Phase edge and extraction: a Tagalog case study*

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In this paper, we examine evidence for the phase theory of movement (Chomsky 2000, 2001), in the context of Tagalog, arguing in particular that Tagalog has overt morphology that signals movement of arguments to check EPP on the head of the *v*P phase. We show that this morphology interacts with extraction in ways which Chomsky's theory leads us to expect, and develop a theory of the Tagalog facts which also accounts for the effects of Huang's (1982) CED.

keywords: Tagalog, wh-agreement, CED, phases, successive-cyclicity

1. Introduction

According to the phase-based theory of syntax (Chomsky 2000, 2001), in order for some element to be extracted out of a phase, it must be located at the edge of that phase, either by merging into that position or moving there. Movement to the edge of the phase is accomplished by an EPP feature that forces some argument within the domain of the phase head to move to check it. In this paper, we examine evidence for this theory in the context of Tagalog.

In particular, we argue that Tagalog has a process of 'object' shift for specific arguments. We argue that, just as in Germanic languages, specific arguments are forced to move to the edge of the *v*P phase in order to receive the correct semantic interpretation. In Tagalog, this movement is signaled by morphology on the verb which agrees with the shifted argument (in Case, we will claim; see Rackowski 2002 for arguments), and also

by the marker *ang* (or *si* for proper names) on the shifted argument. The shifted argument is underlined in the following examples, and the agreement morphology on the verb is in bold (Maclachlan 1992) (note that word order is very free in Tagalog, so shifting is not evident from order in the following examples) [1]:

(1) *Agent, -um-*

a. B-**um**-ili ang bata ng tela sa palengke para sa nanay
Nom.asp-buy ANG child CS cloth DAT market P DAT mother
'The child bought cloth at the market for mother.'

Theme, -in

b. B-in-ili-**Ø** ng bata ang tela sa palengke para sa nanay
asp-buy-**Acc** CS child ANG cloth DAT market P DAT mother
'The child bought the cloth at the market for mother.'

Locative phrase, -an

c. B-in-ilh-**an** ng bata ng tela ang palengke para sa nanay
asp-buy-**Dat** CS child CS cloth ANG market P DAT mother
'The child bought (the) cloth at the market for mother.'

Benefactive phrase, i-

d. **I**-b-in-ili ng bata ng tela sa palengke ang nanay
Obl-asp-buy CS child CS cloth DAT market ANG mother
'The child bought (the) cloth at the market for mother.'

As the examples show, the shifted argument can bear any of a number of different argument relations to the verb This fact will be a focus of discussion in section 3.1,

where we will see that despite this apparent diversity of options, shift is actually very local, capable of affecting only the highest internal argument; examples like (1c-d), we will argue, crucially involve the use of applicative constructions which introduce the *ang*-marked phrase as the highest internal argument. The *ang*-marked phrase has been known by a number of names in the literature on Tagalog, including 'subject', 'topic', and 'pivot' — here we will refer to it as the 'subject', though this term should be regarded with caution.[2]

Since extraction can only occur from the edge of the phase, the morphology exemplified above correlates with the possibility of extraction; extracted DPs in Tagalog must be 'subjects', as shown in (2):

(2) a. Sino [ang binigy-**an** ng lalaki ng bulaklak __]?
who ANG gave-**Dat** CS man CS flower
'Who did the man give the flowerto?'

b. *Sino [ang **i**-binigay ng lalaki ang bulaklak __]?[3]
who ANG**Obl**-gave CS man ANG flower

c. *Sino [ang **n**agbigay ang lalaking bulaklak __]?
who ANG**Nom**-gave ANGman CS flower

This morphology also interacts in interesting ways with long-distance extraction; embedded clauses must become the 'subjects' of higher verbs in order to allow extraction out of them. We argue that this follows from a requirement that embedded clauses enter into Agree relations with higher heads in order to allow the extraction of arguments out

of them. The resulting theory will capture the facts of Tagalog wh-extraction, and will also offer a new account of the CED and its effects in more familiar languages.

2. 'Subjects'

Consider again the examples in (1), repeated here as (3):

(3) *Agent, -um-*

a. B-**um**-ili ang bata ng tela sa palengke para sa nanay
Nom.asp-buy ANG child CS cloth DAT market P DAT mother
'The child bought cloth at the market for mother.'

Theme, -in

b. B-in-ili-**Ø** ng bata ang tela sa palengke para sa nanay
asp-buy-**Acc** CS child ANG cloth DAT market P DAT mother
'The child bought the cloth at the market for mother.'

Locative phrase, -an

c. B-in-ilh-**an** ng bata ng tela ang palengke para sa nanay
asp-buy-**Dat** CS child CS cloth ANG market P DAT mother
'The child bought (the) cloth at the market for mother.'

Benefactive phrase, i-

d. **I**-b-in-ili ng bata ng tela sa palengke ang nanay
Obl-asp-buy CS child CS cloth DAT market ANG mother
'The child bought (the) cloth at the market for mother.'

One interesting property of 'subjects' that is evident from these examples is that all 'subjects' are obligatorily specific in Tagalog. That is, the sentence in (3a) cannot mean

'*A (non-specific)* child bought cloth at the market for mother.' In contrast, direct objects are obligatorily non-specific in sentences where the external argument is the 'subject' (3a) and are optionally specific in sentences where some other argument is the 'subject' (3c,d).

The effects of 'subjecthood' on specificity are particularly clear in the case of pronouns; being obligatorily specific, pronouns are ungrammatical as ordinary objects in Tagalog. If an object pronoun is present, the form of the verb which makes the pronoun a 'subject' must be used, as illustrated in (4).

(4) a. Sinampal-**Ø** ako ng mandurukot
asp.slap-**Acc** I.ANG CS pickpocket
'A/the pickpocket slapped me.'

b. *S-**um**-ampal ko ang mandurukot.
Nom.asp-slap CS.me ANG pickpocket
'The pickpocket slapped me.'

This pattern is strikingly reminiscent of object shift in Germanic languages, where specific direct objects are disallowed in VP-internal positions. In Icelandic, for example, specific objects shift out of VP and nonspecifics do not. Pronouns obligatorily shift.[4] Shifting is to a position to the left of VP-adjoined adverbs and negation.

(5) a. Nemandinn las bókina **ekki**
students-the-NOM read book-the-ACC not
'The students didn't read the book.' (Thráinsson 2001)

b. Hann las **ekki** baekur
he read not books
'He didn't read books.'

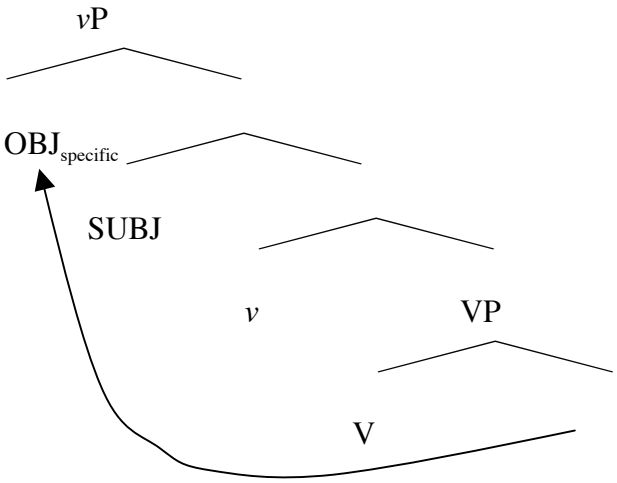
c. ?*Hann las baekur **ekki**
he read books not (Diesing 1996)

d. Nemandinn las hana **ekki**
students-the-NOM read it not
'The students didn't read it.'

e. *Nemandinn las **ekki** hana
students-the-NOM read not it
'The students didn't read it.' (Thráinsson 2001)

Chomsky 2001 argues that object shift occurs as the result of an EPP feature on *v* that is present only when it has an effect on semantic outcome. There is an effect on semantic outcome because the position at the edge of the *v*P is assigned a specific interpretation, while everything internal to *v*P is assigned a non-specific interpretation. According to this theory, any specific argument must therefore raise to the edge of *v*P in order to receive the correct interpretation. The process is diagrammed in (6).

(6)

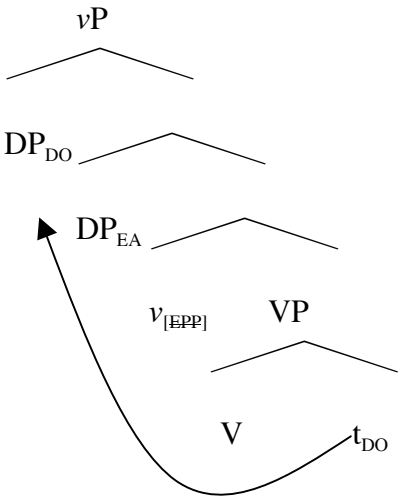


In what follows we will crucially assume that there is no tucking-in below a thematic specifier (see McGinnis 1998, Chomsky 2001, Rackowski 2002 for discussion); as a result, object shift in a tree like (6) lands in a specifier above the thematic specifier occupied by SUBJ. Rackowski (2002) suggests that the relevant derivation involves Merge of the external argument, to an inner specifier, after object shift has already taken place.

