1973, Craig 1977), Sipakapense (Barrett 1999), and Uspantek (Bennett and Henderson 2013).

Extraction of transitive subjects in all of these languages requires the Agent Focus construction, which interestingly involves a suffix immediately after the verb root:

(40) Maktxel max-ach il-**on**-i?

who ASP-2ABS see-**AF**-INTR

'Who saw you?' [*Q'anjob'al*, (Coon et al 2014, 213)]

In other words, in all the Mayan languages considered so far, extraction of transitive subjects can only take place if the verb is immediately followed by a suffix.

Sakapultek is an apparent exception to this generalization. Du Bois (1981) notes that extraction of the transitive subject can trigger the use of the Agent Focus form, but does not have to. Mó Isém (2006) makes a similar observation, remarking that in cases of extraction of transitive subjects, "the verb becomes antipassive, although some people use the transitive form, but the mentioned change is preferred" (Mó Isém 2006, 602).[16]

[15] It is crucially the *transitive* status suffixes that matter for this (as we might expect, since we are discussing extraction of ergatives). Tojol-ab'al, which allows extraction of ergatives, has transitive status suffixes which reliably appear, but intransitive status suffixes which appear only before intonational phrase boundaries (Curiel Ramírez del Prado 2017).

[16] "El verbo se convierte en antipasivo, aunque algunas personas utilizan la forma transitive, pero se prefiere el cambio mencionado." Many thanks to Google Translate for its help.

(41) a. ¿Che wa' x-at-ir-ti'-an?

what DEM CPL-2SG.ABS-3SG.ERG-sting-TR

'What stung you?'

b. ¿Che wa' Ø-Ø-ti'-iw aw-een?

what DEM CPL-3SG.ABS-sting-AF 2SG.ERG-REL

'What stung you?' [*Sakapultek (Mayan)*, (Mó Isém 2006, 604-5)]

The fact that Sakapultek has the option of extracting ergative subjects without detransitivizing the verb, as in (41a), is surprising on my account, since Sakapultek status suffixes are like those in the other languages described in this section, in that they only appear at the ends of intonational phrases:

(42) a. X-Ø-inw-il nan

CMP-3SG.ABS-1SG.ERG-see still

'I had to see it'

b. X-Ø-inw-il-**an**

CMP-3SG.ABS-1SG.ERG-see-**TR**

'I saw it' [*Sakapultek (Mayan)*, (Mó Isém 2006, 424)]

The Sakapultek facts are also surprising on accounts which link bans on ergative extraction to the position of absolutives, since Sakapultek, as the examples show, is a high absolutive language, and would therefore be expected on those theories to ban extraction of ergatives. I will propose an account of the Sakapultek facts in Appendix B.

Adding the data from these languages to the chart given above in (29) yields the following:

(43)

| *language name* | *transitive status suffixes?* | *ergative extraction?* | *information source* |
|---|---|---|---|
| Ch'ol | always | yes | Coon (2010) |
| Itzaj | always | yes | Hofling (2017) |
| Lakandon | always | yes | Bergqvist (2007) |
| Mocho' | always | yes | Palosaari (2011) |
| Mopan | always | yes | Hofling (2017) |
| Tojol-ab'al | always | yes | Curiel Ramírez del Prado (2017) |
| Yukatek | always | yes (with anti-agreement) | Hofling (2017) |
| Tektiteko | not in Trans? | no | Stevenson (1987), Pérez Vail (2007) |
| Akatek | only phrase-final | no | Zavala (1997) |
| Chuj | only phrase-final | no | Coon (2019), Coon et al (2021) |
| Ixil | only phrase-final | no | Adell (2019) |
| K'iche' | only phrase-final | no | Can Pixabaj (2017) |
| Popti' (Jakaltek) | only phrase-final | no | Day (1973), Craig (1977) |
| Q'anjob'al | only phrase-final | no | Mateo Toledo (2017), Coon et al (2014) |
| Sakapultek | only phrase-final | speaker variation | Du Bois (1981), Mó Isém (2006) |
| Sipakapense | only phrase-final | no | Barrett (1999) |
| Uspantek | only phrase-final | no | Bennett and Henderson (2013) |

### 3.3 Conclusions and extensions

The Mayan, Salish, and Tsimshianic languages just discussed all have overt morphology reliably indicating transitivity, which has made them especially valuable in the development of this theory. I assume that Trans morphology is syntactically present in every language, though it may be phonologically null.

In many languages, of course, Trans will indeed be null, so it will be important for the future development of this theory to work on ways of determining the morphological properties

of phonologically null morphemes. Consider, for example, the Mayan language Mam. Mam does not have status suffixes in realis clauses:

(44) a. Ma chi w-il-a
PROX 3PL.ABS 1SG.ERG-see-1SG
'I saw them (a little while ago)'

b. Ma chin b'eet-a
PROX 1SG.ABS walk-1SG
'I walked (a little while ago)' [*Mam (Mayan)*, (England 2007, 122)]

The transitivity of the verbs in (44) can be determined as usual from the distribution of ergative and absolutive agreement morphology, but there are no clear candidates for overt versions of Trans in (44). Learners of Mam, on the theory developed here, must try to determine whether the phonologically null version of Trans is like the overt version of Trans that we find in languages like Ch'ol, which is reliably present, or like the one we find in Q'anjob'al, which is present only in phrase-final position; knowing this will allow them to find out whether Mam Trans requires Affix Support or not, and thus whether Mam allows ergative nominals to be extracted. In fact, Mam patterns with Q'anjob'al in banning extraction of transitive subjects:

(45) Alkyee Ø-Ø-tzyuu-**n** ky-e xiinaq?
who PAST.DEP-3SG.ABS-grab-**AF** 3PL-PATIENT man
'Who grabbed the men?' [*Mam (Mayan)*, (England 1983, 214)]

I will discuss the facts about a number of languages which generally lack overt versions of Trans on transitive verbs in Appendix B below, where we will see that some of these languages ban extraction of ergatives, and others do not. This state of affairs is consistent with the theory, as long as we are willing to say that phonologically null Trans can in principle be of either the Ch'ol

or the Q'anjob'al type. In Appendix B I will make some suggestions about ways in which we may sometimes be able to determine the relevant properties of phonologically null Trans.

## 4. Bans on ergative relativization

Now we can turn to the second type of ban on ergative extraction. The languages exhibiting this ban are not verb-initial, and they ban relativization, but not wh-extraction, of ergatives:

(47) a. Mikəne milger kun-nin?
who.ERG gun.ABS buy-AOR.3SG.SBJ.3SG.OBJ
'Who bought a/the gun?'

b. *[ milger kənnə-lʔ-ən] ənpənačg-ən
gun.ABS buy-PCPL-ABS old.man-ABS
'the old man who bought the gun' [*Chukchi (Chukotko-Kamchatkan)* (Polinsky 2016, 91)]

Moreover, as we will see, these relative clauses allow only relativization of absolutive nominals; not only is it impossible to relativize ergatives, but it is also impossible to analyze nominals with any other marked case. We saw in section 2.2 above that this is not the case for the more general ban on A-bar extraction that we investigated earlier; there are Mayan languages, for example, which cannot wh-extract ergatives, but which are capable of wh-extraction of various kinds of obliques.

### 4.1 Do these languages have wh-movement?

The contrast in (47) might lead us to wonder whether this language actually has wh-movement at all. Perhaps, we might think, Chukchi is identical in every respect to the languages investigated in the previous sections, except that it has wh-in-situ, which allows it to circumvent the ban on overt extraction of ergatives.

Polinsky (2016) offers compelling arguments that Chukchi does in fact have overt wh-movement, meaning that the contrast in (47) needs to be taken seriously. For one thing, although Chukchi word order is free enough to allow OSV word order in general, wh-phrases must be initial in their clause:

(48) a. Milger ənpənačg-e kun-nin
gun.ABS old.man-ERG buy-AOR.3SG.SBJ.3SG.OBJ
'The old man bought a gun'

b. * Milger mikən-e kun-nin
gun.ABS who-ERG buy-AOR.3SG.SBJ.3SG.OBJ
'Who bought a gun?'

[*Chukchi* (Polinsky 2016, 91)]

OSV word order is possible when the subject is *ənpənačg-e* 'old.man-ERG', as in (48a), but not when it is *mikən-e* 'who-ERG', as in (51b).

Moreover, the placement of wh-phrases in Chukchi appears to be sensitive to islands:

(49) *[mikən-e kənnə-lʔ-ən] milger
who-ERG buy-PCPL-ABS gun.ABS
'the gun that who bought…' [*Chukchi* (Polinsky 2016, 91)]

If Chukchi did indeed have wh-in-situ, the ill-formedness of (49) would be surprising, since wh-in-situ languages generally allow wh-phrases to appear inside relative clause islands:

(50) [dare-ga katta] teppou

who-NOM bought gun

'the gun that who bought…' [*Japanese*]

Thus, the problem posed by the contrast in (47) is apparently real: Chukchi does ban relativization, but not wh-movement, of its ergatives (and following Polinsky, it does truly appear to have overt wh-movement).

