

Word Order and Prosodic Structure Constraints in Tagalog

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Abstract. This paper is concerned with two apparently unrelated word order facts in Tagalog: In interrogative sentences, fronted *wh*-phrases follow the complementizer (*Comp-WhP* order), and in both interrogative and non-interrogative sentences, the subject follows the verb (*Verb-initial* order). It is argued that neither of these word orders reflects a word order that is expected on the basis of the syntactic structure alone. Instead, a unified explanation for these word orders is proposed according to which they arise as the result of a lowering operation which applies at Phonological Form (PF) and is prosodically driven. Specifically, lowering applies in order to satisfy a prosodic structure constraint, Weak Start, which requires elements that are relatively high on the prosodic hierarchy to be preceded by elements that are equal or lower to them on the prosodic hierarchy. The word orders discussed herein therefore involve a “mismatch” between syntax and phonology, and lowering provides a means by which syntactic principles as well as principles relating to prosodic-structure can be simultaneously upheld.

This paper is the product of a major revision to earlier work on word order in copular clauses in Tagalog. The present paper has therefore benefited immensely from presentations of that earlier work at UC Berkeley, *LSA* (held in San Francisco), UC San Diego, Reed College, San Francisco State University, and UT Arlington. In its current form, this work was presented at *AFLA*, held at Harvard University, and in Jessica Coon and Maria Polinsky’s seminar on verb-initial languages, also at Harvard University. Very special thanks are due also to the students who participated in my Fall 2010 syntax seminar on the syntax-phonology interface, where many of the ideas presented herein were clarified and crystalized. I am particularly grateful to Joshua Jensen, Laurel Stvan, and Vitaly Voniov for reading through earlier drafts and provided much needed editorial and substantive feedback, and to Vitaly Voniov (again) for assisting me in the development of a Tagalog corpus, from which much of the data in this paper is drawn. Finally, I would like to thank the three reviewers for *Syntax* whose comments and questions led to significant improvements.

1. Introduction

Syntactic structure, most syntacticians would agree, represents hierarchical relations among elements (words and phrases) but is not concerned *per se* with the linear (left-to-right) order of these elements. That said, much work within syntax deals explicitly with issues relating to word order. This is not surprising, as most syntactic research proceeds (implicitly or explicitly) on the assumption that linear order can be determined from syntactic representations in a fairly straightforward way—e.g., by algorithms which stipulate precedence relations, sometimes on a language particular basis, which hold for specific syntactic relations such as head and complement, head and specifier, etc. (see, e.g., Kayne 1994 and the large body of work that has emerged from this work; see also Fox & Pesetsky 2005:40–42 for another view of how such “laws of precedence” might be formulated).

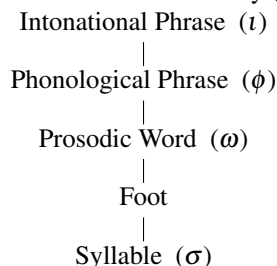
With this general perspective in mind, the main problem that this paper aims to address is this: In Tagalog, the surface linear position of certain phrases does not straightforwardly correspond to what is expected on the basis of their syntactic position. More specifically, *wh*-phrases and DPs that function as subjects linearly follow rather than precede the head of the functional projections (CP and TP, respectively) whose specifiers they are associated with. This is certainly unexpected on the assumption that specifiers in Tagalog occur to the left of the head of the phrase in which they occur, and—as we will see—the problem also cannot be solved by supposing that specifiers in Tagalog occur to the right of the head of the phrase in which they occur.

The solution to this particular problem that I offer in this paper is relatively simple: I will attempt to argue in what follows that *wh*-phrases and subjects are lowered at PF (Phonological Form) from their respective specifier positions and are adjoined to a projection that is dominated by the projection within which they were originally contained. More specifically, *wh*-phrases lower from Spec,CP and adjoin to TP to yield the surface word order *Comp—WhP*, while subjects lower from Spec,TP and adjoin to some projection below TP to yield verb-initial word order (cf. Choe 1987, 1990, 1998).

It should be noted at the outset that lowering operations have been viewed rather contentiously within derivational syntactic theories. In early Government-Binding/Principles and Parameters work, lowering operations were precluded on the basis of a condition which required traces left behind by movement to be c-commanded by their antecedent (what Fiengo 1977:45 called the Proper Binding Condition). While the Proper Binding Condition certainly did important work for the theory, it had to be stipulated along with its exceptions. Early work within Minimalism aimed to preclude lowering (among other things) on the basis of an Extension Condition (Chomsky 1995:248, 254), which requires all structure building operations (including movement operations) to extend the tree by targeting the root. Like the Proper Binding Condition, the Extension Condition is a stipulation within the theory and most of its intended effects have been argued since to follow from independently motivated principles of grammar (see, e.g., Bošković & Lasnik 1999, and Richards 2004). Moreover, lowering operations of the sort proposed within this work do not seem to violate the extension condition (or whatever condition might supersede it) any more than a family of other operations that have been proposed, including—but not limited to—(syntactic) head movement, “tucking in” (Richards 2001), and late-adjunction (Lebeaux 1988, Nissenbaum 2001, and Stepanov 2001, among others). Lowering has, furthermore, been employed rather successfully in accounts of mismatches between syntax and morphology (see, e.g., McCloskey 1996, and work within the framework of Distributed Morphology (Flagg 2001, Embick & Noyer 2001, Embick 2007, and Skinner 2009 among others).

In this work, I proceed on the assumption that movement which lowers a constituent is an option made available by Universal Grammar. A modest goal of this paper, then, is to argue that there are certain aspects of Tagalog word order which are best accounted for by utilizing this option. The more ambitious goal of this work is to argue further that where lowering is called for in Tagalog, it is motivated by a constraint, Weak Start, which relates to the organization of prosodic structure. In very general terms, this constraint requires elements that are lower on the prosodic hierarchy in (1) to linearly precede elements that are higher on the prosodic hierarchy within a phonological domain.

- (1) The Prosodic Hierarchy (Selkirk 1986, Inkeles 1990)



Given certain assumptions relating to the correspondence between syntactic structure and prosodic structure (to be introduced below), syntactic XPs typically correspond to a prosodic category that is higher on the hierarchy in (1) than to syntactic Xs. As a consequence of the prosodic constraint mentioned above, therefore, heads of phrases (if phonologically overt) must always precede their specifiers. In other words, syntactic structures of the schematic form in (2) will be unlinearizable (where Y contains phonological material, and XP is Y's specifier).

- (2) [YP XP [Y' Y ZP]]

Lowering of XP in (2) to a position following Y yields a structure which can be linearized. In terms of the prosodic structure, lowering has the effect of placing the prosodically more dominant element after the prosodically subordinate element.

The proposal, if correct, fits in with a growing body of work which relatedly seeks to provide accounts for certain word order patterns as well as the mechanisms that account for them (e.g., movement) in terms of the syntax-phonology interface rather than in syntactic terms alone. Specific works that have put forward proposals of this sort non-exhaustively include: Zec & Inkeles (1990), Halpern (1995), Zubizarreta (1998), McCloskey (1999), Gutiérrez-Bravo (2005), Vicente (2005), Göbbel (2007), Agbayani & Golston (2010), Elfner (2010a,b), and Richards (2010).

The remainder of this paper is organized as follows: Section 2 is concerned with fronting constructions and, in particular, the relative location of fronted constituents with respect to the complementizer. It is argued here that while non-*wh*-phrases and *wh*-phrases alike occupy the same surface position in embedded clauses (adjoined to TP), *wh*-phrases only come to occupy this position by lowering from Spec, CP. Section 3 introduces the prosodic structure constraint that is held to motivate lowering of *wh*-phrases, and Section 4 extends this basic analysis to subject-lowering which is argued to provide an account of verb-initial word order in Tagalog. Section 5 addresses some of the theoretical and analytical issues relating to constraints imposed on lowering and the level of grammar where lowering applies. Section 6 briefly concludes.

2. Fronting Constructions

While arguments and other dependents of the predicate tend to follow the predicate in pragmatically neutral clauses in Tagalog, constituents of various types—including *wh*-phrases as well as non-*wh*-phrases—can appear in a clause initial and pre-verbal position within the clause. One of the points to be established in this section is that the surface position of these fronted constituents is identical at least within embedded clauses which are introduced by an overt complementizer—specifically, they are adjoined to TP. Once this claim is established, I will go on to further argue that the specific derivational route by which constituents come to occupy this position differs depending on the type of phrase involved. In particular, non-*wh*-phrases will be argued to occupy this position directly (either because they have moved there or because they are base-generated there), while *wh*-phrases are lowered and adjoined to this position from Spec, CP. This analysis sets the stage for a prosodically motivated account of lowering, which will be extended to an account of verb-initial word order in Tagalog in Section 4.

2.1 Fronted Wh-Phrases

Apart from a few limited instances of *wh*-in-situ (see, e.g., Richards 2010:181-182), interrogative phrases (hereafter, *wh*-phrases) canonically occur at the left-periphery of *wh*-questions in Tagalog. Consider the following examples.¹

- (3) Ano ang ginawa mo?
What S AGR(TH).PERF.do 2SG(NS)
‘‘What did you do?’’

¹Tagalog (Western Austronesian) is a predicate initial language, which exhibits fairly free word order among arguments following the predicate (see Section 4). In general, every clause has one argument that can be identified as the subject. All nominals are typically preceded by a case particle. The particle associated with the subject is *ang* (for common nouns) and *si* (for proper names). Descriptively, in clauses whose main predicate is a verb the verb is inflected in a manner that indicates the thematic role of the subject, which may be the agent, theme, or some other thematic role. In the examples throughout, I represent this inflection as AGR(AG) (‘‘agent agreement’’), AGR(TH) (‘‘theme agreement’’), and so on. Other glossing conventions used throughout are as follows:

Case particles: S = subject; NS = non-subject; OBL = oblique, LOC = locative. **Aspect:** PERF = perfective; IMPERF = imperfective; CONT = contemplative (irrealis); INF = infinitive. **Other:** LK = linker; COMP = complementizer; NMLZ = nominalization; ABIL = abilitative (able.to).

- (4) Bakit ka sumisigaw?
 Why 2SG(S) AGR(AG).IMPERF.cry
 “Why are you crying?”

Aldridge (2002, 2004:311-333) argues that *wh*-questions like (3) differ structurally from *wh*-questions like (4). For *wh*-questions like (3) where a core argument of the verb has been questioned, she argues that questions of this type involve a pseudo-cleft structure of the sort schematized in (5), in which the *wh*-phrase functions as the predicate and the remainder of the clause is syntactically expressed as a headless relative clause that functions as the subject (see also Kroeger 1993:213-214).

- (5) [TP [PredP What] [DP [NP e] [CP you are doing ___]]]

For *wh*-questions like (4) where the questioned phrase corresponds to an adjunct, Aldridge argues that *wh*-questions of this type have a simpler mono-clause structure as schematized in (6). The fact that the *wh*-phrase occurs at the left-periphery is then taken to be the result of a process (*wh*-movement) which fronts the *wh*-phrases.

- (6) [Why [TP you are crying ___]]

Assuming this distinction (see Aldridge 2002, 2004 for the empirical motivation), the fact that the *wh*-phrase occurs at the left-periphery of the clause of interrogatives like (3) follows simply from the fact that Tagalog word order is predicate initial. For this reason, I will put such examples aside and concentrate exclusively on *wh*-questions like (4) where the left-peripherality of the *wh*-phrase is a consequence of the application of a rule which fronts the *wh*-phrase to this location. Regarding questions of this type, the question that we will be interested in concerns the identity of the position occupied by these fronted *wh*-phrases.

Unlike for some languages where it can be argued that fronted *wh*-phrases in *wh*-questions (and relative clauses) occupy Spec,CP, this cannot be straightforwardly assumed for Tagalog. First, there is typically no overt complementizer in matrix questions and hence, no overt morpho-syntactic evidence to indicate the exact location of fronted *wh*-phrases. Furthermore, and more tellingly, *wh*-phrases always surface to the right of the overt complementizer *kung* when this complementizer introduces the embedded question. Consider the following examples.

- (7) a. Hindi ko alam [CP kung saan m-agsimula].
 not 1SG(S) know COMP Where AGR(AG).INF-start
 “I don’t know where to start.”
 b. Hindi ko alam [CP kung paano ko na-pull off].
 not 1SG(NS) know COMP How 1SG(NS) AGR(TH).ABIL-pull off
 “I don’t know how I was able to pull (it) off.” PSS, 93

Placing the *wh*-phrase to the left of the complementizer in an embedded question is impossible.

- (8) *Hindi ko alam [CP saan kung m-agsimula].
 not 1SG(S) know Where COMP AGR(AG).INF-start
 (“I don’t know where to start.”)

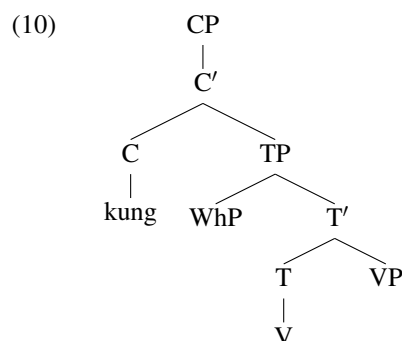
Relative clauses that involve an overtly fronted *wh*-phrase are also typically introduced by the complementizer *kung*. As example (9) shows, the *wh*-phrase follows the complementizer in relative clauses of this type as well.

- (9) Ito ang dahilan [CP kung bakit hindi tayo maaring lubos na ma-tuto ng Ingles].
 this s reason COMP Why not 1PL(NS) can full LK AGR(AG).INF-learn NS English
 “This is the reason why we cannot fully learn English.” AKWP, 123

If we make the reasonable assumption that the complementizer *kung* is the head of a CP, then it seems clear based on the above examples that the fronted *wh*-phrases do not occupy Spec,CP in the surface-structure. If they did, we would expect them to occur to the left rather than to the immediate right of the complementizer. Note that it would not help matters to assume that Spec,CP occurs to the right of C either, as this would incorrectly predict that *wh*-phrases would surface at the extreme right periphery of the clause.

The question, then, is this: What position, if not Spec,CP, do fronted *wh*-phrases occupy? I will attempt to answer this question first for embedded interrogatives and relative clauses, returning to the issue for matrix clauses later on.

Based on a different set of facts than those just discussed, Kroeger (1993:125-126) proposes that fronted *wh*-phrases occupy Spec,TP (for him, Spec,IP). According to his analysis, then, embedded questions (and presumably relative clauses as well) which contain a fronted *wh*-phrase have the structure in (10).² Note that in addition to correctly capturing the fact that the *wh*-phrase appears to the right of the complementizer, the structure in (10) is also plausible on the view that in verb-initial languages like Tagalog, Spec,TP is not specifically reserved for the subject as it is in many subject initial languages (see, e.g., McCloskey 1991, 1997, Alexiadou & Anagnostopoulou 1998, among many others).



There are two problems with this analysis. First, as will be argued in Section 4, Spec, TP is occupied within the syntax by the subject in Tagalog. Second, facts about the distribution of adverbs and the relative order of adverbs and fronted *wh*-phrases suggest that fronted *wh*-phrases are external to TP. I turn to these facts now.³

Observe first that there is a class of adverbs that may occur either to the left or to the right of the verb. I will refer to this class of adverbs as “High/Low” adverbs. Included in this class is the adverb *lagi* (‘always’) which occurs in the sentences in (11).

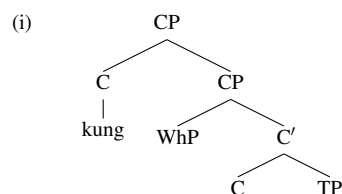
- (11) a. N-aguusapan lagi ang kanila-ng ligawan.
 AGR(AG).IMPERF-talk.about always S 3PL(OBL)-LK courtship
 “(They) are always talking about their courtship.”
- b. Lagi niya-ng tinutulung-an ang mga tao.
 always 3SG(NS)-LK IMPRF.help-AGR(TH) S PL person
 “He/She is always helping people.” HULA, 200

There is another class of adverbs which, by contrast, obligatorily occur to the left of the verb. This class, which I will refer to as “High” adverbs, includes modal adverbs such as *dapat* (‘must’) and the adverb *halos* (‘almost’). Consider the following sentences.

- (12) a. Dapat ko-ng tupar-in ang akin-g pangako sa tao-ng iyon.
 must 1SG(NS)-LK INF.keep-AGR(TH) S 1SG(OBL)-LK promise OBL person-LK that
 “I must keep my promise to that person.” ANA, 141

²I am making an assumption, to be justified in more detail below, that the verb raises to T out of the VP.