We claim that Tagalog 'subjects', like the object-shifted phrases in Icelandic, are DPs which have entered into an Agree relation with *v*, allowing them to raise into the edge of the phase and triggering Case-agreement morphology on the verb:

(7) Lu-lutu-**in** ng lalaki ang adobo.
Asp-cook-**Acc** CS man ANG adobo
'The man will cook the adobo.'

(8)



As in Icelandic, direct objects may fail to undergo this process, in which case they will receive a non-specific interpretation, and verbal agreement will register the external argument:

(9) **M**agluluto ang lalaki ng adobo

Nom-asp-cook ANG man CS adobo

'The man will cook adobo'

3. Multiple Internal Arguments and "Object Shift" in Icelandic and Tagalog

The mechanics of Icelandic object shift become more complicated when there is more than one internal argument: If there are two objects and only one of them shifts, it must be the higher of the two:

(10) a. ?* Ég lána bae kurnar **ekki** Maríu.

I lend books(ACC) not Maria(DAT)

b. Ég lána Maríu **ekki** bae kurnar.

I lend Maria(DAT) not books(ACC)

'I do not lend the books to Maria.' (Collins and Thrainsson 1996)

We will see in this section that Tagalog 'object shift' exhibits the same kind of locality. On the face of it, this seems counterintuitive What we have seen so far suggests that almost any DP in the sentence can become the 'subject'. In a sentence containing both a benefactive and a direct object, for instance, the benefactive and the direct object are both possible 'subjects':

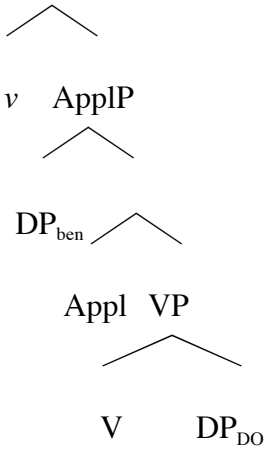
(11) a. **I**-pinagluto ni Romeo ng adobo ang babae
Obl-asp-cook CS Romeo CS adobo ANG woman
'Romeo cooked (the) adobo for the woman'

b. Niluto-Ø ni Romeo ang adobo para sa babae
asp-cook-Acc CS Romeo ANG adobo for DAT woman
'Romeo cooked the adobo for a woman'

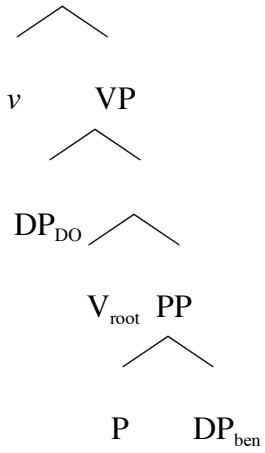
How can both of these DPs be equally accessible to Agree?

Rackowski (2002) offers arguments (reviewed in the next section) that the examples in (11) actually have different argument structures; (11a) involves an instance of Pylkkänen's (2001, 2002) high applicative construction, while the benefactive in (11b) is in a PP below the direct object.[5] The structures are given in (12):

(12) a. *v*P *High applicative*



b. *v*P *Prepositional benefactive*



Considerations of locality lead us to predict that in structures like these, only the highest internal argument — the benefactive in (11a) and the direct object in (11b) — will be able to become the 'subject'. The arguments reviewed in the next section confirm that this is the case; sentences with a benefactive 'subject' must always involve the structure in (12a), never the one in (12b). Moreover, as we expect, it is ungrammatical to move the DO past the benefactive in a clause like (12a), as evidenced by the impossibility of a DO-subject clause with an in situ applicative benefactive, (13a):

(13) a. *Niluto-**Ø** ni Romeo ng babae ang adobo.
asp-cook-**Acc** CS Romeo CS woman ANG adobo
'Romeo cooked the adobo for a woman.'

b. **I**-pinagluto ni Romeo ng adobo ang babae.
Obl-cook CS Romeo CS adobo ANG woman
'Romeo cooked (the)adobo for the woman.'

On the proposed theory, the array of possible verb forms in Tagalog reflects a fairly small set of syntactic choices. Tagalog *v* either bears the feature that triggers 'object shift', or it does not. If it does, then only the highest internal argument may shift, and the verb Agrees with this argument in Case. If no argument shifts, then the external argument controls this morphology. Because Tagalog has applicative constructions, it is possible for the highest internal argument to bear any of a number of thematic roles: it may in principle be an applicative object (with one of several thematic roles introduced by the applicative constructions), or a direct object.

As in the Scandinavian languages, object shift in Tagalog has effects on specificity. Whatever argument occupies the highest specifier of *v*P (either a shifted object, or the external argument when no object shift takes place) is given a specific interpretation. An argument that could undergo object shift but does not is obligatorily non-specific:

(14) a. **N**agluto ang lalaki ng adobo

Nom-cook ANG man CS adobo

'The man cooked adobo.'

b. Niluto-**Ø** ng lalaki ang adobo

asp-cook-**Acc** CS man ANG adobo

'A/the man cooked the adobo'

In (14a), no object shift has taken place. The external argument therefore occupies the highest specifier of *v*P, and receives a specific interpretation. The internal argument could have undergone object shift but has not, and therefore receives a non-specific interpretation. In (14b), by contrast, object shift of the internal argument has applied, placing the object in the highest specifier of *v*P and giving it a specific interpretation.[7]

What kind of interpretation is given to arguments which cannot undergo object shift? Here, again, we can consult the Scandinavian languages to see what we should expect for Tagalog. What we seem to find is that when movement of this kind is ruled out by the syntax, the semantic consequences that it would have had are suspended (Adger 1994, Chomsky 2001). The Danish facts in (15) are one instance of this. Object shift of pronouns is normally obligatory in Danish, as (15a-b) show; being by nature specific, they must move into the domain where they can receive a specific interpretation. However, when Holmberg's Generalization makes object shift impossible, as in (15c), it simply fails to occur, with no semantic consequences for the unshifted pronoun:

(15) a. Peter købte **den** ikke

Peter bought it not

b. *Peter købte ikke **den**

Peter bought not it

c. Peter har ikke købe **den**

Peter has not bought it

What we expect to find in Tagalog, then, is that arguments which cannot undergo object shift (that is, most arguments: the external argument, for example, and internal arguments other than the highest one) will be ambiguous when they are not the highest specifier of *v*P; they may receive either a specific or a non-specific interpretation. We have already seen one example of this in (14b), repeated as (16):

(16) Niluto-**Ø** ng lalaki ang adobo

asp-cook-**Acc** CS man ANG adobo

'A/the man cooked the adobo'

Here the external argument is not the highest specifier of *v*P, since that position is occupied by the shifted object. Since it could not itself have undergone object shift, we expect it to be free to receive either a specific or a non-specific interpretation, and this is indeed the case.[8]

Internal arguments other than the highest one also behave as we expect them to. As we have seen, only the highest internal argument may undergo object shift, and we should therefore expect other, lower internal arguments to be ambiguous with respect to

specificity, just as the external argument is. In fact, we have already seen an instance of this, in (13b) above, repeated here as (17):

(17) **I**-pinagluto ni Romeo ng adobo ang babae.
Obl-cook CS Romeo CS adobo ANG woman
'Romeo cooked (the) adobo for the woman.'

The direct object *ng adobo* in (17) is incapable of undergoing object shift, since an applicative construction has created a higher internal argument (namely the benefactive object *ang babae* 'the woman'). As a result, the direct object is ambiguous, receiving either a specific or a non-specific interpretation[9].

In this section, we have seen that Tagalog and Scandinavian object shift share a number of properties. Both exhibit a strict form of locality; if only one argument shifts, it must be the highest internal argument. Moreover, they have similar semantic consequences. Object shift results in a specific interpretation of the shifted object; failure to undergo object shift when object shift could have taken place yields an obligatory non-specific interpretation; and arguments which are incapable of object shift (and are not in the highest specifier of *v*P) are ambiguous with respect to specificity. We will see another instance of this last type of case in section 4.3 below.

3.1 Variable binding and clause structure

We mentioned above that Rackowski (2002) offers the structures in (19) for the vPs (prior to Merge of the external argument) in the examples in (18):

(18) a. **I**-pinagluto ni Romeo ng adobo ang babae

Obl-asp-cook CS Romeo CS adobo ANG woman

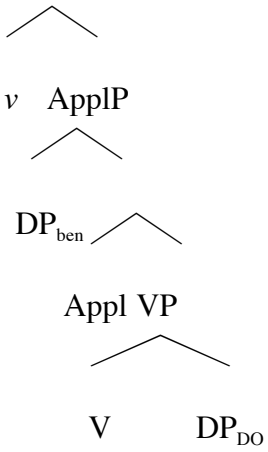
'Romeo cooked adobo for the woman'

b. Niluto-**Ø** ni Romeo ang adobo para sa babae

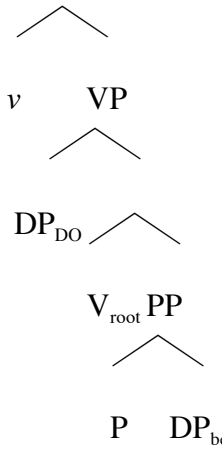
asp-cook-**Acc** CS Romeo ANG adobo for DAT woman

'Romeo cooked the adobo for a woman'

(19) a. *v*P *High applicative*



b. *v*P *Prepositional benefactive*



These structures are crucial to our claim that promotion to 'subject' status (that is, syntactic subject) is constrained by locality in Tagalog; only the highest internal argument may undergo the Tagalog equivalent of Object Shift.