**4.2. Banning more than ergatives**

Languages which have been described as banning relativization of ergatives include:

(51) a. *[ melotalɣ-ən piri-lʔ-ən] ʔətt-ən

hare-ABS catch-PCPL-ABS dog-ABS

'the dog that caught the hare' [*Chukchi* (Polinsky 2016, 23)]

b. * angut [ aallaat tigu-sima-sa-a]

man.ABS gun.ABS take-PFV-REL.TR-3SG.SG

'the man who took the gun' [*Kalaallisut / West Greenlandic (Eskimo-Aleut)* (Bittner 1994, 58)]

c. *bayi yaɽa [baga-ŋu bayi yuɽi]

there.ABS.I man.ABS spear-REL.ABS there.ABS.I kangaroo.ABS

'the man who speared the kangaroo' [**constructed**[17]: *Dyirbal (Pama-Nyungan)* (Dixon 1972, 101)]

All of these languages allow wh-questions in which the wh-phrase is ergative (though most of them have not been demonstrated to have wh-movement with the kinds of arguments Polinsky

[17] Dixon (1972) does not give ungrammatical sentences; he says in the text that (54c) is impossible, but gives only a well-formed example (with antipassive morphology on the verb of the relative clause).

has used for Chukchi; for debates about wh-movement in various Inuit languages, see Fortescue (1984, 16), Gillon (2000), Sherkina-Lieber (2004)):

(52) a. Mikəne milger kun-nin?
who.ERG gun.ABS buy-AOR.3SG.SBJ.3SG.OBJ
'Who bought a/the gun?' [*Chukchi* (Polinsky 2016, 91)]

b. Kia uqaatig-aa?
who.ERG talk.about-INTERR.3SG.3SG
'Who talked about it?' [*Kalaallisut* (Fortescue 1984, 23)]

c. Waŋ-ḍu ŋinuna balgan?
who-ERG you.ACC hit.NONFUT
'Who hit you?' [*Dyirbal* (Dixon 1972, 122)]

In all of these languages, if a transitive subject is to be relativized, the verb must be antipassivized:

(53) a. [ melotalɣ-tə **ine**-piri-lʔ-ən] ʔətt-ən
hare-DAT **APASS-**catch-PCPL-ABS dog-ABS
'the dog that caught the hare' [*Chukchi* (Polinsky 2016, 24)]

b. angut [aallaam-mik tigu-**si**-sima-su-q]
man.ABS gun-INST take-**APASS-**PFV-REL.INTR-3SG
'the man who took the gun' [*Kalaallisut* (Bittner 1994, 58)]

c. bayi yaɽa [bagal-**ŋa**-ŋu bagul yuɽi-gu]
there.ABS.I man.ABS spear-**APASS**-REL.ABS there.DAT.I kangaroo-DAT
'the man who speared the kangaroo' [*Dyirbal* (Dixon 1972, 101)]

In fact, this is a more general requirement on these relative clauses; anything relativized must be converted into an absolutive via applicative constructions. Polinsky (1994) notes for Chukchi, for example, that relativization of the indirect object in (54c) must involve incorporation of the direct object, an option which is independently available (54a-b), and which has the effect of making the indirect object absolutive:

(54) a. tumg-e keyŋ-ən akka-gtə təm-nen
friend-ERG bear-ABS son-DAT kill-AOR.3SG:3SG
'The friend killed the bear for his son'

b. tumg-e ekək kayŋə-nmə-nen
friend-ERG son.ABS bear-kill-AOR.3SG:3SG
'The friend killed the bear for his son' (*lit.*, 'the friend bear-killed his son')

c. kayŋə-nmə-yo (tumg-e) ekək
bear-kill-PASSIVE.PCPL friend-ERG son.ABS
'the son for whom the bear was killed (by my friend)' [*Chukchi* (Polinsky 1994, 248-249)]

Similarly, Fortescue (1984) points out that in Kalaallisut, only absolutive nominals can be relativized, and that relativization of obliques must involve derivational morphology which allows the relativized nominal to become an object of the verb:

(55) savik [ tuqut-si-ssutigi-sa-a ]
knife kill-AP-have.as.means.for-REL.TR-3SG.SG
'the knife with which he killed' [*Kalaallisut* (Fortescue 1984, 53-54)

The relative clause in (55), for example, crucially involves a suffix *-ssutigi* which creates a transitive verb meaning 'have as an instrument for [action described by affixed verb]'. Since the knife is the object of this transitive verb, it is absolutive, and can be relativized.

Finally, Dixon (1972) observes that Dyirbal, like Chukchi and Kalaallisut, can only relativize absolutive nominals. Dyirbal has a kind of applicative construction which makes instrumentals into absolutives:

(56) a. balan ɖugumbil baŋgul yaɽa-ŋgu
there.ABS.II woman.ABS there.ERG.I man-ERG
ba**ŋgu** yugu-**ŋgu** balgan
there.INSTR.IV stick-INSTR hit.NONFUT
'The man is hitting the woman with a stick'

b. bala yugu baŋgul yaɽa-ŋgu
there.ABS.I stick.ABS there.ERG.I man-ERG
balgalman bagun ɖugumbil-gu
hit.**INSTR.**NONFUT there.DAT.II woman-DAT
'The man is hitting the woman with a stick' [*Dyirbal* (Dixon 1972, 93, 95)]

Dixon (1972, 100) tells us that only absolutive nominals may be relativized in Dyirbal, and gives as an example the relativization of instruments, which must use the applicative construction in (57b) to convert the instrument into an absolutive:

(57) ŋaḍa bala yugu

I.NOM there.ABS.IV stick.ABS

[ baŋgul yaɽa-ŋgu bagul ḍugumbil-gu balgalmaŋu]

there.ERG.I man-ERG there.DAT.II woman-DAT hit.INST.REL.ABS

ɲiman

hold-NONFUT

'I caught hold of the stick the man was beating the woman with' [*Dyirbal* (Dixon 1972, 100)]

Thus, Chukchi, Kalaallisut, and Dyirbal all have relative clauses with the common property of banning, not only relativization of ergatives, but relativization of anything which is not absolutive. All three languages make use of applicative constructions to convert nominals into absolutives so that they can be relativized. And, as we have seen, this condition on relativization differs from the corresponding ban on ergative extraction with which we began the paper; the Mayan languages discussed in section 2.2, as Assmann et al (2015) point out, are capable of extracting anything which is not ergative, and do not require the extracted nominal to be absolutive.

### 4.2 Case concord

Another property that all of these relative clauses have in common is that they all feature case concord on the verb of the relative clause, agreeing with the nominal modified by the relative clause (a point made by Murasugi 1997):

(58) a. [ pqərə-lʔ-**etə**] ŋenq-**etə**

arrive-PCPL-**DAT** boy-**DAT**

‘to the arriving boy’ [*Chukchi* (Polinsky 1994, 247)]

b. milukaaq meeqqa-**mut** [ qia-su-**mut**] tunni-up-para

lollipop child-**ALL** cry-REL.INTR-**ALL** give-APPL-1SG.3SG

'I gave a lollipop to the crying child' [*Kalaallisut* (Kahn and Valijärvi 2022, 249)]

c. ŋaɖa ɲina-ɲu yugu-**ŋga** [ yaɽa-ŋgu nudi-ŋu-**ra**]

I sit-NONFUT tree-**LOC** man-ERG cut-REL-**LOC**

'I am sitting on the tree that the man felled' [*Dyirbal* (Dixon 1972, 102)[18]]

In the literature on Chukchi and the Inuit languages, these verbs are often referred to as 'participles', partly because of the presence of case concord. If they are indeed nominalized clauses, they must be quite large nominalizations, as they can contain negation, license ergative arguments, and so forth[19].

The facts of Koryak relative clauses are very revealing at this point[20]. Koryak is related to Chukchi, and has nonfinite relative clauses which are like those in Chukchi in all the properties just discussed; they have verbs marked with a special 'participial' morpheme rather

[18] Legate (2012) makes the important point that the conditions on relativization in Dyirbal ignore Dyirbal's ergative split; if a pronoun which is marked via a nominative-accusative system is relativized, the conditions on relativization are the same as they would be for any other nominal:

(i) ŋayguna [ baŋgul yaɽa-ŋgu balga-ŋu] baŋgun ɖugumbi-ɽu buɽa-n
me.ACC there.ERG.I man-ERG hit-REL there.ERG.II woman-ERG see-NONFUT
'Woman saw me being hit by man' [*Dyirbal* (Dixon 1972, 100)]

Here the relative clause involves relativization of the direct object of a transitive verb (a more literal translation might be something like 'The woman saw me, who the man hit'). But the modified nominal is *ŋayguna* 'me', which takes the accusative case when it is a direct object. If we think that the condition on relativization is a requirement that only morphologically absolutive nominals can be relativized, then the well-formedness of (i) is surprising. On the other hand, note that case concord does not treat *ŋayguna* 'me' as accusative either. There is no accusative morphology on the verb of the relative clause; rather, it is unmarked for case, as it would be if the modified nominal were absolutive (which it would be, if it were not a pronoun). We could account for the well-formedness of (i) on a theory (consistent, I think, with Legate's (2010) approach) in which the modified pronoun, the relative clause, and the relative operator were all receiving the same abstract case features, and in which these features are realized as 'accusative' just on pronouns, and as 'absolutive' otherwise.

[19] It is apparently unclear whether these languages can perform long-distance relativization (Michelle Yuan, Rafael Abramovitz, p.c.).

[20] Many thanks to Rafael Abramovitz for sharing his knowledge of Koryak.

than with ordinary tense, show case concord with the modified noun, and ban relativization of ergatives:

(59) a. jajol [ʔalapə-lʔ-**ən** ʔətʔ-a]
fox.**ABS.SG** chase-PCPL-**ABS.SG** dog-ERG
'the fox that the dog chased'

b. * ʔətʔ-**ən** [ ʔalapə-lʔ-**ən** jajol]
dog-**ABS.SG** chase-PCPL-**ABS.SG** fox.ABS.SG
'the dog that chased the fox' [*Koryak* (Rafael Abramovitz, p.c.)]

However, Koryak also has tensed relative clauses, which differ from the nonfinite relatives in crucial ways; they have an overt relative operator, their verb lacks case concord, and relativization of ergatives is permitted (Abramovitz 2021a, b):

(60) a. jajol [meŋin Ø-ʔalap-nin ʔətʔ-a]
fox.ABS.SG which.ABS.SG IND-chase-3SG.3SG dog-ERG
'the fox that the dog chased'

b. ʔətʔ-ən [jeq-e Ø-ʔalap-nin jajol]
dog-ABS.SG what-ERG IND-chase-3SG.3SG fox.ABS.SG
'the dog that chased the fox' [*Koryak* (Rafael Abramovitz, p.c.)]

Contrasts like the one in (59-60) offer a compelling argument against regarding Koryak as 'a language which cannot relativize ergatives'; rather, there is a *kind* of relative clause in which relativization of ergatives (in fact, of anything which is not absolutive) is impossible, and there are languages which have this kind of relative clause (but which can also have other kinds). In other words, the kind of account pursued for the bans on wh-extraction of ergatives in sections 2-3 seem inappropriate for the Koryak case; what we need is not a theory that posits a special

syntactic configuration for subjects and objects in Koryak in general, but rather a theory of the special properties of a particular type of relative clause.