³Another solution to the problem of *Comp—WhP* word order would be to assume a recursive CP structure like (i), in which the complementizers occupies the higher C head and the *wh*-phrase occupies the lower Spec, CP.



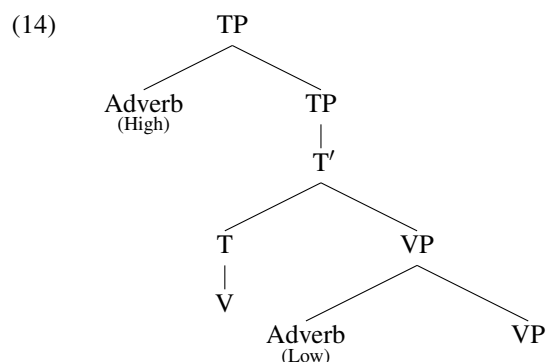
This proposal, as far as I can tell, will not help explain the pattern of facts to be discussed in Section 2.3. Moreover, while recursive-CPs of this sort have been well-motivated for certain types of embedded clauses in certain languages, their distribution in these languages has been argued to be quite restricted (see, e.g., Iatridou & Kroch 1995, McCloskey 2006, and references therein) in ways that would make their apparently free distribution in Tagalog rather unusual.

- b. Halos magka-pareho ang kalagayan ng dalawa-ng ina sa kwento.
 almost INF.be-same S situation NS two-LK mother LOC story
 “The situation of the two mothers in the story is almost the same.” KPKP, 94

Placing either of these High-adverbs to the right of the verb is not generally possible.

- (13) a. *Tupar-in ko-ng dapat ang akin-g pangako sa tao-ng iyon.
 INF.keep-AGR(TH) 1SG(NS)-LK must S 1SG(OBL)-LK promise OBL person-LK that
 (“I must keep my promise to that person.”)
 b. *Magka-pareho halos ang kalagayan ng dalawa-ng ina sa kwento.
 INF.be-same almost S situation NS two-LK mother LOC story
 (“The situation of the two mothers in the story is almost the same.”)

A straightforward account of the contrast between High/Low and High-adverbs would be to suppose that the difference among them relates to their possible adjunction sites. Concretely, suppose that High/Low-adverbs such as those in (11) may be adjoined either to TP or to VP, while High-adverbs as in (12) must be adjoined at least as high as TP.⁴ If we further suppose that the verb raises out of the VP to T, then these patterns fall into place as the schematic structure in (14) illustrates.



Note that the claim that the verb raises out of the VP to T is crucial here. If the verb remained inside of VP, then we would not expect to find a contrast between adverbs of the type documented here. Further evidence that the verb raises out of VP is adduced by Richards (2003) on the basis of a process of VP-ellipsis in Tagalog.⁵

With this analysis of adverb distribution in place, observe now that fronted *wh*-phrases occur to the left of High-adverbs like *dapat*.

- (15) ...kung paano dapat kumilos ang bata sa mga lugar gaya ng paaralan o iba pa-ng
 COMP How must AGR(AG).INF.behave S child LOC PL place such.as NS school or other-LK
 pampubliko-ng lugar...
 public-LK place
 “(As for matters outside the home, such as) how a child should behave at school
 or other public places....” MBAP, 372

Given (14), this fact indicates that fronted *wh*-phrases occur not in Spec,TP but in a position somewhere external to TP (though still below C, given the facts in (7)-(9)).⁶ Further support for this conclusion is based on the relative order

⁴See Kaufman (2006) for further details relating to the distribution of adverbs in Tagalog. The different distributions for adverbs ideally follows from the different semantic properties associated with the adverbs—see, e.g., Jackendoff (1972), Ernst (1984), Svenonius (2002), among others.

⁵See Goldberg (2005) for an extensive discussion of the properties of VP-ellipsis in languages with verb movement.

⁶Aldridge (2004:178-191) argues that V-movement out of VP targets the head of a functional projection, AspP, that is below TP:

- (i) [TP T [AspP Asp+V [VP ...t_V]]

According to this analysis, High-adverbs could be said to adjoin to AspP, while Low-adverbs can be said to be adjoined to VP. If so, then the adverb facts discussed here would be compatible with Kroeger’s claim that *wh*-phrases front to Spec, TP. However, Kroeger’s analysis is not compatible with the conclusion reached in Section 4.1.1, where I argue that the subject is associated with Spec, TP.

of fronted *wh*-phrases and negation. The examples in (16) show that negation obligatorily follows the complementizer but precedes the verb in embedded clauses.

- (16) a. *Tiniyak* ni Aquino [_{CP} na hindi niya ito gagaw-in].
 AGR(TH).PERF.assure NS Aquino COMP not 3SG(NS) this CONT.do-AGR(TH)
 “Aquino assured (them) that he will not do this.” *Abante*, 3/6/10
- b. Hindi ko alam [_{CP} kung hindi talaga tayo nabigyan ng pagkakataon].
 not 1SG(NS) know COMP not really 1PL(S) be.given NS opportunity
 “I don’t know whether we were really not given the opportunity.” WEB

Negation also typically occurs to the left of high adverbs.⁷

- (17) Hindi dapat ako kumain ng anuma-ng karne.
 not should 1SG(S) AGR(AG).INF.eat NS any-LK meat
 “I should not eat any meat.”

Taken together, (16) and (17) suggest that negation occupies a position in the clause structure that is external to TP but below C. Given this, note finally that fronted *wh*-phrases surface to the left of negation. Placing a fronted *wh*-phrase to the right of negation is completely impossible.

- (18) Ang dahilan [_{CP} kung bakit hindi tayo maari-ng lubos na matuto ng Ingles]
 reason COMP Why not 1PL(S) can-LK well LK AGR(AG).INF.learn NS English
 “The reason why we can’t learn English that well” AKWP, 127
- (19) *...[_{CP} kung hindi bakit tayo maari-ng lubos na matuto ng Ingles]
 COMP not Why 1PL(S) can-LK well LK AGR(AG).INF.learn NS English
 (“...why we can’t learn English that well”)

Overall, then, we have the basic word order facts summarized in (20).

- (20) [C – WhP – Neg – High-Adverb – V]

Taking negation to demarcate the outermost edge of the left-periphery of TP,⁸ the conclusion reached is that fronted *wh*-phrases (in embedded clauses) do not surface in TP’s specifier as Kroeger proposes, but rather surface in a position that is external to TP but still below C.

Concerning the exact location of fronted *wh*-phrases, two possibilities seem plausible at this point. One possibility is that fronted *wh*-phrases occupy the specifier position of a functional head that dominates TP but which is below C. Alternatively, we might suppose that the fronted *wh*-phrase is adjoined to TP—more specifically, that it occupies the highest adjoined position to TP (or NegP, see fn. 8). While none of the facts discussed so far seem to allow us to adjudicate between these possibilities, examination of another construction in which a non-*wh*-phrase is fronted can shed more light on the issue. This other construction is the focus of the next subsection.

2.2 *Ay-Inversion*

There is a construction in Tagalog which, like *wh*-fronting, involves a constituent that is preposed to a left-peripheral position of the clause. This construction, illustrated by the examples in (21) and throughout, is sometimes referred to as *ay*-inversion because of the particle *ay* which appears between the fronted constituent and the remainder of the clause (see, e.g., Schachter & Otnes 1972:485-493).

- (21) a. *Si Maria ay lumu-lusong sa bayan upang m-agtinda.*
 S Maria AY AGR(AG).IMPRF-enter LOC town in.order AGR(AG).INF-sell
 “Maria goes to town in order to sell (things).”

⁷The order *Modal-adverb*–*Negation* is also possible. I take this fact to indicate that these adverbs can adjoin either to NegP (see fn. 8) or to TP.

⁸I assume that clausal negation is the head of functional projection NegP, which immediately dominates TP. I have omitted this projection from the representations in order to simplify the presentation as much as possible.

- b. *Simula pa noo-ng bata ako, hangga-ng ngayon, ay hindi pa ako*
 beginning PRT time-LK child 1SG(S) until-LK now AY not still 1SG(S)
 naka-ka-solve ng Rubik's Cube.
 AGR(AG).ABIL-IMPERF-solve NS Rubik's Cube
 "Since I was young, until now, I haven't been able to solve a Rubik's Cube." WEB

In example (21a), the fronted constituent corresponds to the subject of the clause, while in (21b) the fronted constituent is a time adjunct.⁹ The range of constituents that can appear fronted in *ay*-inversion constructions is by no means limited to these types of phrases. In addition, locative adjuncts, adverbs (both the High and Low types introduced in Section 2.1), and phrases expressing the speaker's point of view (e.g., *sa tingin ko* ('in my opinion')) may appear here as well.¹⁰

2.2.1 The Location of the Fronted Phrase

Each of the examples in the preceding section involved *ay*-inversion at the matrix clause level. The construction also appears in embedded clauses and in this way behaves differently than the left-dislocation construction in other languages (e.g., English) which is limited to matrix clause environments or complements of only a selected class of "bridge verb" matrix predicates (Ross 1967:424, Emonds 1970:19-20, Baltin 1982).

Important for our purposes, facts concerning the distribution of fronted phrases in *ay*-inversion in embedded clauses parallel those discussed above concerning fronted *wh*-phrases. For instance, fronted phrases must occur to the immediate right of the complementizer which introduces an embedded clause.

- (22) Bago ka gumastos, lagi mo-ng i-tanong sa sarili mo [CP kung
 before 2SG(S) AGR(AG).INF.spend always 2SG(NS)-LK AGR(TH)-INF.ask OBL self 2SG(NS) COMP
ang bibilhin mo ay isa-ng NEED o isa lama-ng WANT.
 S purchase 2SG(NS) AY a-LK need or a just-LK want
 "Before you spend, you should always ask yourself whether your purchase is
 a need or just a want." WEB

Placing the fronted phrase to the left of the complementizer is impossible.

- (23) *... [CP *ang bibilhin mo kung ay isa-ng NEED o isa lama-ng WANT*].
 S purchase 2SG(NS) COMP AY a-LK need or a just-LK want
 ("...whether the purchase is a need or just a want.")

The fronted phrase also obligatorily occurs to the left of negation.¹¹

- (24) a. *Kung Ang mga kabataan ay hindi maka-basa?*
 Q S PL young.people AY not AGR(AG).ABIL-read
 "Are young people illiterate (lit. not able to read)?"
 b. *Ako na-niniwala [CP na ang corruption ay hindi ma-wawala pero*
 1SG(S) AGR(AG).IMPERF-believe COMP S corruption AY not AGR(TH).CONT-lost but
pwede-ng i-wasan.
 can-LK avoided
 "I believe that corruption can't be lost, but can be avoided." WEB
- (25) **Kung hindi ang mga kabataan ay maka-basa?*
 Q not S PL young.people AY AGR(AG).ABIL-read
 ("Are young people illiterate (lit. not able to read)?")

⁹The term "fronted" should not necessarily be taken to imply a movement analysis: Fronted subjects in all likelihood are moved to clause initial position, as evidenced in part by an obligatory gap in the position where the subject would have occurred had it not been fronted. It is much less clear, however, whether other types of phrases—e.g., the time adjunct in (21b)—are moved to the clause initial position or base-generated there. I leave this issue open for the time being, as nothing crucial hinges on the matter.

¹⁰For reasons of space, I have not included the relevant examples illustrating the different types of phrases that may appear in the fronted position. The range of elements that can occur in this position is not completely unrestricted. Negation, for instance, cannot appear in the fronted position, nor can the head of a predicate phrase (e.g., V) or the entire predicate phrase (e.g., VP) of the clause.

¹¹This restriction is true of matrix as well as embedded clauses. Example (24a) is a rare (as far as I can tell) example in which the complementizer *kung* occurs in a matrix clause. Its function here appears to be to indicate that the clause is a (polar) question. More commonly, though, the second position particle *ba* is used for this purpose.

These facts are completely parallel to those discussed above involving fronted *wh*-phrases, a fact which I take to be a fairly strong indicator that the fronted phrases in the *ay*-inversion construction occupy the same syntactic position as fronted *wh*-phrases. This conclusion is further supported by the observation that fronted *wh*-phrases may also immediately precede the particle *ay* which characterizes the *ay*-inversion construction. This fact is documented (for the first time, to my knowledge) by the following examples.

- (26) a. Hindi ko alam [_{CP} kung *saan* ay mas kanais-nais].
not 1SG(NS) know COMP Where AY more nice
“I don’t know where is the nicest (place).”
- b. Hindi ko maalala [_{CP} kung *kailan* ay *pumunta* ako doon].
not 1SG(S) remember COMP When AY AGR(AG).PERF.go 1SG(S) there
“I don’t remember when I went there.”
- c. Alam namin [_{DP} ang [_{NP} mga dahilan] [_{CP} kung *bakit* ay hindi mahalaga]].
know 1PL(NS) S PL reasons COMP Why AY not important
“We know the reasons why (this) is not important.”

Supposing it is correct, then, that fronted *wh*-phrases and fronted non-*wh*-phrases in *ay*-inversion occupy the same syntactic position (concretely, a position that is external to TP but below C), we can now return to the question raised earlier concerning the identity of this position. As noted, one possibility is that the fronted phrases occupy the specifier position of a functional phrase that is located above TP but below C. Alternatively, fronted phrases might simply be adjoined to TP.

A straightforward argument in favor of the specifier analysis would be that it provides a simple way of analyzing the particle *ay* that co-occurs with the fronted phrases. Specifically, this particle might reasonably be analyzed as occupying the head position of the functional projection whose specifier hosts the fronted phrase (see Kroeger 1993:126 for just such a proposal). On the other hand, an argument in favor of the adjunction analysis can be made based on the fact that there may be more than one fronted construction per clause. This was already seen in example (21b) above. Some additional examples are provided in (27).

- (27) a. *Ang salitang “paalam”, sa atin ay hindi kailangan.*
S word good-bye OBL us AY not necessary
“The word “good-bye” is unnecessary to us.”
- b. ...*Sinabi (niya) [CP na sa panahon ng mga una-ng taon ng kanya-ng karera sa*
AGR(TH).PERF.say 3SG(NS) COMP LOC time of PL first-LK year of his-LK career LOC
Seattle, siya ay ginamit ang pampalakas-loob].
Seattle 3SG(S) AY AGR(TH).PERF.use S stimulants
“Rodriguez said that, in the first first years of his career in Seattle, he used stimulants.” WEB

In the following example, one of the fronted phrases is a *wh*-phrase.¹²

- (28) *sa mga burol at bundok [CP kung saan ang kanila-ng mga bahay ay nakakalat].*
LOC PL hill and mountain COMP Where S 3PL(OBL)-LK PL home AY widespread
“In the hills and mountains where their homes are widespread” AILS, 278

In certain attested cases involving multiple fronted constituents, it is even possible for each fronted constituent to be followed by the particle *ay*. Consider (29).

- (29) a. *Ang problema dito ay karamihan ng mga Pinoy ay hindi pinag-iisip-an ang*
S problem here AY most of PL Pinoy AY not IMPERF-think.about-AGR(TH) S
binoboto.
AGR(TH).IMPERF.vote.for
“The problem (is that) most Pinoyos don’t think about who they are voting for.” WEB

¹²As will be explained below, multiple *wh*-fronting is not possible.

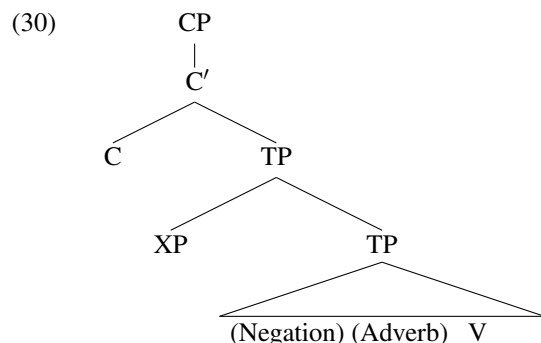
- b. Na-i-intindihan namin [CP na *ang kanya-ng* *mga aksidente* ay *maaaring* ay
 AGR(TH)-IMPERF-understand 1PL(NS) COMP S 3SG(OBL)-LK PL accident AY can AY
 mas lalo-ng masama].
 more more-LK bad
 “We understand that his accidents could have been much worse.” WEB

The fact that there may be more than one fronted constituent implicates the type of recursive structure that an adjunction analysis readily provides for. On the other hand, an advocate for the specifier analysis might reasonably suggest that the relevant functional projection is one that permits multiple specifiers (see, e.g., Chomsky 1995:356-367, Ura 1996:79, 214, 236, 284, Doron & Heycock 1999, among others). However, if the main motivation for the specifier approach in general is that the phrase that licenses the specifier also offers a host for the particle *ay*, then the multiple specifier approach will encounter problems when it comes to explaining the examples in (29). Specifically, the typical assumption is that in a multiple specifier construction, each specifier is related to a single head of a phrase. In the examples in (29) each fronted constituent is associated with its own particle *ay* and such examples would not, therefore, be instances of a multiple specifier construction according to this conception of what a multiple specifier construction is. But if this is the case, then the motivation for the specifier analysis is considerably weakened altogether.