It is important to note here that, as shown in (20), when another argument is the 'subject' (marked with *ang*), a benefactive is introduced by a preposition and the applicative construction (with the benefactive not marked by a preposition) is impossible.

(20) a. Ang lalaki ay t-**um**-awa [para sa kanyang asawa]
ANG man AY Nom.asp-laugh P DAT poss. spouse
"The man laughed for his wife."

b. *Nagluto ng adobo ng babae si Romeo.[10]
Nom.asp-cook CS adobo CS woman ANG Romeo
"Romeo cooked adobo for a woman."

Applicativized arguments, then, must apparently always undergo object shift; they cannot simply remain in their base-generated position. Positions of this kind, which can be occupied in the course of the derivation but cannot be a final landing site, are well-attested in syntax, though theories vary as to why there are such positions (see Pearson 2001, Richards 2001 for some discussion). Pearson 2001 discusses a phenomenon in Malagasy which is similar to the Tagalog one, where applicativized arguments cannot stay in situ and are only licensed if they raise further in the derivation. Other phenomena of this type include French infinitives (Kayne 1989) and a certain subclass of English infinitives (including the ones selected by *wager*; Postal 1974, Pesetsky 1991)

(21) a. *Je crois [Jean être le plus intelligent de tous.

I believe Jean be.inf the most intelligent of all

"I believe Jean to be the most intelligent of all."

b. Quel garçon$_i$ crois-tu [t_i être le plus intelligent de tous]?

Which boy believe-you be.inf the most intelligent of all

"Which boy do you believe to be the most intelligent of all?"

(22) a. * John wagered Mary to have won the race.

b. Mary$_i$ was wagered t_i to have won the race.

c. Mary$_i$, who John wagered t_i to have won the race...

It thus appears to be the case that, cross-linguistically, there are certain constructions in which it is ungrammatical *not* to move an argument and that some positions cannot be occupied by overt material at spell-out. Although the reasons for this restriction are unclear, its existence allows the Tagalog applicative facts to be recognized as part of this larger pattern.

One of Rackowski's (2002) arguments for these structures is based on the facts of pronominal-variable binding in Tagalog. Pronouns may be bound in Tagalog by quantifiers that c-command them; thus, for instance, a quantificational external argument may bind a pronominal embedded in a non-syntactic 'subject' DO, while the reverse is not true (word order is irrelevant in all of the following examples; Tagalog scrambling does not affect quantifier-variable binding):

(23) a. **N**agmamahal ang bawat ama$_i$ ng kanyang$_i$ anak.

Nom.asp-pag-love ANG every father CS poss. child

'Every father$_i$ loves his$_i$ child.'

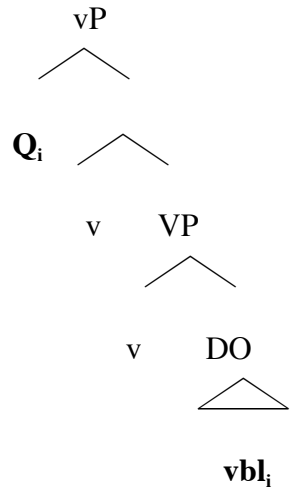
b. *__N__agmamahal ang kanyang$_i$ ama ng bawat anak$_i$.

Nom.asp-pag-love ANG poss. father CS every child

'Her$_i$ father loves every child$_i$.' (Richards1993)

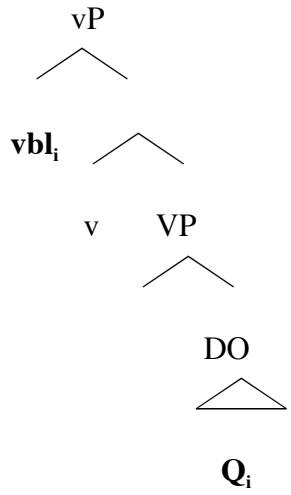
In (23a) the external argument, or 'thematic' subject, is promoted to syntactic subject, as evidenced by the verbal agreement for nominative case. The direct object does not shift, which means that the syntactic subject c-commands the direct object variable that it binds.

(24)



The opposite occurs in (23b), where the quantifier cannot bind the variable because it does not c-command the variable.

(25)



Crucially, these binding relations are not disrupted by promotion to syntactic subject status; (23a) is well-formed, even if the direct object becomes the syntactic subject:

(26) Minamahal-**Ø** ng bawat ama$_i$ ang kanyang$_i$ anak

asp-love-**Acc** CS every father ANG poss. child

'Every father$_i$ loves his$_i$ child'

The contrast between (23b) and (26) is the interesting one. In both of these examples, a non-'subject' quantifier attempts to bind a pronoun embedded in the 'subject', and binding fails in (23b) and succeeds in (26). Apparently binding relations of this kind can always succeed if the Merged position of the quantifier c-commands that of the pronoun; the grammaticality difference between (23b) and (26) therefore arises because the external argument asymmetrically c-commands the internal one.

With this in mind, we can consider pronominal variable binding relations between internal arguments. Rackowski (2002) discovered that the conditions on these relations reflect the structures in (19); a 'subject' benefactive argument, which can only arise from the structure in (19a), may not be bound by a direct object:

(27) *__I__-binantay ko ng bawat anak$_i$ ang kanyang$_i$ magulang.
Obl-asp-watch CS.ICS every child ANG poss. parent.
'I watched every child$_i$ for his$_i$ parents.'

A prepositional benefactive argument, by contrast, ought to have the structure in (19b), and is thus correctly predicted to be susceptible to binding by the direct object:

(28) B-**um**-antay ako ng bawat anak$_i$ [para sa kanyang$_i$ magulang].
Nom.asp-watch ANG.I CS every child P DAT poss. parent
'I watched every child$_i$ for his$_i$ parents.'

Note that the ill-formedness of (27) crucially cannot be attributed directly to the fact that the benefactive argument is a 'subject'; as (26) shows, 'subjects' are susceptible to binding by non-'subjects'. The structures in (19), on the other hand, offer a straightforward explanation for the asymmetry; the DO is Merged in a position c-commanding the benefactive argument in (28), but not in (27).

3.2 Summary

In the past sections we have argued that promotion to 'subject' in Tagalog is syntactically akin to Object Shift in the Germanic languages. We have seen that Tagalog 'subjects' have the specific reading associated with Object Shifted arguments in Germanic, and that promotion to 'subject' is constrained by considerations of locality that are identical to those in Germanic. The 'subject' in Tagalog triggers agreement for Case on the verb and we have seen that this morphology is sensitive to the highest specifier of *v*P (which may be the first one created; see the discussion following the tree in (6).

4. Tagalog, English, and the Syntax of Extraction

Knowing what we now know about the syntax of case-agreement in Tagalog, we can turn to the facts of wh-extraction. We will see that a number of English and Tagalog conditions on A-bar movement can be made to follow from fairly basic assumptions.

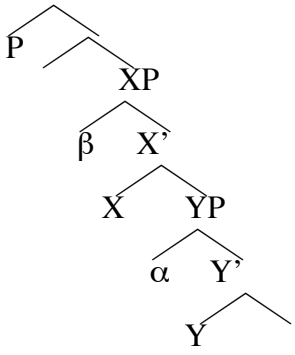
4.1 Some assumptions

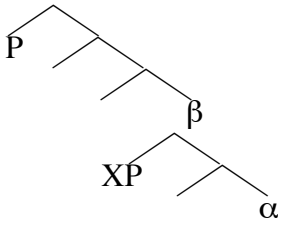
We will crucially assume, following much work on locality, that a probe must Agree with the closest available goal, where a potential 'goal' is taken to be anything that is capable of moving (following Chomsky 2000, 2001, we assume that all and only phases are in principle capable of moving), and that dominates the feature the probe is seeking. The definition of 'closest' we will use is given in (29):

(29) A goal α is the closest one to a given probe if there is no distinct goal β such that for some X (X a head or maximal projection), X c-commands α but does not c-command β.[11]

This definition of 'closest' allows us to capture both the effects of Shortest Attract and of Chomsky's (1964) A-over-A condition. This is demonstrated in the trees below; in both of these trees, β is closer to the probe P than α is, because there is some other element (X in (30a), and XP in (30b)) which c-commands α but does not c-command β.