Looking at Koryak, Chukchi, Kalaallisut, and Dyirbal, it looks as though the particular type of relative clause in question is one in which the verb bears Case concord with the modified noun. We might add to the cases under consideration the case of Shipibo-Konibo, which bans ergative relativization in internally headed relative clauses, but allows it in externally headed relative clauses:

(61) a. [ Bawa-n bake natex-a]-**tonin**-ra joshin pi-ke
parrot-ERG child.ABS bite-PAST.PCPL-**ERG**-EVID banana.ABS eat-COMPL
'The child the parrot bit ate the banana'
* 'The parrot that bit the child ate the banana'

b. [ Bake natex-a] bawa-**n**-ra joshin pi-ke
child.ABS bite-PAST.PCPL parrot-**ERG**-EVID banana.ABS eat-COMPL
'The parrot that bit the child ate the banana' [*Shipibo-Konibo (Panoan)*
(Valenzuela 2010, 79-80)]

One difference between the internally headed relative clause in (61a), in which ergative relativization is banned, and the externally headed one in (61b), in which ergative relativization is allowed, is that the ergative morphology marking the subject of the matrix clause appears on the verb itself in (61a), but not in (61b).

Ergative languages without case concord in their relative clauses seem never to ban relativization of ergatives:

(62) a. [ chil min-um ine] hir

water drink-ADJ REL man

'the man who drank water' [*Burushaski* (Munshi in progress, 39)]

b. [ a-pħ$^{o}$ə̀s də-z-šə̀-z] a-xə̀c$^{o}$a Ø-aa-wè-yt'

DET-woman 3SG.ABS-WH.ERG-kill-NONFIN DET-man.PL 3PL.ABS-come-DYN-FIN

'Here come the men who killed the women' [*Abkhaz (Northwest Caucasian)*

(Hewitt 1979, 36)]

c. An-po=n-ai wïtoto, [ kaikui i-tuuka-ne-npë]?

WH-LOC=3-COP person dog 3ERG-hit-AGENT.NLZ-PAST

'Where is the person who hit the dog?' [*Tiriyó (Carib)* (Meira 1999, 573)]

The one potential counterexample I have encountered is Ingush, which does have case concord in relative clauses, and allows relativization of ergatives:

(63) a. [ je hama d-e-**a**] sag

this thing D-do-**PCPL.ABS** person.**ABS**

'the person who did this'

b. Wa-nagh my qiera,

winter-LAT NEG fear.IMPR

[ wa t'ehwa d-oagh-**acha**] giirie-**nagh** qiera.

winter.ABS after D-come-**PCPL.OBL** autumn-**LAT** fear.IMPR

'Don't fear winter; fear autumn, which winter follows' (proverb)

[*Ingush (Nakh-Daghestanian)*

(Nichols 2011, 588, 590)]

But Ingush case concord is quite impoverished, distinguishing only Nominative/Absolutive case from all other cases:

(64) ABS [diesh-**a**] ber

ERG [diesh-**acha**] bier-**uo**

DAT [diesh-**acha**] bier-**aa**

ALL [diesh-**acha**] bier-**aga**

'[reading] child' [*Ingush* (Nichols 2011, 222)]

In Chukchi, Dyirbal, and Kalaallisut, by contrast, case concord on the relative clause is just as morphologically rich as on the modified noun:

(65) a. [ melotalɣ-tə ine-piri-lʔ-**ən**] ʔətt-**ən**

hare-DAT APASS-catch-PCPL-**ABS** dog-**ABS**

'the dog that caught the hare' [*Chukchi* (Polinsky 2016, 24)]

b. [ pqərə-lʔ-**etə**] ŋenq-**etə**

arrive-PCPL-**DAT** boy-**DAT**

'to the arriving boy' [*Chukchi* (Polinsky 1994, 247)]

(66) a. ŋaɖa ɲina-ɲu yugu-**ŋga** [ yaɽa-ŋgu nudi-ŋu-**ra**]

I sit-NONFUT tree-**LOC** man-ERG cut-REL-**LOC**

'I am sitting on the tree that the man felled'

b. balan ɖugumbil baŋgul yaɽa-ŋgu balgan

there.ABS.II woman.ABS.II there.ERG.I man-ERG hit.NONFUT

yugu-**ŋgu** [ ŋaɖa maŋga-ŋu-**ru**]

stick-**INSTR** I pick.up-REL-**INSTR**

'The man is hitting the woman with the stick I picked up'

c. balan ɖugumbil [ŋinungu gaɖin-du balgal-ŋa-ŋu-**Ø**]
there.ABS.II woman.**ABS**.II you.DAT yamstick-INSTR hit-APASS-REL-**ABS**
baɖiɲu
fall.NONFUT
'The woman who hit you with a yamstick fell down'
[*Dyirbal* (Dixon 1972, 101-102)]

(67) a. Qimmi-**t** [ani-su-**t**] taku-igit?
dog-**ABS.PL** go.out-REL.INTR-**ABS.PL** see-INTERR.2SG.3PL
'Did you see the dogs that went out?'

b. Oqaluttuaq nagum-**mik** [eqalu-nngor-tu-**mik**] atuar-para
tale man-**INSTR** salmon-become-REL.INTR-**INSTR** read-1SG.3SG
'I read a tale about a man who became a salmon'

c. Milukaaq meeqqa-**mut** [ qia-su-**mut**] tunni-up-para
lollipop child-**ALL** cry-REL.INTR-**ALL** give-APPL-1SG.3SG
'I gave a lollipop to the crying child' [*Kalaallisut* (Kahn and Valijärvi 2022, 249)]

The following descriptive condition seems to cover all of the cases under consideration:

(68) **Excessive Case Condition (ECC)**
If the verb of a relative clause bears full-fledged case concord with the head noun, the relative operator cannot bear a marked case.

In this definition, 'full-fledged case concord' is meant to exclude Ingush.

### 4.3 Finiteness?

Finally, the relative clauses under consideration here typically have verbs bearing morphology which distinguishes them from verbs of main clauses. For the most part, I will have to leave the further testing of this generalization for future work, and we will see some apparent counterexamples, suggesting that the crucial property of these relative clauses is case concord, rather than functional impoverishment.

In Dyirbal, the verb of a relative clause has its tense morphology replaced with a dedicated suffix:

(69) a. ŋaḍa balan ḍugumbil buɽa-**n**
I.NOM there.ABS.II woman.ABS watch-**NONFUT**
'I am watching the woman'

b. balan ḍugumbil [ŋaḍa buɽa-**ŋu**] ɲinaɲu
there.ABS.II woman.ABS I.NOM watch-**REL** sit.down.NONFUT
'The woman [that I am watching] is sitting down' [*Dyirbal* (Dixon 1972, 100)]

Similarly, in Chukchi, the verb of a relative clause has its tense and agreement morphology replaced with a suffix that here is glossed PCPL, for 'participle':

(70) a. ŋinqey pəkir-**gʔi**
boy.ABS arrive-**AOR.3SG**
'The boy arrived'

b. pəkərə-**lʔ**-ən ŋinqey
arrive-**PCPL**-ABS boy.ABS
'the boy who arrived/is arriving' [*Chukchi* (Polinsky 1994, 245)]

Kalaallisut verbs end with a marker of what is traditionally called *mood*, followed by morphemes agreeing with the ergative and absolutive arguments. There are dedicated moods for statements, for questions, for imperatives, and for several types of embedded clauses. The mood which is used in ordinary declarative main clauses is classically called the Indicative; another mood, called the Participial, is used for relative clauses, as well as for certain complement clauses:

(71) a. Danmarki-mi=li kalaallisut ilinnia-lir-**puq**
Denmark-LOC-already Greenlandic learn-begin-**INDIC.3SG**
'He began studying Greenlandic already in Denmark'

b. niviarsiaq [ kalaallisut ilinnia-lir-**suq** ]
girl Greenlandic learn-begin-**PCPL.3SG**
'the/a girl who has begun learning Greenlandic'

[*Kalaallisut* (Fortescue 1984, 98, 49)]

Whether the Kalaallisut relative clauses, like their counterparts in Chukchi and Dyirbal, have had their Tense morphology removed or replaced is less clear. Fortescue (1984, pp. 275-276) remarks that "[a]ffixes of tense (and modality) are not commonly found in participial mood clauses functioning as relative clauses – though in object clauses in this mood they are perfectly acceptable." This is certainly encouraging for the idea that Kalaallisut, Chukchi, and Dyirbal might all have relative clauses which are missing some projection associated with tense.

But the case for functional impoverishment becomes weaker, I think, if we extend our focus to some of Kalaallisut's closest relatives. In Inuktitut, for example, the Participial mood has become the default mood for matrix declarative clauses, as well as for relative clauses. The Indicative mood still exists, and is still limited to matrix declaratives, but carries a marked

semantics, sometimes described as 'mirative' (Yuan 2018, 32; Johns 1987, 108 ff.). And Inuktitut relative clauses apparently can be marked for tense:

(72) tii-tu-ruma-junga [ ibbit niuvi-**lauq**-tanga]-nit

tea-consume-want-INDIC.1SG 2SG.ERG buy-**PAST**-PCPL.2SG.3SG-MOD

'I want to drink the tea that you bought' [*Inuktitut* (Yuan 2018, 174)]

Inuktitut is like Kalaallisut, however, in banning relativization of ergatives (and also in having case concord with the modified noun):

(73) a. *angut [nanuq kapi-jaa]

man.ABS polar.bear.ABS stab-PCPL.3SG.3SG

b. angut [nanur-mik kapi-si-juq]

man.ABS polar.bear-MOD stab-APASS-PCPL.3SG

'the man that stabbed the polar bear' [*Inuktitut* (Johns 2007, 5)]

To express relativization of an agent, the verb must be antipassivized, as in (61b), with corresponding marking of the object with Modalis case.

