



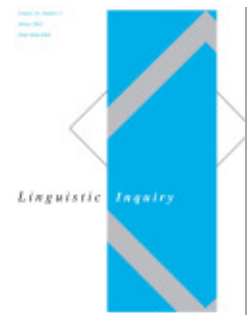
PROJECT MUSE®

Now I'm a Phase, Now I'm Not a Phase: On the Variability
of Phases with Extraction and Ellipsis

Željko Bošković

Linguistic Inquiry, Volume 45, Number 1, Winter 2014, pp. 27-89 (Article)

Published by The MIT Press



➔ For additional information about this article

<https://muse.jhu.edu/article/535449>

Now I'm a Phase, Now I'm Not a Phase: On the Variability of Phases with Extraction and Ellipsis

Željko Bošković

On the basis of a number of cases where the status of X with respect to phasehood changes depending on the syntactic context in which X occurs, I argue for a contextual approach to phasehood whereby the highest phrase in the extended projection of all lexical categories—N, P, A, and V (passive and active)—functions as a phase. The relevant arguments concern extraction and ellipsis. I argue that ellipsis is phase-constrained: only phases and complements of phase heads can in principle undergo ellipsis. I show that \bar{A} -extraction out of an ellipsis site is possible only if the ellipsis site corresponds to a phasal complement. I also provide evidence for the existence of several AspectPs, all of which have morphological manifestations, in the VP domain of English and show that they crucially affect the phasehood of this domain. The article provides a uniform account of a number of superficially different constructions involving extraction and ellipsis from Serbo-Croatian, Japanese, Turkish, and English.

Keywords: phases, locality of movement, NP, ellipsis, numerals, aspect, P-stranding

1 Introduction

This article addresses the central question of the theory of phases: what counts as a phase. On Chomsky's (2000, 2001) approach, phasehood is in a sense rigid: the phasal status of a category does not depend on its syntactic context; thus, CPs and vPs are always phases.¹ This runs counter to the spirit of the Minimalist predecessor of phases, barriers (more precisely, blocking categories; barriers are predecessors of phases in the sense that both barriers and phases are crucially used in defining opaque/nonopaque domains for extraction). In the barriers system (Chomsky 1986), whether or not a particular category is a barrier depends on its syntactic context. Thus, sometimes

This article is based upon work supported by the National Science Foundation under grant BCS-0920888. For very helpful comments and suggestions, I thank Susi Wurmbrand, two anonymous reviewers, the participants of my seminars at the University of Connecticut, and the audiences at the GLOW in Asia IX Workshop for Young Scholars, the 13th International Symposium on Chinese Languages and Linguistics, the 14th Seoul International Conference on Generative Grammar, and the Workshop on Verbal Periphrasis (CNRS, Paris), and at Harvard University, Indiana University, and National Taiwan Normal University.

¹ I put aside here passives and unaccusatives, where the question also arises whether vP is present.

CP is a barrier and sometimes it is not, depending on its syntactic context: if a CP is located in subject position, or if it is an adjunct, it is a barrier; but if a CP is located in object position, it is not a barrier (more precisely, an inherent barrier). In other words, while phases are defined rigidly, barriers are defined contextually; that is, they are context-sensitive (just like islandhood itself).

A number of authors have recently argued that phasehood should also be defined contextually, that is, that the phasal status of X can be affected by the syntactic context in which X is found (see, e.g., Bobaljik and Wurmbrand 2005, Bošković 2005, Den Dikken 2007, Gallego and Uriagereka 2007a,b, M. Takahashi 2010, 2011, Despić 2011, for various approaches that belong to this line of research; see also Müller 2011 for another approach to the locality of movement where the syntactic context may also matter). Here, I will argue for this approach to phasehood. More precisely, I will argue for a particular contextual approach whereby the highest projection in the extended projection of a major (i.e., lexical) category functions as a phase. The approach is contextual because the amount of structure (including the highest phrase) projected by major categories can differ both crosslinguistically and in different constructions within a single language.

On the approach argued for here, Vs, Ns, Ps, and As all project phases. This approach will enable us to address a serious issue that the theory of phases has faced from its inception: why some elements function as phases but others do not. In Chomsky's original approach, where CPs and vPs are assumed to function as phases, the obvious question is "Why CPs and vPs but not other phrases?" Chomsky (2000, 2001) attempts to address the issue by adopting propositionality as the definition of phasehood—that is, by arguing that phases are essentially syntactic reflexes of the semantic notion of proposition and that CPs and vPs, but not other phrases, are syntactic reflexes of propositionhood.

This approach faces well-known problems. Thus, it does not really provide a unified account of the phasehood of CPs and vPs since it uses very different definitions of propositionhood for these two cases (what matters is either force indication or external θ -role assignment, a disjunction reminiscent of the lexical/antecedent government disjunction in the definition of the Empty Category Principle). Furthermore, propositionhood simply does not yield the right cut (see, e.g., Epstein and Seely 1999, 2006, Bošković 2002, Boeckx and Grohmann 2007). To mention just one problem, noted in Bošković 2002, Chomsky argues that finite clauses (which are CPs) but not exceptional-case-marking (ECM) infinitives (which are TPs) function as phases. Compare, however, the infinitive in *There seemed to have arrived someone* with the embedded finite clause in *It seemed there had arrived someone* or *It seemed someone had arrived*. The embedded finite clause seems to be no more a proposition than the infinitive. (This problem becomes even more glaring when other phrases that have been argued convincingly to be phases, like DPs and PPs (see the references below), are taken into consideration.) However, even if the propositionhood approach were to provide the right cut, we would still be facing the question of why propositionhood, and not another syntactic, semantic, or for that matter phonological property is used as the defining property of phasehood (there are certainly numerous candidates here). In other words, the question of why phasehood is picky (i.e., why only some phrases function as phases) has never been

answered in a satisfactory manner. To address the question, a number of authors have explicitly or implicitly argued that phasehood is actually not picky: every phrase counts as a phase (for relevant discussion, see, e.g., Manzini 1994, Bošković 2002, Epstein and Seely 2002, Boeckx 2003, 2007, Fox and Lasnik 2003, Boeckx and Grohmann 2007, Lahne 2008, Müller 2010, 2011). This approach resolves the “choosing issue” (i.e., how to pick phases): there is nothing to choose here; everything functions as a phase. Although conceptually appealing, this approach does face some serious problems. For example, as Boeckx and Grohmann (2007) note, given the by now standard assumption (see section 2.1) that a complement cannot move to the specifier (Spec) position of the phrase in which it occurs, the Phase Impenetrability Condition (PIC), proposed by Chomsky (2000, 2001) to allow extraction out of phasal domains, can no longer help complements move out of phasal domains. In fact, if all phrases are phases, complements are rendered completely immobile.

The general approach to phasehood argued for here, whereby all lexical categories project phases (so we find phases with VPs, NPs, PPs, and APs), trivially resolves the choosing issue: there is nothing to choose.² It thus preserves to a considerable extent the major achievement of the every-phrase-is-a-phase approach. However, since it is the highest projection in the extended domain of VPs, NPs, PPs, and APs that functions as a phase, the problem facing the every-phrase-is-a-phase approach no longer arises: complements of Vs, Ns, Ps, and As can still undergo movement (we will, however, see below that in a few cases where these elements do not project any extended structure above their basic projections, the complements actually cannot undergo movement, as expected).

I will provide a number of arguments that the same phrase that functions as a phase in one syntactic context does not function as a phase in another syntactic context. The result will be a superficially messy picture with considerable variation regarding what counts as a phase. However, there is order in the chaos. More precisely, I will argue that the superficially messy picture can be made sense of if it is the highest phrase in the extended projection of a lexical category that functions as a phase. To illustrate, I will present a number of cases of the following type: phrase X, which functions as a phase, ceases to function as a phase when another phrase Y is added on top of it in the extended projection of the same lexical category (with X being the highest projection in this domain when Y is absent).

My argumentation will involve two domains: extraction and ellipsis. With respect to the former, I will examine extraction of nominal complements corresponding to English *of*-phrases in examples like (1), as well as extraction of complements of prepositions, as in (2).³

² The issue, however, will not be completely resolved here since I will not address the phasehood of the clausal domain, where the standard assumption is that CP, but not TP, functions as a phase. In other words, I will confine the discussion to domains below the level of a full clause; incorporating the clausal domain into the approach to phasehood argued for here must be left for another occasion (however, see section 3.3 for some preliminary remarks).

³ The discussion will not be confined to English, which is used here only to illustrate the phenomena to be discussed. A disclaimer is in order, however. I will only discuss the aspects of the phenomena from (1)–(4) that are directly relevant to the arguments given in the article and the theoretical issues under consideration. In other words, as is standard in works similar in scope to this one, I will not provide comprehensive accounts of these phenomena.

- (1) Of which city did you witness the destruction?

(Huang 1982:542, Chomsky 1986:80)

- (2) Who did you look at?

As for ellipsis, I will examine ellipsis within traditional noun phrases, as in (3), as well as VP-ellipsis in complex auxiliary/modal constructions, as in (4).

- (3) I like Peter's book, and you like Bill's.

- (4) Betsy must have been being hassled by the police, and Peter

a. *must too.

b. must have too.

c. must have been too.

d. *must have been being too.

(Sag 1976:31)

I will argue that ellipsis is affected by phasehood.⁴ More precisely, I will argue that only phases and complements of phase heads can be elided. The theory of phases enables us to privilege only two domains for ellipsis: the phase itself and the complement of a phase head (i.e., the Spell-Out domain). There is, for example, no natural way of privileging the complement of a complement of a phase head. I will argue that phases and phasal complements are indeed the only projections that can be elided. This is a rather constrained approach to ellipsis, which for example disallows ellipsis of complements of nonphase heads (which are themselves not phases). I will also show that \bar{A} -extraction out of an ellipsis site is possible only if the ellipsis site corresponds to a phasal complement.

The analysis presented here will also have consequences for the clausal structure of English—in particular, the middle field located between the phases hosting the surface and deep subject positions (TP and vP), which I will also refer to as the *aspectual domain* given that it hosts the aspectual elements *-en* and *-ing*. While I will argue that several functional projections can be present in this middle field, all these projections will be morphologically motivated; there will be no projections headed by null heads. In other words, what you see is what you get, an appealing state of affairs.

The central arguments for the highest-phase-is-a-phase approach will involve extraction from, and ellipsis within, traditional noun phrases (TNP) in article-less languages. (I will use the term *TNP* to refer to noun phrases without committing myself to their categorial status—that is, functional structure that may be present above NP.) A number of authors have argued that the highest layer in the TNP of a language like English, DP, is missing in languages without articles

⁴ A note is in order regarding terminology. I use the term *ellipsis* to refer to deletion processes where no overt material can follow the gap (apart from elements like *too*), as opposed to gapping, where overt material follows what appears to be elided (see Johnson 2009 on gapping). This article deals only with ellipsis (in the above sense), not gapping.

(see the appendix). As a result, in certain contexts these languages enable us to vary the actual size of the TNP. While TNPs are typically NPs in article-less languages, in certain contexts there are functional categories above NP. It turns out that the phasehood status of NP depends on whether or not another phrase dominates it, which provides strong evidence for the contextual approach to phasehood argued for here. I therefore start the discussion in section 2.1 by examining extraction from TNPs. In section 2.2, I discuss extraction from PPs. In section 3, I take up ellipsis, starting with a general discussion of ellipsis and then turning to ellipsis within TNPs and finally to the traditional VP-ellipsis.

2 Extraction

In this section, I will discuss extraction of complements of Ps and Ns, starting with the latter. The extraction of nominal complements will be used as a tool for determining the phasehood of TNPs.

2.1 *Phases in NPs*

A number of authors have argued that Serbo-Croatian (SC), a language that lacks articles, does not have the DP layer (Corver 1992, Zlatić 1997, 1998, Bošković 2005, 2008, 2012a, Marelj 2008, Despić 2011, 2013, Runić, forthcoming a,b). In this system, possessives, which morphologically and syntactically in every respect behave like adjectives in SC (see Zlatić 1997, 1998, Bošković 2005, 2008, 2012a), are treated as NP adjuncts (see Bošković 2008, 2012a).⁵ One argument for this analysis (see the appendix for additional discussion), noted by Despić (2011, 2013), is provided by the ungrammaticality of the examples in (6), which contrast with their English counterparts in (5) in that the pronoun and the name cannot be coindexed. Given that the possessive is an NP adjunct and that SC lacks DP, the possessor c-commands out of the TNP, which results in Condition B and C violations in (6).

- (5) a. His_i father considers John_i highly intelligent.
 b. John_i's father considers him_i highly intelligent.
- (6) a. *[_{NP} Kusturicin_i [_{NP} najnoviji film]] ga_i je zaista razočarao.
 Kusturica's latest movie him is really disappointed
 'Kusturica's latest movie really disappointed him_i.'
 b. *[_{NP} Njegovi_i [_{NP} najnoviji film]] je zaista razočarao Kusturicu_i.
 his latest movie is really disappointed Kusturica
 'His_i latest movie really disappointed Kusturica_i.'

⁵ Locating possessives in Spec,NP is actually also compatible with the NP analysis (see the appendix for additional discussion of the NP analysis in this respect), though this would leave the binding data about to be discussed unaccounted for.

As Despić (2011) notes, nothing changes in the presence of a demonstrative (7), which is then also treated as NP-adjoined. (Demonstratives also behave like adjectives morphologically and syntactically (see Zlatić 1997, 1998, Bošković 2005, 2008, 2012a); however, they are treated differently from adjectives semantically (see the appendix).) The same holds for adjectives, which also do not change binding relations (8). The data in (6)–(8) thus receive a uniform account if possessives, demonstratives, and adjectives (which, as discussed in the references cited above, behave in the same way in a number of other respects) are NP-adjoined and the DP layer is missing in SC.

- (7) a. *[_{NP} Ovaj [_{NP} Kusturicin_i [_{NP} najnoviji [_{NP} film]]]] ga_i je zaista razočarao.
 this Kusturica's latest movie him is really disappointed
 'This latest movie of Kusturica_i really disappointed him_i.'
 b. *[_{NP} Ovaj [_{NP} njegov_i [_{NP} najnoviji film]]] je zaista razočarao Kusturicu_i.
 this his latest movie is really disappointed Kusturica
 'This latest movie of his_i really disappointed Kusturica_i.'
- (8) *[_{NP} Brojni [_{NP} Kusturicin_i [_{NP} filmovi]]] su ga_i zaista razočarali.
 numerous Kusturica's movies are him really disappointed
 'Numerous movies of Kusturica_i really disappointed him_i.'

It is by now standardly assumed that the TNP in English is a phase. It seems natural to assume that this should quite generally be the case—that is, that the TNP should be a phase in other languages too.⁶ The same should then also hold for SC, which means the TNP should be a phase in SC too. Recall now that the DP layer is missing in SC, SC TNPs being NPs. NP should then function as a phase in SC. A consequence of this is that extraction out of NP in SC will have to proceed via Spec,NP, given the PIC, which requires that movement proceed via phasal edges. Now, it is standardly assumed that complement-to-Spec movement is impossible, an assumption that has received a more general treatment in terms of antilocality, a ban on movement that is too short.⁷ Abels (2003) observes that the PIC and antilocality impose conflicting requirements on the extraction of phasal complements: the PIC requires such movement to proceed via Spec,XP (with X being the relevant phase head), while antilocality blocks such movement. The result is that phasal complements cannot move.

- (9) Complements of phase heads cannot undergo movement.

⁶ In fact, this claim has been made for a number of languages with articles. For a DP-as-a-phase analysis of English as well as other languages, see Chomsky 2000, 2001, Gutiérrez-Rexach and Mallen 2001, Ticio 2003, Svenonius 2004, Bošković 2005, Hiraiwa 2005, Reintges and Lipták 2006, Uchishiba 2006, Compton and Pittman 2007, Den Dikken 2007, Heck, Müller, and Trommer 2008, Kramer 2009, Despić 2011, among others (see also footnote 8).

⁷ There is a rich literature on antilocality (the term is due to Grohmann 2003). I will simply assume here the approach taken in Bošković 1994, 2005, which requires Move to cross at least one phrase (this rules out complement-to-Spec movement within the same phrase). For all practical purposes, as long as Abels's generalization in (9) is not an issue, antilocality will then not be a problem, given that only phase head complements are forced to move to the Spec of the same phrase.

Abels provides strong evidence that this is indeed the case. Thus, he shows that IP dominated by CP, a phase, cannot undergo movement (10). As Abels notes, this follows from a PIC-antilocality interaction: the PIC requires IP-movement through Spec,CP, and antilocality blocks such movement because it is too short ((11b) is then ruled out by the PIC and (11a) by antilocality).⁸

(10) *[His mother likes Mary]_i everyone believes that t_i.

- (11) a. *[_{CP} IP_i [_{C'} C t_i
 b. *IP_i [_{CP} [_{C'} C t_i

Now, if NP is indeed a phase in SC, we make a rather surprising prediction: NP complements of nouns should be immobile in SC. This prediction is borne out. Typical theme complements of nouns that are expressed as *of*-phrases in English are expressed as postnominal genitive complements in SC.⁹ Zlatić (1997) observes that, in contrast to accusative complements of verbs, such genitive complements of nouns cannot undergo movement in SC, as illustrated by (12). ((13) gives the baseline data without genitive complement movement.)

- (12) ?*Ovog studenta_i sam pronašla [_{NP} sliku t_i].
 this.GEN student.GEN am found picture.ACC
 'Of this student I found the picture.'

(13) Pronašla sam sliku ovog studenta.

The surprising immobility of genitive adnominal complements in SC can be straightforwardly accounted for if NP is a phase in SC.¹⁰ (12) is then just another instance of Abels's generalization and can be accounted for in the same way as other cases that fall under it: the PIC requires the genitive NP in (12) to move via Spec,NP; however, this movement is blocked by antilocality.

⁸ The impossibility of moving a complement of D in (i) can then be interpreted as an argument for the phasal status of DP.

(i) *Books_i he bought [_{DP} some t_i].

Such examples are allowed in German, where the process in question is referred to as split topicalization.

(ii) Bücher hat er einige gekauft.
 books has he several bought
 'He bought several books.'

This could be taken to indicate that German TNPs have a bit more structure than English TNPs. (ii) then would not have to involve movement of the complement of D; it could involve movement of a lower phrase. Note, however, that the subextraction analysis of German split topicalization faces numerous problems (e.g., the fronted element corresponding to *books* in (ii) is an independent TNP, which can even have its own article in appropriate cases). There are in fact a number of alternative analyses of German split topicalization that do not involve subextraction from DP (see Van Hoof 2006 and references therein, and Roehrs 2006). More generally, owing to the possibility of several irrelevant derivations, I will not examine examples like (i) crosslinguistically here. (To mention two such derivations, which are available in some languages, (i) can involve NP-ellipsis in the in-situ "remnant" DP or it can be analyzed in terms of quantifier float, with *some* a floating quantifier.)