The facts discussed here and all of the facts that I am aware of are also consistent with and straightforward explained by an adjunction analysis—in particular, an analysis in which the fronted elements are adjoined to TP. I will therefore assume this adjunction analysis in what follows.¹³

2.2.2 Interim summary

We have argued thus far as follows: In the context of embedded clauses, fronted *wh*-phrases and constituents that are fronted in the *ay*-inversion construction appear to occupy the same syntactic position, a position that is crucially external to TP but below C. Taking this position to be adjoined to TP, the (surface) syntax of constructions involving fronting can be represented as in (30).



A question left open by this analysis is how to treat the particle *ay*. For the time being, I will assume that the this particle functions merely to “flag” the relation of adjunction between TP and a constituent adjoined to TP, though it is not otherwise syntactically significant. I will assume, furthermore, that it is introduced post-syntactically by the following rule.¹⁴

¹³The claims and analyses discussed below will not be affected if this assumption turns out to be incorrect.

¹⁴In this sense, *ay* has a function similar to the “linker” element *na* (allomorph *-ng*) which appears inside of a noun phrase whenever NP is modified (e.g., *bahay na pula* ‘red house’). For embedded clause *wh*-questions, the rule in (31) rule is clearly optional. It is more difficult to determine whether it is also optional in the case of fronted non-*wh*-phrases. The reason for this is that Schachter & Otnes 1972 identify two other fronting constructions which they refer to as Topicalization (example (i)) and Adjunct Fronting (example (ii)) (see also Kroeger 1993:123-138).

- (i) a. Si Charlie, *binigyan* ko ng pera.
 S Charlie give I NS money
 “Charlie, I gave him money.” (Kroeger 1993:124)
- b. Bukas siya aalis.
 tomorrow he leave
 “He will leave tomorrow.” (Schachter and Otnes 1972:488-500)

While there are a few difference between these two constructions as well as between these two constructions and the cases of *ay*-inversion discussed in the main text, there is simply not enough in-depth work to to conclude definitively whether there are indeed three separate fronting constructions, or whether there is just one general fronting construction with differences following from other factors. If the latter, then the rule in

- (31) $\emptyset \longrightarrow [ay] / [TP\ XP \text{ --- } TP]$

2.3 Asymmetries

The discussion up to this point has focussed exclusively on the similarities between constructions involving a fronted *wh*-phrase and those involving a fronted non-*wh*-phrases (in *ay*-inversion contexts). We have so far exploited these similarities to the point of proposing that the surface syntax is one and the same for all fronted constituents at least within embedded clause contexts. In this section, I point out three asymmetries between fronted *wh*-phrases and fronted non-*wh*-phrases which will demonstrate that *wh*-phrases and non-*wh*-phrases come to occupy their surface position by different derivational routes.

The first asymmetry has to do with coordination. When an embedded question or relative clause containing a fronted *wh*-phrase is coordinated, a complementizer will typically appear with the first conjunct and must appear with the second conjunct.

- (32) Ang mga sumasagot sa mga pagbati na ito ay hindi kailanga-ng sabih-in [CP kung saan
S PL response OBL PL greeting LK this AY not need-LK INF.say-AGR(TH) COMP Where
talaga sila pupunta] o [CP ??(kung) saan sila n-angaling].
really 3PL(S) AGR(AG).CONT.go or COMP Where 3PL(S) AGR(AG).PERF -come.from
“The responses to these greetings need not really say where one is going or where one has been.” *Seasite*:
“Pagbati para sa mga Pilipino”

There does not seem to be a comparable restriction imposed when two clauses each containing a fronted non-*wh*-phrase are conjoined. Specifically, a complementizer introducing the second conjunct is not obligatory for these cases.¹⁵

- (33) Sa panahon ng globalisasyon [CP kung kailan [TP ang lahat ay maaari nati-ng
LOC time NS globalization COMP When S all AY can 1PL(NS)-LK
ma-angkin], o [TP ang lahat ay maaari-ng umangkin sa atin]].
AGR(TH).ABIL-possess or S all AY can-LK AGR(AG).INF.possess OBL 1PL(OBL)
“In this time of globalization, when we can have everything or everything can have us...” ABLN, 52

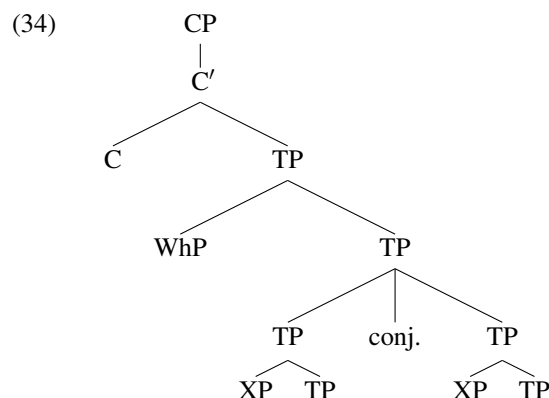
Given the analysis in (30) according to which all fronted constituents are adjoined to TP, the coordination in (33) is easily accounted for. Concretely, (33) can be analyzed as involving two conjoined TPs, each of which has an adjoined fronted constituent. The *wh*-phrase that takes scope over both of these TPs can be said to be adjoined to the TP which hosts the conjoined TPs. The structure in (34) illustrates.

(31) can be viewed as optional; and if the former, then the rule in (31) should be viewed as obligatory at least in certain contexts.

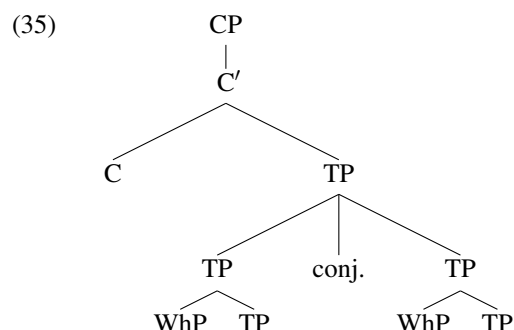
¹⁵The fronted *wh*-phrase in this example does not play an important role. A reviewer raises the question of why the complementizer cannot be omitted in (32) in a manner similar to the examples in (37) below. I believe the answer to this ultimately involves some sort of locality condition on complementizer deletion which requires the embedded clause and the verb which selects it to be adjacent (see Bošković & Lasnik 2003 for an approach to null complementizers that may be suitable for Tagalog as well). It is possible, for instance, for the complementizer of an initial-conjunct embedded clause conjoined with another embedded clause to be omitted, as illustrated in (i). Note furthermore that the complementizer of the second embedded clause conjunct still may not be omitted.

- (i) Hindi ko alam [CP saan ako ti-tira] o [CP ??(kung) saan ako m-aghahanap ng titirhan na
not 1SG(NS) know Where 1SG(S) AGR(AG).CONT-live or COMP Where 1SG(S) AGR(AG).CONT-look.for NS place LK
mura sa Manila].
cheap LOC Manila
“I don’t know where I will live or where I will look for a cheap place (to live) in Manila.” WEB

Given this constraint (however it is ultimately formulated), the absence of a complementizer within the second conjunct in example (33) cannot be attributed to complementizer deletion.



Problematically, we ought to be able to assign a comparable structure to the coordination in a sentence like (32) which leaves out the complementizer from the second conjunct. That is, if fronted *wh*-phrases are adjoined to TP as we have argued, then it ought to be possible to conjoin two TPs under the scope of the complementizer in which each TP contains a fronted *wh*-phrase that excludes the complementizer from this conjunction. The structure in (35) schematizes the structure that we expect to be possible given our assumptions so far.



A second asymmetry between clauses containing a fronted *wh*-phrase and those containing a fronted non-*wh*-phrase relates to the presence of the particle *ay*. As we have seen, *wh*-phrases and non-*wh*-phrases may be followed by the particle *ay* in embedded clauses introduced by a complementizer (see, in particular, examples (22), (24b), and (26) above). Significantly, while non-*wh*-phrases may precede this particle in matrix clauses as well as in embedded clauses, *wh*-phrases may precede this particle only in embedded clauses. Compare the examples in (26) above with the ungrammatical examples in (36).

- (36)
- a. Kailan (*ay) *pumunta* ang pamilya sa Greenhills?
When AY AGR(AG).PERF.go S family LOC Greenhills
“When did (your) family go to the Greenhills?”
 - b. Bakit (*ay) hindi ka *tumatawa*?
Why AY not 2SG(S) AGR(AG).IMPERF.laugh
“Why are you not laughing?”
 - c. Saan (*ay) maari-ng makita ang kanila-ng larawan?
Where AY can-LK AGR(TH).INF-see S 3PL(NS)-LK picture
“Where can (one) see their picture?”

As it happens, this co-occurrence restriction is not simply a fact about matrix clause environments. In informal varieties of the language, the complementizer *kung* can be optionally omitted in embedded questions containing a fronted *wh*-phrase. However, if the complementizer is omitted, the *wh*-phrase may not co-occur with the particle *ay* as the examples in (37) demonstrate.

- (37)
- a. Hindi ko alam [_{CP} kailan (*ay) tayo m-agkikita muli].
not 1SG(NS) know When AY 1PL(S) AGR(AG).CONT-meet again
“I don’t know when we will meet again.”

- b. Hindi ko alam [_{CP} saan (*ay) bumili ng tickets.
 not 1SG(NS) know Where AY AGR(AG).PERF.buy NS tickets
 “I don’t know where to buy tickets.”

Overall, the generalization here seems to be that a *wh*-phrase may co-occur with the particle *ay* if and only if the complementizer *kung* is also present in the structure.¹⁶

Finally, as the examples in (27) and (29) above have demonstrated, a clause may contain multiple fronted non-*wh*-phrases. By contrast, only one *wh*-phrase may appear in a single clause. Multiple *wh*-fronting is impossible as the ungrammaticality of (38) illustrates. (Note, (38) is ungrammatical regardless of the order in which the *wh*-phrases occur and whether it is a matrix or embedded question.)

- (38) *Kailan saan pumunta ang pamilya mo.
 When Where AGR(AG).PERF.go S family 2SG(NS)
 (“When did your family go where?”)

2.4 WhP-lowering

Assuming the conclusions of Section 2.1–2.2 (as summarized in 2.2.2), according to which fronted *wh*-phrases and non-*wh*-phrases alike occupy the same surface syntactic position (adjoined to TP) in embedded clauses introduced by *kung*, the account of the three asymmetries just documented that I will pursue here is based on the conjecture stated in (39).

- (39) **WhP-lowering:**
Wh-phrases lower from Spec,CP and adjoin to TP when C is overt (= *kung*).

What (39) entails is that the route by which *wh*-phrases come to be adjoined to TP is distinct from the route by which non-*wh*-phrases come to occupy this position. Furthermore, (39) entails that the position of fronted *wh*-phrases may differ depending on the presence versus absence of an overt complementizer. Concretely, if there is no overt complementizer, *wh*-phrases will remain in Spec,CP while if there is an overt complementizer they will be lowered from Spec,CP and adjoined to TP.

The coordination facts in (32) and (33) are accounted for given (39). Specifically, (39) stipulates that each fronted *wh*-phrase must be associated with Spec,CP at a level prior to the point at which the *wh*-phrase is lowered and adjoined to TP. Any clause containing a fronted *wh*-phrase therefore requires a CP projection and this, in turn, entails that coordination of two or more clauses each containing a fronted *wh*-phrase must be CP rather than TP coordination. Thus, coordination of TP under C (as in the structure in (35)) is impossible for any two or more conjuncts each containing a fronted *wh*-phrase. Since fronted non-*wh*-phrases (i.e., as in the typical *ay*-inversion cases) are not lowered from Spec,CP but rather are directly adjoined to TP, it follows that two or more clauses containing such fronted phrases can be analyzed as TP-coordination under C as in (34), where the conjuncts share a complementizer rather than each requiring one of their own. Examples like (32) are therefore accounted for.

The conjecture in (39) also provides an account of the asymmetry relating to the presence versus absence of the particle *ay*. Concretely, (39) does not require fronted *wh*-phrases to lower and adjoin to TP in matrix clauses or embedded clauses that do not contain an overt complementizer. Since the *wh*-phrase is not required to lower and adjoin to TP under either of these circumstances, the context for insertion of the particle *ay* (see (31) above) will not be met. This, I claim, is the explanation for the ungrammaticality of the version of the examples in (36)–(37) containing the particle *ay*. By contrast, *wh*-phrases do lower and adjoin to TP in embedded clauses according to (39) and the context for insertion of *ay* is therefore met in examples like those in (26) where the embedded clauses are introduced by the

¹⁶Given this, it is expected that when *kung* appears in a matrix question (see fn. 11), then a fronted *wh*-phrase and *ay* ought to be able to co-occur in this environment as well. This prediction appears to be borne out by the following attested examples.

- (i) a. Kung bakit ay may kaya marami-ng mga tagahanga USC?
 COMP Why AY exist so many-LK PL fan USC
 “Why are there so many UCS fans?” WEB
 b. At kung paano ay ito ay gumagana para sa iyo?
 and COMP How AY this AY work for OBL you?
 “And how did this work for you.” WEB

overt complementizer. Crucially, the context for insertion of *ay* will always be met with fronted non-*wh*-phrases since, in contrast to *wh*-phrases, phrases of this type are directly adjoined to TP in embedded as well as matrix clauses.

Finally, (39) also provides a plausible account of why multiple fronting of *wh*-phrases is impossible in contrast to multiple fronting of non-*wh*-phrases which is possible. Concretely, if *wh*-phrases are always associated with Spec,CP, then given the reasonable assumption that CP can host at most one specifier, multiple *wh*-fronting will not be possible. Non-*wh*-phrases, by contrast, are not assumed to be associated with Spec,CP but are adjoined directly to TP. Given this and given the recursive nature of adjunction, no inherent limitation is placed on the number of non-*wh*-phrases that may be adjoined to TP.

Overall, the conjecture in (39) accounts for the differences between fronted *wh*-phrases and non-*wh*-phrases while still allowing us to capture the similarities between these two fronting constructions. The important question that is raised at this point is why (39) should be a rule of Tagalog grammar. Addressing this question is the focus of the next section.

3. Syntactic Structure and Prosodic Structure

The conjecture in (39) is thus far just a stipulation that requires a more principled explanation. The goal of this section is to flesh out a proposal according to which (39) follows as a consequence of a prosodic structure constraint which requires the first element within a given phonological domain to be no higher on the prosodic hierarchy than elements which follow this element within the same specified phonological domain. The intended outcome of this constraint is an explanation for why *wh*-phrases lower from Spec,CP in the first place, as well as an explanation for why they do so only when there is an overt complementizer. I begin in Section 3.1 by laying out my specific assumptions about the mapping between syntactic structure and prosodic structure, then turn in Section 3.2 to the prosodic account of (39).

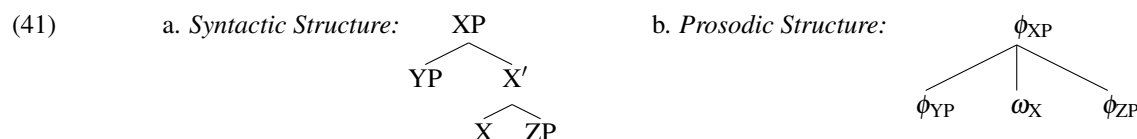
3.1 The Mapping Principles

The specific set of proposals that I will adopt here concerning the relationship between syntactic structure and prosodic structure are those put forward recently in Selkirk (2009) (see also Nespor and Vogel 1986, Ladd 1996, and Chomsky 2001 for important precursors, and Ito & Mester 2006, to appear for related proposals). Selkirk's proposal—called *Match Theory*—posits a direct correspondence between categories of the syntactic structure and categories of the prosodic structure. According to this theory, syntactic clauses corresponds directly to the intonational phrase; syntactic phrases correspond to phonological phrases; and words (syntactic heads) correspond to prosodic words.