Iñupiaq, like Inuktitut, has largely replaced the Indicative with the Participial mood in main clauses (Nagai 2006, 79-80[21]). Lanz (2010) describes Malimiut Iñupiaq as allowing relativization of ergatives. Interesting, the relevant examples lack case concord; in (62), for example, the modified noun bears Ergative case in the matrix clause, but this case is not realized on the verb of the relative clause:

[21] Confusingly, the moods referred to as Indicative and Participial in Iñupiaq are both related to the Participial mood in Kalaallisut. The cognate of Kalaallisut's Indicative mood is referred to as the Kiisaimma mood in Iñupiaq (after a particle which often appears in this mood).

(74) [Akłaq siksaq-kaŋa] aŋuti-**m** niqi aitchuu-ġaa utuqqanaa-mun
bear shoot-PCPL.3SG.3SG man-**ERG** meat give-INDIC.3SG.3SG elder-ALL.SG
'The man who shot the bear gave the meat to the elder' [*Iñupiaq* (Lanz 2010, 206)]

Inuktitut and Iñupiaq, then, are alike in having mostly lost the morphological distinction between main and relative clauses, but differ in the distribution of case concord, and also in whether relativization of ergatives is permitted. The behavior of Inuktitut and Iñupiaq casts some doubt on the idea that functional impoverishment is a necessary property of relative clauses that can only relativize absolutives. One possibility is that case concord is more common when relative clauses are functionally impoverished, but not actually impossible with structurally complete ones.

Another possibility, of course, is that truly understanding the functional structure of clauses in these languages will involve more careful work than I have been able to bring to bear. It would be a very interesting project, which I will have to leave for the future, to study in more detail the morphology of the verbs of the various Inuit languages, and to find out to what extent, if any, the morphological variation correlates with variation in the conditions on relativization. If nothing else, we might hope to develop a sharper understanding of the kind of 'functional impoverishment' which may be relevant for the behavior of relative clauses.

### 4.5 Considering the ECC

Putting aside functional impoverishment and concentrating on case concord, then, we are left with the ECC, repeated below:

(75) **Excessive Case Condition (ECC)**

If the verb of a relative clause bears full-fledged case concord with the head noun, the relative operator cannot bear a marked case.

The facts captured by the Excessive Case Condition bear a family resemblance to a phenomenon which has sometimes been called "wh-agreement" (Chung 1982, 1994, Erlewine et al 2017, and much other work), in which a nominal in a high A-bar position must be stripped of its case morphology, and in which the verb bears morphology indicating, on some analyses, the underlying case of the distinguished nominal.

Dinka, for example, is a V2 language in which the highest auxiliary (or the verb) bears morphology indicating properties of the phrase in first position (van Urk and Richards 2015, van Urk 2015):

(77) a. **<u>Bòl</u>** à-**cɛ́** cuḭ̈in câam nɛ̈ păal.
Bol 3SG-PRF.**SBJ** food eat.NONFIN P knife
'Bol has eaten food with a knife'

b. **<u>Cuḭ̈in</u>** à-**cíi** Bôl câam nɛ̈ păal.
food 3SG-PRF.**OBJ** Bol.GEN eat.NONFIN P knife
'Food, Bol has eaten with a knife'

c. **<u>Păal</u>** à-**cɛ́nɛ̈** Bôl cuḭ̈in câam.
food 3SG-PRF.**OBL** Bol.GEN food eat.NONFIN
'With a knife, Bol has eaten food' [*Dinka* (Erlewine, Levin, and van Urk 2017, 380-381)

The auxiliaries in (77) indicate whether the fronted phrase is a subject (as in (77a)), an object (as in (77b)), or an oblique (as in (77c)). The fronted phrases themselves have been stripped of the case morphology which would distinguish them if they were not in first position.

Most Tagalog clauses have a type of morphological alternation that has been analyzed as involving covert A-bar movement of a single DP into a high A-bar position (see Richards 2000 and much other work for arguments):

(78) a. **Bumili** **<u>ang bata</u>** ng tela sa palengke para sa nanay.
**SBJ.**bought ANG child UNM cloth DAT market for DAT mother
'The child bought cloth at the market for mother'

b. **Binili** ng bata **<u>ang tela</u>** sa palengke para sa nanay.
**OBJ**.bought UNM child ANG cloth DAT market for DAT mother
'The child bought the cloth at the market for mother'

c. **Binilhan** ng bata ng tela **<u>ang palengke</u>** para sa nanay.
**DAT**.bought UNM child UNM cloth ANG market for DAT mother
'The child bought cloth at the market for mother'

d. **Ibinili** ng bata ng tela sa palengke **<u>ang nanay</u>**.
**BEN**.bought UNM child UNM cloth DAT market ANG mother
'The child bought cloth at the market for mother' [*Tagalog* (Rackowski and Richards (2005, 566))]

In each of the clauses in (78), a particular nominal (boldfaced and underlined) has had its case morphology replaced by the case marker *ang*, and the verb bears morphology signaling the role of the distinguished nominal in the sentence.

Rackowski (2002) analyzes this verbal morphology as a form of case concord, indicating the case that the distinguished nominal had before its case was changed to *ang* (see also Georgopoulos 1985 for a similar account for Palauan). If this is the right approach, then facts like those in Dinka and Tagalog resemble those that the Excessive Case Constraint was designed

to capture; in both cases, a particular head which participates in case concord is unable to have a specifier which is itself marked for Case. We might therefore consider revising the ECC, extending it to deal with the wh-agreement facts:

(79) **Excessive Case Condition (ECC), version 2**

If a head bears full-fledged case concord, its specifier may not bear marked case.

The two kinds of cases under consideration are the relative C and its specifier in a language like Kalaallisut, on the one hand, and the high functional head participating in "wh-agreement" in a language like Dinka or Tagalog, on the other. Both cases involve a head with a specifier that must not bear any marked case, and in both cases, the head in question participates in case concord. The particulars of the case concord are different in the two kinds of example: in Kalaallisut and similar languages, the relative C in question bears case concord with the nominal modified by the relative clause, while in Dinka and Tagalog wh-agreement, case concord shows the case value of the specifier itself, prior to this specifier's being stripped of its case morphology and rendered caseless.

The two kinds of phenomena are certainly not identical, but seem similar enough for us to want to try to unify them, possibly via a condition like the ECC outlined in (79) above. A natural next question is why a condition like the ECC should hold, and here I can only speculate.

The condition in (79) might be thought of as belonging to a family of "syntactic OCP" constraints (along the lines of Richards' (2010) Distinctness), which ban instances of excessively featurally similar nodes that are too close to each other. The constraints would have to be carefully stated, however, since we certainly know of other kinds of examples of heads bearing ϕ-features which have specifiers bearing ϕ-features of the same kind (the specifier of TP in a language like English is one example). Perhaps it is relevant that in the familiar case of heads

bearing ϕ-features that correspond with the ϕ-features on a nominal, the ϕ-features are typically semantically interpretable on the nominal, while in the ECC example, the Case morphology in question arguably does not contribute to semantic interpretation.

Finally, let me note that nothing in the account given above makes any crucial reference to ergativity. In the particular case of wh-agreement, this is obviously desirable, as there are clear cases of languages with wh-agreement that are nominative-accusative (such as Dinka). I leave open the question of whether relative clauses in nominative-accusative languages are ever constrained by the ECC.

## 5 Conclusion

I have claimed that there are two kinds of conditions that can block A-bar extraction of ergatives, and have proposed accounts of both of them.

The first kind of condition was discussed in sections 1-3, and involved verb-initial ergative languages which ban any kind of A-bar extraction of ergatives. In these languages, we saw, the ban is specifically on extraction of ergatives; any phrase that is not ergative can in principle extract (though in practice, of course, there are other conditions which can block other kinds of extraction). Following Halpert (2012), Coon et al (2014), and Coon et al (2021), I claimed that the *v*P in which the transitive subject is first Merged is dominated by the projection of a phase head which I called Trans; the idea was that a type of anti-locality (independently derivable from principles of Contiguity Theory) will prevent movement of the transitive subject to the edge of TransP, unless Trans has the property of requiring a specifier (referred to in Contiguity Theory as Affix Support). Consequently, I claimed, it is possible to determine, in ergative languages whose verbs bear morphology indicating their transitivity, whether Trans requires a specifier or not, and hence whether ergative extraction is possible or not.

The second kind of condition that can ban extraction of ergatives was discussed in section 4. This ban is specific to a particular type of relative clause; we saw data from Koryak demonstrating that it is possible for a single language to have both relative clauses in which ergative nominals cannot be relativized, and relative clauses in which they can. Moreover, the ban is not specific to relativization of ergatives; these are languages which cannot relativize anything which is not absolutive. I showed in section 4 that the relative clauses with this property invariably exhibit case concord with the modified noun, and suggested that the relative operator in this type of relative clause must be absolutive because it intervenes between the functional heads involved in case concord, and will therefore block case concord if it bears any marked case.

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**Appendix A: What about Katukína-Kanamarí?**

In sections 2 and 3 I developed a theory of languages which ban all types of A-bar extraction of ergatives, and remarked that such languages appear to invariably be verb-initial. Katukína-Kanamarí (Katukina, Brazil) represents one possible exception to this generalization.

Katukína-Kanamarí word order is verb-initial by default in intransitive clauses:

(80) tyuku wa:pa
die dog
'The dog died' [*Katukína-Kanamarí* (Queixalós 2010, 237)]

In transitive clauses, the transitive agent precedes the verb, and a morpheme *na* appears between them. Queixalós (2010, 2017) and dos Anjos Gonçalves da Silva (2011) describe *na* as a proclitic on the verb:

(81) pi:da **na**=ti paiko
jaguar NA=kill grandfather
'The jaguar killed grandfather' [*Katukína-Kanamarí* (Queixalós 2010, 240)]

The morpheme *na* also appears between possessors and possessees, and in postpositional phrases:

(82) a. daan [ ityaro **na**=tyo]
go.away woman NA=daughter
'Woman's daughter went away'

b. ho:ki-nin Makoana [ Yowai **na**=katu] bo
talk-DUR Makoana Yowai NA=with EXCLAMATIVE
'Makoana is talking to Yowai!' [*Katukína-Kanamarí* (Queixalós 2010, 240)]

Stress in Katukína-Kanamarí is word-final (dos Anjos Gonçalves da Silva (2011)), which is one reason not to regard *na* as a suffix on the noun preceding it; stress ordinarily moves to suffixes in this language, but it does not appear on *na*.