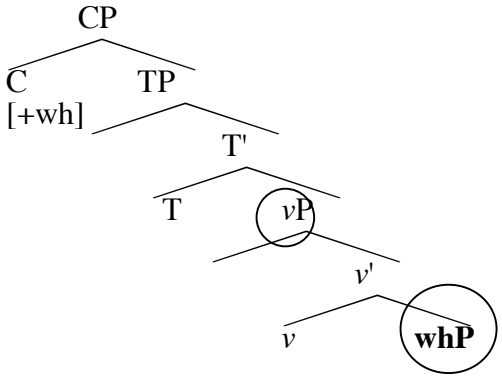
(30) a. 'Shortest Attract' b. 'A-over-A condition'





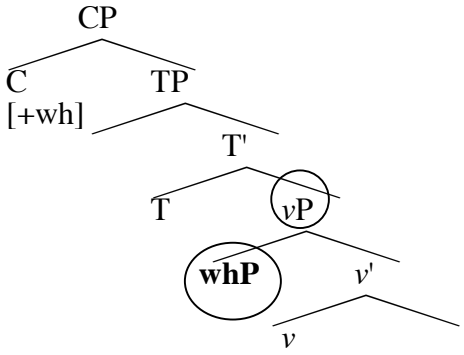
If we assume that phases are always in principle capable of moving, then we also derive the effects of Phase Impenetrability, as a special case of the A-over-A condition. In a tree like the one in (31), for example, the probe C cannot Agree with the whP Goal, because *v*P is a closer potential Goal that can move (since it is a phase) and dominates a wh-feature (namely, the wh-feature that is also dominated by the wh-phrase):

(31)



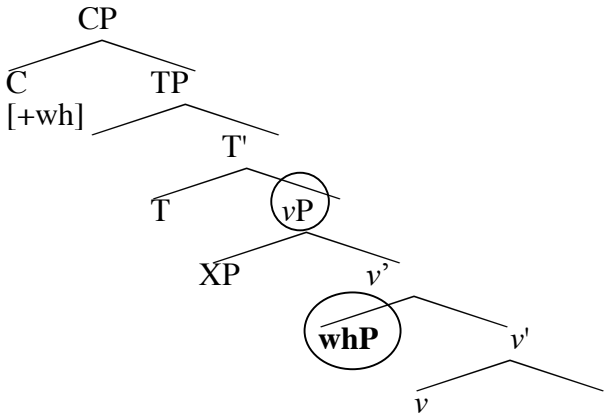
We do expect phrases in the highest specifier position of a phase to be accessible to Agree. In a tree like (32), for example, there are no nodes which c-command whP but not *v*P (assuming, as we did in the definition of closeness above, that nodes like *v*' are to be disregarded), and whP and *v*P are therefore equally close to higher Probes:

(32)



This definition of locality also predicts that only the highest specifier of a phase will be able to escape the phase. We can illustrate this by adding another specifier, XP, above whP in (32):

(33)



In (33), whP and *v*P are no longer equally close to higher Probes, since there is now an XP which c-commands whP but not *v*P. We thus derive the result (which will be useful for us in section 4.4 below) that only the highest specifier of a phase can be extracted from the phase[12].

We will also assume that once a probe P has Agreed with a goal G, P can ignore G for the rest of the derivation. It will be unimportant for our purposes why this is so (see Richards 1998, Hiraiwa 2001 for theories about this), but some version of this

assumption seems to be needed to deal with the facts in (34), once the Copy Theory of movement is assumed:

(34) a. C you gave what to whom?

b. what C did you give ~~what~~ to whom?

In the derivation of a multiple-wh question like the one in (34), the step in (34b) is somewhat problematic on standard assumptions; the copy of *what* is an XP bearing a wh-feature that is closer to the Probe than *whom*, yet it fails to interfere with Agreement. We assume that this has to do with the fact that C has already entered into an Agree relation with *what*, allowing C to ignore this chain for the rest of the derivation[13].

Finally, we will make some assumptions about which heads are capable of entering into Agree relations. In particular, we will assume that *v* is responsible for checking Case on the direct object, and can also have EPP features that allow it to attract other Active phrases to its edge, making them accessible for Agree by higher probes. We will make similar assumptions about interrogative C, which also has a feature that it needs to check (namely [+wh]), and could in principle attract other Goals as well, though this will play no role in the account. It will not be necessary in our account for declarative C to Agree with anything at all (in fact, it will be important that it does not).

The assumptions discussed above are summarized in (35):

(35) a. A probe must Agree with the closest Goal α that can move.

b. A goal α can move if it is a phase.

c. A goal α is the closest one to a probe if there is no distinct goal β such that for some X (X a head or maximal projection), X c-commands α but not β.

d. Once a probe P Agrees with a Goal G, P can ignore G for the rest of the derivation (Richards 1998, Hiraiwa 2001).

e. *v* has a Case feature that is checked via Agree, and can also bear EPP features which move Active phrases to its edge.

f. [+wh] C has a [+wh] feature which is checked via Agree (and sometimes Move).

We will see in the next two sections that these assumptions, most of which are fairly widely held in some form, yield a version of Huang's (1982) CED (see Ceplova 2001):

(36) Only those CPs and DPs that Agree with a phase head on independent grounds (e.g., direct objects and complement clauses) are transparent for wh-extraction.

We will also see that the Tagalog facts follow straightforwardly, given the picture of Tagalog syntax developed by Rackowski (2002); in fact, the Tagalog data will lend further support to our account of the English facts.

4.2 English: CED

Let us first consider the formation of a well-formed long-distance wh-question in English.

(37) [$_{CP}$ Who do you [$_{vP}$ think [$_{CP}$ that we should [$_{vP}$ hire __]]]]?

The heads that participate in the derivation are the ones in (38); we will sketch the derivation as though movement begins once the tree has been completed, simply for ease of presentation:

(38) [$C_{[+wh]}$ [*v* [C [*v* ***who***]]]]

In the first relevant step in the derivation, the *v* head of the embedded clause Agrees with ***who***, and ***who*** moves to the specifier of *v*P, as is standardly assumed:

(39) [$C_{[+wh]}$ [*v* [C [*v* ***who***]]]]

In the second step, *v* of the matrix clause Agrees with the complement CP, just as it would with a direct object; for the time being, we will simply assume, contra much of the literature, that CPs and DPs have similar requirements with respect to Case. We will present evidence from Tagalog in the next section that this Agree relation does in fact exist; we ask readers who are skeptical about what kind of licensing relation could exist between *v* and CP to bear with us for now[14]:

(40) [$C_{[+wh]}$ [*v* [C [***who*** *v* ~~***who***~~]]]]

As we saw in the last section, once a probe has Agreed with a particular goal, it can disregard that goal for future Agree relations. Matrix *v* can therefore now Agree with phrases dominated by CP, since it has already Agreed with CP. It could, for example, Agree with the embedded *v*P. It can also Agree with ***who***, since ***who*** is in the specifier of the embedded *v*P and therefore, as we also saw in the last section, not fully dominated by

*v*P. ***who*** and embedded *v*P are thus equally available to Agree with matrix *v*; *v* Agrees with ***who***, which moves to Spec *v*P:

(41) $[C_{[+wh]}[\quad v \quad [\ C\ [\textbf{\textit{who}} \quad v \quad \sout{\textbf{\textit{who}}}]]]]$

Finally, matrix C Agrees with ***who***, causing it to move to its scope position:

(42) $[C_{[+wh]}[\ \textbf{\textit{who}}\ v \quad [\ C\ [\sout{\textbf{\textit{who}}} \quad v \quad \sout{\textbf{\textit{who}}}]]]]$

The long-distance wh-question in (37) can thus be derived successfully given our assumptions about how locality works. Note that the successive-cyclic movement path of the wh-phrase in our derivation is somewhat unorthodox; it is stopping in Spec *v*P but not in Spec CP. We return to this issue in section 4.4.1 below.

Let us now move on to consider an ill-formed example:

(43) *[$_{CP}$Who do you [$_{vP}$think [$_{CP}$that **[$_{CP}$if we [$_{vP}$ hire __]]**, we'll[$_{vP}$ regret it]]]]?

The first two steps of this derivation are unproblematic, proceeding along lines that are familiar from the previous derivation. First the *v* of the embedded adjunct clause will Agree with ***who***, causing it to move to Spec *v*P:

(44) $[_{CP}C_{[+wh]}[_{vP}\ v\ [_{CP}C[\textbf{[}_{CP}\textbf{if}[_{vP}\ \textbf{\textit{v}} \quad \textbf{\textit{who}}\ \textbf{]]}, [_{vP}\ v\ ]]]]$

The next relevant step is that matrix *v* Agrees with its complement CP, as before:

(45) $[_{CP}\quad C_{[+wh]}\,[_{v\underline{O}}v\,\boxed{[_{CP}C[_{CP}\mathbf{if}[_{vP}\,\textbf{\textit{who}}\quad v\ \textbf{\textit{\sout{who}}}]],\,[_{vP}\,v\,]]]]}$

Finally, the matrix *v* must attract a wh-phrase, in order for this wh-phrase to move to its edge. As before, *v* is entitled to ignore the complement CP, since it has already Agreed with it. However, even given this, the closest moveable phrase that dominates a wh-feature is now the adjunct CP; general principles of locality therefore prevent attraction of ***who***, which is dominated by this CP and therefore further away from the Probe. We have no theory to offer of why English rejects phrases like *if we hire who* as possible wh-phrases, but whatever conditions on pied-piping rule this out will also doom the current derivation[15].

The discussion thus far has concentrated on the distinction between adjuncts and internal arguments, but the theory extends fairly straightforwardly to ban extraction from subjects as well, as long as subjects, like adjuncts, never enter into an Agree relation with *v*. This is a fairly common belief about subjects, which are commonly taken to begin the derivation in some *v*P-internal position (either the specifier of *v*P, or some lower position in the case of unaccusative or passive predicates), enter into an Agree relation with T, and move into the specifier of TP. Thus, *v* will never be in an Agree relation with a subject, and will therefore be unable to Probe positions inside the subject; subjects will then be islands for extraction, as desired[16].