(40) Match Theory (Selkirk 2009:5)

- a. Match Clause: Syntactic Clause (CP/TP) = Intonational Phrase (ι)
- b. Match Phrase: Syntactic XP = Phonological Phrase (ϕ)
- c. Match Word: Syntactic X = Phonological word (ω)

In contrast to earlier edge-based alignment approaches for relating syntactic structure to prosodic structure (Selkirk 1986, 1995), full satisfaction of the constraints in (40) leads to recursive prosodic structure that is isomorphic to the recursivity of the syntactic structure (for more discussion, see Ito & Mester 2006, to appear, Wagner 2005, 2010, and Elfner 2010a,b). For instance, considering an abstract syntactic structure like (41a), the correspondence constraints in (40) will “match” the syntactic structure in (41a) to the prosodic structure in (41b).



Nothing too important will hinge on these particular assumptions about the mapping between syntax and phonology, and much of the analysis that will follow can be recast in an edge-based approach. In perhaps the most detailed study of the phonological phrasing of Tagalog to date, Richards (2010:178) proposes that phonological phrases are mapped from syntactic structures according to something like the algorithm in (42).¹⁷

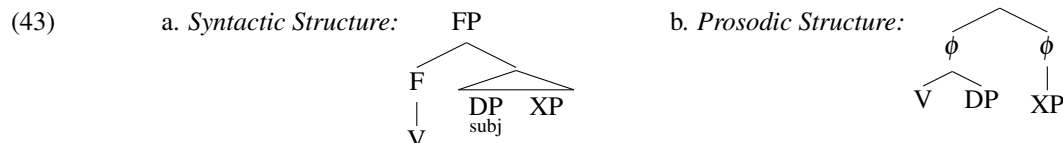
¹⁷Richards' actual algorithm refers to 'Minor Phrases' rather than phonological phrases (ϕ), and equates XP in (42) with just those syntactic categories that are also *Phases* (see Chomsky 2001). The differences between this specific formulation and the one cited in the main text are immaterial to the present discussion.

(42) **Mapping Constraint** (Based on Richards 2010:169, 178)

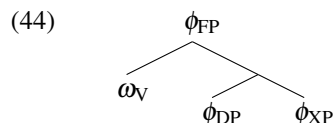
Left edges of XP are mapped onto ϕ boundaries (the ϕ boundary immediately following the verb is deleted).

Richards' mapping constraint is proposed to capture certain prosodic patterns of relatively simple VSX sentences in Tagalog. He observes, for instance, that the right edge of a phonological phrase boundary is typically associated with the presence of a low boundary-tone (L%), and that the left-edge of a phonological phrase may be associated with a point of down-step reset. Crucially, for simple VSX sentences, the first L% tone does not immediately come after the verb but comes after the phrase (e.g., the subject) that is immediately post-verbal (hence, the clause in (42) that refers to deletion of the ϕ boundary after the verb).

Assuming that VSX sentences have something like the abstract structure in (43a), in which the verb occupies a position to the left of and slightly higher than the subject, the phonological phrasing that (42) yields is the one in (43b).



The prosodic structure in (44) is the one that the Match Theory constraints in (40) will produce based on the same syntactic structure in (43a).



Though comparable to the prosodic structure in (43b), the prosodic structure in (44) is more isomorphic with the syntactic structure to which it corresponds. In particular, instead of the verb forming a phonological phrase with the immediately post-verbal DP, it is immediately dominated by the phonological phrase that corresponds to the maximal phrase of the syntactic structure in (43a). Note however that this structure derives the same results as Richards' with respect to, for instance, the location of L% tones—namely, it predicts that the verb should not be immediately followed by an L% tone since there is no right-edge ϕ -boundary immediately following the verb. The first right-edge ϕ -boundary (parsing from left-to-right) occurs immediately after the post-verbal DP. In contrast to Richards' algorithm, which stipulates an exception for the phonological phrase immediately following the verb, this fact follows from the way the correspondence constraints in (40) map the syntactic structure onto the prosodic structure.

Overall, the point here is not to argue for the superiority of Match Theory over edge-based alignment approaches such as Richards'. Either approach will do for our purposes, though I will stick to referring to the prosodic structures produced by Match Theory for the remainder of this paper.

3.2 Prosodic Motivation

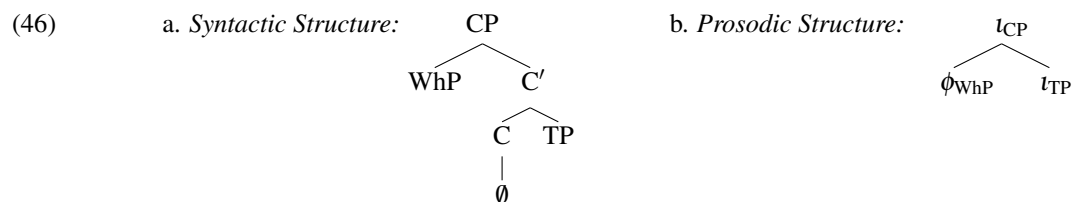
With this view of the relationship between syntactic and phonological structure as background, we can now return to the objective of offering an explanation for the conjecture in (39). My claim is that (39) is motivated as a consequence of the prosodic constraint stated in (45).¹⁸

(45) **Weak Start:** $*(\pi_1 \pi_2 \dots, \text{ where } \pi_1 > \pi_2$

A prosodic constituent begins with a leftmost daughter which is no higher on the prosodic hierarchy than the constituent that immediately follows.

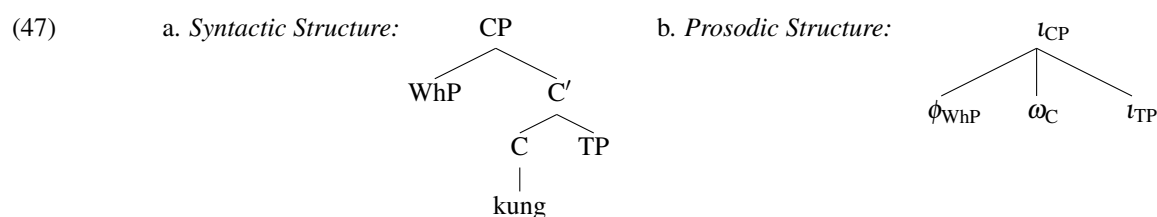
To see how this works, consider first the syntactic structure in (46a) in which a fronted *wh*-phrases appears in Spec,CP and the complementizer is null. The prosodic structure that this syntactic structure will be mapped onto is given in (46b).

¹⁸The formulation of this constraint is directly modeled on an opposing constraint, Strong Start, proposed by Selkirk (2009:37). Strong Start requires a prosodic constituent to begin with a leftmost daughter that is *no lower* in the prosodic hierarchy than the constituent that immediately follows it. Very much in line with the analysis involving Weak Start proposed here, Werle (2009) and Elfner (2010a,b) use the constraint Strong Start to explain instances of obligatory rightward displacement (in Slavic and Irish, respectively).

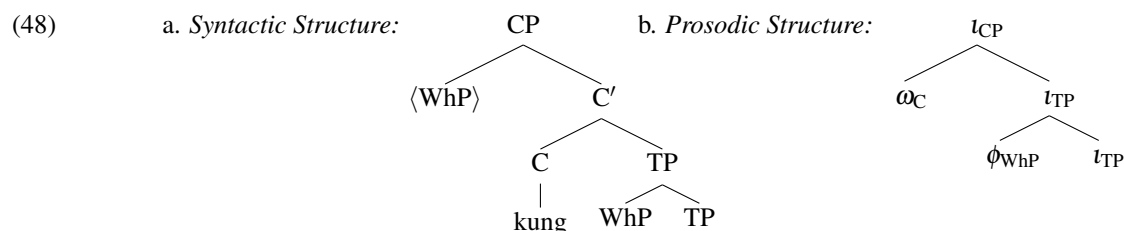


The prosodic structure in (46b) is unproblematic as far as the constraint Weak Start is concerned—within l_{CP} (=the intonational phrase corresponding to the syntactic category CP) the leftmost daughter ϕ_{WhP} is lower on the prosodic hierarchy than the category l_{TP} that immediately follows it (C, being null, is not mapped onto any prosodic structure). Hence, as (39) states, *wh*-phrases are located in Spec,CP when there is no overt complementizer.

Next consider the structure in (47a) where a fronted *wh*-phrase appears in Spec, CP but where C is overt. The prosodic structure that corresponds to this syntactic structure, shown in (47b), violates the constraint Weak Start since the leftmost daughter of l_{CP} is ϕ_{WhP} , which is higher on the prosodic hierarchy than the ω_C which it is immediately followed by. The syntactic structure in (47a) can therefore not be linearized given Weak Start.



Finally, if a *wh*-phrase which has fronted to Spec, CP where C is overt is lowered and adjoined to TP, the structure so formed will be as in (48a). This, recall, is the structure that I have argued for *wh*-questions where this is an overt complementizer. This structure will be mapped to the prosodic structure given in (48b) which crucially satisfies Weak Start. In this prosodic structure, l_{CP} starts with an ω_C and is immediately followed by l_{TP} .¹⁹



A reviewer raises an important question concerning how the mapping constraints of Match Theory in (40) treat single word phrases in general and single word *wh*-phrases in particular. The question is an important one because single word *wh*-phrases (e.g., *saan* ‘where’) might conceivably be treated as being mere prosodic words. If so, however, then Weak Start could in principle be satisfied without lowering yielding the impossible *WhP-Comp* word order. According to Selkirk (2009:35-36), Match Theory seeks to create a one-to-one correspondence between XP and ϕ .²⁰ However, some languages may impose a requirement that a ϕ minimally consist of at least two prosodic words and in these languages single word phrases are therefore treated as instances of the category ω . Other languages do not impose this minimum-binarity condition, however, and in such languages single word phrases are therefore matched to ϕ as required by the general constraint Match Phrase in (40b). The proposal being advocated here requires that there be no minimum-binarity requirement imposed on the category ϕ in Tagalog, thereby requiring single word phrases to be treated as instances of the category ϕ .

¹⁹For ease of presentation, I have chosen to represent lowering as applying to the syntactic structure with the post-lowering structure being the structure that is submitted to PF. This may raise a concern over whether an additional “look ahead” mechanism is needed in order to ensure that lowering applies where needed as a response to Weak Start, and crucially that it does not apply when it is not needed. In Section 5.2, however, I will argue in more detail that lowering actually applies within the PF component of the grammar—i.e., that it applies to the prosodic structure derived from the syntactic structure (pre-lowering). Representing lowering as altering the syntactic structure is simply a matter of convenience at this point in the exposition.

²⁰In the Bare Phrase Structure theory of Chomsky (1995:241-249), single word phrases are both X and XP— X^{\max} in Chomsky’s notation. The match constraint that maps XPs to ϕ might therefore be better conceived of as referring to the category X^{\max} rather than to the traditional \bar{X} -category of XP.

To summarize: The prosodic constraint Weak Start provides a principled explanation for the conjecture in (39) which was our initial way of accounting for the similarities as well as asymmetries between constructions containing a fronted *wh*-phrase and those containing a fronted non-*wh*-phrase. In the next section, I argue that the same prosodic structure constraint can be put to use to provide an account of verb-initial word order.

4. Verb and Subject-Initial Word Order

The aim of this section is twofold: First, I will show how the proposal for deriving *Comp-WhP* word order can be extended to the derivation of verb-initial word order in Tagalog. Second, I will argue that an instance of a subject-initial clause type in the language receives a natural explanation given the assumptions associated with the proposal.

4.1 Verb-Initial Word Order

Verb-initial word order has attracted a great deal of attention since the work of Joseph Emonds (Emonds 1980) up to the present (see, e.g., the collection of works in Harley and Carnie 2000, and Carnie et. al. 2005). As emphasized by Chung (1998:163-173, 2008), there are a number of syntactic routes that a language might take to deriving verb-initial word order. Indeed, for VSO word order in particular, there has been no shortage of proposals concerning how this word order is derived. The proposals include head movement of V to a functional projection located above and to the left of the subject (e.g., T or C) (*Verb-raising*: see, e.g., Emonds 1980, Sproat 1985, McCloskey 1991); lowering of the subject into the VP (*Subject-lowering*: Choe 1987, Chung 1990, 1998); rightward movement of the object from an underlying VOS order (England 1991); and, finally, leftward movement of a VP-remnant into a specifier position that is higher than and to the left of the subject and object (Massam 2001, Lee 2000, Rackowski & Travis 2000).

A subset of these proposals have been put forward to account for verb-initial word order in Tagalog. The idea that verb-initial word order is produced by head movement of the verb to a position that is to the left of the subject is by far the most commonly assumed analysis (see, e.g., Rackowski 2002, Richards 2003, and Aldridge 2004). In addition to this standard approach, verb-initial order in Tagalog has also been accounted for in terms of VP-remnant fronting (Mercado 2002) and by subject-lowering into the VP (Sabbagh 2005). Below, I will briefly review one of the main arguments presented in Sabbagh (2005) for favoring the subject-lowering analysis of verb-initial word order in Tagalog over a verb-raising analysis. I will then go on to show that subject-lowering in Tagalog receives a principled explanation in terms of the same prosodic structure constraint—Weak Start—which was proposed above as the motivation for *WhP*-lowering yielding *Comp-WhP* word order.²¹ Before turning to this discussion, it is important to note that the linear order of constituents following the verb in verb-initial clauses is flexible. Specifically, in clauses containing the full range of arguments and adjuncts, the subject may surface in any position after the verb such that VSOX, VOSX, and VOXS word orders all occur.

4.1.1 The relative scope of the subject and the verb

For a verb-raising account of verb-initial word order to be successful, it must crucially be demonstrated not only that the verb raises out of VP, but also that the subject occupies a syntactic position that is below the location of the raised verb. Evidence that the verb does indeed raise out of the VP in Tagalog has already been noted (Section 2.1). The examples in (49) below, however, pose a problem for the second expectation of the verb-raising analysis. In these examples, two constituents each consisting of a distinct verb in addition to other material have been conjoined. Surfacing at the right periphery of the conjoined structure is a subject, which is the shared subject of both conjuncts. Note that in (49a-b), the subject surfaces in an extreme right periphery position, while in (49c) and (49d), it surfaces, respectively, in between material contained within the final and initial conjunct.

- (49) a. [Naka-kita ng kalansay] at [na-takot] ang bawa't babae.
 AGR(AG).PERF-see NS skeleton and AGR(TH).PERF-afraid S each woman
 ‘Each woman saw a skeleton and got scared.’
- b. [Dinirehe] at [sinulat ng Wachowski Brothers] ang pelikula-ng ito.
 AGR(TH).PERF.direct and AGR(TH).PERF.write NS Wachowski Brothers S film-LK this
 ‘This film was written and directed by the Watchowski Brothers.’ AMOG, 1

²¹For reasons of space, I will not discuss other approaches such as those involving VP-(remnant) fronting. See Aldridge (2004) for arguments against an approach based on VP-(remnant) fronting.

- c. Hindi [*pumunta* sa tindahan] o [*bumili ang kapatid ko ng bigas*].
not AGR(AG).ASP.go LOC store or AGR(AG).ASP.buy S brother I(NS) NS rice
“My brother didn’t go to the store or buy any rice.”
- d. [*Naka-kita ang bawa’t babae ng kalansay*] at [*na-takot*].
AGR(AG).ASP-see S each woman NS skeleton and AGR(TH).ASP-afraid
“Each woman saw a skeleton and got scared.”

The problem posed by these examples is this: In order for the subject in these sentences to be properly interpreted as the shared subject of each individual conjunct, it must have scope above the coordinate structure. However, each conjunct of the coordinate structure consists of a (distinct) verb in addition to possibly other material. Since, the V-raising analysis posits that the subject is located lower than the verb, it problematically provides no position for the shared subject from which it can have scope above each of the conjuncts.²²

The problem posed by these examples for a verb-raising analysis might be finessed if it could be shown that they are parsed as clausal (=TP) coordination with a null pronoun in one of the conjuncts that is co-referential with the overt subject appearing in the other conjunct. According to this possibility, (49a-c) would have the schematic structure in (50a) while (49d) would have the schematic structure shown in (50b).