If the nominal that would precede *na* would be a pronoun, no overt pronoun appears, and *na* is replaced with an agreeing prefix:

(83) a. **no**-ti paiko
2SG-kill grandfather
'You killed grandfather'

b. daan [ **no**-tyo]
go.away 2SG-daughter
'Your daughter went away'

c. ho:ki-nin Makoana [ **no**-katu] bo
talk-DUR Makoana 2SG-with EXCLAMATIVE
'Makoana is talking to you!' [*Katukína-Kanamarí* (Queixalós 2010, 239)]

When a transitive subject precedes *na*, they must be adjacent:

(84) a. **niama** pi:da na=ti paiko

then jaguar NA=kill grandfather

'Then the jaguar killed grandfather'

b. * pi:da **niama** na=ti paiko

jaguar then NA=kill grandfather

c. pi:da na=ti **niama** paiko

jaguar NA=kill then grandfather

d. pi:da na=ti paiko **niama**

jaguar NA=kill grandfather then [*Katukína-Kanamarí* (Queixalós 2010, 240)]

Another morpheme that can go in the place of *na* is a prefix *wa-*, which Queixalós (2010, 2017) analyzes as an antipassive. If *wa-* is used, the adjacency requirement illustrated in (84) no longer holds, and the object must generally be either absent, or expressed as an adpositional phrase, or it can appear as a bare, indefinite noun:

(85) a. **wa**-pu tu adu

APASS-eat NEG I

'I didn't eat'

b. **wa**-toman adu [wiri katu] wa

APASS-shoot I peccary with PROSPECTIVE

'I am going to shoot peccaries'

c. piya **wa**-pu-nin barahai

men APASS-eat-DURATIVE meat

'Men are eating meat' [*Katukína-Kanamarí* (Queixalós 2010, 257)]

Finally, if a transitive subject is to be extracted, *na* cannot be used; the verb must be antipassivized:

(86) hanian tan **wa**-dyuman tahi yu?
who here APASS-spread water INTERROGATIVE
'Who spread the water here?' [*Katukína-Kanamarí* (Queixalós 2010, 258)]

For Queixalós, the fact that the antipassive must be used in (86) is related to the adjacency requirement in (84); *na* requires the subject to remain structurally close to the verb, and if the subject is to be extracted, *na* therefore cannot appear. In Queixalós' analysis, this is because *na* is itself the ergative case marker; it cannot be separated from the noun that precedes it because it is part of the extended projection of the noun, though it is also a proclitic on the verb. We could simply adopt Queixalós' analysis here; this would make Katukína-Kanamarí another type of language which bans ergative extraction, on grounds different from the ones discussed in this paper.

If we did want to extend the account in the paper to Katukína-Kanamarí, we might begin by noting that if the *na* proclitic and the other morphemes that seem to appear in its morphological spot are instances of Trans, then we predict this language to ban extraction of ergatives; if Trans is a prefix, it should not require a specifier to its left, and movement of the subject to the specifier of TransP should be unmotivated. The puzzle, on that view, would be why the ergative subject is required to be immediately preverbal, rather than being postverbal as in the other relevant languages under discussion. A possible approach to that puzzle (and I should emphasize that I have no evidence to offer for this approach) might take inspiration from Clemens' (2014, 2019) approach to word order in Niuean. On this view, we might claim that Katukína-Kanamarí clauses do indeed have a syntactic structure that would ordinarily be

linearized as VSO. What makes Katukína-Kanamarí unusual is the particular morphophonological properties of *na*, which demands both that *na* be a proclitic on the verb and that it follow the subject. Consequently, we might think, the ergative subject is in fact pronounced in preverbal position, because these properties of *na* override the usual conditions on how syntactic structure is mapped onto word order.

**Appendix B: More on Mayan**

Sections 3.11 and 3.2.2 above concentrated on two types of Mayan languages. In languages like Ch'ol, transitive verbs are reliably marked with a status suffix, and extraction of ergatives is permitted:

(87) a. Tyi k-mel-**e** waj
ASP 1ERG-make-**TR** tortilla
'I made tortillas'

b. Maxki tyi y-il-ä jiñi wiñik
who ASP 3ERG-see-TR DET man
'Who saw the man?' [*Ch'ol* (Coon 2010, 35; Coon et al 2014, 193)

In languages like Q'anjob'al, status suffixes on transitive verbs appear only in phrase-final position, and extraction of ergatives is banned:

(88) a. Ta ch-Ø-a-kol cham, ch-ach hin-kol-**o'**
COND ASP-3ABS-2SG.ERG-help CLF ASP-2ABS 1SG.ERG-help-**TR**
'If you help the old man, I help you' [*Q'anjob'al* (Mateo Toledo 2017, 537)]

b. * Maktxel max-Ø y-il ix ix?
who ASP-3ABS 3ERG-see CL woman
'Who saw the woman?' [*Q'anjob'al* (Coon et al 2014, 193))

So far, then, the behavior of transitive status suffixes has been a reliable indicator of whether ergatives can be extracted. The one apparent exception, described above in section 3.2.2, is Sakapultek. Sakapultek is like Q'anjob'al in having status suffixes on transitive verbs that appear only in phrase-final position, but it is described by Du Bois (1981) and by Mó Isém (2006) as

allowing transitive subjects to be extracted, at least by some speakers, either with or without the Agent Focus form.

As discussed above in section 2.2, another popular theory claims that bans on ergative extraction are caused by 'high absolutives'; that is, in languages in which the absolutive nominal is structurally higher than the ergative one, the absolutive will make the ergative inaccessible to extraction. Some versions of this theory appeal to phase impenetrability; in a language in which the absolutive is high, the absolutive is the outermost specifier of its phase, and thereby prevents the ergative from being accessible to extraction from outside the phase. See Aldridge (2004), Coon et al (2014), Coon et al (2021), Tollan and Clemens (2022), and much other work for theories along these lines. As it happens, the two groups of languages described above differ, not only in the behavior of their status suffixes and the possibility of extracting ergatives, but also with respect to the position of absolutive agreement morphology. In the theory developed here, as mentioned in section 2.2 above, the position of the absolutive is not the cause of the ban on ergative extraction, but rather an effect of the morphological properties of Trans which are, in this theory, the true factor determining the accessibility of ergatives for extraction.

In this section, we will turn to Mayan languages in which transitive verbs are not generally marked by status suffixes. We will see that some of these languages allow extraction of ergatives, and others do not. More specifically, here is the chart given above in (43), extended to include languages without status suffixes on transitive verbs:

(89)

| *language name* | *transitive status suffixes?* | *ergative extraction?* | *information source* |
|---|---|---|---|
| Ch'ol | always | yes | Coon (2010) |
| Itzaj | always | yes | Hofling (2017) |
| Lakandon | always | yes | Bergqvist (2007) |
| Mocho' | always | yes | Palosaari (2011) |

| | | | |
|---|---|---|---|
| Mopan | always | yes | Hofling (2017) |
| Tojol-ab'al | always | yes | Curiel Ramírez del Prado (2017) |
| Yukatek | always | yes (with anti-agreement) | Hofling (2017) |
| Tektiteko | not in Trans? | no | Stevenson (1987), Pérez Vail (2007) |
| Akatek | only phrase-final | no | Zavala (1997) |
| Chuj | only phrase-final | no | Coon (2019), Coon et al (2021) |
| Ixil | only phrase-final | no | Adell (2019) |
| K'iche' | only phrase-final | no | Can Pixabaj (2017) |
| Popti' (Jakaltek) | only phrase-final | no | Day (1973), Craig (1977) |
| Q'anjob'al | only phrase-final | no | Mateo Toledo (2017), Coon et al (2014) |
| Sakapultek | only phrase-final | speaker variation | Du Bois (1981) |
| Sipakapense | only phrase-final | no | Barrett (1999) |
| Uspantek | only phrase-final | no | Bennett and Henderson (2013) |
| Awakatek | no[22] | no | Larsen (1983) |
| Chontal | no[23] | yes | Knowles (1984) |
| Kaqchikel | no[24] | no | McKenna Brown et al (2006) |
| Mam | no[25] | no | England (1983) |
| Poqom | no[26] | speaker variation | Santos Nicolás and Benito Pérez (1998) |
| Poqomchi' | no[27] | speaker variation | Brown (1979), Dobbels (2003) |
| Q'eqchi' | no[28] | no | Stewart (2015) |
| Tseltal | no[29] | yes | Shklovsky (2012), Polian (2017) |
| Tsotsil | no[30] | yes | Aissen (1987, 1999, 2017) |
| Tz'utujil | no[31] | no | Dayley (1985) |

[22] Except in future tense, in the main clause.
[23] Except in imperatives.
[24] Except in the hortative/subjunctive mood.
[25] Except in perfect aspect, imperatives, and potential forms.
[26] Except in perfect aspect.
[27] Except in perfect aspect.
[28] Except in the optative/imperative, with 2nd person plural subjects.
[29] Except in perfect aspect, and imperatives.
[30] Except in perfect aspect, and imperatives.
[31] Except in perfect aspect, and in imperative/obligative mood.

As the chart above reveals, the set of Mayan languages without status suffixes on transitive verbs includes languages in which ergative extraction is blocked, languages in which it is permitted, and languages in which speakers vary. In a sense, none of these is surprising on the theory developed here, and we could just end our discussion of the Mayan languages at this point; if there is no overt Trans morpheme on transitive verbs, learners cannot learn the morphological properties of Trans simply by observing it, and perhaps it is no surprise that learners of different languages have settled on different theories of the morphological properties of a phonologically null morpheme. In this appendix, I will discuss some of the considerations which learners might appeal to as they attempt to determine the morphological properties of null Trans. In particular, I will suggest that learners start with the assumption (which can be contradicted by data from overt morphemes) that transitive and intransitive versions of Trans will have the same morphological properties. We will also see that learners use the height of absolutives as a diagnostic for the properties of Trans. And we will see that one of the tasks that learners face is deciding whether a given morpheme that has different forms depending on transitivity is in fact an instance of Trans, or rather an instance of some other syntactic head, with allomorphy conditioned by the value of Trans. Let us begin with this last point.