The assumptions we made in the previous section, then, derive the effects of Huang's (1982) CED. They do so on the basis of another assumption, however, which some might find questionable; that CPs and DPs behave alike with respect to attraction by *v*, in that complement CPs, but not adjunct or subject CPs, enter into checking relations with *v* to check Case or something like it. Of course, if *v* is going to Agree with any CPs at all, these are the ones we would expect it to Agree with. Still, we might prefer to find some kind of independent evidence for the Agree relations that we are positing.

4.3 Tagalog

In previous sections we argued that Tagalog is a language in which the Agree relations that *v* enters into have a morphological consequence. Recall from Section 2 above that Tagalog has verbal morphology which, we argued, signals the Case of the DP which has undergone movement to the edge of the *v*P phase. In (46), the Case-agreement morphology is in boldface, and the DP this morphology agrees with is underlined:

(46) a. **N**agbigay <u>ang magsasaka</u> ng bulaklak sa kalabaw
Nom-gave ANG farmer CS flower DAT water-buffalo
'<u>The farmer</u> gave a flower to the waterbuffalo'

b. **I**-binigay ng magsasaka <u>ang bulaklak</u> sa kalabaw
Obl-gave CS farmer ANG flower DAT water-buffalo
'A/the farmer gave <u>the flower</u> to the waterbuffalo'

c. Binigy-**an** ng magsasaka ng bulaklak <u>ang kalabaw</u>
gave-**Dat** CS farmer CS flower ANG water-buffalo
'A/the farmer gave a/the flower <u>to the waterbuffalo'</u>

The agreement morphology on the verb may agree either with a DP argument, as above, or with a CP argument. In (47), for example, the verb *sabi* 'say' bears either Nominative morphology that agrees with its DP 'subject' or Accusative agreement that agrees with its CP complement:

(47) a. **M**agsasabi ang kalabaw na masarap ang bulaklak
Nom-will.say ANG water-buffalo that delicious ANG flower
'The waterbuffalo will say that the flower is delicious'

b. Sasabih-**in** ng kalabaw na masarap ang bulaklak
will.say-**Acc** CS water-buffalo that delicious ANG flower
'A/the water buffalo will say that the flower is delicious'

Wh-extraction in Tagalog imposes constraints on the kind of agreement morphology the verbs in the clause may bear, of a kind that the theory outlined in the previous section leads us to expect. Long-distance extraction in Tagalog always requires intervening verbs to Agree with the CP from which extraction takes place. This is shown for long-distance extraction of the adjunct *kailan* 'when' in (48) - (50):

(48) a. Kailan [sasabih-**in** ng sundalo

when will.say-**Acc** CS soldier

[na uuwi ang Pangulo*e*]]?

that**Nom**-will-go-homeANG President

'When will the soldier say thatthe Presidentwill go home?'

b. *Kailan [**m**agsasabi ang sundalo

when **Nom**-will.say ANG soldier

[na uuwi ang Pangulo*e*]]?

that **Nom**-will-go-homeANG President

'When will the soldier say that the President would go home?'

(49) a. Kailan [**i**-pinangako ng sundalo

when **Obl**-promised CS soldier

[na uuwi ang Pangulo *e*]]?

that**Nom**-will-go-homeANG President

'When did the soldier promise thatthe Presidentwould go home?'

b. *Kailan [**n**angako ang sundalo

when **Nom**-promised ANGsoldier

[na uuwi ang Pangulo*e*]]?

that **Nom**-will-go-homeANGPresident

'When did the soldier promise thatthe Presidentwould go home?'

(50) a. Kailan [pinaniwala-**an** ng sundalo

when believed-**Dat** CS soldier

[na uuwi ang Pangulo *e*]]?

that **Nom**-will-go-home ANG President

'When did the soldier believe that the President would go home?'

b. *Kailan [**n**aniwala ang sundalo

When **Nom-**believed ANG soldier

[na uuwi ang Pangulo *e*]]?

that **Nom**-will-go-home ANG President

'When did the soldier believe that the President would go home?'

The same constraint is shown to hold in cases of long-distance relativization in (51); here we have given only the well-formed examples, but choice of any other kind of agreement on the verbs would make the sentences ill-formed:

(51) a. ang kalabaw [na sinabi-**Ø** ng guro
ANG water-buffalo that said-**Acc** CS teacher
[na bibigy-**an** ng lalaki ng bulaklak *e*]
that will-give-**Dat** CS man CS flower
'the water buffalo that the teacher said
that the man would give a flower to'

b. ang kalabaw [na **i**-pinangako ng guro
ANG water-buffalo that **Obl**-promised CS teacher
[na bibigy-**an** ng lalaki ng bulaklak *e*]]
that will-give-**Dat** CS man CS flower
'the water buffalo that the teacher promised
that the man would give a flower to'

c. ang kalabaw [na pinaniwala-**an** ng guro
ANG water-buffalo that believed-**Dat** CS teacher
[na bibigy-**an** ng lalaki ng bulaklak *e*]]
that will-give-**Dat** CS man CS flower
'the water buffalo that the teacher believed
that the man would give a flower to'

Note that the higher verb is demonstrably not agreeing with the extracted wh-phrase. This is perhaps clearest in (51), where the extracted operator bears Dative case, but the higher verb takes whatever form is appropriate for agreement with the complement clause

(Accusative for *sabi* 'say', Oblique for *pangako* 'promise', and Dative for *paniwala* 'believe'). This is not because the first two verbs lack a Dative-agreeing form:

(52) Pinangaku-**an** niya ako
promised-**Dat** CS-he ANG-me
[na bibigy-**an** niya ng bulaklak ang kalabaw]
that will-give-**Dat** CS-he CS flower ANG water-buffalo
'He promised me that he will give a flower to the water buffalo.'

Extraction out of a complement clause therefore seems to require *v* to Agree with the complement clause. This, of course, is what the theory developed in the previous section predicted; in order for *v* to Agree with a wh-phrase in the complement clause, *v* must first Agree with the complement clause itself, thereby making it transparent and making the embedded wh-phrase accessible to Agree.

Next let us consider local extraction. Here there are two cases to consider: DP-extraction, shown in (53), and non-DP-extraction, shown in (55) - (55). There are two differences between the DP-extraction case and the non-DP-extraction case. One is that DP-extraction involves a cleft construction, while non-DP-extraction does not; we will not discuss this difference in this paper (though see Richards (2004b) for some discussion). The other difference is that DP-extraction imposes restrictions on the verb of the clause; it must agree with the extracted DP, as (53) shows:

(53) a. Sino[ang binigy-**an** ng lalaki ng bulaklak __]?

who ANG gave-**Dat** CS man CS flower

'Who did the man give the flower to?'

b. *Sino[ang **i**-binigay ng lalaki ang bulaklak __]?

who ANG **Obl**-gave CS man ANG flower

'Who did the man give the flower to?'

c. * Sino[ang **n**agbigay ang lalaking bulaklak __]?

who ANG **Nom**-gave ANG man CS flower

'Who did the man give the flower to?'

No such restrictions are imposed by extraction of non-DPs, as (55) - (55) show; any form of the verb may be used in these cases. This is what we expect; extraction has to take place via the edge of *v*P, and this verbal agreement is agreement for Case, so Case-bearing extracted phrases will necessarily agree with the verb, while non-Case-bearing extracted phrases will not:

(54) a. Kailan binigy-**an** ng lalaki ng bulaklak ang kalabaw?
when gave-**Dat** CS man CS flower ANG water-buffalo
'When did the man give a flower to the water buffalo?'

b. Kailan **i**-binigay ng lalaki ang bulaklak sa kalabaw?
when **Obl**-gave CS man ANG flower DAT water-buffalo
'When did the man give the flower to the water buffalo?'

c. Kailan **n**agbigay ang lalaki ng bulaklak sa kalabaw?
when **Nom**-gave ANG man CS flower DAT water-buffalo
'When did the man give a flower to the water buffalo?'

(55) a. Sa aling kalabaw **i**-binigay ng lalaki ang bulaklak?
to which water-buffalo **Obl**-gave CS man ANG flower
'To which water buffalo did the man give the flower?'

b. Sa aling kalabaw **n**agbigay ang lalaki ng bulaklak?
to which water-buffalo **Nom**-gave ANG man CS flower
'To which water buffalo did the man give the flower?'

Thus, Tagalog offers independent evidence for the theory that we offered of CED effects in English and other languages; in order for wh-extraction from a clause to proceed, the clause must first be a target of Agree by *v*. The CED distinguishes phrases which undergo this Agree relation from ones which do not, and the Tagalog facts involve a morphological reflex of this Agree relation.

4.4 The fine structure of the *v*P-periphery

We have now seen evidence that Tagalog verbs agree with a class of DPs with properties that current theory associates with movement to or through the periphery of the *v*P. In particular, wh-moved DPs control agreement on the verb, and agreement on the verb is also sensitive to the specificity of the DPs in the clause in a way which is reminiscent of the patterns of object shift in languages like Icelandic. Since wh-movement and object shift are both movements which are frequently taken to involve movement to positions on the structural edge of *v*P, we have concluded that this Tagalog agreement diagnoses movement to these positions (or perhaps the Agree relations which drive such movement).