- (50) a. [TP V pro_I] conj. [TP V ... DP_I]
b. [TP V DP_I] conj. [TP V ... pro_I]

Although Tagalog is not a *pro*-drop language in the sense in which this term is usually applied to languages with rich verbal agreement (e.g., Spanish), it does permit null anaphora in general (Himmelman 1999, and Nagaya 2006). However, an analysis of the examples of (49a-c) based on (50a) is problematic despite this. As Kroeger (1993:115-118) has documented, a pronoun in Tagalog cannot be interpreted as coreferent with a DP that neither precedes nor c-commands (i.e., binds) the pronoun.²³ Indeed, if an overt pronoun is added to the initial conjunct of any of the examples in (49a-c), this pronoun must be disjoined in reference with the overt DP subject that surfaces at the right-periphery.

Crucially, the antecedent for the putative null pronoun in the structure in (50a) neither precedes nor c-commands the pronoun. Hence, (50a) is not a likely representation for sentences (49a-c). The structure in (50b), by contrast, does satisfy the condition on coreference and might therefore be argued to be a plausible structure for a sentence like (49d), where the shared subject surfaces within the initial conjunct of the coordinate structure. However, there is more at stake with (49d) than simple coreference. Note in particular that the antecedent for the (putative) pronoun is a universal quantifier and the interpretation for this sentence is one in which the pronoun is interpreted as a bound variable pronoun. As is true for many languages, pronouns interpreted as bound variables in Tagalog must be c-commanded by their antecedent (i.e., linear precedence alone is not sufficient). This point is made by the example in (51), a minimal pair with (49d), in which an overt pronoun appears in the second conjunct. Note that the pronoun in this example cannot be interpreted as a bound variable, presumably owing to the fact that it is not c-commanded by the universally quantified DP.

- (51) [*Naka-kita ang bawa’t babae₁ ng kalansay*] at [*na-takot siya_{*1/2}*].
AGR(AG).ASP-see S each woman NS skeleton and AGR(TH).ASP-be. afraid 3SG(S)
“Each woman₁ saw a skeleton and she_{*1/2} got scared.”

Given this, (50b) is not a suitable representation for (49d) after all. The larger conclusion to be drawn from all of this is that a clausal coordination analysis of the sentences in (49) is unable to explain how the overt subject is shared by each individual conjunct of the coordinate structure.²⁴

²²The argumentation here is closely modeled on the argumentation of Chung (1990, 1998) on the basis of data from Chamorro.

²³Following Reinhart (1983) and many others (see, e.g., Heim 1993:209, and Büring 2001:Ch.6), I make a distinction between binding on the one hand and coreference on the other. “Coreference” between a pronoun and a c-commanding antecedent does not involve coreference in the literal sense but rather involves binding, which is represented and determined on the basis of syntactic and LF-structure alone. Coreference in the absence of binding, on the other hand, can depend on a number of non-syntactic factors including pragmatic factors such as focus as well as phonological factors such as linear precedence. See Section 5.3 (fn. 37) for further discussion of the importance of making this distinction.

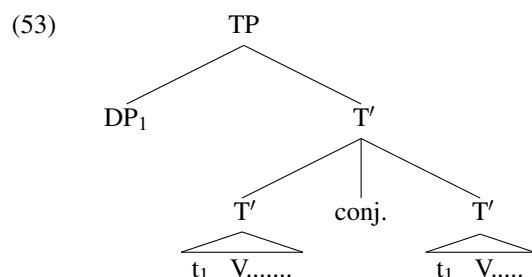
²⁴There is yet one further approach one might be tempted to take for the analysis of the examples in (49)—namely, that these examples involve a type of Right Node Raising (RNR). Tagalog does appear to have a process of RNR whereby a shared subject or obliques may occur at the far right edge of a coordinate structure consisting of two or more conjoined clauses (Sabbagh 2008). It is therefore difficult to completely dismiss an RNR analysis for sentences like (49a-b). However, RNR in Tagalog requires that the shared argument occur at the far right-periphery of the coordinate structure. Hence, a sentence like (i), while marginally grammatical, is not interpretable in such a way that the oblique argument (italicized) is a

4.2 Subject-lowering

The argument above should convince us that what is needed to account for the examples in (49) is a syntactic representation in which the subject has scope above the two conjuncts of the coordinate structure. At the same time, we need to be able to explain why it is that the shared subject appears to surface *inside* the VP—i.e., apparently contained within the coordinate structure. The solution that I propose employs the lowering operation that was introduced in the previous section to handle *Comp-WhP* order. Concretely, I propose that verb-initial word order derives from (52).

- (52) **Subject-lowering:**
Subjects lower from Spec, TP and adjoin to a projection dominated by TP.

This conjecture provides the basis for an account of the coordination facts in (49). Specifically, prior to the point where the subject is lowered, these sentences will have the hierarchical representation schematized in (53).²⁵



The syntactic structure in (53) is precisely what we need to explain the subject-sharing in the examples in (49). Concretely, assuming that this is the structure that is interpreted at Logical Form, the correct interpretations follow with no need to posit problematic null pronouns.²⁶

The structure that will ultimately be pronounced and linearized will be based on the output of the subject-lowering rule stipulated in (52). As currently formulated, this rule does not impose any specific restrictions on the landing site of this lowering (we will return to this point later on in Section 4.4.1). As such, this allows for a range of possible outputs and, hence, different linear orders. For instance, the examples in (49a-b) can each be derived by lowering the subject from Spec, TP and adjoining it either to the entire coordinate structure (=T') or by adjoining the subject to the VP contained within the second conjunct. Either way, the resulting word order will be one in which the subject surfaces at the far right periphery of the clause. The word orders observed in sentences (49c-d) can be derived by subject-lowering as well: The word order in (49c), for instance, can be derived by lowering the subject and left-adjoining it to the VP contained in the initial conjunct; the word order of (49d) can be derived by left-adjoining the subject to the VP contained in the final conjunct.

shared argument of both conjuncts.

- (i) [Nagbigay ng regalo si Maria] at [n-agpadala ng liham kay Juan ang mga bata].
AGR(AG).PERF-give NS present S Maria and AGR(AG).PERF-send NS letter S OBL Juan PL child
'Maria gave a gift (to someone or other) and the children sent a letter to Juan.'

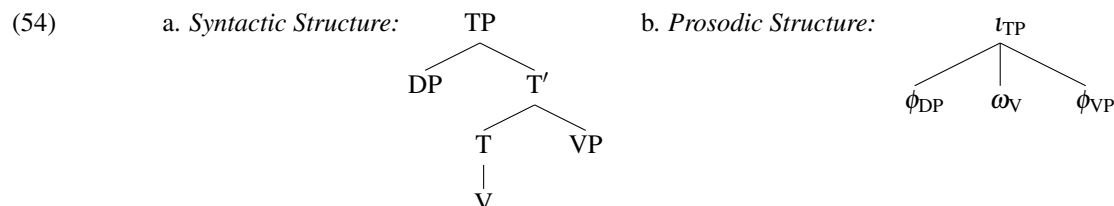
Given this condition, an RNR analysis of the sentences in (49c-d) does not seem plausible.

²⁵Note here that the coordination is represented as coordination at the level of T'. This is necessary given my earlier claim concerning V-to-T movement. Note also that, as indicated by the presence of the traces of each VP conjunct, I assume that the subject in Spec, TP has raised out of the the coordination structure in across-the-board fashion from the position where it is assigned a theta-role within each of the VPs that are contained within the conjuncts (Spec, VP for external arguments, complement of V for other arguments).

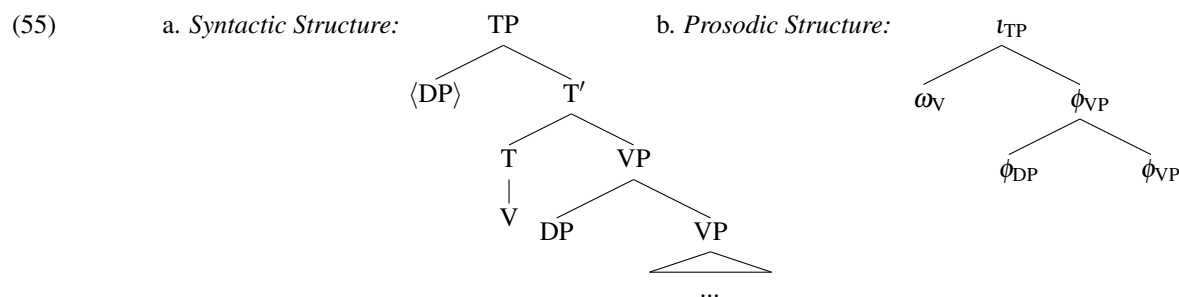
²⁶As an alternative, a reviewer suggests (building on ideas put forward in Richards 2000, Rackowski 2002, and Aldridge 2004) that this structure might be derived at LF from a (surface-)structure in which the shared subject is located within the VPs. As far as I can tell, this analysis cannot adequately explain why there is only one overt instance of the shared subject in the (pre-LF/surface-)structure. Combining an approach of this sort with the null-pronoun analysis in (50) might seem to address this issue, but raises the further complication that the proposed covert movement would involve movement from only one conjunct in violation of the Coordinate Structure Constraint (CSC). As the ungrammaticality of (i) indicates, overt movement which binds an (overt) pronoun in one conjunct and a trace in another is not possible—a fact that can be straightforwardly attributed to the CSC.

- (i) *Ang kapatid ko₁ ay hindi [[pumunta siya₁ sa tindahan] o [bumili t₁ ng bigas]].
S brother I(NS) AY not AGR(AG).ASP.go 3SG(S) LOC store or AGR(AG).ASP.buy NS rice
'My brother didn't go to the store or buy any rice.'

Now, subject-lowering can be explained as a consequence of the same prosodic constraint—Weak Start—which was proposed in the previous section to be the driving force behind WhP-lowering. Consider first the schematic syntactic structure in (54a), representing any simple main clause sentence where subject-lowering has not applied. If lowering does not take place, then—given the syntax-to-phonology mapping constraints in (40) (Section 3)—the prosodic structure that will be derived from this syntactic structure will plainly violate Weak Start since ω_V will be immediately preceded by a prosodic constituent (ϕ_{DP} (=the subject) within t_{TP}) which is problematically higher on the prosodic hierarchy than ω_V .

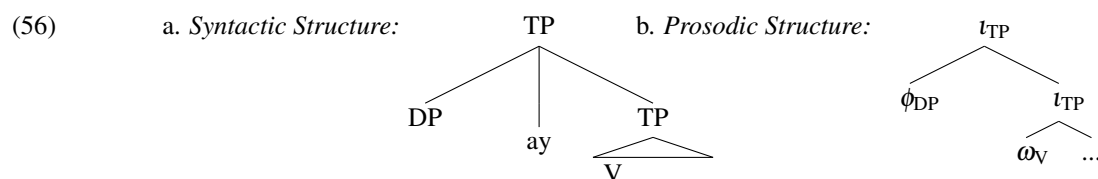


By way of contrast, consider next a structure where the subject has lowered from Spec, TP as in (55a). In the corresponding prosodic structure (55b), ω_V will precede the subject (= ϕ_{DP}) as Weak Start demands. This syntactic structure and corresponding prosodic structure representing a possible derivation for a sentence with *V–Subj–Other* word order.



The same result with respect to Weak Start can be achieved by lowering the subject and adjoining it to the right of VP, producing the linear order VOXS, or by lowering the subject to an intermediate position within VP to yield VOSX word order. As each of these word orders are attested, this is a positive result.

Before moving on, note that the proposal predicts at least one additional way—besides subject-lowering—in which Weak Start can be satisfied in simplex clauses consisting of subject, verb, and other. Specifically, if the subject is fronted and adjoined to TP, then in the prosodic structure of the larger t_{TP} , the subject (= ϕ_{DP}) will end up left-most immediately followed by a second instance of t_{TP} (see (56b) below). This prosodic structure satisfies the conditions imposed by Weak Start. As we have already seen in Section 2, a derivation of this sort is attested. In particular, this scenario represents the derivation argued earlier to be associated with *ay*-inversion constructions (see, in particular, example (21a)). According to the analysis given in Section 2, a sentence with a fronted subject would have the structure shown in (56a), which would be mapped to the prosodic structure in (56b) which fully satisfies Weak Start.²⁷



4.3 Subject-Initial Word Order

In the account of WhP-lowering in Section 3, it was argued that *wh*-phrases do not lower from Spec, CP when C is not overt. The explanation for the absence of lowering in such contexts is that the prosodic structure associated with this syntactic configuration adheres to the prosodic constraint Weak Start. More generally, any phrase that occupies

²⁷Prosodically, the particle *ay* can either surface as an enclitic to the final word of the fronted constituent or as a proclitic to the following verb. As such, its linear position does not seem to be a factor relevant to the constraint Weak Start.

the specifier position of a projection containing an overt (i.e., lexically realized) head position will be required to lower. On the other hand, if the head of a projection is not overt, then lowering a phrase from its specifier will not be motivated. Given this general picture, and given the analysis of subject-lowering just presented, a novel prediction arises: If the head of the specifier which the subject occupies is not overtly realized, then subject-lowering will not apply and subject-initial word order may surface.

Sentences containing definite noun phrase predicates as in (57) arguably bear out this prediction.

- (57) a. Si Tony ang pagasa ng pamilya.
 s Tony s hope of family
 ‘Tony is the hope of the family.’
 b. Dapat si Juan Marquez talaga ang makakalabanan niya.
 might s Juan Marquez really s opponent 3SG(NS)
 ‘J. Marquez might really be his (own) opponent.’

In these examples, the second noun phrase functions semantically as a predicate which attributes a property to the first. Note that there is no copula. One piece of evidence for treating the second noun phrase as a predicate comes from the observation that this noun phrase, but crucially not the other noun phrase, may be coordinated with another predicate. Consider (58), in which the second noun phrase is coordinated with an AP predicate.²⁸

- (58) Si Marco [DP ang pinaka-mayama-ng binata] at [AP totoo-ng gwapo].
 s Marco s most-rich-LK bachelor and really-LK handsome
 ‘Marco is the richest bachelor and very handsome.’

As the ungrammaticality of (59) demonstrates, the initial noun phrase cannot be coordinated with another predicative phrase. I take this asymmetry to indicate that in sentences like (57), the first noun phrase is a “logical subject” and the second noun phrase is its predicate.²⁹

- (59) *[DP Si Marco] at [AP totoo-ng gwapo] ang pinaka-mayama-ng binata.
 s Marco and really-LK handsome s most-rich-LK bachelor
 (‘The richest bachelor is Marco and really handsome.’)

Important for our purposes is that in nominal predication of this type, the predicative noun follows rather than precedes its subject. This, in fact, appears to be the only word order that is possible. Compare (57b) to the ungrammatical (60) (see also, Richards 2010:11-13).³⁰

- (60) *Dapat ang makakalabanan niya talaga si Juan Marquez.
 might s opponent 3SG(NS) really s Juan Marquez
 (‘J. Marquez might really be his (own) opponent.’)

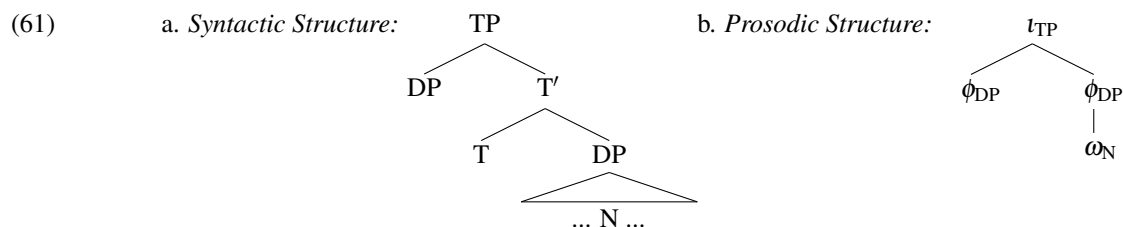
Now, if we take the syntactic structure of the sentences in (57) to be as in (61a), then the syntax-to-phonology mapping constraints will apply to yield the corresponding prosodic structure given in (61b).³¹

²⁸Sentence (58) might be analyzable as TP coordination. Even so, this still makes the point that is important here—that the coordinated AP is functioning as a predicate to the initial noun phrase (*si Marco*), and not the other way around.

²⁹See Mikkelsen (2003) for extensive discussion of definite DP predicates in copular constructions.