As the footnotes to the chart in (89) indicate, the languages which generally lack transitive status suffixes typically do exhibit them in particular aspects or moods. Several of the languages, for example, have status suffixes on transitive verbs in the perfect aspect (Mam, Poqom, Poqomchi', Tseltal, Tzotzil, and Tz'utujil):

(90) a. Ch'i-em=ix te ixim=e

grow-PERF.INTR=already DET corn=DET

'The corn has already grown'

b. K-il-oj-at

1SG.ERG-see-PERF.TR-2SG.ABS

'I have seen you' [*Tseltal* (Polian 2013, 165-166)]

(91) a. Ee war-naq

3PL.ABS sleep-PERF.INTR

'They have gone to sleep'

b. At n-ch'ey-oon

2SG.ABS 1SG.ERG-hit-PERF.TR

'I have hit you' [*Tz'utujil (Mayan)*, (Dayley 1985, 77)]

Although they have status suffixes with similar properties, these languages are not all alike in their treatment of ergatives. Tseltal, for example, can extract ergatives freely, but Tz'utujil must use the Agent-Focus form of the verb to extract transitive subjects:

(92) Mach'a la s-pas?

who ASP 3ERG-do

'Who did it?' [*Tseltal (Mayan)*, (Polian and Aissen 2021, 406)]

(93) Naq x-at-sok-**ow**-i?

who/what CPL-2SG.ABS-hurt-**AF**-INTR

'What hurt you?' [*Tz'utujil (Mayan)*, (Dayley 1985, 352)]

I think the most straightforward conclusion to draw from these facts would be that morphemes like Tz'utujil *-oon* and Tseltal *-oj*, which mark transitive verbs in the perfect aspect, are not in

fact instances of Trans at all, but rather of some neighboring head (which we might call Perf, or Asp), which exhibits allomorphy conditioned by the contents of Trans. One bit of support for this conclusion in Tz'utujil is that the suffix marking transitive verbs in the perfect aspect, *-oon*, is different from the suffix that marks intransitive verbs in the imperfect aspect, *-i*, in that while the latter appears only in phrase-final position, the former is reliably present. We might imagine that learners can take this kind of difference as evidence that the two suffixes are of different syntactic kinds.

The actual head Trans, on this view, has transitive versions that are reliably phonologically null in all of the languages in which status suffixes appear just in the perfect. Overt morphemes that appear specifically on transitive verbs are not instances of Trans, but of heads of other syntactic labels, with allomorphy conditioned by transitivity.

With this much as background, let us now consider some particular languages in finer detail. Consider, for example, the behavior of Q'eqchi'.

Q'eqchi' has status suffixes *–(V)k* and *–(a)q*, referred to by Stewart (2015) as 'non-future' and 'future', and by Vinogradov (2019) as 'realis' and 'irrealis'. These status suffixes only appear on intransitive predicates:

(94) a. x-Ø-war-**k**

PAST-3SG.ABS-sleep-NONFUT.INTR

'He slept'

b. x-in-ir-il

PAST-1SG.ABS-3SG.ERG-see

'He saw me' [*Q'eqchi' (Mayan)*, (Stewart 2015, 32, 39)]

Moreover, these intransitive status suffixes are like the status suffixes discussed in section 3.2.2, in that they typically drop if they are not at the end of an intonational phrase:

(95) a. jo'kan ajwi' na-Ø-ye-man-**k** r-e naq
so also INCPL-3SG.ABS-say-PASS-NONFUT.INTR 3SG.ERG-DAT that
'It is also said so, so that…'

b. na-Ø-ye-man naq na-Ø-x-k'ut r-ib'
INCL-3SG.ABS-say-PASS that INCPL-3SG.ABS-3SG.ERG-show 3SG.POSS-REFL
'It is said that it appears (lit., "shows itself")….'

[*Q'eqchi' (Mayan)*, (Vinogradov 2019, 251)]

If learners of Q'eqchi' are inclined to assume that the different morphemes in Trans have the same morphological properties, then they may conclude from the behavior of the intransitive status suffixes that the (invisible) transitive status suffixes are also only present when phrase-final, and hence do not need Affix Support, and therefore ban extraction of ergatives. This would be the right conclusion for Q'eqchi', which does use Agent Focus to extract transitive subjects:

(96) Ani x-Ø-sak'-**o**-k r-e
who PAST-3ABS-hit-**AF**-NONFUT.INTR 3-PATIENT
'Who hit him?' [*Q'eqchi' (Mayan)*, (Stewart 2015, 73)]

We know that there cannot actually be a requirement that every morpheme in Trans have the same morphological properties: Tojol-ab'al, for example, has status suffixes for intransitives which appear only in phrase-final position, and status suffixes for transitives which are always present (Curiel Ramírez del Prado 2017). But perhaps learners assume that the heads Merged in

Trans will all have the same morphological properties, until they see evidence that the assumption is false (as they will in Tojol-ab'al, for example).

Q'eqchi' has another property which learners might be using as a clue: as the examples above show, it is a high-absolutive language, in which the absolutive agreement morpheme precedes the verb. By the reasoning outlined in section 2.2, learners are entitled to assume that in such a language, Trans does not require a specifier, and that extraction of ergatives will therefore be blocked.

Tz'utujil is like Q'eqchi' in having intransitive status suffixes that appear only when phrase-final, being high-absolutive, and banning extraction of ergatives:

(97) a. Jun aachi x-Ø-war-**i**

a man ASP-3SG.ABS-sleep-**INTR**

'A man slept'

a'. x-Ø-war jun aachi

ASP-3SG.ABS-sleep a man

'A man slept'

b. Naq x-at-sok-**ow**-i?

who/what CPL-2SG.ABS-hurt-**AF**-INTR

'What hurt you?' [*Tz'utujil (Mayan)*, (Dayley 1985, 82, 352)]

Awakatek, Kaqchikel, and Mam, meanwhile, have neither transitive nor intransitive status suffixes in ordinary clauses, but are like Q'eqchi' in being high absolutive and in banning ergative extraction:

(98) a. ja chin-wit

RECENT.PAST 1SG.ABS-sleep

'I slept' [*Awakatek (Mayan)*, (Larsen 1994, 174)]

b. Na7 m-Ø-b'iy-**oon** yaaj

who PROX.PAST-3SG.ABS-hit-**AF** man

'Who hit the man?' [*Awakatek (Mayan)*, (Larsen 1983, 132)]

(99) a. Ja ri tetata' x-Ø-wär.

FOC DET old.man CPL-3SG.ABS-sleep [*Kaqchikel (Mayan)*,

'It was the old man who slept' (Broadwell 2000, 16)]

b. Achike x-Ø-loq'-**o** ri äk'?

who CPL-3SG.ABS-buy-**AF** DET chicken

'Who bought the chicken?' [*Kaqchikel (Mayan)*, (Henderson and Coon 2018, 150)]

(100) a. Ma chin jaw tz'aq-a

RECENT 1SG.ABS DIR slip-1SG

'I slipped (just now)'

b. Alkyee Ø-Ø-tzyuu-**n** ky-e xiinaq?

who PAST.DEP-3SG.ABS-grab-**AF** 3PL-PATIENT man

'Who grabbed the men?' [*Mam (Mayan)*, (England 1983, 162, 214)]

A learner seeking to discover whether the phonologically null transitive version of Trans requires a specifier or not, then, will be led to the right conclusion, for Awakatek, Kaqchikel, Mam, Q'eqchi', and Tz'utujil, by assuming that the transitive and intransitive versions of Trans have the

same morphological properties, and that languages with high absolutives have the version of Trans which does not require a specifier, and therefore blocks extraction.

For Chontal, Tseltal, and Tsotsil, the same reasoning will lead in the opposite direction. All of these are low-absolutive languages (and none of them have status suffixes in ordinary clauses with an ergative alignment for agreement). A learner following the strategy outlined above will conclude that, since their absolutives are low, their null transitive version of Trans ought to be a reliably present suffix, requiring a specifier and licensing extraction of ergatives. And this would be the correct conclusion, for all three of these languages[32]:

(101) a. ʔa t'äb-Ø-on
ASP go.up-COMPLETIVE-1ABS
'I went up'

b. Konde ‘u jätz’-i-Ø ‘a Yan?
who 3ERG hit-COMPLETIVE-3ABS MASC John
‘Who hit John?’ [*Chontal (Mayan),* (Knowles 1984, 81, 331)]

(102) a. Jul-on
arrive-1SG.ABS
'I arrived' [*Tseltal (Mayan)*, (Shklovsky 2012, 37)]

b. Mach’a la s-pas?
who ASP 3ERG-do
‘Who did it?’ [*Tseltal (Mayan)*, (Polian and Aissen 2021, 406)]

[32] Tsotsil does have another strategy for extracting ergatives that involves detransitivizing the verb. Aissen (1999) argues that this strategy is used when the object is more topical than the subject (for example, when the subject is inanimate and the object is animate). I will not try to account for this body of facts in this paper.

(103) a. Mu x-bat

not NEUT-go

'He/she/it/they isn't/aren't going' [*Tsotsil (Mayan)*, (Aissen 1987, 41)]

b. Buch'u i-s-kolta li tzeb-e?

who ASP-3ERG-help DET girl-ENC

'Who helped the girl?' [*Tsotsil (Mayan)*, (Aissen 1999, 459)]

All of the languages discussed so far in this section are languages in which the position of absolutives, and the behavior of intransitive status suffixes in Trans (in languages that possess them) are guides to the behavior of the null transitive version of Trans. Let us next turn to two languages in which the two criteria under consideration—the behavior of intransitive Trans, and the position of absolutives—yield conflicting advice about how learners are to treat the transitive version of Trans. We will see that these are languages in which learners disagree about whether ergative extraction is possible or not.

Poqom[33] and Poqomchi' are both high absolutive languages, in which the absolutive agreement morpheme linearly precedes the verb:

(104) Ka x-ah-ru-to' cha la sa nu-mama'

PAR CPL-1PL.ABS-3SG.ERG-help DIR ART DIM 1SG.ERG-grandfather

'My grandfather helped us again' [*Poqom (Mayan)*, (Santos Nicolás and Benito Pérez 1998, 287)]

[33] This language has also been called Poqomam; I follow Benito Pérez (2016) in calling it Poqom.