⁹ These elements receive genitive case from the noun and must follow the noun, unlike the possessor in (6), which precedes the noun and agrees with it in case (and ϕ -features), just as adjectives do.

¹⁰ For additional evidence that NP is a phase in SC, see Bošković, forthcoming.

Notice also that the problem that arose with respect to (12) does not arise in (14), given the standard assumption that vP is projected above VP, and that vP, but not VP, functions as a phase (see also section 3.3; the second line gives the SC counterpart of the English example in (14).)

- (14) This student_i, I [_{vP} t_i [_{VP} teach t_i]].
 ovog studenta ja učim

Recall that a SC adnominal complement genitive is expressed as an *of*-genitive in English. It is well-known that, in contrast to SC adnominal genitives, *of*-genitive complements in English can move.¹¹

- (15) a. Of which city did you witness the destruction?
 (Huang 1982:542, Chomsky 1986:80)
 b. Of whom do government employees see pictures every day?
 (Bach and Horn 1976:281)
 c. Of which cars were the hoods damaged by the explosion?
 (Ross 1967:242)

Given Abels's generalization, this can be taken to indicate that NP is not a phase in English. Do we then have here genuine crosslinguistic parameterization with respect to phasehood, with DP being the phase in English (see footnotes 6 and 8) and NP being the phase in SC? Recall that English and SC differ with respect to the categorial status of the TNP: a DP in English, but an NP in SC. In light of this, SC and English can receive a unified treatment with respect to TNP phasehood if it is the highest projection in the extended domain of NP that counts as a phase: the highest projection in English is DP, hence DP functions as a phase, and the highest projection in SC is NP, hence NP functions as a phase. There is then no need to posit crosslinguistic variation with respect to phasehood here: the relevant differences are the result of independently motivated variation in the amount of structure that TNPs have in SC and English.¹²

Strong evidence that this analysis is on the right track is provided by constructions in which additional structure is projected in SC TNPs. Despić's (2011, 2013) binding test shows that SC

¹¹ The literature is split on the categorial status of the N complement in (15): some authors treat it as DP (with *of* essentially being a case marker) and some as PP. Note that, as I show in Bošković, forthcoming, SC does not have nominal PP complements; in SC, PPs modify nouns only as adjuncts. In other words, in SC, a language that allows NP nominal complements, the nominal complement/argument treatment is reserved for NPs. For relevant discussion, see also Starke 2001. Simplifying somewhat, Starke ties traditional argumenthood to NP-hood, or, more precisely, being case-marked. English may actually not be different from SC in the relevant respect if in a language like English, which is case-poor, some prepositions count as case markers. This is not the situation in a case-rich language like SC, where prepositions are indeed prepositions.

¹² A reviewer raises a question concerning German genitives. In Bošković 2012b, I mistakenly argued that NP functions as a phase in German (despite the presence of DP) on the basis of the impossibility of extracting genitive NP complements. To account for the German case in (i), I invoked the PIC/antilocality account of SC (12).

- (i) a. Ich habe Bilder der Pyramiden gesehen.
 I have pictures the.GEN.PL pyramids seen
 'I have seen pictures of the pyramids.'
 b. *Ich habe der Pyramiden Bilder gesehen./*Der Pyramiden habe ich Bilder gesehen.

TNPs are not always bare: certain numerals and quantifiers do project additional structure. When these elements precede a possessor, they confine its binding domain to the TNP. Thus, (16) contrasts with (6), (7), and (8) in that the coreference reading is allowed. In other words, the possessor apparently does not c-command out of the subject TNP in (16), unlike in (6)–(8).¹³

However, as (ii) shows, the *of*-genitive can extract, which indicates that German NPs are not phases. Moreover, German bans overt extraction of prenominal genitives not located in the N complement position, as (iiib) shows. (The genitive is standardly assumed to be located in Spec,DP in (iiia), and *s* is not assumed to be in D here, which means that (iiib) does not involve nonconstituent extraction.) These data indicate that we are dealing with a more general issue here, not simply a ban on nominal genitive complement extraction (for the same conclusion, see Bobaljik and Wurmbrand 2012).

- (ii) Von Berlin hast du Bilder gesehen.
 of Berlin have you pictures seen
 ‘Of Berlin, you have seen pictures.’
 (iii) a. Ich habe Peters Haus gesehen.
 I have Peter.GEN house seen
 ‘I have seen Peter’s house.’
 b. *Peters habe ich Haus gesehen.

Furthermore, German allows Quantifier Raising (QR) of true genitive NP complements (see Fanselow 1988, Bobaljik and Wurmbrand 2012).

- (iv) *Context*: Two friends are talking about last night, when one of them visited Peter, who’s crazy about jazz. On that occasion, Peter played a record by Miles Davis, a record by John Coltrane, and a record by Fred Frith.
 Peter hat eine Platte jedes Musikers aufgelegt.
 Peter has a/one record every.GEN musician played
 ‘Peter played a record by every musician.’ $\exists \gg \forall$; $\forall \gg \exists$
 (Bobaljik and Wurmbrand 2012:381)

Bobaljik and Wurmbrand argue that the wide scope of the genitive is established by the QR of the genitive outside of its DP. It must then be the case that German genitive NP complements can in fact extract. Bobaljik and Wurmbrand also show that the QR operation in question is constrained by the PIC/antilocality considerations discussed above (they treat QR as pronunciation of a lower copy in a single-cycle syntax model), which means that genitive complement extraction in German does not yield a PIC/antilocality violation, in contrast to such extraction in SC. (What is important is that such extraction is in principle possible in German. See Bobaljik and Wurmbrand 2012 for a suggestion regarding cases like (ib)/(iiib), where it is disallowed: namely, that such cases involve a PF issue.) Under Bobaljik and Wurmbrand’s analysis, German genitive NP complements can in fact be taken to support the general approach to phasehood argued for here, where the highest projection within TNP works as a phase (in German, a DP language, this would be DP, not NP).

A clearer argument is provided by Greek, a DP language where nouns assign genitive to their complement, which is base-generated following the noun, just as in SC (see also Alexiadou 2005 for arguments against the presence of a null P with Greek adnominal genitives). Significantly, unlike in SC, genitive complements can be extracted in Greek.

- (v) a. Tu vivliu, mu ipes pos dhiavases [tin kritiki t_i].
 the.GEN book.GEN me said.2SG that read.2SG the review
 ‘You told me you read the review of the book.’
 (Horrocks and Stavrou 1987:87)
 b. Piu, vrikes [tis fotografies t_i]?
 who.GEN found.2SG the pictures
 ‘Of whom did you find the pictures?’
 (Arhonto Terzi, pers. comm.)

The minimal contrast between Greek and SC ((va–b) are unacceptable in SC; (vb) is in fact particularly bad) provides evidence for the current system, where DP is a phase in Greek and NP is a phase in SC.

¹³ Japanese, Chinese, Korean, and Turkish, which also lack articles, behave like SC regarding possessor binding. (See M. Takahashi 2011, Bošković 2012a, Bošković and Hsieh 2012, Bošković and Şener 2012, Cheng 2013; see also section 3.2 regarding Japanese. The reader is also referred to Bošković 2012a:200 for certain factors that need to be controlled for when investigating possessor binding.)

This indicates that the elements in question do bring in an additional projection, which I will refer to as *QP*.¹⁴

- (16) a. [_{QP} Pet/Mnogo [_{NP} njegovih_i [_{NP} filmova]]] je proslavilo Kusturicu_i.
 five/many he.GEN movies.GEN is made.famous Kusturica
 ‘Five/Many of his_i movies made Kusturica_i famous.’
 b. ?[_{QP} Pet [_{NP} Kusturicinih_i [_{NP} filmova]]] ga_i je obogatilo.
 five Kusturica.GEN movies.GEN him is enriched
 ‘Five of Kusturica_i’s movies made him_i rich.’

Now, if the highest projection functions as a phase, QP rather than NP should function as a phase in examples like (16a–b). We then make the rather surprising prediction that the extraction in (12) should improve with the addition of a quantifier/numeral. This prediction is borne out. Thus, (17a) is better than (17b) (= (12)), which indicates that NP is not a phase in the QP context, as expected under the highest-phase-is-a-phase approach.

- (17) a. Ovog studenta_i sam pronašla mnogo/deset slika t_i.
 this.GEN student.GEN am found many/ten pictures.GEN
 ‘Of this student I found many/ten pictures.’
 b. ?*Ovog studenta_i sam pronašla sliku t_i.
 this.GEN student.GEN am found picture.ACC
 ‘Of this student I found a picture.’

These data have rather important theoretical consequences: they help us tease apart the rigid, once-a-phase-always-a-phase approach, where phasehood of a phrase does not depend on the syntactic context in which it occurs (Chomsky 2000, 2001), and the dynamic approach to phases, where what counts as a phase is determined contextually. Under the dynamic phasehood approach, a particular phrase can function as a phase in one context, but not in another; such a situation cannot arise under the rigid phasehood approach, where a phrase is always a phase (in all contexts) or never a phase (in any context).

Taking for granted that NP is a phase in SC, given the ungrammaticality of (12), consider how numeral constructions would be treated under the rigid approach to phasehood and the particular implementation of the dynamic approach argued for here, where the highest phrase in

¹⁴ Long constituents in front of the clitic *ga* generally result in some awkwardness. Note that (16) gives a simplified structure. As discussed in Franks 1994 and Bošković, forthcoming, a Q element assigns a special inherent case to the element that follows it. In Bošković, forthcoming, I show that such inherent cases are generally accompanied by a null linker/preposition-like element that facilitates such case assignment. In other words, there is an extra functional projection between the QP and the NP in (16), which I ignore for ease of exposition. However, this projection (referred to as FP below) renders testing movement of the Q complement irrelevant for our purposes since such movement can involve movement of the NP complement of the null F head, which would void potential antilocality violations. (As discussed in Bošković, forthcoming, this is quite generally an interfering factor with inherent case-assigning contexts, which are hence ignored here. Note also that there is independent evidence that SC adnominal genitive is a structural, not inherent, case (the same actually holds for the case assigned by prepositions); see Bošković, forthcoming.)

the extended projection of the NP functions as a phase. (18) and (19) are the representations of a numeral and a nonnumeral construction, respectively.

(18) [_{QP} [_{NP1} [_{NP2}

(19) [_{NP1} [_{NP2}

If the highest projection in a TNP counts as a phase, NP1 will function as a phase in (19). However, NP1 will not function as a phase in (18) under this approach (rather, QP will be the phase).¹⁵ On the other hand, if NP is always a phase, as in the rigid phasehood approach, NP1 should function as a phase in both (18) and (19). The data in (17) are in fact the actual illustrations of the abstract structures in (18)–(19) and they confirm the superiority of the dynamic approach.¹⁶

To summarize the discussion of SC TNPs, there is a difference in the phasal status of NP in the QP and non-QP contexts in SC: NP functions as a phase only in the latter context. This can be captured if the highest phrase in the TNP functions as a phase. Since in a QP context the highest phrase is QP rather than NP, NP does not function as a phase in this context even in an NP language like SC. As a result, the complement of ‘pictures’ can be extracted in (17a), where the NP headed by ‘pictures’ is not a phase, but not in (17b), where the NP headed by ‘pictures’ is a phase. What we see here is that the numeral essentially voids the phasehood of the NP in SC (just as DP quite generally does in English). That the numeral phrase has such an effect provides evidence for the contextual, highest-phrase-is-a-phase approach, where adding a phrase on top of X within the same extended projection can change the phasal status of X.

To sum up section 2.1, English and SC—as well as the seemingly different behavior of numeral and nonnumeral contexts regarding phasehood within SC—receive a uniform account under the highest-phrase-is-a-phase approach, which furthermore does not require positing any variation regarding phasehood of TNPs. In both English and SC, TNP (i.e., the highest projection in the TNP) functions as a phase. As a result, in English DP functions as a phase; NP does not. In SC, on the other hand, NP is sometimes a phase, and sometimes not. When NP is the highest projection in the TNP, it functions as a phase; otherwise, it does not. What was particularly informative in the above discussion was the possibility of varying the size of the TNP in the contexts where phasehood tests can be carried out in SC. The outcome of those tests has provided evidence for the contextual approach to phasehood; more precisely, it has provided evidence that the highest projection in a TNP functions as a phase.

In the next section, I discuss PPs, providing additional evidence for the highest-projection-is-a-phase approach. More precisely, I argue that, as in the nominal domain, the highest projection in the extended projection of PP functions as a phase.

¹⁵ We cannot test the phasehood of QP with extraction here because of an interfering factor (see footnote 14), but relevant evidence will be provided in section 3.2 with respect to ellipsis.

¹⁶ Note also Müller’s (2011) discussion of melting effects, where addition of a higher Spec,XP makes possible extraction from a lower Spec of the same phrase (see, however, Bošković 2013b for a different perspective on this issue). Although melting effects are superficially quite different from (17), they abstractly look like (17) in that embedding an element by adding more structure makes otherwise illegitimate extraction possible.

2.2 Phases in PPs

In his discussion of languages that disallow P-stranding, such as SC, Abels (2003) argues that PPs are phases. P-stranding in cases like SC (20) is then straightforwardly ruled out by the PIC/antilocality conspiracy: the NP in (20) has to move to Spec,PP, given the PIC, but this movement violates antilocality. In other words, we are dealing with another instance of Abels's (2003) generalization in (9).

- (20) *Njoj_i on hoda prema t_i.
her he walks toward

What about languages like English, which allow P-stranding?

- (21) What are you looking at?

Abels (2003) argues that PPs are not phases in English; hence, the problem just noted with respect to SC does not arise in English. The discussion in section 2.1 opens up another way of looking at this issue. In that section, we saw that the apparent difference between English and SC in the phasehood of NP can be accounted for without positing any crosslinguistic parameterization in the theory of locality itself—that is, regarding what counts as a phase. The strategy pursued there regarding superficial differences in phasehood is that what is responsible for the variation in locality is the amount of structure that is projected in a particular domain, which—under the dynamic, highest-phrase-is-a-phase approach—affects phasehood without the need to posit any crosslinguistic variation with respect to what counts as a phase. A natural way of accounting for the SC/English difference with respect to P-stranding that preserves Abels's account of SC under this approach is to say that English PPs have a richer structure than SC PPs (this possibility is in fact acknowledged by Abels). If there is an additional projection above PP in English, call it XP, then under the highest-phrase-is-a-phase approach XP rather than PP will function as a phase in English. As a result, the NP will have to move to Spec,XP, not Spec,PP, to satisfy the PIC, a movement that will not violate antilocality.¹⁷

A strong argument that this type of analysis is on the right track is provided by Turkish. Turkish is particularly interesting in this context in that in this language, some prepositions disallow P-stranding and others allow it; in other words, both the SC pattern and the English pattern are at work in a single language. Significantly, as Şener (2006) notes, P-stranding is allowed in Turkish only where there is overt evidence for rich internal PP structure. Thus, P-stranding is disallowed in (22a), which contains a simple preposition, but allowed in (22b), which involves a complex preposition that contains an agreement morpheme.

¹⁷ The conclusions reached here about the structure of SC PPs follow Abels's (2003) bare PP analysis and conflict with the conclusions reached by Radkevich (2010), who assigns SC PPs richer internal structure. I leave it open here how to reconcile the two approaches. For a critique of several exploded-PP analyses proposed in the literature, see Abels 2003 (see also Abels 2009 for a critique of the mainstream cartographic approach in general).

- (22) a. *Biz [NP Pelin-in arkadaş-1]_i dün [PP t_i için] para topladı-k.
 we.NOM Pelin-GEN friend-POSS yesterday for money collect-PAST-1PL
 'Yesterday, we collected money for Pelin's friend.'
- b. Ben araba-nın_i dün [PP t_i önün-de] dur-du-m.
 I.NOM car-GEN yesterday in.front.of-3SG.POSS.LOC stand-PAST-1SG
 'Yesterday, I stood in front of the car (not behind it).'
- (Şener 2006)

The antilocality analysis of SC adopted above can be straightforwardly applied to (22a): PP being a phase, P complement must move to Spec,PP, which results in an antilocality violation (see (23a)). The problem will not arise in (22b) under the highest-phase-is-a-phase approach if the PP has a richer structure here, as indicated by its morphological makeup. Şener (2006) in fact posits three projections within this PP, as in (23b) ((23b) gives Şener's structure; one additional projection suffices for our purposes), in contrast to (22a), where Şener argues for a simple PP structure. Given that the highest phrase within the extended PP projection counts as a phase, movement of the P complement then does not induce an antilocality violation in this case (see (23b)).

- (23) a. [PP NP_i [P' t_i]]
 b. [C_{plac}P NP_i [A_{gr}P[PP t_i]]]

We are witnessing here the same pattern as the one discussed in section 2.1 with respect to extraction from SC TNPs. Recall that movement of a nominal genitive complement in SC is unacceptable, but additional structure on top of NP improves such extraction. We have the same situation with P-stranding in Turkish: movement of the P complement in Turkish is disallowed, but additional structure improves such extraction. If the original unacceptable examples are to be treated in terms of phasehood, we have here strong evidence for the contextual approach to phasehood: the phasehood of XP changes when YP is added on top of it. Given that in both the Turkish and the SC cases XP and YP belong to the same extended projection, the data receive a unified account if the highest phrase in the extended projection of a major category (PP and NP in the examples under consideration) counts as a phase.

Turkish is also important in that it suggests what is behind the crosslinguistic variation with respect to P-stranding: it's the richness of PP structure. Since Turkish exhibits both the SC pattern and the English pattern, extending the account of the two patterns in Turkish to SC and English seems to be a natural move. This in turn means that English, and P-stranding languages in general, have a richer PP structure than nonstranding languages (which does not have to be transparent morphologically the way it is in Turkish); as a result, the antilocality problem that arises with P-stranding in languages like SC does not arise in English. This analysis departs from that proposed by Abels (2003), who does not assume a structural difference between English and SC. Abels assumes a bare PP structure for both, placing the relevant point of variation in the domain of phases: PP is a phase in SC, but not English. This parametric approach has difficulty handling Turkish, where it appears that both (in fact, conflicting) values of the parameter in question would have to be posited for a single language. The problem does not arise under the above analysis,

which also captures in a natural way the relevance of the richness of PP structure for P-stranding that is overtly manifested in Turkish. Furthermore, the above analysis is in line with the overall approach adopted here, which does not posit any crosslinguistic differences regarding phasehood, the relevant locality differences instead resulting from structural differences—that is, the amount of structure languages project within particular phrases. Significantly, Drummond, Hornstein, and Lasnik (2010) provide very interesting evidence that the traditional PP (TPP) is indeed a phase in English. This favors the above analysis, on which TPP is a phase even in English.