One issue we have not yet discussed is how these two types of movement to the edge of *v*P interact with each other. The facts of Icelandic indicate that object shift and wh-movement can proceed independently of each other. The examples in (56) show that the direct object of *skilaði* 'returned' cannot undergo object shift if the indirect object remains in situ; the direct object may shift past *ekki* 'not' if the indirect object does so as well, as in (56a), but the direct object cannot shift if the indirect object does not, as in (56b)[17]:

(56) a. Ég skilaði bókasafninu bókinni ekki
I returned the-library the-book not
'I didn't return the book to the library'

b. *Ég skilaði bókinni ekki bókasafninu
I returned the-book not the-library

Wh-movement, on the other hand, is not subject to any such requirement; the direct object may be wh-extracted whether the indirect object undergoes object shift or not:

(57) a. Hverju skilaðirðu bókasafninu ekki?
what returned-you the-library not
'What did you not return to the library?'

b. Hverju skilaðirðu ekki bókasafninu?

Thus, despite the fact that wh-movement and object shift both proceed via the edge of *v*P (a fact which is graphically represented in Tagalog's agreement morphology), they are clearly syntactically distinct; the direct object may wh-move, but may not undergo object shift, if the indirect object has not undergone object shift.

Let us consider what Tagalog sentences would correspond structurally with the Icelandic ones in (57). Here the interesting question is how Tagalog represents the sentence in (57a); when one argument has been object-shifted, and the other has undergone wh-movement, which controls agreement on the verb? In fact, agreement with an argument other than the wh-moved one is ruled out:

(58) a. Ano ang **i**-sinauli mo sa aklatan?
what ANG **Obl**-asp-return CS-you DAT library
'What did you return to the library?'

b. * Ano ang pinagsauli-**an** mo ang aklatan?
what ANG asp-return-**Dat** CS-you ANG library

We might take the ill-formedness of (58b) as evidence that when wh-movement and object shift cooccur in Tagalog, it is the wh-moved phrase which controls agreement on

the verb. Of course, there are a host of other imaginable explanations for the ill-formedness of (58b); it could be, for instance, that Tagalog simply differs from Icelandic in only allowing a single DP to undergo movement to the edge of *v*P, so that sentences with wh-movement obligatorily lack object shift.

There is some independent evidence from Tagalog, however, that wh-moved phrases can control agreement on the verb even when another DP undergoes object shift. We saw in section 3 above that in simple transitive sentences, agreement is entirely determined by the specificity of the direct object; if the direct object is non-specific, it fails to shift and the external argument controls agreement on the verb, while specific direct objects take over verbal agreement:

(59) a. **N**agluto ang lalaki ng adobo
Nom-cook ANG man CS adobo
'The man cooked adobo.'

b. Niluto**-Ø** ng lalaki ang adobo
asp-cook-**Acc** CS man ANG adobo
'A/the man cooked the adobo'

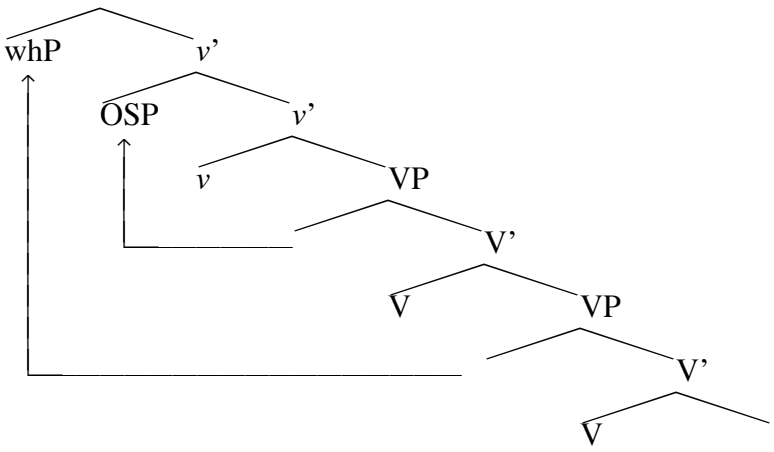
In fact, there is an exception to the generalization that Nominative agreement (as in (59a)) always correlates with non-specific direct objects; the correlation breaks down when the 'subject' is wh-extracted (Adams and Manaster-Ramer 1988, Voskuil 1993):

(60) Sino ang **n**agluto ng adobo?
who ANG **Nom**-cook CS adobo
'Who cooked (the) adobo?'

The direct object of (60), unlike the direct object of (59a), may be either specific or non-specific. The difference receives a natural account if we assume that Tagalog verbs agree preferentially with wh-phrases; the direct object in (59a) cannot undergo object shift (since if it did, it would trigger the verb morphology in (59b)). Object shift in (60), on the other hand, has no effect on the morphology of the verb, which is obligatorily controlled by the wh-phrase; the ambiguity of (60), on this account, indicates that object shift of the direct object may either occur or not, with no morphological consequences[18].

The Icelandic and Tagalog facts are consistent with a theory in which *v*P has a feature that uniquely picks out wh-phrases (this is why Icelandic wh-phrases may move past higher internal arguments which do not themselves undergo object shift). This feature moves the wh-phrase to a position above DPs which undergo object shift (or perhaps simply Agrees with them before Agreement with the object-shifted DP takes place; either would account for why wh-moved DPs always trigger verbal agreement in Tagalog). This is schematically indicated in the tree below (where whP indicates the wh-phrase and OSP the phrase undergoing object shift)[19]:

(61) *v*P



We might be able to relate the fact that the movements in (61) are triggered by distinct features to the fact that the resulting movement paths seem to be able to nest; this is the conclusion drawn by McGinnis (1998), Rackowski (2002), Doggett (2004), among others.

The conclusions we have drawn here are necessarily tentative, and more work will be needed to confirm them, but the account sketched here seems consistent with our other assumptions. It is perhaps worth emphasizing that the accounts developed in the previous two sections of the CED and the conditions on long-distance extraction in Tagalog are consistent with the approach outlined here. The accounts of long-distance wh-movement developed above depend on an Agree relation between the feature responsible for wh-movement out of a clause and the clause from which extraction takes place. The identity of this feature is irrelevant to the success of the account; whatever the feature on *v* is that drives wh-movement out of an embedded clause, it will be compelled to Agree first with the embedded clause (the closest moveable XP dominating the wh-feature), and later with the wh-phrase itself.

4.5 Successive-cyclicity and islandhood

The account developed above of conditions on extraction contains some unfamiliar elements. In the following sections, we will try to show that the empirical coverage of existing theories of locality has not been damaged by our proposals. In particular, we will concentrate on the nature of successive-cyclic movement, and on existing accounts of islands.

4.5.1 Successive-cyclicity

We have posited a comparatively unorthodox movement path for wh-phrases; wh-phrases move successive-cyclically through specifiers of *v*P, rather than of CP. The account therefore forces us to rethink the nature of the evidence for successive-cyclic wh-movement. A full review of the evidence is beyond the scope of this paper, but in this section we will consider a few of the relevant phenomena.

In many cases, the task is comparatively straightforward. Consider, for instance, binding facts like those in (62), which are sometimes taken to show that wh-movement stops in intermediate Spec CP positions:

(62) [Which picture of himself$_{i/j/k}$] does John$_i$ think [that Bill$_j$ said
[that Fred$_k$ should buy]?

What examples like (62) seem to show is that the wh-phrase *which picture of himself* occupies intermediate positions that are comparatively close to the subjects of the various clauses, allowing locality conditions on anaphor binding to be satisfied; such examples are silent, however, on the question of whether these positions are specifiers of CP or of *v*P.[20]

Successive-cyclic wh-movement is also taken to be responsible for the morphological behavior of complementizers in languages like Irish (McCloskey 1990, 207):

(63) an rud [a shíl mé a dúirt tú a dhéanfá]
the thing C$_{wh}$ thought I C$_{wh}$ said you C$_{wh}$ do-COND-2SG
'the thing that I thought you said you would do'

The use of the complementizer *aL* in the embedded clauses of (63) has been argued (by McCloskey, among others) to indicate the progress of a successive-cyclically moving relative operator. In the account developed here, this morphology will have to be taken to indicate, not that the complementizers in question have hosted this operator in their specifiers, but rather than they have entered Agree relations with *v* heads which also Agree with a relative operator. This is essentially Chomsky's (2001) proposal about agreement of participles with DPs for Case in languages like Icelandic; such agreement is triggered, not by the DP itself (which does not yet have a valued Case feature at the point in the derivation at which it Agrees with the participle), but by a higher head that Agrees with that DP.

Another potential challenge for our approach comes from the phenomenon of partial wh-movement (or 'scope marking'), exemplified in (64) for certain dialects of German, in which wh-phrases seem to be able to stop in intermediate landing sites (which show every sign of being specifiers of CP):

(64) Was glaubst du [mit wem Maria gesprochen hat]?
what believe you with whom Maria spoken has
'Who do you think Maria has spoken with?'

On this theory, partial wh-movement would have to be analyzed in terms of the Indirect Dependency Approach (Dayal 1994, 2000), rather than the Direct Dependency Approach (van Riemsdijk 1983, McDaniel 1989). On an Indirect Dependency Approach, the wh-phrase *mit wem* 'with whom' in (64) is in its scope position, rather than occupying an

intermediate landing site, and our assumptions about the nature of the intermediate landing sites for wh-movement can therefore be maintained.[21]

Du Plessis (1977) offers another classic argument for successive-cyclic wh-movement through Spec CP, based on data about preposition-stranding in Afrikaans:

(65) a. ***Wat*** dink julle [dink die bure [stry ons ***oor***]]?
what think you think the neighbors argue we ***about***
'What do you think the neighbors think we argue about?'

b. ***Wat*** dink julle [dink die bure [***oor*** stry ons]]?
what think you think the neighbors ***about*** argue we

In (65b), on du Plessis' account, the preposition *oor* 'about' has been stranded in an intermediate landing site for successive-cyclic wh-movement; he proposes that this position is an initial position in S, or, in more recent terminology, Spec CP.