³⁰This claim is slightly complicated by the fact that the second noun phrase may be fronted/topicalized. The use of the modal adverb *dapat* in example (60) is meant to preclude this possibility. Recall from earlier that modal adverbs are High-adverbs which must be adjoined to the clause at least at the level of TP, while fronting/topicalization places a constituent external to TP. Given these two premises, (60) can not involve fronting/topicalization of the second noun phrase and hence the examples reflect the only possible TP-internal word order.

³¹Other structures can be assumed here. Richards (2009) argues for the existence of a null-copula in sentences where the predicate is something other than a VP. If this is true, the explanation for the absence of lowering will still be valid given that the copula, being non-overt, will not trigger the effects of Weak Start.



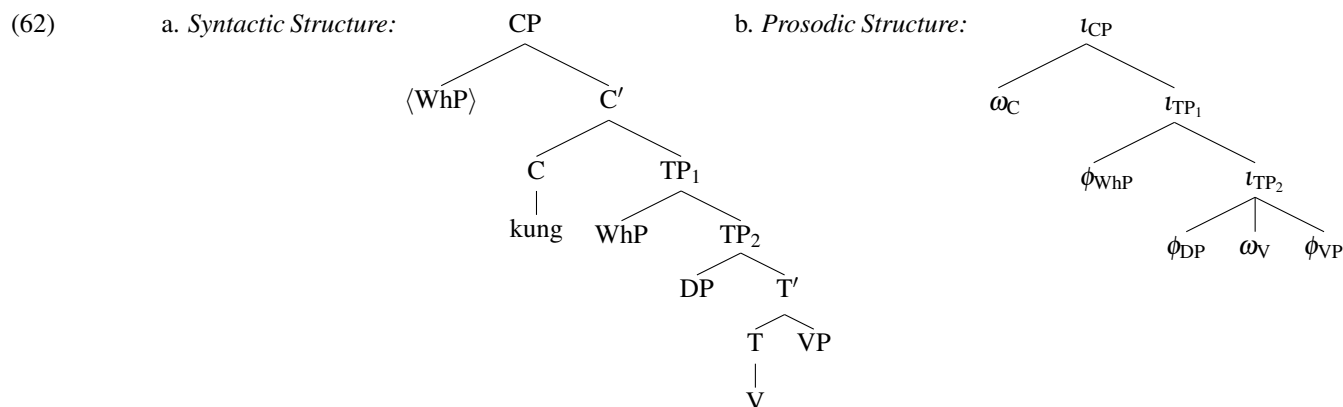
Crucially, the prosodic structure in (61b) completely adheres to the requirements imposed by Weak Start by virtue of the fact that T is not overtly realized (e.g., by a copula). Since both the subject and the predicate correspond to ϕ , which are dominated by the t_{TP} , there is no reason for the subject to lower and invert with the head noun of the DP predicate. Assuming that lowering cannot apply unless motivated by Weak Start, we correctly predict the *Subject—Predicate* word order that we find and also explain the absence of *Predicate—Subject* word order.

5. Summary

At this point, we have provided an analysis of two apparently unrelated word order phenomena in Tagalog: *Comp—WhP* order and verb-initial word order. These word order patterns have now been argued to be related by a lowering operation which lowers a phrase from the specifier of a functional projection and adjoins it to a projection that occurs somewhere to the right of the head of the functional projection. It has been argued, furthermore, that this lowering operation is motivated by a prosodic constraint, Weak Start, which requires smaller prosodic categories to precede larger ones within a phonological phrase. The next few subsections deal with the following questions related to the proposal: (i) How do the lowering operations interact, if at all? (ii) What are the constraints on lowering? (iii) At what level of the grammar does lowering apply? and (iv) Are there any other indications that the prosodic constraint Weak Start is involved in the grammar of Tagalog?

5.1 (Potential) Interactions Among Lowering Operations

Now that two lowering operations have been introduced, we can consider their potential interaction. At issue is the hypothetical scenario illustrated by the structure in (62a), in which a *wh*-phrase has lowered from Spec, CP and adjoined to TP but where a subject remains in Spec,TP (i.e., where the subject has not lowered yielding a *Verb—Subject* order). This syntactic structure would correspond to the prosodic structure given in (62b).



The important question here is whether or not the prosodic structure in (62b) violates Weak Start.³² Upon first impressions, it may seem that the answer is that it clearly does since, although Weak Start is plainly satisfied within t_{TP_1} , it is apparently not satisfied within t_{TP_2} . Two distinct but related questions arise here, though, concerning the specific details of how Weak Start operates with respect to structures involving adjunction. The first question is how the adjoined constituent is related to its host and the second question is whether both segments of the adjunction structure (t_{TP_1} and t_{TP_2}) constitute distinct domains within which Weak Start holds. I deal with each of these issues in turn.

Assuming the segment theory of adjunction (May 1985, Chomsky 1986), there are at least two possibilities concerning how an adjoined category relates to its host. The first possibility is that the adjoined category is treated as

³²I am grateful to a reviewer whose probing questions lead me to carefully consider the issues of this section.

outside of its host (e.g., ϕ_{WhP} is not within t_{TP_2} in (62b)), because it is not dominated by every segment of t_{TP} and is therefore not dominated by t_{TP} . The second possibility is that the adjoined category is treated as *inside* of its host (e.g., ϕ_{WhP} is within t_{TP_2} in (62b)), because it is contained within at least one of t_{TP} 's segments. Crucially, if the adjunction structure in (62b) is interpreted in such a way that ϕ_{WhP} is treated as being within t_{TP_2} , then the prosodic structure in (62b) would not violate Weak Start since ϕ_{WhP} and ϕ_{DP} , both treated as within t_{TP_2} , are equal to one another in terms of their level on the prosodic hierarchy. If this were the case, then we would incorrectly predict the possibility of a *Comp-WhP-Subject-V* word order.

In order to preclude a derivation yielding this impossible word order, it must therefore be stipulated that adjuncts in Tagalog are treated as being outside of their hosts.³³ Assuming this, ϕ_{WhP} will not be treated as being part of t_{TP_2} in (62) when Weak Start evaluates this part of the structure, and subject-lowering will therefore obligatorily apply within this domain in the manner proposed above. Note that this particular stipulation concerning how adjuncts relate to their host is also necessary for dealing with other instances of adjunction to TP. Recall, for instance, the high-adverbs that were introduced in Section 2.1. High-adverbs adjoined to TP do not affect obligatory lowering of the subject in such a way that *Subject-Verb* word order is exceptionally permitted just in case a high-adverb is present. This fact likewise follows if high-adverbs adjoined to TP are treated as being outside of their TP host.

Implicit in this discussion so far is an additional assumption that the individual segments of the category that appear in the adjunction structures in (62) count as distinct domains for purposes of being evaluated by Weak Start. This is not a trivial assumption since t_{TP_1} and t_{TP_2} do not count as separate categories according to the segment theory of adjunction, but rather are treated as segments of a single category—namely, t_{TP} . A pertinent question, then, is whether or not there is any independent support for the idea that the segments of a category involved in adjunction are or can be treated as potentially distinct domains for other phenomenon—in particular, prosodic phenomenon. Some evidence suggesting a positive answer to this question is supplied by the placement of weak pronouns.

Typically, a (weak) pronoun in Tagalog must occur either after the first (lexical or phrasal) daughter of TP (Sityar 1989, Kroeger 1993:129–144). In example (63), for instance, the verb is the first daughter within TP and the weak pronominal subject appears to its immediate right. Placement of the pronoun further to the right is generally impossible. In example (64a), a pronoun appears to the immediate right of a high-adverb adjoined to TP, and in (64b), a pronoun appears to the immediate right of a the *wh*-phrase appearing within an embedded (relative) clause, which is also adjoined to TP according to the proposal argued for above.

- (63) Dumalaw siya sa ami-ng bahay.
 AGR(AG).PERF.visit 3SG(S) LOC 1PL(NS)-LK house.
 “He/She visited our house.”
- (64) a. Dapat niya baguh-in sa sarili niya.
 must 3SG(NS) INF.change-AGR(TH) OBL self 3SG(NS)
 “He must change himself.”
- b. ...sa Bacolod City [_{CP} kung [_{TP} saan siya naka-tira bago n-aganap ang
 LOC Bacolod City COMP Where 3SG(S) PERF.AGR(AG)-live before PERF.AGR(AG)-occur S
 pagdukot]]
 abduction
 “in Bacolod City where he lived before the abduction occurred” Abante, 03/07/2010

Important for our purposes is the fact that although the placement of the weak pronoun is more or less fixed in examples like (63), there is some flexibility in the placement of the weak pronoun in the examples in (64) involving adjunction to TP. Concretely, speakers unproblematically accept variations of the examples in (64) in which the pronoun surfaces to the right of the verb instead of to the immediate right of the TP-adjoined element. Naturally occurring examples of this word order are given in (65).

- (65) a. Dapat kumain siya para lumakas siya.
 must AGR(AG).INF 3SG(S) in.order AGR(AG).INF.become-strong 3SG(S)
 “He/She must eat in order to become strong.” WEB

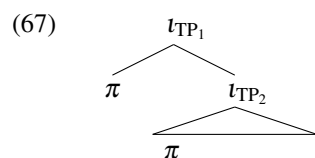
³³Turkenbrodt (1992:235) argues that languages may differ in how they treat adjunction with respect to prosodic structure phrasing—i.e., with respect to whether the adjoined element counts as being inside or outside of its host. Chung (2003:573) also argues that in Chamorro, both possibilities for adjunction are attested.

- b. ...sa University of Hawaii [CP kung [TP saan tinapos niya ang kanya-ng
 LOC University of Hawaii COMP Where AGR(TH).PERF.finish 3SG(NS) S 3SG(OBL)-LK
 doctorate sa political science]]
 doctorate LOC political science
 “at the University of Hawaii where he completed his doctorate in political science” WEB

The variable placement of weak pronouns in structures involving adjunction can be understood in terms of a prosodic theory of weak pronoun placement in conjunction with the hypothesis that each segment of an adjoined category constitutes a potentially distinct prosodic domain. Concretely, let us suppose that the placement of a weak pronoun is in general determined by its prosodic subcategorization (see, e.g., Inkeles 1990). Translating the informal description of weak pronoun placement given above, the relevant prosodic subcategorization for weak pronouns in Tagalog (and plausibly for other second position elements in the language as well) will state that a weak pronoun must adjoin to the right of an appropriate prosodic category (π) which is the leftmost daughter within the smallest ι -phrase that contains the weak pronoun.³⁴

$$(66) \quad [_{\iota} [\pi [\pi] \text{---}]$$

As long as each segment of an adjoined category in the prosodic structure is treated as a (potentially) distinct phonological domain, the prosodic subcategorization in (66) can be satisfied with respect to either of the segments of the adjoined category ι . Put in other words, the prosodic subcategorization can be satisfied within the prosodic structure shown in (67) if the weak pronoun is adjoined either to the right of the category that is leftmost within ι_{TP_1} or to the right of the category that is leftmost within ι_{TP_2} . The latter case is the crucial one here. If ι_{TP_2} did not constitute an independent domain within which the prosodic subcategorization in (66) could be satisfied, then the word orders seen in the examples in (65) would be predicted to be impossible.



Crucially, if ι_{TP_2} counts as a distinct domain from ι_{TP_1} for weak pronoun placement, then it likewise follows that ι_{TP_2} and ι_{TP_1} also count as distinct domains within which Weak Start holds. If this is correct, then the larger point to take away from this is that the two lowering operations that have been proposed apply independently of one another and do not crucially interact. Put in other words, the specific details concerning adjunction structures put forward here work to ensure that lowering of a *wh*-phrase from Spec,CP and adjoining it to TP does not affect the configuration for the domain in which Weak Start is responsible for triggering subject-lowering. This is a desirable result.

5.2 Constraints on Lowering

The proposal that verb-initial word order is derived, at least in some languages, by lowering the subject from Spec, TP to a position adjoined to the right of the verb is not novel to this work. Based on the same kind of evidence considered in Section 4.1.1, Chung (1990, 1998) proposes a subject-lowering analysis of verb-initial word order (in particular, VSO word order) in Chamorro.³⁵ There are a few differences between Chung’s subject-lowering proposal and the subject-lowering proposal that I have put forward here for Tagalog, which—due to space limitations—I will put aside.

Kroeger (1993) is the only work, to my knowledge, to have entertained the idea that verb-initial word order in Tagalog might be derived by a version of Chung’s subject-lowering analysis of Chamorro. He rejects this possibility pointing out that “it is not at all clear what principle of grammar could motivate the Subject Adjunction [i.e., subject-lowering, JS] operation” (Kroeger 1993:164-165). This concern, while valid, has been addressed by the present work. Namely, the principle of the grammar that motivates lowering in general (both as part of the account of *Comp—WhP* order as well as verb-initial word order) is a prosodic structure constraint regulating the structure of phonological phrases—namely, Weak Start.

³⁴By appropriate, I mean a category that is ‘strong’ enough prosodically to host the weak pronoun. Certain proclitic verbs such as the existential predicate *may*, for instance, are unable to serve as hosts for weak pronouns.

³⁵Chung (1998) presents additional arguments for subject-lowering in Chamorro (see also Chung 2004).

A different concern over lowering that has been raised is that it is a fairly powerful device and there are no existing formal accounts of how it is constrained. This concern is particularly relevant to the proposals put forward here in this work. In particular, as the reader may have noticed, the lowering operation proposed for *wh*-phrases to yield *Comp—WhP* order is more restricted than the lowering operation proposed for the subject to derive verb-initial word order. Specifically, when lowered *wh*-phrases must adjoin to the left of TP which is immediately dominated by CP. Subjects, on the other hand, can be adjoined anywhere within TP. Thus, lowering appears to be unrestricted in the case of subject-lowering. At this stage, then, it would seem as if the restrictions on lowering have to be stipulated on a case-by-case basis. This is clearly not a desirable outcome.

As a way to respond to this concern, I would like to suggest that lowering is unconstrained in general, but that certain outputs will be precluded due to independent constraints. If this is correct, then subject-lowering as the operation responsible for deriving verb-initial word order is an instance of lowering in its freest form. Subject-lowering can adjoin the subject to any constituent dominated by TP, and there are no restrictions on whether this adjunction must be to the left or to the right. In short, as long as the output satisfies the prosodic constraint Weak Start, all outputs are permitted.³⁶

What is needed now, then, is a principled explanation for why lowering of a *wh*-phrase is more restricted compared to subject-lowering—i.e., why it must be stipulated that a *wh*-phrase can only adjoin to the left of the TP immediately dominated by CP. If the assertion stated above is correct, then this restriction must follow from an independent constraint (or constraints) rather than be stipulated as part of the formulation of the lowering operation itself. As it happens, recent work by Norvin Richards (Richards 2010) provides us with what may be the necessary insight to explain this restriction. Specifically, Richards seeks to provide a principled explanation for why some languages front *wh*-phrases while others leave them in-situ and why there seems to be a typological connection between head-initial languages and *wh*-fronting and head-final languages and *wh*-in-situ. Simplifying the details of his proposal for our purposes, he suggests that languages (universally) seek to create a prosodic structure for *wh*-questions in which the *wh*-phrase and the corresponding [+wh] complementizer are separated by as few prosodic boundaries as possible (Richards 2010:151). Given certain assumptions about prosodic structure in Tagalog, he uses this constraint to explain why *wh*-phrases front rather than remain in-situ.

Richards' constraint can, I believe, be used here to explain why *wh*-phrases do not lower beyond TP and, additionally, why they must adjoin to the left of TP rather than to the right. Concretely, according to his constraint, if a *wh*-phrase were to lower and adjoin to any position other than the position left-adjoined to the TP—e.g., if it were to adjoin further to the right, say, to VP—then the prosodic structure that would be formed on the basis of this output would necessarily involve the *wh*-phrase and the complementizer being separated by a greater number of phonological phrase boundaries than if the *wh*-phrase and the complementizer were adjacent, which will be the case if the *wh*-phrases is left-adjoined to TP.

If this is correct, then it does not appear to be necessary to stipulate restrictions on lowering—whatever restrictions there are plausibly follow from independently motivated constraints operative in the grammar.

5.3 Lowering at PF

At what level does lowering apply? Given the claim that lowering is motivated by the prosodic constraint Weak Start, the most immediately appealing answer is that it applies at the level of PF (=Phonological Form). Specifically, much theorizing concerning the syntax-phonology interface has proceeded on the basis of the assumption that the narrow syntax has no access to information supplied at the level of PF (see, e.g., Selkirk 1986:373, and Pullum & Zwicky 1988). If this is correct (though see Zec & Inkelas 1991 and Richards 2010:145-146 for alternative views), then it ought to follow that lowering does not apply until the point in the derivation at which information about prosodic structure relevant to the constraint Weak Start will be present—namely, at PF. An alternative possibility is to allow lowering to

³⁶This is an oversimplification. There must be some constraint, for instance, that prevents a subject from lowering and surfacing within a constituent that is one of the verb's other dependents. For example, the subject cannot lower and adjoin within a direct object.