The current analysis also accounts for another otherwise puzzling set of facts. It is well-known that prepositions can also take PP complements in English. Interestingly, Hornstein and Weinberg (1981) observe that a PP complement of P cannot be extracted in English.

- (24) a. They took a shot at him from behind that car.
 b. *[Behind which car]_i did they take a shot at him from t_i?
 (Cinque 1990:176)

If the additional PP structure is case/agreement-related, as Şener (2006) in fact suggests for Turkish, we may expect it not to be present when a P takes a PP complement. (24b) is then straightforwardly ruled out by the PIC/antilocality conspiracy: owing to the absence of the higher structure (referred to below as XP), the higher PP functions as a phase in (24), as a result of which movement of the PP complement of the higher P inevitably violates either the PIC or antilocality (see (25)).

- (25) [_{PP1}[_{PP2} behind which car]_i [_{P1'} from t_i]]

An obvious alternative would be that the PP in (24) is an island. However, if the PP were an island, then no extraction out of it should be possible. Significantly, the second preposition can be stranded in this type of example, as in *Which car did they take a shot at him from behind?*¹⁸ This is exactly what is predicted under the analysis suggested above (see (26) below): XP is present above PP2, given that the head of PP2 takes an NP complement. XP rather than PP then functions as a phase here. NP can move to Spec,XP without violating antilocality (see footnote 7). Given the PIC, from this position the NP must move to the Spec of the higher PP, which is a phase. This movement is, however, also legitimate with respect to antilocality (i.e., it does not violate Abels's generalization). The relevant part of the structure is shown here; phases are boldfaced.

- (26) [_{PP1}[_{NP} which car]_i [_{P'} from [_{XP} t_i [_{PP2}[_{P'} behind t_i]]]]]

It is worth noting here that the P-stranding violation in (24b) can be repaired under ellipsis.

- (27) ?They took a shot at him from behind one of these cars, but I don't know behind which car.

¹⁸ See also Abels 2003 for the more general point that the impossibility of P-stranding in languages that generally disallow it cannot be handled by assuming that PPs are generally islands in such languages.

This indicates that P-stranding, and more generally PIC/antilocality violations (recall that two derivations are involved in (24b), one violating the PIC and the other antilocality), can be repaired under sluicing. This argues against the spirit of Merchant's (2001) claim that P-stranding under sluicing is allowed if and only if it is allowed under *wh*-movement. (For other counterexamples, see Almeida and Yoshida 2007 and Bošković 2012c. Note that Turkish (22a) also improves under sluicing; see Bošković 2012c.)

To summarize, I have argued that the richness of the internal structure of TPP has the same effect on extraction out of TPPs as the richness of the internal structure of TNP has on extraction out of TNPs. These extraction patterns can be unified under the highest-phase-is-a-phase approach, which furthermore enables us to account both for crosslinguistic variation and for variation within individual languages with respect to extraction out of TNPs and TPPs without positing any variation in phasehood itself: NPs and PPs always project phases, with the highest phrase in the extended projection of N and P functioning as a phase.

3 Ellipsis

3.1 *Ellipsis and Phases*

I now turn to ellipsis. I will show in this section that the possibilities for ellipsis provide additional evidence for the highest-phase-is-a-phase approach. Besides further investigating the issues I have been concerned with so far, I will argue that ellipsis is phase-governed (i.e., constrained by phases). More precisely, I will argue that only phases and complements of phase heads can be elided, which gives us a rather constrained theory of ellipsis (see also footnote 4). As Rouveret (2012) notes, the theory of phases enables us to privilege only two domains for ellipsis: the phase itself and the complement of a phase head (i.e., the Spell-Out domain). There is, for example, no natural way of privileging the complement of a complement of a phase head.¹⁹ A comparison with case and X-bar theory may be helpful here. For a while, it was standardly assumed that case can only be licensed under core X-bar-theoretic relations. This means that a head can assign case to its Spec and to its complement, but not to the Spec of its complement. This approach led to a particular analysis of ECM in early Minimalism. In ECM, a verb appears to assign case to the Spec of its complement, which is not a core X-bar-theoretic relation. This has then prompted a reanalysis of ECM constructions where the object undergoes movement that brings it into a core X-bar relation with the higher verb (Spec-head). In other words, assuming that case is assigned in core X-bar-theoretic configurations allows X to assign case to its Spec and complement, but

¹⁹ A reviewer raises an issue regarding the edge of a phase in this respect. The phase system treats the edge of a phase X as special only in that it essentially belongs to a higher phasal domain. The edge as a domain by itself is not special and is in fact standardly not treated as a domain in itself (i.e., to the exclusion of other material) by phase theory. The only thing that is special about the edge concerns which Spell-Out/phasal domain it belongs to. (One could try to argue on empirical grounds that the edge should receive special treatment with ellipsis; see, for example, Kayne 2006. The discussion in this article can be taken as an argument against this approach (though we may be dealing with different phenomena here; see footnote 4 regarding what is taken to be ellipsis in the current approach, which seems to differ from Kayne 2006).)

not to the Spec of its complement. That gave us a rather constrained theory of case assignment.²⁰ Returning to phases, as noted above, assuming that phasehood constrains ellipsis, we can privilege only two domains for ellipsis: the phase itself and the complement of the phase head.²¹ I will argue that phases and phasal complements are indeed the only projections that can undergo ellipsis. This is a rather constrained approach to ellipsis that, for example, disallows ellipsis of complements of nonphase heads.

There is also rather straightforward empirical evidence that both phases and complements of phase heads can undergo ellipsis. It is clear that ellipsis of phasal complements is in principle possible (see, e.g., Boeckx 2009, Gengel 2009, Van Craenenbroeck 2010, M. Takahashi 2011, Rouveret 2012, Cheng 2013). The most straightforward example of such ellipsis is sluicing, which involves IP-ellipsis—that is, ellipsis of the complement of C, a phase head.

- (28) They arrested someone, but I don't know [_{CP} who C [_{IP} ~~they arrested~~]].

Another relevant example concerns NP-ellipsis cases like (29). Given the assumption that DP is a phase, (29) involves ellipsis of the NP complement of the D phase head.

- (29) You like Jane's book, and I like [_{DP} Peter's [_{NP} ~~book~~]].

It is also clear that ellipsis of full phases needs to be allowed. Many languages allow so-called argument ellipsis. Thus, Oku (1998), S.-W. Kim (1999), Saito (2001, 2004, 2007), Tomioka (2003), Sugawa (2008), D. Takahashi (2008a,b, 2010), Şener and Takahashi (2010), Bošković (2011), Takita (2011a,b), Koulidobrova (2012), and Cheng (2013), among many others, show that argument ellipsis is allowed in Japanese, Korean, Turkish, Chinese, and American Sign Language. Consider (30)–(31).

- (30) a. Taro_o-wa sannin-no sensei-o sonkeisiteiru.
 Taro-TOP three-GEN teacher-ACC respects
 'Taro respects three teachers.'
 b. Hanako-mo e sonkeisiteiru.
 Hanako-also respects
 'Lit. Hanako respects e, too.'
 (Şener and Takahashi 2010:81–82)

²⁰ Whether this is the correct approach to case assignment (the issue is actually far from being settled) is beside the point; I am merely illustrating here how the domain of a particular phenomenon can be constrained.

²¹ It is then not surprising that both of these positions have been maintained in the literature (this article essentially combines these two lines of research, the combination being necessary on empirical grounds, as discussed below). Thus, Holmberg (2001) equates ellipsis domains with phases and Gengel (2009) equates them with phasal complements. As noted below, it is quite easy to implement both positions. The implementation presented below will in fact give the two slightly different treatments, a desirable move since I will show that there are phenomena where they do not pattern together.

- (31) a. John respects three teachers.
 b. Mary respects them, too.
 c. Mary does, too.
 d. Mary respects three teachers.

The null object in Japanese (30) can have either the strict or the sloppy reading; that is, Hanako can respect either the same teachers Taro does, or different teachers. Pronouns do not support sloppy readings in this context, while ellipsis does; thus, whereas (31b) (as a response to (31a)) does not allow the interpretation where Mary respects different teachers than John does, (31c) does allow this interpretation. This is one of the arguments given in the literature that Japanese has argument ellipsis—that is, that (30) involves a full NP object that undergoes ellipsis (notice that (31d) allows a sloppy interpretation) rather than a phonologically null pronoun. (The alternative analysis would be that (30) involves remnant VP-ellipsis, with the V undergoing movement out of VP prior to ellipsis (see Otani and Whitman 1991). There is, however, conclusive evidence that argument ellipsis cannot be reduced to remnant VP-ellipsis; see the references given above.) Japanese in fact allows ellipsis of all arguments, TNPs, CPs (see (35)), and PPs (see Saito 2007 and D. Takahashi 2010, where it is shown that all of these pass argument ellipsis tests). As discussed above, these projections in fact correspond to phases; argument ellipsis thus involves phasal ellipsis. I conclude, therefore, that ellipsis of full phases is also in principle possible.²²

Another argument for allowing ellipsis of both phases and phasal complements concerns extraction out of ellipsis sites. It is well-known that such extraction is sometimes possible and sometimes not. The standard assumption is that this is by and large arbitrary. I would like to suggest that this is not the case: whether extraction out of an ellipsis site is possible or not depends on whether it takes place out of an elided phase or an elided phasal complement. More precisely, I put forward the conjecture in (32) (to be refined and deduced below).

²² Many languages, like English, seem to disallow argument ellipsis of the kind found in Japanese (30). It is not clear what is responsible for this (for discussion, see Oku 1998, Saito 2007, Şener and Takahashi 2010, M. Takahashi 2010, Cheng 2013). Note, however, that if right node raising involves ellipsis, as many authors argue (see, e.g., Wexler and Culicover 1980, Kayne 1994, Wilder 1997, Hartmann 2000, Bošković 2004b, An 2007), it must be the case that English allows argument ellipsis in the contexts where right node raising affects an argument (e.g., *John likes Jill, and Peter dislikes Jill*). Having to block argument ellipsis in some but not all contexts within a single language further complicates the situation here. At any rate, it is beyond the scope of the present article to deal with this issue. The point of this section is simply to determine what kinds of ellipsis processes are *in principle* possible; how to block some of the options that are in principle available in particular languages or constructions is an independent issue.

Consider also Lobeck's (1990) and Saito and Murasugi's (1990) requirement that functional heads whose complements are elided must undergo Spec-head agreement. This requirement is independent of present concerns in the sense that it is an additional requirement imposed on heads whose complements can in principle elide under the current proposal: some phases/phasal complements may be prevented from undergoing ellipsis because they are complements of functional heads that do not undergo Spec-head agreement (there are many other factors that can rule out ellipsis of some phases/phasal complements; for example, such ellipsis could leave a stranded affix). It should be noted, however, that there are exceptions to this ill-understood requirement (see (53) and footnote 29).

- (32) Extraction from an ellipsis site is easier if it takes place from an elided phasal complement than an elided phase.

As an illustration of (32), extraction is allowed with sluicing, which, as discussed above, involves ellipsis of a phasal complement (see (33); phases are boldfaced). Also relevant is possessor-stranding ellipsis (see (34)), another case of phasal complement ellipsis, given that a number of authors (e.g., Munn 1995, Radford 2000, Alexiadou 2005) have argued that English possessors undergo movement to Spec,DP. (34) then also involves movement out of an elided phasal complement.

- (33) They arrested someone, but I don't know [_{CP} who_i C [_{TP} ~~they arrested t_i~~]].

- (34) You like Faulkner's novel, and I like [_{DP} Joyce_i's [_{NP} ~~t_i novel~~]].

Turning now to extraction out of elided phases, as discussed above, one clear case of full-phase ellipsis is argument ellipsis in Japanese. Significantly, Shinohara (2006) and Saito (2007) show that extraction out of argument ellipsis sites is not possible.

- (35) Hanako-wa [_{CP} zibun-no teian-ga saiyoosareru to] omotteiru ga,
 Hanako-TOP self-GEN proposal-NOM accepted.be that think though
 Taro-wa ____ omotte inai.
 Taro-TOP think not
 'Hanako_i thinks that her_i proposal will be accepted, but Taro_j does not think that her_i/
 his_j proposal will be accepted.'
 (Saito 2007:203)

- (36) a. *Hon-o_i Taro-wa [_{CP} Hanako-ga t_i katta to] itta ga, zassi-o_j
 book-ACC Taro-TOP Hanako-NOM bought that said though magazine-ACC
 Ziroo-wa ____ itta.
 Ziro-TOP said
 'Taro said that Hanako bought a book, but Ziro said that she bought a magazine.'
 (Saito 2007:211)
- b. *Sono hon-o_i Taro-wa [_{CP} Hanako-ga t_i katta to] itta si, sono
 that book-ACC Taro-TOP Hanako-NOM bought that said and that
 hon-o_j Ziroo-mo ____ itta.
 book-ACC Ziro-also said
 'Taro said that Hanako bought that book, and Ziro also said that she bought that
 book.'
 (Saito 2007:212)
- c. *Taro-wa [_{CP} Hanako-ga sono hon-o katta to] itta si, sono
 Taro-TOP Hanako-NOM that book-ACC bought that said and that
 hon-o_j Ziroo-mo ____ itta.
 book-ACC Ziro-also said

- (37) a. Taroo-wa [_{CP} Hanako-ga sono hon-o katta to] itta si, Ziroo-mo
 Taro-TOP Hanako-NOM that book-ACC bought that said and Ziroo-also
 _____ itta.
 said

‘Taro said that Hanako bought that book, and Ziroo also said that she bought that book.’

- b. Sono hon-o_i Taroo-wa [_{CP} Hanako-ga t_i katta to] itta si, Ziroo-mo
 that book-ACC Taro-TOP Hanako-NOM bought that said and Ziroo-also
 _____ itta.
 said

(same as (37a))

(Saito 2007:211)

(35) shows that argument CPs can be “dropped” under argument ellipsis in Japanese, with the availability of a sloppy reading indicating that we are indeed dealing here with ellipsis. (36) shows that scrambling out of an argument ellipsis site (i.e., the object CP of the second clause) is not possible, regardless of whether the first clause involves scrambling (of the same element or a different element) or not. Note also that (37a–b), which do not involve movement out of an argument ellipsis site, are acceptable. I conclude therefore that (36) provides evidence that extraction out of elided phases is not possible.

The cases discussed above provide initial motivation for (32). Below, I will provide additional evidence for it (see also Harwood 2013). First, though, I will show that the generalization in question can be deduced, which will also help us refine it (we will see that extraction out of elided phases is not always disallowed).

Chomsky (2001) proposes that a phasal domain Y is essentially activated only when a higher phase head K is merged into the structure. Essentially following Holmberg (2001) and Aelbrecht (2010), I assume that ellipsis involves marking the relevant element for ellipsis in the syntax, which freezes it for any syntactic operations (see also Chomsky 2001, Heck and Müller 2003, Müller 2011 for evidence that the marking must be done in the syntax since it has syntactic effects). Given that in the current system both full phases and phasal complements can be elided, this can be implemented as follows. When the higher phase head K is merged into the structure, ellipsis can take place in one of two ways: phase YP is marked for ellipsis, which means it is not assigned phonological realization (this can be quite easily implemented in the Distributive Morphology framework) and is closed off for syntactic computation; or at this point Y triggers usual Spell-Out, transferring its complement, marked for ellipsis, to PF, which then fails to be phonologically realized. Let us apply these assumptions to the structure in (38), which collapses all the cases discussed above, where YP is the phase to be elided, ZP is its complement, X is the next higher phase head, and α is the element undergoing movement outside of YP/ZP. Following standard assumptions regarding successive-cyclic movement and the effect of phases/the PIC on such movement, α moves to Spec,YP (phasal edge) before X is merged.

- (38) $X \dots [_{LP}[_{YP} \alpha_i [_{ZP}[_{KP} \dots t_i \dots$

As soon as X is merged, the lower phase YP is activated for ellipsis marking. (I assume that the marking has to be done as soon as X is merged.) As discussed above, there are two possibilities here: either the whole YP is marked for ellipsis, or only its complement, ZP , is marked for ellipsis. Crucially, only on the latter option does α end up being outside of the ellipsis-marked site, hence available for movement to X (recall that ellipsis marking freezes the marked phrase for further syntactic computation). We thus account for the different behavior of phasal ellipsis and phasal complement ellipsis with respect to extraction, deducing (32).

Notice, however, that the above deduction does not ban all extraction out of elided phases. Such extraction is banned only after a higher phase head enters the structure. If the target for extraction is a head located between X and YP in (38), extraction out of YP should be possible. We will see that there are cases of this type and that extraction is indeed possible in such cases. Pending this discussion, it should be emphasized that what is particularly important in the current discussion is that we are dealing with a difference between phasal ellipsis and phasal complement ellipsis, which should be interpreted as indicating that both of these options need to be allowed. In fact, once both of these options are allowed, we can make sense of the otherwise puzzling interaction between movement and ellipsis; that is, we can understand why extraction out of ellipsis sites is not always allowed.

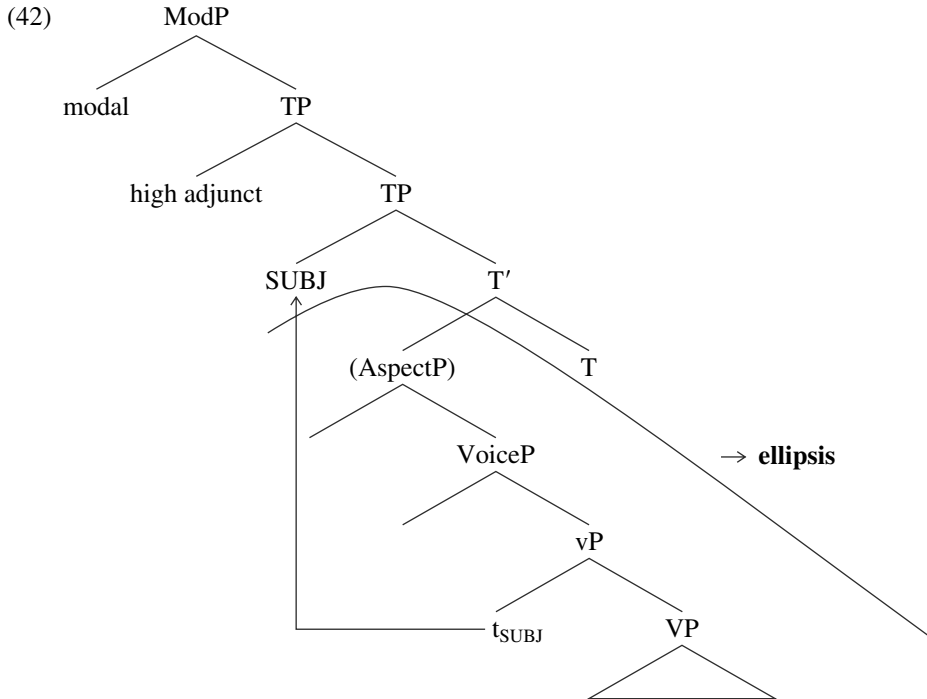
Another argument for (32) is provided by the Dutch modal ellipsis data noted by Aelbrecht (2010). Aelbrecht shows that examples like (39) should not be analyzed as involving ellipsis of the complement of the modal, since the infinitival subject and adverbials modifying the infinitival TP can survive the ellipsis process in question, as in (40)–(41). (*Iemand* ‘someone’ is located in the infinitival Spec,TP in (40B), and the adverb is adjoined to the infinitival TP in (41).)