Afrikaans-speakers we have talked with[22] agree that (66) is worse than (65b):

(66) * ***Wat*** dink julle [***oor*** dink die bure [stry ons]]?
what think you ***about*** think the neighbors argue we

Opinions vary on how bad (66) is; no one seems to find it very good, and some find it completely uninterpretable. On du Plessis' account of (65b), we ought to expect prepositions to be able to appear in any of the intermediate landing sites for wh-movement. If we take (66) to be ill-formed, then this appears not to be the case; stranded prepositions may not be separated from their starting points by clause boundaries. Developing a complete account of the Afrikaans facts is beyond the scope of this paper, but the contrast between (65b) and (66) is consistent with a theory in which the

preposition is participating (either independently or pied-piped as part of the wh-phrase) in some type of clause-bound movement, perhaps driven by the forces that yield embedded V2 in Afrikaans. We might conclude, then, that the behavior of these Afrikaans prepositions has to do with the nature of embedded V2 in Afrikaans, rather than with successive-cyclic wh-movement per se. On this account, again, we avoid having to posit Spec CP as an intermediate landing site for wh-movement. Whether such alternative accounts can be constructed for all of the relevant cases remains to be seen.

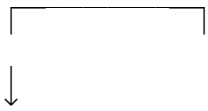
4.5.2 Other islands

The approach developed above yields a version of the CED which follows from general conditions on locality. These conditions have been used in previous work primarily to account for phenomena involving a potential Goal which is c-commanded by another potential Goal (namely, wh-island effects and Superiority effects, the classic cases for Rizzi's (1990) Relativized Minimality). We have tried to provide a natural extension for these conditions to structures in which a potential Goal is dominated by another potential Goal, and have developed an account both of CED effects and of the conditions on Tagalog extraction. It is worth verifying, however, that the proposals we have made here do not harm the previously existing accounts of locality effects.

Consider the derivation of a wh-island violation like the one in (67):

(67) * What are you wondering [why John bought __]?

The derivation of (67) begins with movement of *what* into the specifier of the embedded *v*P:



(68) [C [*v* [***why*** C [***what*** *v* ~~***what***~~]]]]

Once the *v* of the matrix clause has been introduced, it Agrees with its complement clause; as we have seen, this Agree relation renders *v* capable of ignoring its complement clause for purposes of locality:

(69) [C [*v* [***why*** C [***what*** *v* ~~***what***~~]]]]

v may now Agree with the closest potential Goal dominating a wh-feature. In fact, there are two potential Goals, namely *why* and *what*, and *why* is closer to *v* than *what* is (in terms of the definition of locality given in (29),there are heads and phrases c-commanding *what* but not *why*). *v* is not already in an Agree relation with *why*, and is therefore unable to disregard the presence of *why* for purposes of locality. Wh-movement of *what* past *why* is therefore blocked, as desired. The reasoning of previous approaches to this problem is unchanged in the theory developed here; Agree between *v* and its complement CP renders it possible in principle for *v* to Agree with a wh-phrase inside CP, but this must still be the highest available wh-phrase.

The difference between CED effects and wh-island effects, on this account, is simply a difference between domination and c-command. CED effects, for us, follow from the fact that a CP dominating a wh-phrase must also dominate the wh-feature in the wh-phrase itself, and the dominating CP is therefore always a potentially closer Goal than the wh-phrase; as a result, extraction is only possible when the potentially offending CP

enters an Agree relation with the Probe for wh-movement. Wh-islands, by contrast, involve a Goal that is separated from its Probe by a c-commanding (hence, closer) Goal, and since the Probe is not in an Agree relation with this c-commanding Goal, a locality violation is incurred. Wh-movement past c-commanding non-wh-phrases, of course, is unaffected by our account, since the non-wh-phrases do not dominate wh-features and therefore cannot interfere.

4.5.3 Bridge Verbs

Since the approach we have developed to extraction out of clauses makes crucial use of the relation between the embedded CP and functional material immediately surrounding the verb, we would seem to be in a good position to deal with the contrast between bridge verbs and non-bridge verbs.[23] For example, the theory developed here might lead us to hope that Tagalog non-bridge verbs would show signs of being unable to Agree with their clausal complements.

This appears not to be true, however. The bridge/non-bridge contrast is exemplified for Tagalog in (70):

(70) a.Bakit sinabi-Ø ng Pangulo

why said-**Acc** CS President

[na inatake niya ang bansang iyon]?

that attacked-**Acc** CS.he ANG country that

'Why did the President say that he attacked that country?'

[*matrix or embedded reading*]

b. Bakit kinaila-Ø ng Pangulo

why denied-**Acc** CS President

[na inatake niya ang bansang iyon]?

that attacked-**Acc** CS.he ANG country that

'Why did the President deny that he attacked that country?'

[*only matrix reading*]

In Tagalog, as in English, adverbial wh-phrases like *bakit* 'why' may be extracted from the complement clause only if the main verb is a bridge verb like *sabi* 'say', and not if the main verb is a non-bridge verb like *kaila* 'deny'. (70b), then, only has a reading in which the President has denied that he attacked that country at all, and we want to know the reason for his denial. Both of the matrix verbs in (70), however, agree with their complement clause; in fact, they happen to both use the same morphology to agree with it. An account in which non-bridge verbs simply fail to agree with their complements, in other words, would appear to be untenable.

In fact, this is probably desirable. In the approach developed here, to say that the complement clause of a non-bridge verb does not Agree with matrix *v* would be to

assimilate such clauses to adjuncts and subjects, which also fail to Agree with any higher phase heads. But it seems clear that the behavior of these two types of islands is not the same; adjunct clauses are strong islands, ruling out any kind of wh-extraction out of them, while complements of non-bridge verbs are weak islands, permitting at least some types of wh-extraction:

(71) a.*What was she angry [after he bought __]?

b. What did he deny [that he had bought __]?

A more fruitful approach to the problem of bridge verbs might start from an observation made by Hegarty (1990), who notes that non-bridge verbs seem to differ from bridge verbs in being able to take DP complements denoting propositions (adapted from Hegarty 1990, 105-6)[24]:

(72) a.*They believe/say [his departing]

b. They admit/deny/announced [his departing]

We might take this as evidence that what distinguishes non-bridge verbs is not the absence of any Agree relation between the associated *v* and the complement of the verb, but rather a particular type of Agree relation which is responsible for the capacity to license DP complements. We might imagine, for example, that the *v* associated with a non-bridge verb can Agree for a phi-feature which is associated with DPs (and possibly also with CPs).

On the approach developed here, features on *v* that participate in one Agree relation are allowed to ignore the Goal with which they Agree when they are Probing for other Goals; this is the observation encoded in Richards' (1998) PMC and Hiraiwa's

(2001) Multiple Agree. If the features on the *v* associated with a non-bridge verb have some kind of privileged association with DP, then we might expect, on our theory, that these features will be able to go on to attract DP wh-phrases out of the complement clause, but not non-DP wh-phrases. This covers the relevant data moderately well:

(73) a. What did they deny [that they bought __]?

b. *When did they deny [that they left __]?

c. *Why did they deny [that they left __]?

d. *Where did they deny [that they went __]?

e. ? On which table did they deny [that they put the book __]?

The remaining potentially problematic cases are those like (73e), where argumental non-DPs are extracted. Such examples are predicted by our theory to be ill-formed (and, in fact, to us they do not sound as good as DP extraction), though classic GB approaches to island phenomena would claim that they pattern with other arguments.

Many questions remain; the status of the different types of Agree involved with bridge and non-bridge verbs is still quite murky, and if examples like (73e) are to be regarded as well-formed, more work needs to be done to understand why. We will have to leave these questions for future work, noting only that the account developed here offers the hope of a logical connection between the data in (72) and those in (73).

5. Conclusion

In this paper we have shown that Tagalog provides unique evidence for the phase-based theory of movement. The theory presented here accounts for the Tagalog morphological and specificity requirements on extraction, and also offers a new way of deriving

Huang's (1982) CED. Using general principles of locality, along with previously established generalizations about the nature of syntactic relations between a single Probe and multiple Goals, we are led to a new expectation about the nature of successive-cyclic wh-movement: Probes along the path of movement ought to Agree, not just with the moving wh-phrase, but with the clauses out of which extraction takes place. We have seen two types of evidence for this conclusion. First, only those clauses with which *v* might be expected to be able to Agree are transparent for extraction; this is Huang's (1982) CED. Second, in languages like Tagalog, we have argued that Agree with *v* has overt morphological consequences, and we have seen that in cases of long-distance wh-extraction, the morphology signalling this Agree relation must be controlled by the clause from which wh-extraction takes place.

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[1] We assume that the final word order is derived from A-bar scrambling after the stage at which the specificity shift occurs (see Richards 1993 on the A-bar properties of Tagalog scrambling).

[2] For some discussion of the syntactic properties associated with 'subjects' in Tagalog, see Schachter (1976, 1996), Guilfoyle, Hung, and Travis (1992), Kroeger (1993), Richards (1993, 2000), Maclachlan (1996), Aldridge (2002), Rackowski (2002), and references cited there.