- (i) *N-agbigay [ng regalo si Maria ni Juan] sa bata.
 AGR(AG).PERF-give NS present S Maria NS Juan OBL child
 ('Maria gave Juan's present to the child.')

Descriptively, the type of constraint that is needed to preclude such instances of lowering is something like the constraint **Integrity(XP)** proposed by Anderson (2008) to account for the inability of second position pronouns to interrupt (certain) syntactic constituents. Integrity(XP) requires that phrases not properly contain elements that are not members of that phrase.

apply or not apply in the syntax and have the phonology filter out structures where lowering has not applied in violation of Weak Start. For an approach of this sort to be maintained, some sort of “look ahead” mechanism would need to be introduced specifically to prevent application of lowering in situations where both the pre-lowering structure and the post-lowering structure would equally satisfy Weak Start. For instance, in the case of the subject-initial sentences discussed in Section 4.3, it was argued that the subject of the sentences in (57) need not and cannot lower because the prosodic structure fully satisfies Weak Start without lowering having applied. On the other hand, a structure in which lowering has applied (resulting in a structure where the subject follows the predicate) would also satisfy Weak Start. More generally, the prosodic structure derived from a structure where lowering has applied will nearly always satisfy Weak Start independently of whether the structure in which lowering has not applied does or does not. Hence, if lowering is a syntactic operation, there will need to be “look ahead” in order to preclude certain unwanted instances of lowering.

Although the question is a difficult one to answer, I believe that an argument can be made for claiming that lowering in Tagalog is not a syntactic operation but rather that it applies at PF. The argument involves a subtle but significant difference between Tagalog and Chamorro. According to Chung (1998:140), subject-lowering in Chamorro occurs within the narrow syntax. Her evidence for this is based on clauses containing coordinated VPs and a shared subject like those in (68). Note that this example from Chamorro parallels the Tagalog examples in (49) above.

- (68) [[Fina'nu'i litratu] ya [finaisin kuestión]] *kada patgun* ni ma'estra.
 agr.Pass.show pictures and agr.Pass.ask question each child by teacher
 “Each child was shown a picture and then asked a question by the teacher.”
 (Chung 1998:140)

As we saw earlier with the Tagalog sentences in (49), the shared subject of two conjoined constituents need not appear at the far right of the coordinate structure but may surface within one of the two conjuncts. This is true in Chamorro as well, as the example in (69a) shows. There is, however, an interesting twist to this fact in Chamorro: If the shared subject is a quantified noun phrase, it must appear at the far right of the coordinate structure. Sentences like (69b), which minimally contrast with (69a), are ungrammatical.

- (69) a. [Mu-ma'a'ñao] ya [ha-yuti' i säkki i salappi'].
 agr-afraid and agr-drop the thief the money
 “The thief got scared and dropped the money.” (Chung 1998:134)
 b. *[Malangu] ya [ni-na'homlu' *käda palao'an* ni médiku].
 agr.sick and agr.Pass-make.well each woman by doctor
 (“Each woman got sick and was cured by the doctor.”) (Chung 1998:140)

Chung's account of the ungrammaticality of examples like (69b) relies crucially on the claim that subject-lowering in Chamorro takes place in the narrow syntax. Her reasoning is as follows: Suppose that quantified noun phrases must undergo a rule of Quantifier Raising (QR) at the level of Logical Form (LF) (May 1985, and many others). If subject-lowering applies within the narrow syntax, then the structure that will be delivered to LF will be the *post-lowering* structure. But then, QR applied to the quantified noun phrase will incur a violation of Ross' coordinate structure constraint (Ross 1967), which—as many authors have observed—holds at the level of LF (see, e.g., Pesetsky 1982, May 1985, Ruys 1993, and Fox 2000:48-56). Hence, (69b) is ungrammatical. If subject-lowering occurred at PF rather than within the narrow syntax, on the other hand (i.e., if it is the *pre-lowering* structure that is submitted to LF), then QR would be able to apply without violating the coordinate structure constraint and examples like (69b) would be predicted (incorrectly) to be grammatical on par with examples like (69a). Hence, subject-lowering in Chamorro applies within the narrow syntax rather than at PF.

Crucial for our purposes is the fact that the Tagalog examples corresponding to the Chamorro example in (69b) are perfectly grammatical. An earlier example, (49d) illustrates this as does the additional example in (70).

- (70) [N-agtapos sa kanya-ng gawai-ng bahay] at [tumanggap *ang bawa't bata'*
 AGR(AG).PERF-finished OBL 3SG(OBL)-LK task-LK house and AGR(AG).PERF.receive S each child
 ng ila-ng pera].
 NS some-LK money
 “Every child did his chores (lit. house-task) and received some money.”

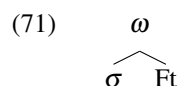
By Chung's reasoning, then, we can conclude that subject-lowering in Tagalog operates at the level of Phonological

Form.^{37,38}

5.4 Weak Start in Other Domains

Up to this point, the prosodic constraint Weak Start has been conceived of as a constraint that regulates the organization of phonological phrases. A natural question to ask is whether it is limited to the domain of the phonological phrase or whether its effects might be felt in other domains. Though the remarks below should be viewed tentatively, they suggest that Weak Start is relevant to other phonological domains.

First, the placement of word stress in Tagalog might plausibly be explained on the assumption that Weak Start holds over the domain of the prosodic word—i.e., the prosodic category that lies below the phonological phrase in the prosodic hierarchy. Stress, which is contrastive in Tagalog, generally falls either on the final or the penultimate syllable of a word regardless of the number of syllables (French 1988:63–65). Assuming that stress is associated with the prosodic category Foot, the position of stress in words can be taken to suggest that feet are parsed from right-to-left in Tagalog. Right-to-left parsing of feet will leave any un-footed syllables—e.g., in odd syllable words—to be (stray) adjoined at the prosodic word level. Hence, three syllable words such as *siyásat* (‘investigation’) and *talagá* (‘surely’) have the schematic prosodic structure shown in (71).



The structure in (71) is consistent with, if not explained by, Weak Start. If feet were parsed from left-to-right—i.e., if stress were to be assigned to the first or second syllable of the word—then any un-footed syllables would have to be adjoined at the right edge of the prosodic word, creating a prosodic structure in which a Foot was immediately preceded by a category of a lower prosodic level (σ) in violation of Weak Start.

Clitic ordering may provide a second instance of Weak Start operating over a domain other than the phonological phrase. As observed by Schachter & Otnes (1972:185), Sityar (1989), Billings & Konopasky (2002), and Anderson (2008), when there is more than one clitic within a clause, the order among clitics is free just in case the clitics consist of the same number of syllables. If a clitic cluster consists of a monosyllabic clitic and a disyllabic clitic, however,

³⁷A reviewer raises a potential objection to this argument on the basis of facts like (i), where a complex direct object containing a pronoun appears to the left of a complex subject containing a proper name. Coreference between the pronoun and the proper-name is dubious at best in this example.

- (i) N-aghugas sa kanya_{??1/2}-ng damit ang kaibigan ni Maria₁.
 AGR(AG).PERF-wash OBL 3SG(OBL)-LK dress S friend NS Maria
 ‘Maria_{??1/2}’s friend washed her₁ dress.’

The reviewer’s concern is this: In the pre-lowered structure (i.e., before the subject is lowered to a position where it comes to follow the direct object), the proper-name contained within the subject precedes the pronoun contained within the direct object and on the basis of this structure, coreference should be possible. It is only after the subject has lowered that the proper name contained within the subject no longer precedes or c-commands the pronoun contained within the object. Hence, if the restrictions on coreference are determined exclusively on the basis of the syntactic structure, lowering must be syntactic.

This example, though, does not in fact pose a problem for my claim that lowering is not a syntactic. First, according to the assumptions I laid out earlier in the Introduction, syntactic structure is a representation of hierarchical relations only and not of linear order, which is determined at PF. Given this, it does not make much sense to say that the subject precedes the direct object before lowering applies (at PF, according to my view). Second, since neither the pronoun nor its (potential) antecedent c-commands the other in (i), the only way that these two noun phrases could be related to each other is through coreference. Recall that in Section 4.1.1 (fn. 23), I made the distinction between binding on the one hand and coreference on the other. Only binding is determined on the basis of syntactic structure, while coreference, on the other hand, can be determined on the basis of non-syntactic factors including linear precedence. Given this, the fact that lowering may have an effect on coreference in the case of (i) is unproblematic.

³⁸While I have no direct evidence of this sort to conclude that lowering of *wh*-phrases also applies at PF, I will assume that it likewise does. An obvious question arising from the discussion in the main text is whether or not subject-lowering in Chamorro can be motivated by the same prosodic constraint that has been argued to motivate it in Tagalog. Given that subject-lowering operates in the narrow syntax in Chamorro, as argued by Chung, the expectation is that it cannot. This is confirmed by additional observations made by Chung concerning V-to-T movement. Concretely, Chung argues that the verb does not move to T out of the VP in Chamorro. Given this, Weak Start would not be violated in a clause structure where the subject is not lowered from Spec, TP. The reason for this is that in the absence of V-to-T movement, the subject and the verb would not be immediately dominated by a single prosodic category (namely, the phonological phrase corresponding to TP), and hence, Weak Start is satisfied. This leaves us with the question of the motivation for lowering in Chamorro, a question that I am unable to answer at the moment. However, it should be noted that my analysis of subject-lowering for Tagalog does not entail that lowering operations must universally apply at PF, nor that they must universally be motivated by prosodic considerations. It is perfectly plausible, in my view, that a lowering operation could apply within the narrow syntax and therein be motivated by syntactic principles.

then the monosyllabic clitic must precede the disyllabic one. The examples in (72)–(73) (from Schachter & Otnes 1972:185) illustrate.

- (72) Nakita *ko* *siya.* (Only possible order)
 saw 1SG(NS) 3SG(S)
 ‘I saw him/her’
- (73) a. Nakita *niya* *ako.*
 saw 3SG(NS) 1SG(S)
 ‘He/she saw me.’
- b. ?Nakita *ako* *niya.*
 saw 1SG(S) 3SG(NS)
 ‘He/she saw me.’

The pattern here follows the general pattern predicted by Weak Start. In particular, if we suppose that clitic clusters in general form a phonological domain of some sort—e.g., a Clitic Group (Hayes 1989:207–211)—then within this domain any two-syllable clitic must precede a monosyllabic clitic. The reason for this is that feet in Tagalog, as in many other languages, must be binary and—hence—a monosyllabic clitic, not being a foot, will therefore be forced to adjoin to the Clitic Group. A monosyllabic clitic following a disyllabic clitic would therefore violate Weak Start because within the domain of the Clitic Group a Foot would be immediately followed by σ which is lower on the prosodic hierarchy.

6. Conclusion

This paper has offered an account of two apparently unrelated word order patterns in Tagalog (*Comp–WhP* and verb-initial word order). The claim regarding both of these surface linear orders is that they are not what might be expected on the basis of the syntactic (hierarchical) structure alone. I have proposed that these word orders are related by an operation of lowering, which is motivated (at PF) by a prosodic structure constraint Weak Start. Put in more general terms, the word order phenomena discussed in this paper have been argued to represent a case of “mismatch” between syntax and phonology.

Mismatches between syntax and other components of grammar are, of course, expected to arise given a modular view of grammar in which the syntax and the other grammatical systems such as the phonology (PF) and semantics (LF) are interconnected on the one hand, but also fundamentally independent of one another on the other hand. Given this view, mismatches may arise whenever the structural requirements from one component of the grammar (e.g., syntax) come into conflict with the structural requirements of another component of the grammar (e.g., phonology). Put in other words, when conflicting requirements of different components of grammar must be satisfied within the component at which the requirements hold, some type of “repair” operation (e.g., lowering) will inevitably be necessary if all structural requirements are to be met.

To illustrate this point more clearly, consider lowering and the prosodic constraint Weak Start. Although Weak Start has been introduced to provide a principled motivation for lowering, it is important to note that it does not *per se* explain why it is that Tagalog utilizes lowering as the route to satisfying this constraint rather than choosing some other route. As discussed in Section 4, for instance, subject-lowering is just one among many attested ways to derive verb-initial word order (others include, e.g., verb-raising, VP-fronting, etc.). Although I have argued that Tagalog uses subject-lowering rather than any of these other routes, it is also the case that any of the other derivational paths would have done an equally good job in terms of satisfying the requirements on prosodic structure imposed by Weak Start (i.e., the prosodic structures derived from the syntactic structures derived from these derivational paths would comply with the demands of Weak Start). Likewise, one could imagine other ways of satisfying Weak Start and deriving *Comp–WhP* word order—e.g., by utilizing CP-recursion structures (see Section 2.1, fn. 3). Why is it, then, that Tagalog employs the lowering operation to derive these word order patterns rather than some other?

Considering subject-lowering as a case in point, an answer to this question that seems reasonable is that subject-lowering might be the only way in which syntactic as well as prosodic structure constraints can both be upheld. Specifically, I have supposed that subjects in Tagalog must be externalized from the VP and occupy Spec,TP at some point in the syntactic derivation. Put in other terms, the claim here is that at a particular point in the syntactic derivation the clause structure of Tagalog resembles what is typically assumed for the (surface) clause structure of subject initial languages like English. We might reasonably assume, then, that whatever principle requires subjects in English to externalize from the VP is also plausibly active in the grammar of Tagalog—specifically, within the syntax. Whatever

principle this might be (e.g., be it a requirement that T establishes an agreement relation with the subject via Spec–Head agreement, a (strong) EPP_D feature on T that needs to be checked, or some other principle), it will crucially not be satisfied unless the subject raises to Spec, TP. If so, then this leaves subject-lowering as the only available route that will allow both this syntactic requirement and the prosodic requirement to be simultaneously satisfied. In other words, although the type of structure posited by verb-raising and VP (remnant) fronting analyses of verb-initial word order also map onto prosodic structures that meet the requirements imposed by Weak Start, they crucially do not satisfy the requirements imposed by other principles of the grammar which require subjects to externalize to Spec, TP.

One could, on the other hand, also imagine that constraints operative in one component of the grammar could instead be prioritized over syntactic ones in such a way that the syntactic representations that the phonological component receives do not violate structural requirements imposed in this domain in the first place. Gutiérrez-Bravo (2005) proposes an account of word order in relative clauses in Spanish along these lines. Concretely, he observes that pragmatically neutral subjects in relative clauses obligatorily occur post-verbally yielding VS word order as opposed to the more canonical SV word order. For him, this word order emerges as a result of a prosodic constraint which outranks (in the optimality-theoretic sense) a syntactic constraint, the EPP, which requires subjects to externalize from the VP. According to his analysis, in other words, the syntactic constraint is simply violated at the expense of satisfying a more highly ranked prosodic constraint, and there is therefore no literal mismatch between the syntax and the phonology.

Assuming Gutiérrez-Bravo's account of Spanish word order represents a valid option for resolving conflict between different components of grammar, the question that opens up is why, when syntactic and prosodic constraints come into conflict, do some language (e.g., Tagalog) invoke repair strategies to ensure that the syntactic and prosodic constraints are equally upheld, while others (e.g., Spanish) allow the syntactic constraints to be violated for the good of the prosodic constraints? Answering this question is beyond the scope of the present article, but the question seems to be a particularly important one from a formal point of view as it is not entirely clear that either way of resolving the conflicts is necessarily more marked or complex than the other.

However this question is ultimately answered, the modest but important conclusion to emerge from this work and the work of the references cited is that investigations of word order, once considered to be mostly a matter of syntax, may need to increasingly look outside of the syntax for deeper explanations. Should future research bring to light further examples of prosodic/phonological explanations for word order phenomenon, then the study of phrasal word order will be brought closer in line with current approaches to morphology (in particular, as carried out within the framework of Distributed Morphology where conflicts between the syntax and phonology play a key role in explaining morphological structure phenomena (Halle & Marantz 1993, Embick & Noyer 2001, Embick 2007)). What may further follow from this is a view of the syntactic component of grammar that is fairly simple and streamlined overall, as envisaged by Chomsky (2001) and others, where apparent complexities are explained by factoring out the effects of the systems (PF and LF) that interface with the syntax.