- (39) Ik wou hem dat boek helemaal niet geven, maar ik moest
 I wanted him that book at.all not give but I must.PAST
 [~~hem dat boek geven~~].
 him that book give
 ‘I didn’t want to give him that book at all, but I had to.’
 (Aelbrecht 2010:51)

- (40) A: Gaat er iemand naar het feestje morgen?
 goes there someone to the party tomorrow
 ‘Is anyone going to the party tomorrow?’
 B: Er moet toch **iemand** [~~naar het feestje gaan~~].
 there must still someone to the party go
 ‘Well, SOMEONE has to.’
 (Aelbrecht 2010:56)

- (41) Gisteren moest ik vandaag komen en vandaag moet ik **volgende week pas**.
 yesterday must.PAST I today come and today must I next week only
 ‘Yesterday I had to come today and today I only have to next week.’
 (Aelbrecht 2010:57)

In light of this, Aelbrecht analyzes examples like (39) as involving ellipsis of the complement of the infinitival T, which in the current system (see below) means that (39) involves ellipsis of a full phase. (The actual label of the complement of T does not really matter here; I simply give Aelbrecht's structure. We will see that the phrase in question is a phase—I will argue that the highest phrase in the extended domain of VP, which is AspectP when present (TP will be argued not to belong to the VP domain), functions as a phase.)



Significantly, Aelbrecht shows that *wh*-movement is not possible out of the ellipsis site in question.

- (43) *Ik weet niet wie Thomas moet uitnodigen, maar ik weet wel **wie** hij niet
 I know not who Thomas must invite but I know AFF who he not
 mag.
 is.allowed
 ‘I don’t know who Thomas HAS to invite, but I do know who he isn’t ALLOWED to.’
 (Aelbrecht 2010:128)

(43) falls in line as another instance of (32): (43) is unacceptable because it involves *wh*-extraction out of phasal ellipsis. Note that movement out of the ellipsis site here is not in general impossible: thus, the infinitival subject moves out of the elided site to the infinitival Spec,TP in (40B) (see (42)). This is actually expected under the above deduction of (32): as discussed above, movement out of phasal ellipsis is possible if its landing site is located below the next phase head, which is the case here. T attracts the subject to Spec,TP here before the next phase head enters the

structure, freezing AspectP for further syntactic operations (see also Aelbrecht 2010). The subject can then move to Spec,TP in (40B). In fact, as discussed below, since movement out of an ellipsis site that targets a position below the next phase head typically involves A-movement, we will end up with a situation where phasal and phasal complement ellipsis differ only regarding \bar{A} -movement.

Another paradigm that may be analyzable in terms of phasal ellipsis/phasal complement ellipsis involves extraction with traditional VP-ellipsis (TVP) (45) and British English *do*-ellipsis (44), where *do* cooccurs with a finite auxiliary. (Ellipsis is obligatory in (44); (44)–(47) are taken from Aelbrecht 2010:194.)

(44) Luis will run the race and Nana will do too.

(45) Luis will run the race and Nana will too.

It is well-known that *wh*-movement is possible out of TVP sites, as in (46). This is not surprising in light of the current discussion, given that examples like (45) and (46) will be analyzed below as involving ellipsis of the VP complement of the *v* phase head: (46) then involves extraction out of an ellipsis site that corresponds to a complement of a phase head.

(46) Although I don't know who Thomas will visit, I do know who Aga will.

Interestingly, Baltin (2007) observes that *wh*-movement is not possible out of *do*-ellipsis sites.

(47) *Although I don't know who Thomas will visit, I do know who Aga will do.

The contrast between (46) and (47) can be accounted for, in fact follows from (32), if British English *do*-ellipsis involves full-phase ellipsis.²³

To summarize, it seems clear that both phasal ellipsis (as in e.g. argument ellipsis) and ellipsis of phasal complements (as in e.g. sluicing) are in principle possible.²⁴ Obviously, not all languages avail themselves of all the possibilities for ellipsis. Thus, it is well-known that many languages for no apparent reason disallow traditional VP-ellipsis. Why some options are not used or are restricted to particular contexts in some languages is a serious issue, but independent from the one we are dealing with here.²⁵ The goal of this article is to establish what kind of ellipsis is in principle available (see footnote 22).

²³ As should become clear during the discussion below, this analysis requires treating the *do* in question as being outside of the extended domain of the elided verb, contrary to Baltin's (2007) and Aelbrecht's (2010) approaches. I leave details of the analysis of this construction for future research. It is possible that phasal complement ellipsis is simply not possible with *do*-ellipsis (as noted below, particular options for ellipsis in the VP domain are often blocked crosslinguistically for no apparent reason), or that the complement of this *do*, which would belong to another phasal domain, is headed by a null affix (different from *v*) that needs to undergo affix hopping; ellipsis of the complement of this null head would then leave the affix stranded (see below).

²⁴ The claim that both phasal and phasal complement ellipsis are allowed does not require the two to differ with respect to extraction. Hence, if it turns out that (32) is incorrect, the claim will not be affected; we will still be left with the fact that both sluicing (phasal complement ellipsis) and argument ellipsis (phasal ellipsis) are allowed.

²⁵ It is actually possible that this is not much different from the well-known variation with respect to overt movement: for example, English has *wh*-movement, but Japanese does not.

3.2 NP-Ellipsis in Japanese

In this section, I will discuss ellipsis within Japanese TNPs. We will see that certain data regarding NP-ellipsis in Japanese provide additional evidence that the highest phrase in the extended projection of an NP functions as a phase. What is particularly interesting is that Japanese basically replicates the paradigm we saw in the discussion of extraction out of SC TNPs but with respect to a very different phenomenon, ellipsis. The phenomenon under consideration is illustrated by (48), which involves partial TNP ellipsis with a possessor remnant.²⁶

- (48) [Taroo-no taido-wa] yo-i ga, [TNP Hanako-no [NP taido]-wa]
 Taro-GEN attitude-TOP good-PRES though Hanako-GEN attitude-TOP
 yoku-na-i.
 good-not-PRES
 'Though Taro's attitude is good, Hanako's isn't.'
 (Saito, Lin, and Murasugi 2008:253)

Partial TNP ellipsis is also possible with numerals; that is, such ellipsis can also strand numerals.²⁷

- (49) Amerikagun-wa nizyu-pun-no kougeki-o keikakusi-ta-ga, nihongun-wa
 U.S. army-TOP 20-minute-GEN attack-ACC plan-PAST-though Japan army-TOP
 [rokuzyu-pun-no [kougeki]-o] keikakusi-ta.
 60-minute-GEN attack-ACC plan-PAST
 'Lit. the U.S. army planned an attack of 20 minutes, but the Japanese army planned
 an attack of 60 minutes.'
 (M. Takahashi 2011:144)

²⁶ Saito, Lin, and Murasugi (2008) provide a DP account of (48) that is crucially based on an argument-adjunct asymmetry regarding what kinds of elements survive the ellipsis. More precisely, the crucial assumption is that examples like (48) involve movement of an argument to Spec,DP, followed by NP-ellipsis; hence, only arguments can survive such ellipsis under their analysis. However, M. Takahashi (2011) shows that the underlying generalization cannot be maintained, as adjuncts can survive such ellipsis. Some data are given in (i)–(ii) (the remnant in (ii) is a relative clause); notice also that the possessor in (48) needs to be analyzed as an adjunct given that Japanese possessors pattern with SC possessors with respect to the binding tests from section 2.1 (see below). Additionally, as M. Takahashi (2011) discusses, examples (49)–(50) are also problematic for Saito, Lin, and Murasugi's analysis.

- (i) Sin-no sinnen-wa kawa-anai-ga, nise-no sinnen-wa sugu kawa-ru.
 true-GEN conviction-TOP change-not-though fake-GEN conviction-TOP easily change-PRES
 'The true conviction never changes, but the fake (one) easily changes.'
 (Kadowaki 2005:194)
- (ii) [John-ga su-ru-tumori]-no kougeki-wa seikousu-ru-darou-ga [Mary-ga su-ru-tumori]-no
 John-NOM do-PRES-intend-COP attack-TOP succeed-PRES-probably-though Mary-NOM do-PRES-intend-COP
 kougeki-wa seikousi-na-i-darou.
 attack-TOP succeed-NEG-PRES-probably
 'Lit. An attack that John intends to do will probably succeed, but an attack that Mary intends to do probably
 will not succeed.'
 (M. Takahashi 2011:143)

²⁷ There are some restrictions on the occurrence of *-no* 'GEN' with such ellipsis that are not relevant to the main point of this section; see M. Takahashi 2011. (Takahashi also gives an account of *-no* that readily fits into the system adopted here.)

- (50) Taro_i-wa yon-satsu-no hon-o kat-ta ga, sono-uti [ni-satu [hon]-o]
 Taro-TOP four-CL-GEN book-ACC buy-PAST though that-out.of two-CL book-ACC
 sudeni yomi-oe-ta.
 already read-finish-PAST
 ‘Taro bought four books, but he already finished reading two of them.’
 (Watanabe 2010:65)

Note now that, as shown in Bošković 2012a (see also M. Takahashi 2011, Cheng 2013), Japanese, an article-less language, patterns with SC regarding the binding tests from section 2.1, which provides evidence that a projection is present above the possessor only with numerals.²⁸ Following the account of SC from section 2.1, the possessor would be NP-adjoined in both (51) and (52). However, in (52), a QP above the NP confines the c-command domain of the possessor.

- (51) *Kare_i-no saisin-no eega-wa Kurosawa_i-o hontooni rakutans-ase-ta.
 him-GEN latest-GEN movie-TOP Kurosawa-ACC really disappoint-CAUSE-PAST
 ‘His_i latest movie really disappointed Kurosawa_i.’
 (Bošković 2012a:201)
- (52) Itu-tu-no kare_i-no saisin-no eega-ga Kurosawa_i-o hontooni
 five-CL-GEN he-GEN latest-GEN movie-NOM Kurosawa-ACC really
 rakutans-ase-ta.
 disappoint-CAUSE-PAST
 ‘Five of his_i latest movies really disappointed Kurosawa_i.’
 (Masahiko Takahashi, pers. comm.)

Note now that the topic particle in (48) survives ellipsis (case particles survive it too). In fact, such ellipsis is also possible without a possessor, in which case the particle is the only surviving element (see, e.g., Sato and Ginsburg 2007, Otaki 2011, Sato 2012; note that the topic particle *-wa* can also be stranded this way).²⁹

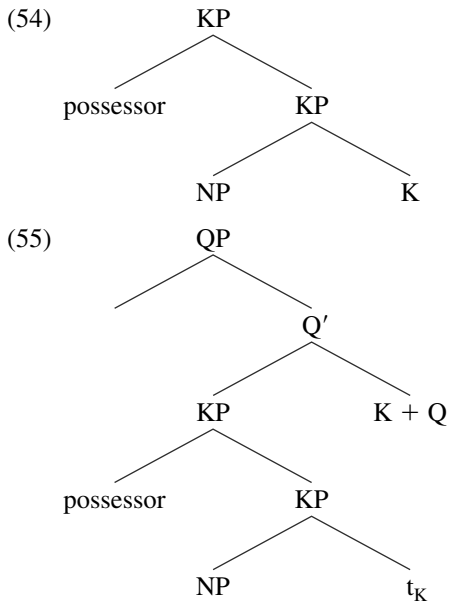
²⁸ I give Condition C data here; for Condition B data, see M. Takahashi 2011 and Bošković 2012a. (Note that for the Condition B data there is also the issue of what counts as the binding domain in causative constructions; hence, the Condition C test is more reliable.)

For some (but not all) speakers of Japanese, relational nouns behave differently from nouns like the one in (51). Following Partee and Borschev (1998), M. Takahashi (2011) shows that for these speakers, the possessor with relational nouns is a true argument (i.e., a complement, not an adjunct). I put this case aside below; see M. Takahashi 2011 for discussion of ellipsis with such nouns. (Takahashi shows that ellipsis is not possible in this case, which is not surprising given the N complement status of the possessor; see the discussion below.)

²⁹ For M. Takahashi (2011), ellipsis of phasal complements also requires PF realization of the phasal edge, a restatement of Lobeck’s (1990) and Saito and Murasugi’s (1990) (LSM) Spec-head requirement (see footnote 22; for LSM, functional heads whose complement is elided must undergo Spec-head agreement; for Takahashi, such heads need to have a phonologically realized edge (Spec or adjunct)). Examples like (53), however, indicate that the phonological realization/Spec-head agreement requirement does not hold in all cases for the Japanese ellipsis construction in question. (Such examples do have limited distribution. Note also that LSM’s requirement has been claimed not to hold exceptionally anyway; see Saab 2009, Aelbrecht 2010.)

- (53) Naomi-mo moo tsuki-masi-ta ka? Naomi-Ga mada tsuki-mase-n.
 Naomi-also already arrive-POL-PAST Q Naomi-NOM yet arrive-POL-NEG
 'Has Naomi already arrived? She has not arrived yet.'
 (Sato and Ginsburg 2007:198)

Since the particle survives ellipsis, it appears that it should be placed in a separate projection outside of the ellipsis site, which is the NP. M. Takahashi (2011) argues that Japanese topic/case particles are located in the head position of KP (which takes NP as its complement), moving to Q in (49)–(50).³⁰ The possessor is then adjoined to KP (instead of NP, as in SC), which enables us to extend Despić's (2011, 2013) account of possessor binding in SC to Japanese: a KP-adjoined possessor c-commands out of the TNP in (54) but not in (55).

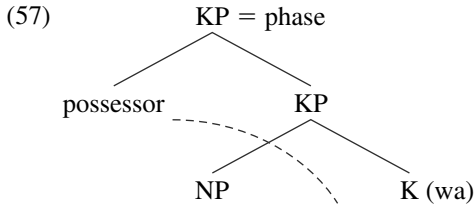


³⁰ I do not assume that KP is necessarily present in all languages, not even those with overtly realized case (see the discussion below). Japanese case markers have a rather special behavior and differ in many respects from, for example, SC case inflection (recall that they can even be freestanding; see (53)). In fact, it has often been argued that some or all Japanese case markers should not be treated as morphological realizations of abstract case, but rather as a different phenomenon often referred to as contextual markers or simply a different type of nominal inflection (see, e.g., Fukui and Sakai 2003, An 2009, Saito 2011). In other words, *case* may not be the appropriate term for the elements in question. Recall also that the relevant elements comprise not only case particles but also topic particle *-wa* as well as focus particles like *-mo* 'also' and *-sae* 'even', which also occur both in examples like (48) and in examples like (53). In fact, quite generally the same particles occur in both of these constructions.

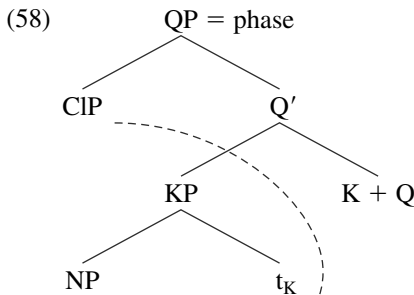
Let us now turn to the account of (48). The crucial ingredients are the following assumptions:³¹

- (56) a. Only phases and complements of phase heads can undergo ellipsis.
- b. The highest projection in a TNP is a phase.

(56a) was discussed in section 3.1, while (56b) is one of the main claims of this article. Now consider example (48) in light of (56). In (48), KP is the highest projection in the TNP involving ellipsis, hence a phase. (48) then involves ellipsis of the complement of a phase head, in accordance with (56a).



In (49)–(50), on the other hand, the highest phrase is QP (see the binding data in (51)–(52)). This projection, rather than KP, then functions as a phase here, given (56b). The examples then again involve ellipsis of a phase head complement, in accordance with (56a).³²



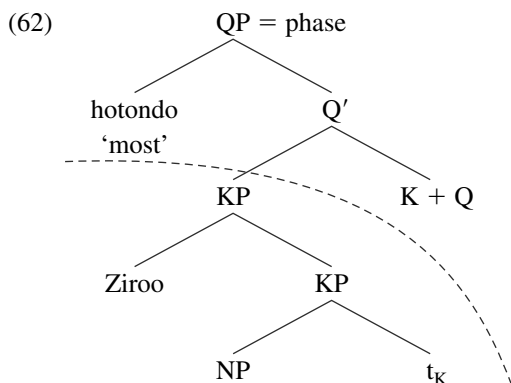
³¹ In the alternative account of Japanese NP-ellipsis given by M. Takahashi (2011) where case determines phasehood, it was assumed that only phasal complements can be elided, as in Boeckx 2009, Gengel 2009, Cheng 2013. (It should be noted that while M. Takahashi (2011) gives an analysis of the Japanese data in question within a very different contextual phasehood approach, where case plays the crucial role, in later work (M. Takahashi, forthcoming) he also adopts the phasal account argued for here.) Assuming that only complements of phase heads can be elided suffices to account for the Japanese data from this section. The relevant pieces of structure discussed here involve only one phase, which moreover dominates the elided phrase. There is then no possibility of eliding a full phase. However, recall that Japanese allows ellipsis of full arguments, which are phases (see (30b), which involves ellipsis of the full TNP phase, that is, QP). We thus independently need to allow for the possibility of phasal ellipsis in Japanese to account for the availability of argument ellipsis. We will see below that this possibility also needs to be allowed to account for VP-ellipsis in English.

³² Following M. Takahashi (2011), I place *rokuzyupunno* '60-minute-GEN' / *nisatu* 'two-CL' in Spec,QP.

The crucial data are given in (59)–(61), (59) being the antecedent sentence for the examples in (60)–(61).³³ (60)–(61) show that when both QP and a KP possessor are present, the QP element can survive ellipsis but the possessor cannot.

- (59) A sensei-wa subete-no Taroo-no tikoku-o yurusi-ta.
 Prof. A-TOP all-GEN Taro-GEN tardiness-ACC forgive-PAST
 ‘Lit. Prof. A forgave all Taro’s tardiness.’
 (M. Takahashi 2011:168)
- (60) *B sensei-wa hotondo-no Ziroo-no ~~tikoku~~-o yurus-anakat-ta.
 Prof. B-TOP most-GEN Ziro-GEN tardiness-ACC forgive-NEG-PAST
 ‘Lit. Prof. B didn’t forgive most of Ziro’s tardiness.’
 (M. Takahashi 2011:168)
- (61) B sensei-wa hotondo ~~Ziroo-no-tikoku~~-o yurus-anakat-ta.
 Prof. B-TOP most Ziro-GEN tardiness-ACC forgive-NEG-PAST
 (M. Takahashi 2011:168)

This is exactly what is expected under the highest-phrase-is-a-phase approach. Here, QP is the phase (QP is the highest phrase in the TNP); hence, KP, its complement, can be elided, yielding (61).