[3] Oblique rather than accusative case appears for the direct objects of double-object verbs in Tagalog. See Rackowski 2002 for discussion.

[4] There is a rich literature on whether non-pronominal DPs in Icelandic must shift if it is semantically appropriate (and syntactically possible) for them to do so, and the facts still seem to be not entirely clear; see Diesing and Jelinek 1993, 1995, Bobaljik 1995:126-128, Thráinsson 2000:section 2.4.1, and references cited there for relevant discussion.

[5] See also Nakamura (1996) for a similar claim.

[7] The facts in (16) are formally similar to those discussed by Rezac (2003) and Béjar and Rezac (2004), who are concerned with a type of person agreement found in many languages which agrees preferentially with an internal argument, and only agrees with the external argument if this argument bears person features that the internal argument lacks. The Tagalog parallel to the person features discussed in this line of research would be specificity; the Tagalog verb agrees with the external argument if it is the only specific argument (as in (14a)) but with the internal argument if it is specific, regardless of the

specificity of the external argument (14b). Generalizing the account developed by Rezac (2003) and Béjar and Rezac (2004) to the Tagalog facts is not completely trivial and would take us fairly far afield, so we will not attempt it here, but it seems clear that a unification is desirable.

[8] Note that specificity of the external argument is apparently sensitive not to whether it could be in the position with which specificity is associated (which it could be, if the object had failed to shift), but to whether it could itself undergo an operation putting it in that position. The relevant calculations thus seem to be local, in a computationally reasonable way; the important factors have to do with possible syntactic operations affecting the DP under consideration (the external argument in this case), and not the behavior of other DPs (such as the object). We will return to this issue in section 4.4 below.

[9] Alternatively, it is entirely possible that the direct object does indeed undergo object shift here, but that this shift, if it occurs, has no effect on the verbal morphology. On this account, the optionality of the specific interpretation would reflect the optionality of the (morphologically invisible) shift of the direct object. This would be consistent with the parallel being drawn here with the Scandinavian languages, which do allow multiple shift of arguments but require that multiple shift exhibit 'tucking in', thereby preserving the base order of the arguments:

(i) a. Ég lána Maríu bækurnar **ekki**
I lend Maria (DAT) books (ACC) not

'I do not lend Maria the books'

b. *Ég lána bækurnar Maríu **ekki** (Collins and Thráinsson 1996)

If Tagalog is like Scandinavian in this way as well, and if (as we have claimed) the verbal morphology in Tagalog reflects the Case of the highest specifier of *v*P, then we would expect shift of the lower internal argument in Tagalog to have no effect on the verbal morphology. Nothing crucial in our account will hinge on whether this is in fact the case; see Rackowski (2002) for discussion.

[10]This sentence is grammatical if *ng adobo ng babae* is interpreted as a possessive construction, with the meaning "Romeo cooked the woman's adobo."

[11] Equivalently, we could define the set of offending distinct goals β as those for which, for all X such that X c-commands β, X c-commands α, and the reverse is not true.

[12] The effects of our definition in (29), then, can be summarized as follows. If β c-commands α, then there will be some X (if only β) which c-commands α but not β, and β will therefore be closer to higher Probes than α is. If β dominates α, then there are two cases to consider, one in which some X dominated by β c-commands α, and one in which there is no such X. In the first case, X c-commands α but not β, and β is therefore higher than α, as desired. If there is no such X (that is, if α is the highest specifier of β), then there is no X c-commanding α but not β, and there is also no X c-commanding β but not α; the two Goals are therefore equally close to higher Probes. There is a third potential situation in which α and β are in neither a c-command nor a dominance relation; this will

interact with the assumptions about Agree to be outlined in the next paragraph, so we will wait to discuss this situation in footnote 13.

[13] Now we can discuss the situation mentioned in footnote 12: what if neither α nor β c-commands the other? Suppose α is contained in an XP c-commanding β (depending on our assumptions about trees, it is conceivable that there could be trees with no such XP, but we will defer discussion of these for now). If XP is a phrase that can move, then the Probe will have to Agree with XP first in order to be able to access α. Then there are two cases to consider, again. If α is the highest specifier of XP, then there are no nodes c-commanding α but not β, and α is highest again. If α is not the highest specifier of XP, then there are phrases within XP (at least its highest specifier) which c-command α but not β, and there are phrases (if only XP) which c-command β but not α. Each of α and β is therefore higher than the other, by our definition. It may be straightforward to modify our account to get the correct results for this case, depending on what they turn out to be; either Probes must Agree with some appropriate Goal such that no other appropriate Goal is higher (by this definition, α and β would both be inaccessible in this case, since each has another Goal which is higher than it), or they must Agree with some appropriate Goal which is higher than all other appropriate Goals (by this definition, α and β would both be accessible to Agree). See Fitzpatrick (2002) for an argument that the second of these is the correct result.

[14] If the account developed here is on the right track, proposals like Stowell's (1981) Case Resistance Principle and Pesetsky's (1982) derivation of conditions on selection of CPs

and DPs from Case licensing properties will have to be rethought, since these proposals crucially depend on CPs lacking Case properties. For another potential approach to the Case Resistance Principle, see Richards (2003), and see Nathan (2004) for a reexamination of the selection facts.

[15] There do in fact appear to be languages which exploit clausal pied-piping to circumvent CED violations:

Basque (Ortiz de Urbina 1990, 198)

(i) [Mikeli zer esan ondoren] joan zen etxetik?
Mikel-Dat what say after go AUX home-from
'[After saying what to Mikel] did he leave home?'

Thanks to Jeong-Me Yoon for pointing this out to us.

[16] A number of authors (e.g., Kitahara 1994, Takahashi 1994, Richards 2001, Stepanov 2001) have noted that while the ban on extraction from adjuncts seems to be cross-linguistically invariant, there are in fact languages which can extract out of subjects (e.g., Japanese, Takahashi 1994):

(i) a. [[Mary ga __ yonda no] ga akirakana yorimo]
Mary NOM read that NOM is.obvious than
John wa takusan no hon o yonda.
John TOP many GEN book ACC read
'John read more books than [that Mary read] was obvious'

b. * [[Bill ga [Mary ga ___ yonda kara] odoroita yorimo]

Bill NOM Mary NOM read because was.surprised than

John wa takusan no hon o yonda

John TOP many GEN book ACC read

'John read more books than Bill was surprised [because Mary read]'

On the account developed here, this could be handled by positing an Agree relation between *v* and the subject in such languages, after which *v* would be free to Probe inside its own specifier and extract from it (see Richards 2004a for an argument that this kind of operation is available in principle).

[17] Thanks to Ásta Gúdmundsdóttir for her help with the Icelandic facts.

[18] In section 3 above we discussed another case in which DPs are ambiguous with respect to specificity; these were the DPs that cannot undergo object shift and do not control agreement on the verb. The case in (5) could be subsumed under this rubric if we could establish that the direct object was incapable of object shift; for instance, we could claim that object shift would prevent wh-extraction of the subject. There are at least two reasons which prompt us to reject this move, at least for now. One is that wh-movement in Icelandic is clearly insensitive to the presence or absence of object shift, as (1) shows, and thus far the parallel between Tagalog and Icelandic has proven reliable as far as it can be tested. The other is that the case in (5) lacks the computationally tractable properties discussed in footnote 7 above. In order to determine that the object in (5) cannot shift, on the account being rejected here, we would have to consider the effects of object shift, not just on the object itself, but on the subject wh-phrase. As we saw in footnote 7, the other

ambiguous examples do not require this kind of computation; in those cases, we only needed to consider the structural relations between the DP in question and the *v* probe.

[19] See Cozier (to appear) for a similar tree for *v*P, motivated on independent grounds.

[20] Examples like (i), on this account, must be taken as telling us something about the internal structure of the verb phrase; there will have to be an intermediate position for the wh-phrase which is sufficiently local to *John* for anaphor binding to take place:

(i) [Which picture of himself$_i$] did Mary tell John$_i$ [that she had bought]?

[21] Thanks to Robert Frank for raising this problem, and to Benjamin Bruening for solving it.

[22] Thanks to Theresa Biberauer, Andre Pretorius, and Hans du Plessis for their help with the Afrikaans facts.

[23] Thanks to an anonymous reviewer for encouraging us to investigate this.

[24] Hegarty argues, following Cattell (1978), that it is non-bridge verbs and not factive verbs which crucially have this property, since we find it in non-bridge, non-factive verbs like *accept* and *emphasize*. Verbs of manner of speaking (e.g., *whisper, shout*) sit somewhat uneasily in this typology, since they seem to be non-bridge verbs but do not always allow DP objects representing propositions:

(i) *Why did they shout [that he had left __]?

(ii) They shouted their defiance/*Bill's departure

One possibility (suggested by Pesetsky 1995 in a different context) is that verbs of manner of speaking involve verbalization of a nominal base (as Pesetsky points out,

many of these verbs, like *whisper* and *shout*, have homophonous nouns in English). We will be suggesting shortly that non-bridge verbs have the properties they do because of some kind of particularly nominal features associated with them. Pesetsky's observation certainly makes it reasonable to hope that verbs of manner of speaking can be grouped under this heading, but making these ideas precise will require much more work than we can do here.

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