(105) X-at-ru-naq

CPL-2SG.ABS-3SG.ERG-scold

'He/she scolded you' [*Poqomchi' (Mayan)*, (K'ulb'il Yol Twitz Paxil 2012, 112)]

Benito Pérez (2016) describes Poqom[34] intransitive verbs as being marked with a status suffix, typically *-a*, which does not drop in phrase-medial position:

(106) X-Ø-k'uhl-**a**=qa janaj xamaana

CPL-3SG.ABS-end-**INTR**=DIR one week

'A week ended' [*Poqom (Mayan),* (Benito Pérez 2016, 89)]

Poqom transitive verbs, on the other hand, take no status suffix:

(107) X-Ø-ki-chap janaj tuuchin la imas-aq

CPL-3SG.ABS-3SG.ERG-capture INDEF armadillo DEF man-PL

'The men captured an armadillo' [*Poqom (Mayan),* (Benito Pérez 2016, 49)]

Brown (1979) describes a similar system for Poqomchi', which has an intransitive status suffix *-ik*, which does not drop in phrase-medial position:

(108) Re7 nim ha7 in-Ø-k'ih-**ik** pan q'ejej

DEF big water ASP-3SG.ABS-swell-**INTR** in winter

'The river swells in winter' [*Poqomchi' (Mayan),* (Brown 1979, 112)]

Like Poqom, Poqomchi' generally does not mark transitive verbs with status suffixes:

(109) X-Ø-in-raq jinaj ri-sooch aaq'

CPL-3SG.ABS-1SG.ERG-find a 3SG.ERG-skin snake

'I found a snake skin' [*Poqomchi' (Mayan),* (Brown 1979, 103)]

[34] Benito Pérez is describing the dialect of the language spoken in Palín; Smith-Stark (1983) says that in the Jilotepequeño dialect, the typical intransitive status suffix is *-i*.

Let us consider what learners might guess about the phonologically null transitive status suffix in Trans. On the one hand, the intransitive status suffixes are reliably present; they are not limited to phrase-final position. If learners start from the assumption that every member of Trans has the same morphological properties, then this should lead them to assume that Trans is always present as a suffix, and therefore requires Affix Support; the consequence of this assumption would be that ergative subjects would move to the edge of Trans, making them available for extraction.

On the other hand, as we have seen, these are high absolutive languages, with absolutive morphology that precedes the verb. Such languages have so far reliably banned extraction of ergatives; by the reasoning given in section 2.2, a language with high absolutives is one in which the subject need not move to the specifier of TransP, and the Agree relation between Trans and the object therefore triggers movement of the object past the subject. The subject, in other words, is below Trans in such languages, and therefore inaccessible for extraction.

If these languages do ban extraction of ergative subjects, as it happens, they will be unlike the other Mayan languages previously discussed in not using Agent Focus to make extraction possible. As Benito Pérez (2016) points out, these languages do not appear to have the Agent Focus form of the verb that we have been concentrating on in other Mayan languages, which is specifically used when transitive subjects are to be extracted. What the languages do have (and many other Mayan languages have this as well) is an antipassive construction, which may be used even if no extraction is taking place:

(110) a. X-Ø-i-to' ma' Tojin la k'ayaneel

CPL-3SG.ABS-3SG.ERG-help CL Tojin DEF salesman

'The salesman helped Tojin'

b. X-Ø-to'-**w**-a r-eh ma' Tojin la k'ayaneel.

CPL-3SG.ABS-help-**APASS**-INTR 3SG.ERG-REL CL Tojin DEF salesman

'The salesman helped Tojin' [*Poqom (Mayan)*, (Benito Pérez 2016, 53)]

In the antipassive in (110b), the object is expressed as an oblique (the possessor of a relational noun, in this case), and the verb bears the morphology of an intransitive verb, including agreement only with the subject and the intransitive status suffix *-a*.

The literature on these languages suggests that some speakers of Poqom and Poqomchi' can extract transitive subjects, while others cannot, and must use the antipassive to detransitivize the verb before the subject can be extracted. Dobbels' (2003) dictionary of Poqomchi', for example, contains examples of extraction of transitive subjects in which the verb is left transitive (such as (111)), and other examples in which the antipassive is used (such as (112))[35]:

(111) Awach x-Ø-u-tz'a'-j taqeh nu-huuj?

who CPL-3SG.ABS-3SG.ERG-touch-TRANS[36] PL 1SG.ERG-book

'Who touched my books?' [*Poqomchi' (Mayan)*, (Dobbels 2003, 737)]

(112) Awach x-Ø-maq'-w-ik r-eh i nu-kaxlanwi'k?

who CPL-3SG.ABS-take-APASS-INTR 3SG.ERG-REL DET 1SG.ERG-bread

'Who took my bread?' [*Poqomchi' (Mayan)*, (Dobbels 2003, 401)]

[35] I am deeply grateful to James Tandy for providing me with these data, and for helpful discussion.

[36] Although Poqomchi' does not use status suffixes on ordinary transitive verbs, it does use them on derived transitives, of which this verb is an example. See footnote 12 for further discussion of this distinction.

In Poqom, Santos Nicolás and Benito Pérez (1998, 410) declare that antipassivization is obligatory for wh-extraction of transitive subjects, but that "some people still use the transitive form"[37]. Dayley (1983) and Stiebels (2006) describe Poqom and Poqomchi' as languages in which detransitivization of the verb for ergative subject extraction is always optional; Smith-Stark (1978) says that in Poqom, detransitivization is obligatory for wh-extraction of transitive subjects, but optional for relativization.

My impression is that these facts have, perhaps justifiably, not been the focus of a great deal of attention by Mayanists. Tada (1993) simply lists Poqom and Poqomchi' among the languages which have high absolutives and also detransitivize verbs in order to extract subjects, and the literature on high absolutives in Mayan seems to have followed suit, as far as I can tell. This may be the correct move. Perhaps the sources above have misdescribed the Poqom and Poqomchi' facts, or perhaps we would find, on closer inspection, that many high-absolutive languages have the kind of ergative extraction exemplified for Poqomchi' in (111), and that our theory of this kind of fact should not make Poqom and Poqomchi' any different from any of the other high-absolutive languages.

But if the descriptions above are accurate, and if the facts of Poqom and Poqomchi' are idiosyncratic enough to be worth explaining, then it seems to me that we might be able to explain them with the account under development here of how learners go about determining the morphological properties of phonologically null instances of Trans. Recall that Poqom and Poqomchi', in the approach developed here, are giving learners contradictory signals about the nature of null transitive Trans. On the one hand, overt Trans in intransitive verbs is reliably present, not dependent on being final in a phrase, and if the null transitive version of Trans has

[37] "…algunas personas siguen utilizando la forma transitiva…".

the same properties, it ought to trigger Affix Support and make ergative extraction possible. On the other hand, these languages have high absolutives, and such languages generally ban ergative extraction. Perhaps what the literature on Poqom and Poqomchi' is teaching us is that speakers of these languages are indeed split with respect to how to reconcile these conflicting pieces of data.

In particular, we might think that some learners of these languages decide that the high absolutive morpheme is a reliable guide to the nature of null Trans; transitive and intransitive version of Trans, these learners have decided, simply have distinct morphological properties, which is something we know to be logically possible. These would be the speakers who cannot extract ergative subjects, as is standard for languages with high absolutives. Another set of learners, on the other hand, have decided to rely on the principle that the transitive and intransitive versions of Trans ought to have the same properties, all other things being equal, and have concluded that every instance of Trans in their language is a reliably present suffix, triggering movement of the subject to its specifier for Affix Support and making ergative extraction possible. These speakers have decided to disregard the high absolutive morpheme. Perhaps they have decided to appeal to morphology to account for the fact that the absolutive agreement morpheme precedes the verb rather than following it; the absolutive DP is in fact syntactically low, they might think, but the agreement morpheme in question is idiosyncratically specified as a proclitic on the verb.

This theory makes several interesting predictions, which I am not in a position to test. The two hypothesized groups of learners ought to differ in the syntactic positions of their subjects and objects, in ways that we might hope to detect, perhaps by considering the facts of

binding or of scope (as Royer (2022a) does, for example, for Chuj and Ch'ol). I will leave this problem for future research.

Finally, let me close with a note about Sakapultek. Sakapultek was discussed in section 3.2.2 above as a language which seems to contradict the predictions of several theories, including the one developed in this paper. It is a language with status suffixes that appear only in phrase-final position, and it has high absolutives:

(113) a. X-Ø-inw-il nan
CMP-3SG.ABS-1SG.ERG-see still
'I had to see it'

b. X-Ø-inw-il-**an**
CMP-3SG.ABS-1SG.ERG-see-**TR**
'I saw it' [*Sakapultek (Mayan)*, (Mó Isém 2006, 424)]

High absolutives and phrase-final status suffixes are both characteristics of languages which ban extraction of ergatives. But Sakapultek is reported to have speaker variation as to whether the Agent Focus form of the verb is required for extraction of transitive subjects:

(114) a. ¿Che wa' x-at-ir-ti'-an?
what DEM CPL-2SG.ABS-3SG.ERG-sting-TR
'What stung you?'

b. ¿Che wa' Ø-Ø-ti'-iw aw-een?
what DEM CPL-3SG.ABS-sting-AF 2SG.ERG-REL
'What stung you?' [*Sakapultek (Mayan)*, (Mó Isém 2006, 604-5)]

The existence of Sakapultek speakers who prefer to use the Agent Focus form of the verb in (114b) is not surprising. What requires an explanation is why there are Sakapultek speakers who

can extract ergative subjects without detransitivizing the verb. Why have these speakers concluded that Trans is a reliably present suffix?

Suppose we imagine that the point of speaker variation has to do with the syntactic status of status suffixes like the one in (114b). In particular, we might think that speakers vary with respect to the syntactic position of suffixes like *-an* 'TR'; some speakers regard it as an instance of Trans, while others place it in some other syntactic position, where it fails to have any effect on the conditions on wh-extraction.