³³ See footnote 27 regarding *-no* ‘GEN’. Recall that some quantifiers are located in QP in SC. M. Takahashi (2011) argues that this also holds for Japanese, placing *subete* ‘all’ in Spec,QP. The lack of a binding violation in (i) (as in (52) and in contrast to (51)) confirms the presence of an additional projection here.

- (i) Subete-no kare_i-no saisin-no eega-ga Kurosawa_i-o hontooni rakutans-ase-ta.
 all-GEN he-GEN latest-GEN movie-NOM Kurosawa-ACC really disappoint-CAUSE-PAST
 ‘All of his_i latest movies really disappointed Kurosawa_i.’
 (Masahiko Takahashi, pers. comm.)

However, notice that, in contrast to (48)/(57), where KP is the highest phrase in the TNP—hence, its NP complement can be elided—KP is not the highest phrase in the TNP in (60)–(61) (see the structure in (62)), which means that KP does not function as a phase in (60)–(61). As a result, the NP complement of K in (60)–(61) is not a phasal complement—hence, it cannot be elided—in contrast to the NP complement of K in (48) (compare the structures in (57) and (62)). As a result, unlike the possessor in (48), the possessor in (60) cannot survive ellipsis.

The data under consideration provide strong evidence for the claim that the highest head in a TNP functions as a phase, and for the contextual approach to phasehood in general (see also M. Takahashi 2011). As discussed above, this approach provides a straightforward explanation for the fact that NP can be elided in (48) (and (61) as part of a larger ellipsis operation) but not in (60) (i.e., why the possessor can survive ellipsis in (48) but not in (60)). Most importantly, we now have converging evidence from two very different domains. Japanese ellipsis basically replicates the paradigm discussed with respect to extraction from TNPs in SC: adding the same elements that change the possibilities for extraction out of SC TNPs changes the possibilities for ellipsis within Japanese TNPs—in fact, in pretty much the same way. (Recall that the elements in question also change binding relations in exactly the same way in both Japanese and SC.) The highest-projection-is-a-phase analysis enables us to explain the SC extraction paradigm and the Japanese ellipsis paradigm in exactly the same way, unifying the two phenomena.

Before I conclude this section, let me note that there is crosslinguistic variation among NP languages regarding possessor-stranding examples like (48). Turkish, for example, disallows them.

- (63) *[Pamuk-un kitab-ı-nı] oku-du-m, ama [Oe-nin kitab-ı-nı]
 Pamuk-GEN book-3SG.POSS-ACC read-PAST-1SG but Oe-GEN
 oku-ma-dı-m.
 read-NEG-PAST-1SG
 ‘I read Pamuk’s book, but I didn’t read Oe’s.’
 (Bošković and Şener 2012:13)

Bošković and Şener (2012) show that this can easily be accounted for under the NP analysis: given that Turkish possessors are NP-adjoined (see section 2.1), the NP cannot be elided without a possessor.

- (64) [_{NP} POSS [_{NP} N

Significantly, NP-ellipsis is not always disallowed in Turkish. Thus, Bošković and Şener (2012) note that with numerals, where there is extra structure in the TNP (see section 2.1 and footnote 13), ellipsis is possible. This is expected: unlike in (63), where the possessor is NP-adjoined (see (64)), owing to the presence of the additional structure the possessor is QP- rather than NP-adjoined in (65) (see (66)). Consequently, in contrast to what we see in (63), a full NP can be elided in (65) and still strand the possessor (as expected, (65) is also acceptable without the possessor; see Bošković and Şener 2012).

- (65) ?Pelin [Chomsky-nin üç tane kitab-ı-nı] oku-muş, ama
 Pelin.NOM Chomsky-GEN three CL book-3SG.POSS-ACC read-EVIDENTIAL.PAST but
 [Foucault-nun iki tane kitab-ı-nı] oku-muş.
 Foucault-GEN two CL read-EVIDENTIAL.PAST
 'He/She read three books of Chomsky's, but he/she read two books of Foucault's.'
 (Bošković and Şener 2012:17)

- (66) [QP Poss [QP Num [_{NP} [_{NP} books

An obvious possibility then presents itself: the culprit for the different behavior of Turkish and Japanese with respect to simple possessor-stranding ellipsis may be the presence of the particle projection in Japanese, which is independently motivated.³⁴

3.3 VP-Ellipsis

I now turn to complex VP-ellipsis in English. The goal will be to account for the data in (4) noted by Sag (1976), repeated here with the relevant elided part indicated.

³⁴ Korean, which has a particle system similar to that of Japanese, does not allow possessor-stranding examples like (48), as shown in (i) (leaving the topic marker *-nun* attached to the stranded possessor in (i) does not affect the grammaticality of (i)). Significantly, Korean also disallows examples like (53), as shown in (ii), which can be taken as independent evidence that Korean and Japanese particles differ in their syntactic independence—that is, only Japanese particles have a life of their own independent of anything in the phrase where they are “attached.” (i) can then be treated like Turkish (63).

- (i) *Taroo-uy thayto-nun coh-ciman, Hanako-uy coh-ci anh-ta.
 Taro-GEN attitude-TOP good-but Hanako-GEN good-CI NEG-DECL
 (ii) Naomi-to imi tochakha-yss-ni? *Naomi-ka acik tochakha-ci anh-ass-ta.
 Naomi-also already arrive-ASP-Q Naomi-NOM yet arrive-CI NEG-ASP-DECL

Note also that (iii) can be taken to indicate that NP-ellipsis is not in principle unavailable in Korean (see Bošković, in preparation, where (iii) is analyzed as involving ellipsis of the NP complement of Q; for an alternative approach under the NP analysis, see Kang, in preparation).

- (iii) Pelin-un sey kwen-uy chayk-ul ilk-ess-ko, John-un twu kwen ilk-ess-ta.
 Pelin-TOP three CL-GEN book-ACC read-ASP-CONJ John-TOP two CL read-ASP-DECL
 'Pelin read three books, and John read two.'

Although the above suggestion ties the different behavior of Korean and Japanese regarding (48) to their different behavior regarding (53), the presence of an additional (non-DP) projection in an NP language should not necessarily be tied to the existence of Japanese-style particles; there may be other possibilities in this respect (see the analysis of Chinese in Bošković, in preparation). There is another issue here. SC also allows possessor stranding. However, in Bošković 2013a I show that SC possessor stranding involves not ellipsis but deep anaphora. (See in fact that work for discussion of a possessor/adjective-stranding construction that does not involve ellipsis; rather, it involves deep anaphora licensed under certain semantic and morphological conditions. Note also that SC possessor stranding does not require a linguistic antecedent, while Turkish examples like (65) do; see Bošković and Şener 2012, Bošković 2013a). The SC case is important in the context of the discussion in the text since it indicates that the possibility of possessor stranding in an NP language does not necessarily require positing an additional projection. (Another possibility that would not require an additional projection would be to analyze possessor stranding as ellipsis of a lower NP segment. However, we would then need a new account of (60) and (63), since the above account was based on the assumption that such ellipsis is always disallowed. Ellipsis is in fact expected to target only full phrases, given that only full phrases function as phases/phasal complements.)

- (67) *Betsy must have been being hassled by the police, and Peter must ~~have been being hassled~~...
 (68) Betsy must have been being hassled by the police, and Peter must have ~~been being~~ hassled...
 (69) Betsy must have been being hassled by the police, and Peter must have been ~~being~~ hassled...
 (70) *Betsy must have been being hassled by the police, and Peter must have been being hassled...
 hassled...

I emphasize that my goal in this section is not to provide a comprehensive account of the full paradigm pertaining to VP-ellipsis in English (hence, I will not discuss alternative approaches). Rather, I will focus on certain constructions that will help shed light on the larger theoretical issues that are the main topics of this article, concerning the theory of phases and the theory of ellipsis—namely, what exactly counts as a phase and what determines the possibilities for ellipsis.³⁵ Regarding the former issue, I will use VP-ellipsis to investigate how the general contextual approach to phases argued for so far applies to the VP domain (which will require investigating where the verbal phasal domain stops). Regarding the latter issue, in line with the discussion in section 3.1, I will argue that the VP-ellipsis constructions considered here confirm that ellipsis is phase-constrained; furthermore, these constructions require that complements of phase heads as well as phases themselves be in principle elidable.

In the following sections, I will lay down the ingredients for the analysis of (67)–(70) to be proposed below.³⁶

³⁵ I will not discuss infinitives here since there is disagreement in the literature regarding when ellipsis is possible within infinitives even in basic cases without auxiliaries. Compare, for example, Wurmbrand 2011, where it is claimed that basic ellipsis is possible pretty much in all types of infinitives (a claim that can easily be incorporated into the current system), with Martin 2001, where it is claimed that basic ellipsis is disallowed in several types of infinitives (a claim that, if correct, would require additional but rather straightforward assumptions within the system proposed below). An additional complicating factor is that it is not clear where *to* is located (it is standardly placed in T, but see Wurmbrand 2001; see also footnote 48 regarding certain derivations that will be ignored here). I will also not discuss VP-fronting, since the possibilities for VP-fronting do not always pattern with those for VP-ellipsis in complex auxiliary/modal examples (see Johnson 2001).

³⁶ In the discussion of modals, I will mostly confine myself to epistemic *must* since epistemic *must* does not inflect for tense and does not take scope below negation (see Roberts 1998); this is standardly taken to indicate that it does not start below T, which in turn simplifies the relevant derivations. Epistemic modals that inflect for tense, and especially deontic modals (which can take scope under negation), might be associated with richer structure; in fact, it is not out of the question that they could even project their own phasal domains at least in some cases under the approach to phases discussed below (they differ from pure auxiliary verbs like *have* and *be*, which are essentially not semantically contentful once the semantic contribution of aspectual affixes is factored out; hence, they are not taken to project phasal domains here although they are generated under VP-like projections). The reader should thus bear in mind that the discussion of *must* should not necessarily be taken to extend to all modal verbs in exactly the same way (this will be noted in some cases where it is relevant).

3.3.1 Ellipsis and Phases We have seen that if ellipsis is determined by phasehood, only phases and complements of phase heads can in principle undergo ellipsis; phrases that are neither phases nor complements of phase heads cannot undergo ellipsis. This approach will be tested below with respect to ellipsis in the middle/aspectual field of English. The beauty of the phenomenon—and this is what makes traditional VP-ellipsis in English particularly enlightening in this respect—is that it is very productive: English does not appear to have any arbitrary constraints on the availability of ellipsis in this domain (recall that some languages for no apparent reason completely disallow ellipsis in this context; for relevant discussion of crosslinguistic variation with respect to VP-ellipsis, see Zagana 1988, McCloskey 1991, Lobeck 1995, Aelbrecht 2010, among others). In fact, I will argue that in this domain English avails itself of all the options for ellipsis that are in principle allowed by the grammar: ellipsis of both phases and phasal complements is always possible. This is then a perfect testing ground for determining what kind of ellipsis should never be allowed (even in principle). The claim defended below is that English in fact allows all cases of ellipsis of phases and phasal complements in its aspectual/middle field, but nothing else: it is a perfect instantiation of the possibilities for ellipsis that are claimed here to be in principle made available by Universal Grammar.

3.3.2 On the Structure of the Aspectual Field: What You See Is What You Get Before we can dive into the complex paradigm of ellipsis within the English middle field, a note is in order regarding the structure of the constructions we will be examining. Constructions with complex middle fields will obviously require positing additional structure between vP and TP. Additional structure has in fact sometimes been assumed even for simple finite constructions. There is nothing wrong in principle with positing projections that are phonologically null; such projections indeed exist. However, positing such projections requires independent evidence. In the absence of such evidence, they should not be posited. The null hypothesis is then always that what you see is what you get. I will show that this null hypothesis in fact suffices to account for the complex patterns of VP-ellipsis in English.³⁷

Assuming only morphologically motivated projections for the middle/aspectual field gives the following structure for (67)–(70): the modal should be generated under T, and the auxiliaries, being verbal-like elements, should be generated under VP. (The exact label of the phrase will reflect the featural makeup of the auxiliaries, which are not true lexical verbs. I will use VP_f to indicate their functional nature.) The only other projections should be those headed by *-en* and *-ing*. This yields the structure in (71) for constructions like (4). (Since *-en* and *-ing* are aspectual elements, I label the phrases where they are located *AspectP*. Note that since I am focusing on the structure of the middle (i.e., T/Aspect) field, I omit the internal structure of the projection(s) where the main verb is located, simply using *VP* for this part of the structure. As is standard, I

³⁷ I am not necessarily claiming here that there are no null projections in the middle field of English in any construction; my claim is confined to the examples discussed here (see also the discussion in footnote 38).

do assume that additional projections are present in this part of the structure when the main verb is inflected with *-en* or *-ing*. However, apart from a few cases noted below, the presence of these projections has no effect on the analyses to be proposed; hence, I omit them to simplify the exposition.)

(71) [_{TP} must [_{VP,1} have [_{AspectP1} en [_{VP,2} be [_{AspectP2} ing [_{VP,3} be [_{VP}

All the projections in (71) are morphologically motivated. There are no null AspectPs (see below for evidence against the existence of null AspectPs in English)—in fact, no null projections at all.³⁸

3.3.3 Phases in the Middle Field Now, we need to consider which projections should function as phases in this structure under the general approach to phasehood argued for here, a contextual approach where the highest phrase in the extended projection of a major/lexical category counts as a phase. Above we discussed NPs and PPs. What about VPs? The standard assumption is that vP, which can naturally be considered to be part of the extended projection of VP, is the phase here. Considering vP but not VP a phase thus fits naturally into the approach to phasehood argued for here. CPs are, however, also considered to be phases. In the current system, it must then be the case that CP is not part of the extended projection of VP. In fact, given Chomsky's (2008) CP-TP association approach, where C and T basically work together with respect to a number of phase-sensitive phenomena, TP should belong to the CP domain. The traditional CP may need to be split into several phrases, at least in some cases (Rizzi 1997).³⁹ An issue that still needs to be addressed is what precisely is behind the cut between the two phasal domains here: the VP domain and the TP/CP domain. The real issue is actually what makes the TP/CP domain a phasal

³⁸ Although I will be adopting the structure in (71), it should be noted that the analysis I will propose is compatible with a range of options; that is, it is compatible with some modifications of the structure in (71). Thus, nothing would change in the analysis below if both instances of *be* start below the aspectual projections, as in (i).

(i) [_{TP} must [_{VP,1} have [_{AspectP1} en [_{AspectP2} ing [_{VP,2} be [_{VP,3} be [_{VP}

All the projections in (i) are still morphologically motivated. Note, moreover, that the analysis to be proposed can also be maintained if *must* starts below TP, for example in some kind of ModP. It could also be maintained even if *have* undergoes movement in (71), possibly to some kind of Infinitival Phrase (or a Finiteness Phrase, which would be – Finite here), which would fit with its belonging to the clausal phasal domain; see the discussion in section 3.3.3. (Base-generating *have* below AspectPs on a par with other auxiliaries as in (i) would in fact require movement of *have* to ensure that its final position is above AspectPs.) Given that the strategy adopted here is not to posit null projections unless they are needed, I will not assume the movements in question since they would lead to positing additional projections that do not have morphological motivation (and are anyway not needed to account for VP-ellipsis). Still, the reader should bear in mind that if such projections/movements turn out to be needed for other reasons, they can easily be incorporated into the current system.

³⁹ Although the issue is not completely settled, it seems that if there is split CP (an issue that is still debated), the highest phrase within the split CP functions as a phase, serving as the obligatory target of successive-cyclic movement (but see Holmberg 2001, Fernández-Rubiera 2009, López 2009, Aelbrecht 2010), which again fits into the general approach to phases adopted here. Since this article does not deal with the clausal phasal domain, I will not investigate this issue here.

domain. Given that all major categories project phases, the NP, PP, AP, and VP domains are expected to project phases; the TP/CP domain, which I will refer to as the *clausal domain*, still awaits principled incorporation into the system, an issue that unfortunately I cannot address here. The highest projection within the clause may be expected to function as a phase in the current system because it is the highest projection in the domain of X, but how to precisely determine the X in a way that would capture its relation with other phrases in the relevant domain in a principled manner remains to be determined. It is, however, possible that CP should remain at least somewhat outside of the system, CP being the phase simply because it is the highest projection in general. The notion ‘highest’ would then still matter, but there would be no issue of X-CP connection. I will leave the choice between these two possibilities open here. Where the choice does not matter, I will adopt the latter for ease of exposition, but the reader should bear in mind that full integration of CP into the current system is left for future research, the focus of this article being on nonclausal phasal projections.

This uncertainty regarding CP has some consequences for the status of projections that lie on the border between the clausal and VP domains. Under the X-CP connection option, given the unclear nature of the X-CP connection, it is not possible to determine strictly on theoretical grounds whether the frontier projections should belong to the VP domain or the clausal domain. In this article, I will argue for a particular position primarily on empirical grounds.⁴⁰ Specifically, I will argue that AspectP belongs to the VP domain (the claim was originally made in Wurmbrand 2011 on the basis of rather interesting evidence concerning aspectual interpretation and successive-cyclic movement). The intuition here is that temporal-related information/structure is split into two domains, with tense belonging to the clausal domain and aspect to the verbal domain. (In fact, as noted below, aspect is clearly much more tightly related to the verb than tense.) Given that (a) aspectual projections are often interspersed with various verbal projections, (b) in many languages aspect is expressed through derivational verbal morphology (e.g., in Slavic) or through free-standing particles in the VP domain (e.g., English particles like *up*), and (c) aspect in many languages affects case assignment, more precisely, the case that is supposed to be assigned by v-V (in fact, Aspect, not v, has been argued by many authors to be the source of verbal case assignment),⁴¹ it seems natural to assume that Aspect belongs to the VP domain. Under the current proposal that the highest projection within the extended domain of a major category functions as a phase, this means that in a structure where AspectP dominates vP, it will be AspectP, not vP,

⁴⁰ Determining the extended domain of VP is much harder than determining the extended domain of NP. I take the latter, including the above discussion of the latter, to be rather uncontroversial. Given the strength of the discussion of the NP domain, what follows can then also be taken as a contribution to our understanding of the extended domain of VP (what counts as the extended domain of VP). In other words, what I will be doing here is extending a discussion of a clear case (NP domain) to a less clear case (VP domain), using the former to gain a better understanding of the latter.