References

- Agbayani, B. & C. Golston. 2010. Phonological movement in classical Greek. *Language* 86:133–167.
- Aldridge, E. 2002. *Wh*-movement in Seediq and Tagalog. In *Proceedings of AFLA 8*, eds., Rackowski, A. & N. Richards, 1–28. MIT Working Papers in Linguistics, Cambridge, MA.
- Aldridge, E. 2004. Ergativity and word order in Austronesian languages. Ph.D. dissertation, Cornell University, Ithaca.
- Alexiadou, A. & E. Anagnostopoulou. 1998. Parameterizing Agr: V-movement and EPP-checking. *Natural Language and Linguistic Theory* 32:193–231.
- Anderson, S. R. 2008. Second position clitics in Tagalog. In *The nature of the word: Studies in honor of Paul Kiparsky*, eds., Inkeles, S. & K. Hanson, 549–566. MIT Press, Cambridge, MA.
- Baltin, M. 1982. A landing site theory of movement rules. *Linguistic Inquiry* 13:1–38.
- Bošković, Z. & H. Lasnik. 1999. How strict is the cycle? *Linguistic Inquiry* 30:691–703.
- Bošković, Z. & H. Lasnik. 2003. On the distribution of null complementizers. *Linguistic Inquiry* 34:527–546.
- Billings, L. & A. Konopasky. 2002. Morphology's role in ordering verb-adjacent clitics. In *Proceedings of the Twenty-first West Coast Conference on Formal Linguistics*, eds., L. Mikkelsen & C. Potts, 29–42. Cascadia Press, Somerville, MA.
- Büring, D. 2001. *Binding theory*. Cambridge University Press, Cambridge.
- Carnie, A. & E. Guilfoyle (eds.). 2000. *The syntax of verb initial languages*. Oxford University Press, Oxford.
- Carnie, A., et. al. (eds.). 2005. *Verb first: Papers on verb initial languages*. John Benjamins, Philadelphia.
- Choe, H-S. 1987. An SVO analysis of VSO languages and parameterization: A study of Berber. Ms., MIT, Cambridge, MA.

- Chomsky, N. 1986. *Barriers*. MIT Press, Cambridge, MA.
- Chomsky, N. *The Minimalist Program*. MIT Press, Cambridge, MA.
- Chomsky, N. 2001. Derivation by phase. In *Ken Hale: A life in Language*, ed. M. Kenstowicz, 1–52. MIT Press, Cambridge, MA.
- Chung, S. 1990. VP's and verb movement in Chamorro. *Natural Language and Linguistic Theory* 8:559–619.
- Chung, S. 1998. *The Design of agreement: Evidence from Chamorro*. Chicago University Press, Chicago.
- Chung, S. 2003. The syntax and prosody of weak pronouns in Chamorro. *Linguistic Inquiry* 34:547–599.
- Chung, S. 2004. Restructuring and verb-initial word order in Chamorro. *Syntax* 7:199–233.
- Doron, E. & C. Heycock. 1999. Filling and licensing multiple specifiers. In *Specifiers*, eds. D. Adger, et. al., 69–72. Oxford University Press, Oxford.
- Elfner, E. 2010a. The interaction of linearization and prosody: Evidence from pronoun postposing in Irish. In *Formal approaches to Celtic linguistics*, ed. Carnie, A. to appear. Cambridge Scholars Publishing, Cambridge.
- Elfner, E. 2010b. Recursive phonological phrases in Conamara Irish. In *Proceedings of the 28th West Coast Conference on Formal Linguistics*, to appear. Cascadia Press, Somerville, MA.
- Embick, D. 2007. Linearization and local dislocation: Derivational mechanisms and interactions. *Linguistic Analysis* 33:304–336.
- Embick, D. & R. Noyer. 2001. Movement operations after syntax. *Linguistic Inquiry* 32:555–595.
- Emonds, J. 1970. Root and structure preserving transformations. Ph.D. dissertation, MIT, Cambridge, MA.
- Emonds, J. 1980. Word order in generative grammar. *Journal of Linguistic Research* 1:33–54.
- Ernst, T. 1984. Towards an integrated theory of adverb position in English. Indiana University Linguistics Club, Bloomington, IN.
- Fiengo, Robert. 1974. Semantic conditions on surface structure. Ph.D. dissertation, MIT, Cambridge, MA.
- Flagg, E. 2002. Adjacency and lowering in morphology: The case of English sentential negation. In *Proceedings of CLA 2002*, eds. Somesfalean, S. and Burelle, S., 94–107. Université du Québec à Montréal, Canada.
- Fox, D. 2000. *Economy and semantic interpretation*. MIT Press, Cambridge, MA.
- Fox, D. & D. Pesetsky. 2005. Cyclic linearization of syntactic structure. *Theoretical Linguistics*, 31:1–46.
- French, C.M. 1988. *Insights into Tagalog reduplication, infixation, and stress from nonlinear phonology*. Summer Institute of Linguistics, Dallas, TX.
- Göbbel, E. 2007. Extraposition as PF movement. In *Proceedings of WECOL 2006*, eds., Bainbridge, E. and B. Agbayani. [Available online at: <http://www.csufresno.edu/linguistics/WECOL%20Web/WECOL%20volumes%20online.htm>].
- Goldberg, L. 2005. Verb stranding VP-ellipsis: A cross-linguistic study. Ph.D. dissertation, McGill University, Montreal.
- Gutiérrez-Bravo, R. 2005. Subject inversion in Spanish relative clauses. In *Romance Languages and Linguistic Theory 2003*, T. Geerts, I. van Ginneken & H. Jacobs (eds.), Amsterdam/Philadelphia, John Benjamins, 115–128.
- Halle, M. & A. Marantz. 1993. Distributed Morphology and the Pieces of Inflection. In *The View from Building 20*, K. Hale, and S. J. Keyser (eds.), MIT Press, Cambridge, MA.
- Halpern, A. 1995. Topics in the placement and morphology of clitics. Ph.D. dissertation, Stanford University, Palo Alto.
- Hayes, B. 1989. The prosodic hierarchy in meter. In *Phonetics and Phonology* 1: 201–260.
- Heim, I. 1993. Anaphora and semantic interpretation: A reinterpretation of Reinhart's approach. Sfs-Report 07-93, University of Tübingen. (Reprinted in 1998 in U. Sauerland and O. Percus, eds., *The Interpretive Tract*, 205–246. MITWPL, Department of Linguistics and Philosophy, MIT.)
- Himmelman, N. P. 1999. The lack of zero anaphora and incipient person marking in Tagalog. *Oceanic Linguistics* 38:231–269.
- Iatridou, S. & A. Kroch. 1992. The licensing of CP-recursion and its relevance to the Germanic verb second phenomenon. *Working Papers in Scandinavian syntax* 50:1–24.
- Inkeles, S. 1990. *Prosodic constituency in the lexicon* (Garland outstanding dissertations in Linguistics series). Garland Publishing co., NY.
- Ito, J. & A. Mester. 2006. Prosodic adjunction in Japanese compounds. In *Formal Approaches to Japanese Linguistics: Proceedings of FAJL 4*, MITWPL (MIT Working Papers in Linguistics) 55:97–112.
- Ito, H. & A. Mester. to appear. Recursive prosodic phrasing in Japanese. To appear in *Prosody Matters: Essays in honor of Elisabeth Selkirk*, eds., T. Borowsky et al., London: Equinox.
- Jackendoff, R. 1972. *Semantic interpretation in generative grammar*. MIT Press, Cambridge, MA.

- Kaufman, D. 2006. Rigidity versus relativity in adverbial syntax: Evidence from Tagalog. In *Clause structure and adjuncts in Tagalog*, eds., Gärtner, H. M., P. Law, & J. Sabel, 148–162. Mouton de Gruyter, Berlin.
- Kayne, Richard. 2004. *The Antisymmetry of Syntax*. MIT Press, Cambridge, MA.
- Kroeger, P. 1993. *Phrase structure and grammatical relations in Tagalog*. CSLI, Stanford.
- Ladd, R. 1996. *Intonational phonology* (Cambridge studies in Linguistics 79). Cambridge University Press, Cambridge.
- Lebeaux, D. 1988. Language acquisition and the form of grammar. Ph.D. dissertation, University of Massachusetts, Amherst, MA.
- Lee, F. 2000. VP remnant movement and VSO in Quiavini Zapotec. In *The syntax of verb initial languages*, eds. Carnie, A & E. Guilfoyle, 143–162. Oxford University Press, Oxford.
- Massam, D. 2001. Pseudo noun incorporation in Niuean. *Natural Language and Linguistic Theory* 19:153–197.
- May, R. 1985. *Logical Form: Its structure and derivation*. MIT Press, Cambridge, MA.
- McCloskey, J. 1991. Clause structure, ellipsis, and proper government in Irish. *Lingua* 85:259–302.
- McCloskey, J. 1996. On the scope of verb movement in Irish. *Natural Language and Linguistic Theory* 14:47–104.
- McCloskey, J. 1997. Subjecthood and subject positions. In *Elements of grammar*, ed. Haegman, L., 197–235. Kluwer Academic Publishers, Dordrecht, Boston & London.
- McCloskey, J. 1999. On the right edge in Irish. *Syntax* 2:189–209.
- McCloskey, J. 2006. Questions and questioning in a Local English. In *Crosslinguistic Research in Syntax and Semantics: Negation, Tense, and Clausal Architecture*, eds., R. Zanuttini, H. Compos, E. Herburger, and P. H. Portner, 87–126. Georgetown University Press.
- Mercado, R. Verb raising and restructuring in Tagalog. M.A. thesis, University of Toronto.
- Nagaya, N. 2006. Preferred referential expressions in Tagalog. *Tokyo University Linguistics Papers* 25:83–106.
- Nespor, M. & I. Vogel. 1986. *Prosodic phonology*. Foris Publications, Dordrecht.
- Nissenbaum, Jon. Investigations of Covert Movement. Ph.D. dissertation, MIT, Cambridge, MA.
- Pesetsky, D. 1982. Paths and categories. Ph.D. dissertation, MIT, Cambridge, MA.
- Pullum, G. K. & A. M. Zwicky. 1988. The syntax-phonology interface. In *Linguistics: The Cambridge Survey*, ed., Newmeyer, F. J., 255–280. Cambridge University Press, Cambridge.
- Rackowski, A. 2002. The structure of Tagalog: Specificity, voice, and the distribution of arguments. Ph.D. dissertation, MIT, Cambridge, MA.
- Rackowski, A. & L. Travis. 2000. V-initial languages: X or XP movement and adverbial placement. In *The syntax of verb-initial languages*, eds., A. Carnie & E. Guilfoyle, 117–141. Oxford University Press, Oxford.
- Rienhart, T. 1983. *Anaphora and semantic interpretation*. Croom Helm, London.
- Richards, N. 2000. Another look at subjects in Tagalog. In I. Paul, V. Philips, and Lisa Travis, eds., *Formal issues in Austronesian linguistics*, pp. 105–116. Kluwer, Dordrecht.
- Richards, N. 2001. *Movement in language: Interactions and architectures*. Oxford University Press, Oxford.
- Richards, N. 2003. Tagalog ellipsis. In *Proceedings of AFLA 9*, eds., Riehl A. & T. Savella, 228–251. Cornell Working Papers in Linguistics, Ithaca, NY.
- Richards, N. 2004. Against bans on lowering. *Linguistic Inquiry* 35:453–463.
- Richards, N. 2009. The Tagalog Copular. In *Proceedings of the 16th Meeting of the Austronesian Formal Linguistics Association*, eds. Sandra Chung, Daniel Finer, Ileana Paul, and Eric Potsdam. [Available online: <http://westernlinguistics.ca/afla/meetings/afla16/proceedings.htm>].
- Richards, N. 2010. *Uttering Trees*. MIT Press, Cambridge, MA.
- Ross, J. 1967. Constraints on variables in syntax. Ph.D. dissertation, MIT, Cambridge, MA.
- Ruys, E.G.. 1992. The scope of indefinites. Ph.D. dissertation. Utrecht University, Utrecht.
- Sabbagh. 2005. Non-verbal argument structure: Evidence from Tagalog. Ph.D. dissertation, MIT.
- Sabbagh. 2008. Right node raising and extraction in Tagalog. *Linguistic Inquiry* 39:502–511.
- Schachter, P. & F. Otnes. 1972. *Tagalog reference grammar*. University of California Press, Berkeley, CA.
- Selkirk, E. 1986. On derived domains in sentence phonology. *Phonology Yearbook* 3:371–405.
- Selkirk, E. 1995. Sentence prosody: Intonation, stress, and phrasing. In *The handbook of phonological theory*, ed. Goldsmith, J. A., 550–569. Blackwell Publishers, Cambridge, MA and Oxford.
- Selkirk, E. 2009. The syntax-phonology interface. In *The handbook of phonological theory, 2nd edition*, eds. Goldsmith, J., Riggle, J., and A. Yu, to appear. Blackwell Publishers, Oxford.
- Sityar, E. M. 1989. Pronominal clitics in Tagalog. M.A. Thesis, University of California, Los Angeles.
- Skinner, T. 2009. Investigations of downward movement. Ph.D. dissertation, McGill University, Montreal.

- Sproat, R. 1985. Welsh syntax and VSO structure. *Natural Language and Linguistic Theory* 3:173–216.
- Stepanov, A. 2001. Late adjunction and Minimalist phrase structure. *Syntax* 4:94–125.
- Svenonius, P. 2002. Subject positions and the placement of adverbs. In *Subjects, expletives, and the EPP*, ed. Svenonius, P., 199–240. Oxford University Press, Oxford.
- Truckenbrodt, H. 1995. Phonological phrases: Their relation to syntax, focus, and prominence. PhD dissertation, MIT, Cambridge, MA.
- Ura, H. 1996. *Checking theory and grammatical functions in universal grammar* (Oxford Studies in Comparative Syntax). Oxford University Press, Oxford.
- Vicente, L. 2005. Word order variation in Basque as prosodically-driven movement. Ms., Universität Potsdam.
- Wanger, M. 2005. Prosody and recursion. Ph.D. dissertation, MIT, Cambridge, MA.
- Wagner, M. 2010. Prosody and recursion in coordinate structures and beyond. *Natural Language and Linguistic Theory* 28:183–237.
- Werle, A. 2009. Word, phrase, and clitic prosody in Bosnian, Serbian, and Croatia. Ph.D. dissertation, University of Massachusetts, Amherst, Amherst.
- Zec, D. & S. Inkeles. 1991. Prosodically constrained syntax. In *The Phonology-syntax connection*, eds. Inkeles, S. & D. Zec, 365–378. Chicago University Press, Chicago.
- Zubizarreta, M. L. 1998. *Prosody, Focus, and Word Order*. MIT Press, Cambridge, MA.

Appendix — Sources of Attested Examples

The examples used in this paper come from native speaker consultation, as well as from a corpus of Tagalog. Examples from corpus are followed in the main text with an acronym corresponding to the full title of the work and the approximate line of the text where the example was found. The full titles of these works are given below.

- ABLM, *Ang Babaylan sa Labas ng Maynila: Rebyu ng Ang Bayan sa Labas ng Maynila/The Nation Beyond Manila*, Rowena P. Festin.
- AILS, *Ang mga Ilog sa Loob ng Sinaunang Bayad ng Meycauayan: Ugnayan ng Heograpiya at Tradisyon*, Roberto C. Mata.
- PSS, *Pagbababoy sa Sarili*, John Iremil E. Teodoro.
- AWKP, *Ang Kahalagahan ng Wikang Pambansa sa Pagbubuo ng Kakanyahang Pilipino*, Andrew B. Gonzales.
- HULA, *Hula: Higit Pa Sa Mga Tala*, Lorenzo Fuentes Templonuevo.
- KPKP, *Kwentong Pangkasarian sa mga Kwentong Pambata*, Genaro R. Gojo Cruz.
- ANA, *Ang Nanganganib na Awtonomiya ng mga Mamimili: Isang Pagsusuri sa Etika ng mga Pangnegosyo at Pambatang Patalastas*, Napoleon M. Mabaquiao, Jr.
- MBAP, *Mundo ng Bata Ayon sa mga Print Ad*, John Enrico C. Torralba.
- NBIA, *Ang Nobela Bilang Isang Artipisyo*, Gerardo Z. Torrez.
- WEB, Varia from the world wide web (including blogs, news and government sites, etc.)