We have already considered the possibility that 'status suffixes' might not be a syntactically homogenous category. In section 3.1.1, for example, it was important to think of Tektiteko as having status suffixes which are not instances of Trans:

(115) a. o ka wita-**n** a
1PL.ABS STAY sleep-**INTR** EXCL
'We (exclusive) sleep'

b. Ø t-ipa-**j**
3SG.ABS 3SG.ERG-endure-**NONDIR.TR**
'He put up with it'

c. Ø xi j-q'oma-**'** na
3SG.ABS GO 1PL.ERG-say-**DIR.TR** EXCL
'We (exclusive) said it' [*Tektiteko (Mayan)*, (Stevenson 1987, 48)]

The status suffixes in (115) indicate the transitivity of the verb, but also (unusually) are sensitive to whether the verb contains a 'directional' morpheme (like *xi* 'GO' in (115c)). These suffixes are reliably present (that is, they are not limited to phrase-final position), and yet Tektiteko bans extraction of ergatives. It was therefore important to think of these suffixes, not as instances of

Trans, but as some other syntactic head, perhaps the one responsible for introducing directional morphemes, which displays allomorphy conditioned by the contents of Trans. The hope would be that a complete understanding of the syntactic conditions on allomorphy, along with a suitably articulated structure for the Tektiteko clause, would guarantee that a morpheme which was sensitive both to the presence of directional morphemes and the transitivity of the verb could not be Trans.

Similarly, at the beginning of this appendix, we considered status suffixes in several languages which were, I claimed, instances of an aspectual head, rather than Trans. Tz'utujil, for example, has a status suffix *-oon* that marks transitive verbs in the Perfect aspect, which is not limited to phrase-final contexts:

(116) Jaa k'aari7 ja Ø-ki-b'an-**oon** ja winaq waawe7.
that that 3SG.ABS-3PL.ERG-do-**PERF.TR** the people here
'That is what the people have done here' [*Tz'utujil*, (Dayley 1987, 78)]

Outside the Perfect aspect, transitive verbs do not generally bear status suffixes in Tz'utujil, but there is an intransitive status suffix *-i*, which appears only when phrase-final:

(117) a. Jun aachi x-Ø-war-**i**
a man ASP-3SG.ABS-sleep-**INTR**
'A man slept'

b. x-Ø-war jun aachi
ASP-3SG.ABS-sleep a man
'A man slept' [*Tz'utujil (Mayan)*, (Dayley 1985, 82)]

I suggested above that learners of Tz'utujil are entitled to conclude from the different morphological behavior of these two status suffixes that they are in different syntactic positions:

*-oon* is an Aspect head (showing allomorphy conditioned by the value of Trans), while *-i* is a Trans head (showing allomorphy conditioned by the value of Aspect). It is the properties of *-i* which correlate as expected with the conditions on ergative extraction; Tz'utujil must use the Agent Focus form of the verb to extract transitive subjects:

(118) Naq x-at-sok-**ow**-i?

who/what CPL-2SG.ABS-hurt-**AF**-INTR

'What hurt you?' [*Tz'utujil (Mayan)*, (Dayley 1985, 352)]

To turn to another example: K'iche' is like Tz'utujil in having distinct kinds of status suffixes for perfect and imperfect aspects. In the case of K'iche', the imperfect status suffixes appear only in phrase-final position (and K'iche' is unlike Tz'utujil in having overt imperfect status suffixes for transitive verbs):

(119) a. iwiir x-Ø-in-b'an-**o**

yesterday PERFV-3SG.ABS-1SG.ERG-do-**TR**

'Yesterday I did it'

b. x-Ø-in-b'an iwiir

PERFV-3SG.ABS-1SG.ERG-do yesterday

'I did it yesterday' [*K'iche' (Mayan)*, (Larsen 1988, 231)]

On the other hand, K'iche' perfect status suffixes are like Tz'utujil perfect status suffixes in not being limited to phrase-final position:

(120) ri achii Ø u-chap-**om** r-ikaaj

the man 3SG.ABS 3SG.ERG-grab-**PERF.TR** 3SG.ERG-axe

aree x-Ø-oopan pa k'ache7laaj

when PERFV-3SG.ABS-arrive.there in forest

'The man was holding his axe when he arrived at the forest'

[*K'iche' (Mayan)*, (Larsen 1988, 237)]

As in Tz'utujil, then, we can apparently conclude that in K'iche', there are status suffixes that are generated in Aspect (and show allomorphy conditioned by transitivity), and other status suffixes that are generated in Trans (and show allomorphy for aspect)[38]. Also as in Tz'utujil, it is the imperfect status suffixes, the ones limited to phrase-final position, which determine the conditions on ergative extraction. K'iche' does not allow ergatives to extract:

(121) a. *Jachiin x-Ø-u-paxi-j lee laq?

who CPL-3SG.ABS-3SG.ERG-break-**TR** the bowl

'Who broke the bowl?'

b. Jachiin x-Ø-paxi-n lee laq?

who CPL-3SG.ABS-break-AF the bowl

'Who broke the bowl?' [*K'iche' (Mayan),* (Mondloch[39] 1981, 227)]

K'iche' and Tz'utujil, then, are among the Mayan languages in which there is some support for the idea that status suffixes are syntactically diverse. Both of these languages have status suffixes which are sensitive to aspect, and we have now seen that in both languages, status suffixes in the perfect aspect are not limited to phrase-final position, while status suffixes in non-

[38] For further arguments that perfect and non-perfect status suffixes in K'iche' should not be seen as belonging to the same category, see Larsen (1988, 207-208).

[39] I have updated the orthography of Mondloch's examples, following the example of Aissen (2011).

perfect aspects are limited to phrase-final position. Both languages are, moreover, languages in which extraction of ergatives follows the pattern we expect for languages in which status suffixes are limited to phrase-final position. In other words, these are both languages in which we should conclude that it is the non-perfect status suffixes which actually occupy Trans; perfect status suffixes occupy some other position, perhaps one dedicated to aspect.

Now we can turn to Sakapultek. Sakapultek status suffixes, like status suffixes in K'iche' and Tz'utujil, encode not only information about transitivity, but also about aspect:

(122) a. ki-Ø-b'in-**ek**

INC-3SG.ABS-walk-**INTR.NONPERF**

'He/she walks'

b. x-at-in-chap-**an**

CPL-2SG.ABS-1SG.ERG-catch-**TR.NONPERF**

'I caught you'

c. Ø-war-**naq**

3SG.ABS-sleep-**INTR.PERF**

'He/she has slept, is asleep'

d. Ø-ni-chap-**maj**

3SG.ABS-1SG.ERG-catch-**TR.PERF**

'I have grabbed it' [*Sakapultek (Mayan)*,

(Mó Isém 2006, 224, 221, 228, 239)]

One difference between Sakapultek and the other Mayan languages just discussed is that in Sakapultek, not only non-perfect status suffixes, but also transitive perfect status suffixes are

sensitive to phrase-final position. The contrast in (123) is of a familiar kind; the transitive non-perfect status suffix *-an* only appears in phrase-final position:

(123) a. x-at-in-chap-**an**

CPL-2SG.ABS-1SG.ERG-catch-**TR.NONPERF**

'I caught you'

b. x-at-in-chap iwir

CPL-2SG.ABS-1SG.ERG-catch yesterday

'I caught you yesterday' [*Sakapultek (Mayan),* (Mó Isém 2006, 221)]

And in (124), we can see that the perfect transitive status suffix also takes different forms in phrase-final and non-phrase-final position:

(124) a. Ø-ni-chap-**maj**

3SG.ABS-1SG.ERG-catch-**TR.PERF**

'I have grabbed it'

b. Ø-ki-k'al-**am** laj

3SG.ABS-3PL.ERG-save-**TR.PERF** money

'They have saved the money'

[*Sakapultek (Mayan)*, (Mó Isém 2006, 239, 679)]

Du Bois (1981) analyzes the transitive perfect aspect status suffix as consisting of two morphemes, a suffix *-am* followed by a second suffix *-aj* which appears only in phrase-final position. On this account, Sakapultek verbs appear with a variety of phrase-final suffixes, including non-perfect suffixes *-ek* (intransitive) and *-an* (transitive), and a perfect transitive suffix *-aj*.

To put it another way, on this view, Sakapultek is a language in which status suffixes indicate both aspect and transitivity, and are (on one analysis at least) invariably restricted to phrase-final position. The next question, from the learner's perspective, is: are these instances of Trans, or instances of Aspect? In languages like K'iche' and Tz'utujil, as we have seen, there are morphological reasons to assign different status suffixes to different syntactic categories; some status suffixes appear only phrase-finally, while others are reliably present. But in Sakapultek, the evidence for such an assignment is not as strong; phrase-final status is relevant for status suffixes both in perfect and in imperfect aspects. And perhaps this is why Sakapultek speakers show speaker variation with respect to extraction of ergatives; different speakers have arrived at different conclusions about where these status suffixes should be put in the tree. For speakers who have assigned these affixes to Trans, ergative extraction should be banned (and Mó Isém's (2006) discussion of the facts makes it sound as though there are such speakers). But for speakers who have assigned these affixes to Aspect, the Trans head might be null (or perhaps the reliably appearing perfect transitive suffix *–(a)m*, appearing in both examples in (124), is one instance of Trans). Such speakers would then be free to make ergative subjects accessible to extraction.

I have written this fairly lengthy appendix about the Mayan facts partly as an exercise in pushing the theory as far as it can go. The discussion of Mayan in the main body of the paper divides the languages, for the most part, into three groups. There are languages (like Ch'ol) with reliably present status suffixes, which permit extraction of ergatives; there are languages (like Q'anjob'al) with status suffixes that appear only in phrase-final position, which ban extraction of ergatives; and there are languages (like Tseltal and Tz'utujil) which do not use status suffixes in unmarked contexts on transitive verbs, some of which allow extraction of ergatives while others

do not. Without any additional assumptions, this is as far as the theory goes, and its predictions seem to be largely accurate. This appendix has been an attempt to sketch some additional assumptions which would allow the theory to go further. In particular, we have been investigating questions like: when Trans is phonologically null, what strategies do learners use to determine its morphological properties? and how do learners decide on the syntactic position of an affix which bears information plausibly associated with multiple distinct syntactic heads (e.g., Mayan status suffixes)?