⁴¹ For the effect of aspect on case assignment to the object, see Tenny 1987, Ramchand 1993, Borer 1994, 2005, Van Hout 1996, Kiparsky 1998, 2001, Nelson 1998, Svenonius 2002a,b, Dubinsky and Hamano 2003, Kratzer 2004, Laka 2006, Tamm 2006, and Travis 2010, among many others.

that will function as a phase. Furthermore, if there is a series of AspectPs, it is the highest AspectP that will function as a phase. The claim is then that AspectP closes the lexical VP domain, with the clausal domain starting right above the highest AspectP. The only phase in the middle field of the structure in (71) will then be AspectP1, with the clausal domain starting right above this phrase.⁴²

(72) [_{TP} must [_{VP₁} have [_{AspectP1} en [_{VP₂} be [_{AspectP2} ing [_{VP₃} be [_{VP}

While the above reasoning concerning the phasal delineation of the middle field seems rather intuitive, admittedly the theoretical reasoning behind the proposal is not sufficient to justify it conclusively; the burden of argumentation will therefore lie in the empirical domain. I will in fact show that the result of the above reasoning enables us to explain several otherwise puzzling facts regarding complex VP-ellipsis. To the extent that the analysis given below is successful, it can therefore be taken as an argument for the approach to phases argued for here.⁴³

3.3.4 Be Shift One more issue needs to be addressed before we can plunge into the account of VP-ellipsis. A number of authors have argued that some but not all nonfinite verbs in English undergo movement. Since what will be important for our purposes is the structures involving the aspectual forms *-en* and *-ing*, I will focus on these forms here. Akmajian and Wasow (1975), Iwakura (1977), Lobeck (1987), Bošković (2004a), and Thoms (2010) have argued that *be* in *been* undergoes movement, while *be* in *being* does not. One argument to this effect concerns floating quantifiers. Consider (73).

(73) *The students are being all arrested by the police.

⁴² Recall that auxiliary VP_fs, which are essentially semantically noncontentful—that is, light (and functional)—do not project VP phasal domains of their own. (*AuxP* may actually be a more appropriate label than *VP_f*. These elements are not verbs in the same sense that lexical verbs are; we are thus not dealing here with an exemption where some lexical verbs would not be projecting phases.) I do assume that aspect-inflected auxiliaries have aspectual features in their feature matrix; hence, they are part of the extended VP phasal domain, which includes aspectual information. (The alternative would be to treat them as not belonging to any phasal domain, which would mean that extended projections could be discontinuous. However, there is no need to adopt this alternative, which is in fact incompatible with a suggestion made in the conclusion.)

⁴³ Languages differ considerably in the way they express aspect; in fact, the variation in this domain seems considerably larger than in the tense domain. Given this variation, it is not out of the question that languages could differ with respect to the phasal housing of the aspect domain; that is, it is not out of the question that in some languages Aspect could belong to the clausal rather than the VP domain. This will obviously have consequences for the phasehood of aspectual projections. An analysis that would appeal to crosslinguistic variation of this sort should, however, attempt to correlate any claimed crosslinguistic differences in the phasal domain of Aspect with other independent aspectual differences between the languages in question, not simply stipulate a phasal difference.

Another interesting line of inquiry here opens up with the claim, made in Bošković 2012a, that some languages (in particular, article-less languages) lack TP (such languages in fact tend to be rather rich aspectually). If the lack of TP fundamentally changes the clausal domain, it is not out of the question that in (some) languages of this type, Aspect is pushed into the clausal domain to make up for the lack of TP (see in this respect Lin 2003b, 2005 and Smith and Erbaugh 2005 for accounts where aspect fully determines temporal interpretation in Chinese; see also Todorović 2013 for the role of Aspect in VP-ellipsis in the absence of TP). The proposals made here for English VP-ellipsis thus have rather wide consequences and open up new avenues for capturing crosslinguistic variation.

The unacceptability of (73) indicates that quantifier float in the main verb domain is not possible here.⁴⁴

- (74) *The students_i are being [_{VP} all + t_i arrested t_i] by the police.

Significantly, quantifier float with the *been* form in (75) is better than with the *being* form in (73).

- (75) ?The students have been all arrested by the police.

Given that quantifier float in the main verb domain is not possible in this context, as indicated by (73)–(74), the quantifier must be floated in a higher Spec in (75). This, however, requires movement of *be*. If *be* undergoes movement here, there is room to float a Q outside of the main verb VP.

- (76) The students_i have been_j [_{VP_i} all + t_i t_j [_{VP} arrested t_i]] by the police.

The same point can be made with simple adverbials, where the contrast between the *been* form and the *being* form is quite sharp (see also Lobeck 1987).

- (77) a. They have been often terrorized by prejudice.
 b. ?*They are being often terrorized by prejudice.
 c. ?Updates have been often released for this.
 d. *Updates are being often released for this.

3.3.5 Accounting for the Distribution of VP-Ellipsis Armed with the above assumptions, I now turn to the account of the paradigm in (67)–(70). Given the above discussion, the second conjunct has the structure in (78). Given that the highest projection in the extended domain of VP, which comprises AspectPs, functions as a phase, the only phase in the middle field is the highest AspectP (boldfaced).⁴⁵

- (78) [_{TP} Peter_i must [_{VP₁} have [**AspectP1** en [_{VP₂} be [_{AspectP2} ing [_{VP₃} be [_{VP} hassled t_i by the police]]]]]]]]]

⁴⁴ The structure in (74) is actually ruled out by antilocality since it involves complement-to-Spec movement (under Sportiche's (1988) stranding account of floating quantifiers). Recall, however, that an additional projection associated with passive morphology should be present above VP in (73)–(74). Quantifier float is apparently not possible within this projection. There is a principled way of ruling out such quantifier float, which I will not go into for reasons of space. (I address the issue in work in progress, arguing that we are dealing here with a more general issue regarding interaction between voice and quantifier float/adverbial modification; anyway, for current purposes it doesn't matter what is responsible for the impossibility of floating a quantifier in the main verb domain here. (Note that the data in (73) and (75)/(77) can also be accounted for if the quantifiers/adverbs here are simply VP_i-adjoined, given that *be* moves out of VP_i to *-en*, while *-ing* undergoes affix hopping to its host within VP_i; see the discussion below.)

⁴⁵ See also the discussion of (101) and footnote 56 regarding phases in such examples. As pointed out in footnote 38, nothing in the analysis proposed here would change if *have* in (78) also undergoes movement to a higher projection, as long as this projection is not an Aspect projection (in this respect, notice that this *have* is not aspect-inflected; see also the discussion below for evidence against the existence of null AspectPs in English) and/or if *must* moves to T from Mod.

Recall now that, as discussed above, the *-en*-inflected verb *be* undergoes movement, while the *-ing*-inflected verb *be* does not. The affixation of *be* to *-en* can then be implemented by having *be* move to *-en*. As for the latter, given that *be* does not undergo movement here and given Bobaljik's (1995) claim that affixation can be achieved through either syntactic head movement or PF merger/affix hopping, we are left with PF merger as the way of implementing the affixation of *-ing* to *be* here, with *-ing* hopping onto *be* located in VP_{f3} in PF. This then leaves us with the syntactic structure in (79) for the examples in question. (I am ignoring potential intermediate NP traces.)⁴⁶

- (79) [_{TP} Peter_i must [_{VP_{f1}} have [_{AspectP1} be_j + en [_{VP_{f2}} t_j [_{AspectP2} ing [_{VP_{f3}} be [_{VP} hassled t_i by the police]]]]]]]]]

Consider now the possibilities for ellipsis in the middle field of (79), given that only phases and phasal complements can be elided. Since VP_{f1} is neither the complement of a phase head nor a phase itself, VP_{f1} cannot be elided. This accounts for the unacceptability of (67). AspectP1, on the other hand, can be elided since AspectP1 is a phase. This ellipsis option yields the sequence in (68), accounting for the grammaticality of this construction. Since VP_{f2} is a complement of a phase head, VP_{f2} can also be elided, which accounts for the grammaticality of (69). Notice now that nothing below VP_{f2} can be elided. AspectP2, VP_{f3}, and VP are neither phases nor complements of phase heads; hence, they cannot undergo ellipsis. We then account for the ungrammaticality of the remaining example, (70).⁴⁷ The proposed model thus accounts for the full paradigm in (67)–(70).

The same holds for the simpler paradigm in (80). The relevant structure is given in (81).⁴⁸

- (80) Jane must have been hassled by the police, and Sue
 a. *must too.
 b. must have too.
 c. must have been too.

⁴⁶ Nothing in the analysis of (67)–(70) given below would change if *be* were to move to *-ing* (instead of having the two undergo PF merger). The only examples where it actually matters that *be* and *-ing* undergo PF merger are (91) and (98b) (PF merger is in fact commonly assumed for examples like (91); see, e.g., Abney 1987 and references therein).

⁴⁷ In the current approach to phasehood, the highest projection in the extended domain of every major category functions as a phase. Above, I gave evidence to this effect for NPs, PPs, and VPs. Below, I will argue that the same holds for APs. From this perspective, notice that the grammaticality status of (70) does not change if the verb is replaced by an adjective.

(i) *Betsy must have been being noisy, and Peter must have been being too.

I take this to mean that just as the aspectual projections are part of the extended domain of VP when they dominate VP, so they are part of the extended domain of AP when they dominate AP (note that there are many languages where adjectives are inflected for aspect). The above account of (70) then straightforwardly extends to (i). Notice also the acceptability of *Of whom is John proud?*, where the complement of an adjective is extracted. The possibility of such extraction indicates that there is additional functional structure above the AP (if we were dealing here with a bare AP, with AP being a phase, the extraction would be blocked).

⁴⁸ Superficially, there appears to be some speaker variation regarding examples that are similar to (80a). However, this is due to the availability of an irrelevant ellipsis option. Thus, Wurmbrand (in preparation) observes that *John might have called and Bill might too* is acceptable but only on the here irrelevant option *John might have called and Bill might*

- (81) [_{TP} Sue_i must [_{VP1} have [_{AspectP1} be_j + en [_{VP2} t_j [_{VP} hassled t_i by the police]]]]]

The only projections in the middle field of (81) that can be elided are AspectP1 and VP₂. This way, we derive the acceptable examples in (80). Crucially, VP₁ cannot be elided (since it is neither a phase nor a phasal complement), which accounts for the ungrammaticality of (80a).

Now consider \bar{A} -extraction out of the VP-ellipsis sites discussed above. As noted earlier, \bar{A} -movement out of ellipsis sites is in principle possible, sluicing being the standard case. It is well-known that \bar{A} -movement is not always possible out of constructions involving traditional VP-ellipsis, and the same in fact holds for sluicing. Thus, (82) contrasts with (83).

- (82) a. *They said they heard about a Balkan language, but I don't know which they did.
(Merchant 2008b:139)
b. ??Ben knows who she invited, but Charlie doesn't know who.
(Merchant 2008b:142)
- (83) a. They said they heard about a Balkan language, but I don't know which.
(Merchant 2008b:139)
b. Ben knows who she invited, but Charlie doesn't know.
(adapted from Merchant 2008b:142)

Merchant (2008b) provides an account of (82) based on MaxElide (84), which essentially states that when an ellipsis site contains an \bar{A} -trace, ellipsis must target the largest constituent possible. (83) then blocks (82), since the ellipsis targets a larger constituent in (83).

- (84) Let XP be an elided constituent containing an \bar{A} -trace and YP a possible target for deletion. YP must not properly contain XP.

Turning now to the ellipsis cases discussed above, interestingly, although the relevant contrasts are subtle, all my informants prefer (86a) to (85a) and (86b) to (85b).

- (85) a. ?*You wonder by whom Betsy must have been being hassled, and I wonder by whom Jane must have.
b. ?*You wonder on which table your book must have been put, and I wonder on which table my CD must have.

call (see below for such cases), not on the option *John might have called and Bill might have-called* (Wurmbrand demonstrates this by using conflicting time specifications, as in **John might have called yesterday and Bill might too*). Sag (1976), Lobeck (1987), and Johnson (2001) also observe that such examples are unacceptable on the latter (i.e., matching) option, though there is a bit of confusion in the literature regarding such examples since some authors are apparently not taking into consideration the possibility of the nonmatching ellipsis option, simply marking such examples as acceptable without discussing the possible derivations. Further complicating the situation is that speakers seem to differ regarding the availability of the first option noted above, where the ellipsis site is not completely identical to the antecedent (there also appear to be some differences across different modals, with, for example, *must* being more resistant to it, hence more useful for our purposes). I will ignore mismatching derivations here, since this article does not deal with recoverability of deletion, which is crucially involved in such cases. Consequently, I mark the judgments only for the readings where the ellipsis site matches the antecedent.

- (86) a. ?You wonder by whom Betsy must have been being hassled, and I wonder by whom Jane must have been.
 b. ?You wonder on which table your book must have been put, and I wonder on which table my CD must have been.

This is rather surprising given MaxElide. Given MaxElide, (85) and (86) should not even have the same grammaticality status: (85a–b) should be better than (86a–b) since they involve ellipsis of a larger constituent in the presence of \bar{A} -movement out of an ellipsis site. Recall, however, that \bar{A} -movement is easier out of ellipsis sites that correspond to phasal complements than ellipsis sites that correspond to full phases (see (32)). Significantly, the contrast between (85) and (86) corresponds to a phasal ellipsis/phasal complement ellipsis cut: what is elided in (85) is a full phase (AspectP1 from (79)), and what is elided in (86) is a phasal complement (VP_t2 from (79)). The contrast in (85)–(86), which is rather surprising given MaxElide (in fact, the subtle improvement in (86) becomes even more significant given that under MaxElide (85) is actually expected to be significantly better than (86)), can then be taken as a confirmation of (32). Notice furthermore that A-movement is allowed out of both phasal and phasal complement ellipsis here. (A-movement occurs in all the examples discussed above, including (68)–(69).) This is in fact exactly what is expected under the above deduction of (32). Let us apply that analysis to (85)–(86). The structure for (85a)/(86a) is (87). Following standard assumptions regarding phases and successive-cyclic movement, the *wh*-phrase has to move to Spec,AspectP1. (I ignore intermediate traces of the subject.)

- (87) C [_{TP} Peter_i must [_{VP_t1} have [_{AspectP1} *wh*-phrase be_j + en [_{VP_t2} t_j [_{AspectP2} ing
 [_{VP_t3} be [_{VP} hassled t_i

As soon as C is merged, the lower phase AspectP1 undergoes ellipsis marking. There are two options here: AspectP1, a phase, is marked for ellipsis; or its complement, VP_t2, is marked for ellipsis. Crucially, only on the latter option does the *wh*-phrase end up outside of the ellipsis-marked site; hence, only on that option is it available for movement to Spec,CP. (Recall that ellipsis marking freezes the phrase in question for further syntactic computation.) We thus account for the contrast in (85)–(86). We also account for the fact that A-movement to Spec,TP out of the ellipsis site is available in both cases. The attractor for A-movement is T, which enters the structure before C is merged. As a result, when T attracts the subject, AspectP1 has not been marked for ellipsis. Consequently, the subject in Spec,AspectP1 is available for movement to Spec,TP.⁴⁹

⁴⁹ This account of the different behavior of T and C with respect to the possibility of targeting the same position is very much along the lines of Chomsky's (2001) proposals but is incompatible with Chomsky's (2008) C-T association system, which would require further assumptions to accommodate it. (Notice, however, that (87) could involve A-movement to Spec,VP_t1 prior to A-movement to Spec,TP; see Sportiche 1988.)

Interestingly, as Troy Messick (pers. comm.) observes, the examples in (85) improve under *wh*-passivization.

- (88) a. ?You wonder which boy must have been being hassled, and I wonder which girl must have.
 b. ?You wonder which book must have been put on that table, and I wonder which magazine must have.

This is not surprising: (88a–b) do not involve *wh*-movement out of an ellipsis site. Rather, they involve A-movement out of the ellipsis site (to Spec,TP), followed by *wh*-movement. As a result, the problem noted above regarding (85) does not arise in (88). The above analysis thus accounts both for the possibility of A-movement out of both phasal and phasal complement ellipsis and for the contrast between phasal and phasal complement ellipsis regarding the possibility of \bar{A} -movement.

Returning to simple cases that do not involve \bar{A} -extraction, the above analysis also explains several otherwise puzzling facts concerning gerunds. Consider (89), adapted from Aelbrecht 2010: 92.

- (89) *I recall Morgan having been thinking about it, but I don't recall Peter having been.

Within the current system, the *-ing*-inflected auxiliary *have* should be treated as part of the aspectual domain (i.e., the extended VP domain). This gives (90) as the relevant part of the structure for (89).⁵⁰

- (90) . . . [_{AspectP1} *ing* [_{VP1} *have* [_{AspectP2} *be_j* + *en* [_{VP2} *t_j* [_{VP} *thinking about it*]]]]]

The phase here is the phrase headed by *-ing*. Since VP₂ is neither a phase nor a phasal complement (and the same holds for VP), it cannot undergo ellipsis in the current system. We thus have an account of the ungrammaticality of (89), as well as of a somewhat surprising contrast between (69) and (89) with respect to the possibility of ellipsis of the material following *been*.

The current analysis also accounts for the ungrammaticality of (91).

- (91) *I recall Morgan having been thinking about it, but I don't recall Peter having.

(91) would require ellipsis of AspectP₂ in the structure in (90). However, this phrase is neither a complement of a phase head nor a phase itself. Its ellipsis is then disallowed, which gives us an account of the unacceptability of (91) (which is rather unexpected, given the acceptability of (96a) below). The current system thus provides a straightforward account of the somewhat surprising data in (89)/(91) (and the contrast between such examples and similar finite examples).

⁵⁰ The analysis to be proposed is compatible with several modifications of this structure. What is important is that the projection where *-ing* is located, whatever its label is, is the highest projection in the extended VP domain.

Turning now to (92), there are quite a few proposals in the literature concerning the structural position of *Peter* in such examples. Many of them can easily be adopted into the current system. Thus, Pires (2006) places *Peter* in Spec,TP (and *-ing* in the vP domain), which means that *Peter* belongs to a different phasal domain here. AspectP1, a phase, can then be elided in (93).⁵¹

(92) I recall Morgan having been thinking about it, but I don't recall Peter.

(93) [_{TP} Peter [_{AspectP1} ing [_{VP,1} have [_{AspectP2} be_j + en [_{VP,2} t_j [_{VP} thinking about it]]]]]]]

Notice, however, that such examples can help us establish the ordering of affix hopping and ellipsis, given the above generalization that \bar{A} -movement is typically possible only out of ellipsis sites that correspond to phasal complements. As noted above, (93) can involve ellipsis of a full phase, namely, AspectP1. Suppose, however, that affix hopping can precede ellipsis. *-ing* can then hop onto *have* before ellipsis applies. Ellipsis can then elide the complement of AspectP1 and still yield the string in (92). On the other hand, ellipsis of VP_{f1} cannot yield (92) if affix hopping cannot precede ellipsis. (92) can then involve either phasal or phasal complement ellipsis if affix hopping can precede ellipsis, but it can involve only phasal ellipsis if affix hopping cannot precede ellipsis. Since \bar{A} -extraction is possible only out of phasal complement ellipsis, the extraction test can then help us determine the ordering of ellipsis and affix hopping. It turns out that extraction is degraded in this context, providing evidence that ellipsis precedes affix hopping (at least for this affix). Compare (94) and (95).⁵²

(94) ?*Who does Jane recall Mary (having been) supporting, and who does John recall Bill?

(95) Who does Jane recall Mary (having been) supporting?

Returning to the distribution of VP-ellipsis, there is an interesting contrast between constructions like (4) and (91) and examples where the first head in the modal/auxiliary sequence is a finite auxiliary. Thus, if finite *have* is the initial element in the middle field, ellipsis after the first element is possible. The rest of the paradigm remains the same as in (4).

⁵¹ As for **I recall Morgan having been thinking about it, but I don't recall Peter-having-been-thinking-about-it*, I assume that we are dealing here with whatever is responsible for the general impossibility of pure argument ellipsis in English (see footnote 22)—that is, examples like **I kissed Morgan, and Peter kissed Morgan too* and the like.

⁵² One of my informants accepts (94), which indicates that there may be some speaker variation regarding the ordering of affix hopping and ellipsis. In fact, my informants tend to uniformly either reject or accept various examples involving \bar{A} -movement out of an ellipsis site where the highest head in the extended verbal domain is an affix that needs to undergo affix hopping (thus, the speakers who find (94) degraded also find *You wonder by whom Jane is being hassled and I wonder by whom Sue is* degraded (see the text following (98) for discussion of such examples), while the speaker who accepts (94) also accepts this example). This suggests that speakers may indeed differ regarding the ordering of affix hopping and ellipsis. At any rate, because of the unclear status of some relevant judgments (as well as the interfering factor that MaxElide raises in some cases and the fact that many constructions can be analyzed as involving either phasal or phasal complement ellipsis in the current system, especially with some additional but rather straightforward modifications of the discussion below), I will not discuss extraction out of ellipsis sites further, focusing instead on the cases that do not involve such extraction.

- (96) Betsy has been being hassled by the police, and Peter
 a. has too.
 b. has been too.
 c. *has been being too.
 (Sag 1976:29)

This is exactly what is expected under the current analysis. (96a–c) have the structure in (97).

- (97) [TP Peter_k has_i [VP_{i,1} t_i [AspectP1 be_j + en [VP_{i,2} t_j [AspectP2 ing [VP_{i,3} be [VP hassled t_k
 by the police]]]]]]]]

Being a phase, AspectP1 can be elided, which yields (96a), accounting for the contrast between (96a) and (4a)/(91). Other options for ellipsis in (96) can be handled in the same way as the rest of the paradigm in (4).⁵³

I now turn to a simpler example where only an *-ing*-inflected auxiliary verb is present.

- (98) Jane is being hassled by the police and Sue
 a. is too.
 b. *is being too.

- (99) [TP Sue_i is_j [VP_{i,1} t_j [AspectP2 ing [VP_{i,2} be [VP hassled t_i by the police]]]]]

While the *-ing* AspectP2 is not a phase in (79), this AspectP is a phase in (99), being the highest projection in the domain of the lexical verb (AspectP2 is the only phase here). Given that only phases and complements of phase heads can be elided, only AspectP2 and VP_{i,2} can be elided in (99). The former option yields (98a), and the latter results in a stranded affix *-ing*. (If affix hopping could precede ellipsis, this option would also yield (98a); see footnote 52.) (98b) is underivable since it would require deletion of VP, which is neither a phase nor a phasal complement.

Now consider the following constructions:

- (100) John must be hassling the police, and Peter must be too.
 (101) John must be hassled by the police, and Peter must be too.

⁵³ In SC, ellipsis is not possible after the second auxiliary (a participle), which can be accounted for if this auxiliary does not undergo movement in SC: both AspectP and VP2 deletion then elide *bio* 'been'. (See Bošković 1999 for an alternative analysis. Notice that in SC aspect is morphologically manifested through derivational morphology on verbal elements; see Todorović 2013 for a detailed discussion of the role of aspect in VP-ellipsis in SC within the phasal framework developed here.)

- (i) Jovan je bio poljubio Anu, a i Ivan je/*je bio.
 Jovan is been kissed Ana and also Ivan is is been
 'Jovan had kissed Ana, and Ivan had too.'
 (ii) [TP Ivan je_i [VP_{i,1} t_i f_{AspectP} {VP2 bio {poljubio Anu}}]]]

Recall that auxiliaries that are not inflected for aspect belong to the clausal phasal domain, not the VP domain. The active VP in (100) projects its own phasal domain, which functions as the complement of the auxiliary *be*. This phasal domain undergoes deletion in (100) in accordance with the current approach to phases, which allows ellipsis of phases (and phasal complements).⁵⁴

Note, however, that ellipsis is also possible in (101). It must then be the case that the complement of *be* in (101) is also a phasal domain. While this goes against the claim about verbal phases made by Chomsky (2000, 2001), it is actually straightforwardly accommodated, even expected, under the current approach to phases, under which the highest projection in the extended domain of a verb functions as a phase. Under this approach, we would actually expect passive verbs to project phases. Not having vP with passive verbs would not affect anything here. Whatever the highest projection is in the extended domain of the verb, it is still a phase. If we only had VP here, then this VP would be the phase. There should, however, be at least the projection associated with passive morphology, which should then function as the phase and undergo ellipsis.⁵⁵

(102) Peter must be [_{passive} [_{VP} ~~main verb~~]]

Under the current approach to phases, we thus expect passive verbs to also project phases, an option that is in fact realized in (101).⁵⁶ Independent evidence to this effect is given by Legate (2003). I emphasize that the current approach to phasehood does not require passive verbs to have exactly the same structure as their active counterparts to project phases; that is, it does not require them to project vP, which means that vP can still be associated with external θ -role assignment, hence lacking in passive constructions (see also footnote 61).

Recall that in the system adopted here, all major categories project phases. I have provided evidence to this effect for NPs, PPs, and VPs, but the same should hold for APs (it would in fact be difficult to exempt only AP from phasehood in a principled manner). Under the current analysis of ellipsis, (103) provides evidence that adjectives indeed project phases.

⁵⁴ The relevant phrase would be the projection housing *-ing* if this projection is located above vP (otherwise, vP would be the phase).

⁵⁵ The presence of this phrase (which can be labeled VoiceP) is actually confirmed by simple examples like *The cake_i was [_{passive} [_{VP} cut *t_i*]]* (i.e., *The cake was cut*). Without this phrase, VP would be the phase here; *the cake* would then have to move to Spec,VP, in violation of Abels's (2003) ban on movement of phasal complements. The passive projection resolves this problem (movement of *the cake* to the Spec of this projection does not violate antilocality).

Notice also that examples like *John seems to live in London*, and *Mary does seem-to-live-in-London too* provide evidence that, like passive verbs, raising verbs project phases, as expected in the current system (see also Legate 2003). However, given the discussion of pseudogapping below, voice should be specified outside of VP in all constructions, active as well as passive, which means that the voice-specifying projection will be the phase in this example, not VP (in fact, this means that there is no bare VP phase).

⁵⁶ The same actually holds for (67)–(70), whose structure is given in (79) (as well as (80)–(81) and (98)–(99)), where the highest AspectP is a phase by virtue of being the highest projection in the extended domain of the passive verb.

(103) John must be tired, and Peter must be too.

What is elided in (103) is a projection of AP. Since this projection is not a complement of a phase head (recall that *be* is not a phase head in such examples), it must be the case that the projection is itself a phase. (103) then provides evidence that APs also project phases, as expected under the approach to phases argued for here (see also footnote 47, where it is shown that the highest projection in the extended domain of AP is in fact a phase).⁵⁷

Finally, consider basic ellipsis examples like (104).

(104) John lives in London, and Peter does too.

An issue that arises here is whether an AspectP is present in (104), given that the example does not involve overt aspectual morphology. As discussed above, phonologically null projections should not be posited unless they are needed. (104) can in fact be accounted for in the current system even if it does not involve a null AspectP. In that case, vP is the highest projection in the extended domain of the verb, hence a phase. (104) can then involve ellipsis of the vP phasal projection.

(105) John lives in London, and Peter does [~~vP live in London~~]

Eliding the VP complement of the phase head *v* is actually also a possibility here, which is potentially problematic. Avoiding blocking this option by stipulation would enable us to maintain the ‘purity’ of English VP-ellipsis (no stipulations of this sort were needed so far). In order to account for the impossibility of the verb being stranded under ellipsis, as in **John lives in London, and Peter lives in-London too*, we can assume that the verb does not move to *v*, hence cannot survive ellipsis of the VP complement of the phase head *v*. ((105) can then also involve VP-ellipsis.) This can be the case quite generally (the evidence for overt V-to-*v* movement is rather thin), or only in ellipsis cases. Lasnik (1999a) and Gengel (2007, 2009) actually provide very convincing justification for the latter option, observing that we are dealing here with a broader effect; thus, Lasnik observes that I-to-C movement that normally takes place in English questions does not take place when ellipsis occurs, as in the sluicing example *Mary will see someone. Who Mary will see?* versus **Who will Mary see?* I therefore adopt the latter analysis

⁵⁷ Notice also the ungrammaticality of (i).

(i) **John must be hassled by the police/hassing the police, and Peter must too.*

(i) can be rather straightforwardly accounted for in the current system. What is elided here is the phrase where *be* is located, which is outside of the VP phasal domain (recall that middle field auxiliaries that are not inflected for aspect are outside of the VP/aspectual phasal domain). In other words, the phrase in question is neither a phase nor a phasal complement (since *must* is not a phase head). As a result, it is not allowed to undergo ellipsis in the current system.

While many examples of this type are unacceptable with other modals too, some are acceptable. (Thus, Wurmbrand (in preparation) notes that *should* patterns with *must*, but *can* does not, although even with this modal the *-ing* option is degraded. See also footnote 48; whether the modal/auxiliary is the same in both sentences may also have an effect (see Aelbrecht 2010).) It is beyond the scope of this article to account for this ill-understood variation.

here, where V-to-v movement does not take place under ellipsis, on a par with the failure of I-to-C movement under ellipsis.⁵⁸

There is also an alternative analysis of basic ellipsis examples like (104) that relies on the presence of a null AspectP. If AspectP is present in (104) (above vP), the example can be derived by eliding either AspectP (the phase) or vP (the phase head complement).

(106) John lives in London, and Peter does [_{AspectP}[_{vP} live in London]]

Under this analysis, the issue of VP-ellipsis does not arise, since VP is neither a phase nor a phase head complement, hence cannot be elided.⁵⁹

I therefore conclude that both the VP-ellipsis and the vP-ellipsis accounts of basic examples like (104) are compatible with the current system. There is actually some disagreement in the literature regarding which phrase undergoes deletion in simple VP-ellipsis cases (see, e.g., Johnson 2001, Baltin 2007, Merchant 2008a, Gengel 2009 for relevant discussion). Of interest here is that in the current system, resolving this issue bears on the thorny (and difficult-to-resolve) question of whether null AspectP is present in constructions without overt aspectual morphology. Recall that under the null aspect analysis, simple VP-ellipsis must involve vP-deletion—VP-deletion is not a possibility. On the other hand, under the no-null-aspect analysis, simple VP-ellipsis can involve either vP- or VP-deletion. The data regarding voice mismatches with VP-ellipsis discussed by Merchant (2008a) can help us tease apart the two analyses in this respect.⁶⁰

Merchant (2008a) notes that VP-ellipsis tolerates voice mismatches (see also the references cited by Merchant). He assumes that voice is specified in the v head (i.e., vP).⁶¹ He further argues that since the two conjuncts in (107) have different voice specifications, the v head in the second conjunct must be outside of the ellipsis site (otherwise, there would be a voice mismatch between the antecedent and the elided structure), which means the example should involve VP-ellipsis, not vP-ellipsis.

(107) The problem was to have been looked into, but obviously nobody did
 [_{vP-active} [_{vP} ~~look into~~]]
 (Merchant 2008a:169)

One could try to argue that we are dealing here with an issue related to recoverability of deletion and that (107) simply indicates that there is no problem with recoverability if an elided active verb has a passive verb as its antecedent. But that would leave a very interesting contrast between

⁵⁸ Notice that I assume that head movement out of an ellipsis site is not blocked if it would result in a stranded affix.

⁵⁹ Notice also that the presence of negation, as in *John lives in London and Peter doesn't*, does not affect anything here, given that NegP is higher than AspectP/vP (in fact, outside of the VP phasal domain).

⁶⁰ I leave addressing Johnson's (2001) argument regarding the target of VP-ellipsis based on *again* for future research.

⁶¹ I am simply following Merchant regarding the label of the relevant phrase. However, nothing substantial in the discussion below would change if vP is simply VoiceP or if VoiceP is a separate projection on top of vP (even if vP is missing in passives; see the discussion above). (For an analysis of ellipsis that assumes VoiceP that is separate from vP, see Baltin 2007.) The reader therefore should not attach too much importance to the actual "label" here.

VP-ellipsis and pseudogapping (a construction illustrated by (109)) unaccounted for. Merchant (2008a) observes that, in contrast to VP-ellipsis, pseudogapping does not tolerate voice mismatches. Thus, (108) contrasts with (107).

- (108) *Roses were brought by some, and others did lilies.
(Merchant 2008a:170)

- (109) Some brought roses and others lilies.

Pseudogapping is generally treated in terms of ellipsis, with the internal argument that survives pseudogapping moving outside of the phrase to be elided prior to the ellipsis (see, e.g., Kuno 1981, Jayaseelan 1990, Lasnik 1995, 1999b, Johnson 2001, Baltin 2002). Merchant (2008a) argues that the contrast between (107) and (108) provides evidence that VP-ellipsis and pseudogapping target different phrases (he gives another argument to this effect regarding quantifier float). In particular, pseudogapping must involve vP-deletion (see (110)); (108) is then unacceptable because the antecedent and the elided constituent have different voice specifications, which Merchant argues is disallowed (i.e., the presence of the voice head inside the ellipsis site triggers a failure of identity in the pseudogapping case).

- (110) *Roses were brought by some, and others did lilies [_{vP-active} [_{VP-bring}]]

Like J.-S. Kim (1997), Depiante (2000), Jayaseelan (2001), Winkler (2005), Gengel (2007, 2009), and Aelbrecht (2010), Merchant assumes that pseudogapping involves focus movement of the remnant to a focus position above vP (note that the remnant is focused), which is followed by vP-ellipsis.⁶² The analysis can be straightforwardly incorporated into the current system. A number of authors have argued that in addition to the high, clausal focus position, many languages have a low focus position within the VP domain (in addition to the references cited above in connection with the focus movement account of pseudogapping, see Belletti and Shlonsky 1995, Bošković 1997, Stjepanović 1999, Drubig 2003, Belletti 2004, Kuo 2009, Bastos 2011). Assume that this is indeed correct and that this low focus position belongs to the VP phasal domain. Under the no-null-aspect analysis, (108) then has the structure in (111), while (107) has the structure in (112) (phases are boldfaced).

- (111) ... others did [**FocP** lilies [_{vP-active} [_{VP} bring]]]

- (112) ... obviously nobody did [_{vP-active} [_{VP} look into]]

While (112) allows VP-deletion, given that VP is a complement of a phase head, (111) does not. Foc is the relevant phase head in (111). Being the complement of a phase head, vP can undergo deletion. VP, on the other hand, cannot undergo deletion in (111) since, in contrast to the VP in (112), it is neither a phase nor a phase head complement.

⁶² It is not crucial to the discussion below that the movement in question involves focus movement.

Merchant's account of the VP-ellipsis/pseudogapping difference can thus be easily incorporated into the current system. There is, however, an added benefit in that the current system explains *why* pseudogapping and VP-ellipsis differ regarding the level of structure that is elided (which is not done in Merchant 2008a). Crucially, however, this is so only if the constructions discussed above do not contain a null aspect head. As noted above, if a null aspect head is present in the examples considered here, even (112) can only involve vP-ellipsis. (VP is not a phasal complement in (113).)

(113) . . . obviously nobody did [_{AspectP}[_{vP-active}[_{VP} look into]]]

Furthermore, Merchant's analysis strongly confirms the current contextual approach to phasehood. As discussed above, the status of VP regarding phasehood must be different in (111) and (112): VP is a phase head complement in (112) (hence can be elided) but not in (111) (hence cannot be elided), which means that vP functions as a phase in (112) but not in (111). The variable status of vP with respect to phasehood in the constructions under consideration follows straightforwardly from the current system. In both (111) and (112), the highest phrase in the VP domain functions as a phase: while vP is the highest head in this domain in (112), it is not in (111), where pseudogapping introduces an additional projection into the VP domain.

Merchant's analysis of the different behavior of pseudogapping and VP-ellipsis with respect to voice mismatches thus supports the current contextual approach to phasehood. Incorporated into the current system, it also provides evidence against the existence of morphologically unmotivated null Aspect projections, in line with the current attempt to minimize phonologically null structure.⁶³

To sum up, in section 3.3 I have provided an account of a rather complex paradigm regarding VP-ellipsis in English that has consequences for the structure of the middle/aspectual field in English, the general theory of phases, and the general theory of ellipsis. Regarding the structure of the aspectual field, the analysis requires that only the structure that is morphologically manifested in the constructions under consideration be posited, with the auxiliary undergoing movement to the *-en* affix, but not to the *-ing* affix. Regarding the general theory of ellipsis, I have argued that ellipsis is phase-constrained: only phases and phasal complements can be elided (\bar{A} -extraction out of an ellipsis site being possible only with the latter). This yields a rather constrained theory of ellipsis that, for example, disallows ellipsis of complements of nonphase heads. Regarding the general theory of phases, the analysis presented in this section provides additional evidence for the contextual approach to phasehood argued for above, where the highest projection in the

⁶³ The conclusions reached in this discussion are somewhat tentative owing to the ill-understood nature of pseudogapping, which is subject to several constraints that are not operative with VP-ellipsis (see Levin 1986). One is that pseudogapping is not possible in multiple modal/auxiliary constructions (see, e.g., Levin 1986, Agbayani and Zoerner 2004, Gengel 2007), which prevents us from using the current system to investigate the exact position of the pseudogapping remnant. Note also that, as Aelbrecht (2010) shows, both simple VP-ellipsis and pseudogapping allow \bar{A} -extraction out of the elided site, which is not surprising given that they both involve ellipsis of a phase head complement.

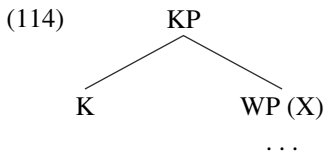
extended domain of a lexical head counts as a phase. I have argued that Aspect belongs to the verbal, not clausal, phasal domain (see also Wurmbrand 2011); Aspect in fact typically delineates the verbal phasal domain, with projections above AspectP belonging to the clausal phasal domain. The highest projection that functions as a phase in the verbal domain is AspectP (when present; otherwise, the highest projection in the absence of AspectP is the phase); crucially, the highest AspectP functions as a phase in verbal domains with more than one AspectP (as a result, the *-ing* AspectP sometimes functions as a phase, and sometimes does not, depending on whether the *-en* AspectP is present above it). I have argued that the ellipsis paradigm also provides evidence that adjectives project phases, as expected under the current approach where all major categories project phases. Passive verbs also project phases (the same holds for raising verbs), which is again expected under the current analysis: while the lack of vP (if vP is indeed missing with passives, which is not clear) may affect what counts as the highest projection in the extended domain of the verb in a passive construction, it cannot affect its phasehood; passive verbs are still expected to project phases. Finally, I have argued that pseudogapping involves an additional projection that affects the phasehood of vP in a manner that explains Merchant's (2008a) claim regarding the different behavior of pseudogapping ellipsis and simple VP-ellipsis with respect to the target of ellipsis.

4 Conclusion

I have argued for a contextual approach to phases on which the highest projection in the extended domain of a lexical category counts as a phase. Since lexical categories do not always project the same structure, what counts as a phase within a particular domain varies. Thus, in the traditional noun phrase, DP is the phase in English. NP is typically the phase in SC, a language that lacks DP, except when a numeral/quantifier, which projects QP above NP, is present; in such cases, QP functions as a phase and NP ceases to be a phase. In Japanese, another language that lacks DP, KP, which dominates NP, is the phase except in cases where a QP is projected above KP, in which case QP functions as a phase. While superficially we seem to have a great deal of variation here (both crosslinguistically and within individual languages) regarding what counts as a phase, in all these cases it is the highest projection within the TNP that counts as a phase; hence, all these facts can be unified if the highest projection within the TNP functions as a phase. This in itself provides strong evidence for the contextual and against the rigid approach to phasehood: only the former allows the phasal status of X to be affected by the syntactic context in which X occurs (here the phasal status of NP is affected by the syntactic context in which it occurs). I have also applied this approach to phasehood to PPs, the crucial case being Turkish, where the richness of PP structure affects the phasehood of PPs, as well as to APs and VPs. In the verbal domain—where I have argued on the basis of VP-ellipsis that AspectP or vP functions as a phase depending on what the highest projection within the extended domain of the verb is—only the highest AspectP functions as a phase if there is more than one AspectP, with Aspect itself delineating the verbal phasal domain (when present). I have argued that passive verbs and adjectives also project phases, as expected under the approach to phases whereby every major

category projects a phase (potential absence of one projection with passives cannot affect their phasehood under this approach). The current approach to phasehood also goes a long way toward resolving a serious conceptual question regarding how to choose phasal projections: there is nothing to choose here; all major categories project phases. I have also shown that this overall approach to phasehood enables us to account for (in fact, provide a unified account of) a number of otherwise puzzling facts regarding extraction and ellipsis. Finally, I have argued for a particular approach to ellipsis whereby ellipsis is phase-constrained: that is, only phases and complements of phase heads can undergo ellipsis.

I will conclude by putting the current claim that the highest projection in the extended domain of a lexical head functions as a phase into a broader perspective. First, consider the concept of extended projection. What does it mean to be part of an extended projection of A? It means that some property/properties of A is/are projected (via simple structure building in the sense of Chomsky 1995:244) through all the phrases in the extended domain of A; call these Y. Assume that whatever is responsible for the phasal status, call it X for ease of exposition, is part of Y; it projects through the extended domain. Then, the claim that the highest extended projection functions as a phase can be understood to mean that X determines a phase when X no longer projects (the phasal domain is then also closed when X is no longer projected). In a way, then, phasehood is projected through the extended domain together with the basic properties that determine the nature of this domain (namely, Y); when the domain is closed off, with Y no longer projecting, the phasehood property X also no longer projects, turning the phrase that has the X property at that point into a phase; we can look at this as an activation of the phasal property.⁶⁴ Viewed this way, WP in (114) becomes a phase after WP merges with K, with K projecting.⁶⁵



In other words, the phasal status of WP is determined after it merges with K (but see footnote 65). This appears to differ from Chomsky's system, where WP is identifiable as a phase even

⁶⁴ If we were to assume that every phrase through which X is projected functions as a phase, we would essentially be back to the every-phrase-is-a-phase approach, with the problems that this approach faces (see also the discussion below (115)).

⁶⁵ The cycle is standardly assumed to be defined on phases. The phasal approach to the cycle can easily be adjusted to allow movement to Spec,WP after the structure in (114) is built (especially under Chomsky's (2001) approach to the PIC, where PIC/phase effects for phase WP do not kick in until a higher phase head is merged; for other options, see Bošković, forthcoming). Alternatively, what may matter here is that the very merger of W will exhaust the numeration (which under the current approach cannot have more than one N, V, A, or P); under this view, WP can be activated as a phase (and movement to Spec,WP can take place) even *before* K is merged.

before the merger with K. Significantly, Chomsky (2001) crucially argues that even in his system, the phasal status of WP is “activated” only when a higher phase head is merged. In other words, even in his system, for all practical purposes WP does not function as a phase until higher structure is merged. While this seems to be out of place (and rather mysterious) in Chomsky’s noncontextual approach to phasehood, it fits naturally into the current, contextual approach to phases. In other words, this shows that at least to some extent, phasehood has to be contextual anyway: even rigid phasehood systems have to rely on the contextuality of phasehood; the current system simply fully endorses it.

The overall picture can be further modified as follows. Suppose the following principle exists, where *phasal specification* is taken to be X from the above discussion:

(115) *The Phase Continuity Principle*

Every phrase has phasal specification.

According to (115), every phrase is part of an extended phasal domain. This means that K in (114) will start a new phasal domain, which will be “activated” when K ceases to project (in terms of extended projections), as discussed above. If (115) holds, we are pretty much led to the current view where the highest phrase in the extended projection functions as a phase. Suppose that, unlike in the above discussion, the phasal property is immediately activated, turning the first phrase with X, call it ZP, into a phase. I take this to mean that the X property would no longer be projected. The only way for (115) to be satisfied then is for ZP to be merged with another head with a phasal property, call it L, with L projecting. Like ZP, LP will then function as a phase, and will have to be merged with another head whose maximal projection will again have to function as a phase, given (115).⁶⁶ In other words, we will then be forced into an every-phrase-

⁶⁶ However, the unresolved status of CP regarding phasehood becomes an issue here. As discussed above, there are two options regarding the phasal status of CP: (i) CP is a phase because it is the highest projection in general; on this option, (115) needs to be taken to hold only for phrases with categorial specification (i.e., phrases in the extended projection of lexical heads). (ii) The phasehood status of CP is determined by a lower head Z, with CP being the highest phrase in the extended domain of Z; on this option, (115) can be taken to hold for all phrases.

I have left it open what Z could be. The current discussion indicates that Z should be the first head that is merged with the highest phrase in the extended projection of VP. I do not mean that Z is necessarily one of the phrases discussed in section 3. It is possible that Z is an additional projection whose nature is yet to be determined. To be more concrete, under option (ii) (115) would require that another phasal domain—in particular, what I have called the clausal phasal domain—starts right above AspectP1 in (72); the projections above AspectP1 could not simply not belong to any phasal domain. While I do not see any empirical difference at the moment between the two available options (one where the projections above AspectP1 discussed above belong to the clausal phasal domain, but do not function as phases since none of these projections is the highest phrase in the domain in question, and one where these projections simply do not belong to any phasal domain), resolving the issue may have some structural consequences. The former option (but *not* the latter) may require another phrase to be present between VP_I and AspectP1. This would be the Z from above, which would be the source of clausal phasehood. (There are many options here: this could be some kind of lower tense (cf. Koopman’s (2006) split TP), or finiteness (cf. the discussion in footnote 38), or even a mood projection or a discourse-oriented projection.) Needless to say, we are on extremely speculative grounds here, dealing with issues that we will be ready to handle only when the exact nature of CP as a phase (i.e., what determines its phasehood) is fully understood.

is-a-phase system. (115) thus naturally yields either an every-phrase-is-a-phase system or the highest-projection-is-a-phase system. I have argued above that the former is too strong (thus, it prevents all complement movement, given antilocality) and that the latter is quite generally superior to the former on empirical grounds.

Appendix: On Word Order in the Traditional NP

In this appendix, I expand on the NP analysis of article-less languages as well as the NP-adjunction analysis of TNP-internal elements in NP languages, showing how certain crosslinguistic differences in the word order of TNP-internal elements can be captured under that analysis.

In Bošković 2012a, I argue that article-less languages quite generally lack DP; my arguments are based on a number of syntactic and semantic phenomena that correlate with articles, indicating that there is a fundamental difference between the TNP of English and article-less languages that cannot be reduced to phonology (overt/null articles). Moreover, as shown in Bošković 2012a and references therein, all the generalizations in (116) can be deduced under the NP/DP analysis, which provides a uniform account of the differences between the two language types whereby a single factor is responsible for all of them.⁶⁷

- (116) a. Only languages without articles may allow left-branch extraction.
 b. Only languages without articles may allow adjunct extraction from TNPs.
 c. Only languages without articles may allow scrambling.
 d. Multiple *wh*-fronting languages without articles do not show superiority effects.
 e. Only languages with articles may allow clitic doubling.
 f. Languages without articles do not allow transitive nominals with two genitives.
 g. Head-internal relatives show island sensitivity in languages with articles, but not in languages without articles.
 h. Polysynthetic languages do not have articles.
 i. Only languages with articles allow the majority reading of ‘most’.
 j. Languages without articles disallow strict clausemate negative polarity item licensing under negative raising.
 k. Negative elements must be focus-marked in languages without articles.
 l. The negative concord reading may be absent with complex negative constituents only in languages with articles.
 m. Radical pro-drop may be possible only in languages without articles.
 n. Number morphology may not be obligatory only in TNPs of languages without articles.

⁶⁷ See Bošković 2012a and references therein for illustrations and precise definitions of the phenomena in (116). For example, (116c) refers to Japanese-style long-distance scrambling out of finite clauses.

- o. Focus-moved phrases are subject to a verb adjacency requirement only in languages with articles.
- p. Possessors may induce an exhaustivity presupposition only in languages with articles.
- q. Inverse scope for subject-object is unavailable in languages without articles.
- r. The sequence-of-tense phenomenon is found only in languages with articles.
- s. Second-position clitics are found only in languages without articles.
- t. Obligatory numeral classifier systems are found only in languages without articles.
- u. Only languages without articles may allow subject reflexives.

As noted in section 2.1, this analysis has led to NP-adjunct treatment of several TNP-internal elements, which this appendix shows is confirmed by word order. What is important here is that word order within TNP is generally freer in NP than in DP languages. The reason for this is that the richer structure of DP languages imposes syntactic restrictions on word order in DP languages that are not found in NP languages because the structure responsible for these restrictions is lacking. Thus, in English, demonstratives and possessives must precede adjectives since they are located in DP, which is higher than the projection where adjectives are located. Because DP is lacking, all these elements are treated as NP adjuncts in article-less languages. As a result, syntax does not impose any restrictions on their word order. Chinese, Japanese, and Korean strongly confirm this approach. As (117) shows for Chinese, in these languages (in stark contrast with English) any order of adjectives, demonstratives, and possessives is in principle allowed, which follows if they are all NP-adjoined.⁶⁸

- (117) a. Zhangsan-de hongse de chenshan vs. hongse Zhangsan-de chenshan
 Zhangsan's red shirt red Zhangsan's shirt
 'Zhangsan's red shirt'
- b. na-bu hongse paoche vs. hongse na-bu paoche
 that-CL red sports.car red that-CL sports.car
 'that red sports car'
- c. na-bu Zhangsan-de paoche vs. Zhangsan-de na-bu paoche
 that-CL Zhangsan's sports.car Zhangsan's that-CL sports.car

There is, however, a Chinese/SC difference regarding word order. While SC has free word order for possessives and adjectives, demonstratives must precede both of these.

- (118) a. Jovanova skupa slika vs. skupa Jovanova slika
 John's expensive picture expensive John's picture
- b. ova skupa kola vs. ?*skupa ova kola
 this expensive car expensive this car

⁶⁸ A multiple-Spec analysis would also work here.

- c. ova Jovanova kola vs. ?*Jovanova ova kola
 this John's car John's this car

In Bošković 2009, I observe that semantically, it makes sense that possessives and adjectives can occur in either order. The most plausible semantics for possessives is modificational (cf. Partee and Borschev 1998: $\llbracket \text{Mary's} \rrbracket = \lambda x. [R_i(\text{Mary})(x)]$ (R_i is a free variable)). Given the standard assumptions that adjectives are also of type $\langle e, t \rangle$ and that there is a rule of intersective Predicate Modification, compositional semantics imposes no restrictions on the order in which possessives and adjectives are composed.

Kaplan (1989) treats demonstratives as markers of direct reference; demonstrative noun phrases pick out an individual of type e . More precisely, a demonstrative element like *that* is a function of type $\langle \langle e, t \rangle, e \rangle$. Once a demonstrative has mapped a nominal element to an individual, further modification by predicates of type $\langle e, t \rangle$ is impossible. Hence, while straightforward semantic composition allows possessives and adjectives to be composed in either order, demonstratives must be composed after both adjectives and possessives.⁶⁹ This perfectly matches the actual facts regarding the ordering of the elements in question in SC.

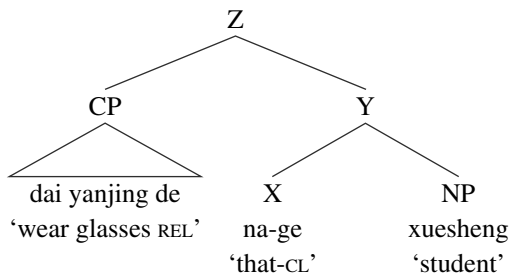
What about Chinese? Why are even demonstratives freely ordered in Chinese? Bošković and Hsieh (2012) note that the fact that relative clauses can also precede a demonstrative in Chinese (the same holds for Japanese and Korean) provides a clue for resolving this puzzle.

- (119) a. **dai yanjing de** na-ge xuesheng
 wear glasses REL that-CL student
 'that student who wears glasses'
 b. na-ge dai yanjing de xuesheng

Partee (1973) shows that the head noun of a restrictive relative and the relative must combine before a determiner is introduced, serving together as its restrictor. There are, however, languages where relatives occur outside the scope of determiners. Bach and Cooper (1978) and Lin (2003a) argue that in such languages a free variable is built into the semantics of determiners; the relative clause, which is added to the structure after the determiner and the noun are combined, specifies the value of this free variable. Lin (2003a) analyzes (119a) as in (120). The demonstrative NP is treated as a generalized quantifier. The free function variable h in the denotation of the demonstrative carries the same function as that of a contextual pronominal variable. In (120), the free variable $h_{\langle e, t \rangle}$ receives its value from the pre-demonstrative relative clause, whose type is also $\langle e, t \rangle$.

⁶⁹ This also holds for adjectives like 'former', which can be considered to be of type $\langle \langle e, t \rangle, \langle e, t \rangle \rangle$. Note that the above account can be quite generally extended to nonrestrictive adjectives under Morzycki's (2008) analysis, where nonrestrictive adjectives are also interpreted inside determiners.

(120) a.

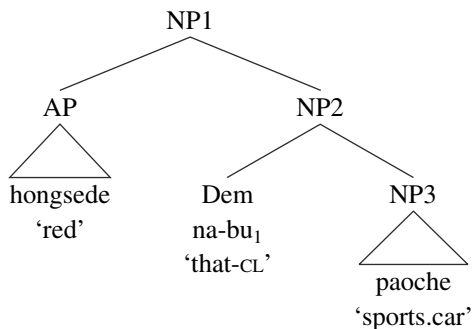


- b. $\llbracket \text{NP} \rrbracket = \lambda x. x \text{ is a student}$
 $\llbracket \text{X} \rrbracket = \lambda f_{\langle e, t \rangle}. \lambda g_{\langle e, t \rangle}. [f(\text{THAT } x) \text{ and } h(\text{THAT } x)] \text{ and } g(\text{THAT } x)$
 $\llbracket \text{Y} \rrbracket = \lambda g_{\langle e, t \rangle}. [\text{THAT } x \text{ is a student and } h(\text{THAT } x)] \text{ and } g(\text{THAT } x)$
 $\llbracket \text{CP} \rrbracket = \lambda x. x \text{ wears glasses}$
 $\llbracket \text{Z} \rrbracket = \lambda g_{\langle e, t \rangle}. [\text{THAT } x \text{ is a student and THAT } x \text{ wears glasses}] \text{ and } g(\text{THAT } x)$

Bošković and Hsieh (2012) extend this analysis (with modifications) to (117): Given that both possessives and intersective adjectives are of type $\langle e, t \rangle$, they can also provide a value for the contextual pronominal variable that further restricts the domain of quantification. This accounts for the fact that possessors, intersective adjectives, and relative clauses can all precede demonstratives in Chinese.

Spelling out the details, the demonstrative bears an index and denotes a function of type $\langle \langle e, t \rangle, e \rangle$. Further restriction from the pre-demonstrative modifier is specified via the assignment function g applying on the index of the demonstrative. Through the variable assignment $g(1)$ that is built into the demonstrative denotation, the modifier in (117)/(121) can restrict the demonstrative.

(121) a.



- b. $\llbracket \text{NP3} \rrbracket^g = \lambda x. x \text{ is a sports.car}$
 $\llbracket na-bu_1 \rrbracket^g = \lambda f_{\langle e, t \rangle}. \text{THAT individual } x \text{ such that } g(1)(x) = f(x) = 1$
 $\llbracket hongsede \rrbracket^g = \lambda x. x \text{ is red}$
 $\llbracket \text{NP2} \rrbracket^g = \text{THAT individual } x \text{ such that } g(1)(x) = 1 \text{ and } x \text{ is a sports car}$
 $\llbracket \text{NP1} \rrbracket^g = \text{THAT individual } x \text{ such that } x \text{ is red and } x \text{ is a sports car}$
 (where $g[1 \rightarrow \lambda x. x \text{ is red}]$, Assignment Modification)

The above analysis crucially relies on the contextual pronominal variable in the semantics of TNPs with demonstratives. It should not be freely available for SC demonstratives; if it were,

possessors and adjectives could precede them. Bošković and Hsieh thus conclude that a syntactically visible contextual pronominal variable is not available in SC demonstratives or there simply is no such variable in the denotation of SC demonstratives. Either way, a modifier outside of a demonstrative cannot be interpreted as part of the restrictor of the demonstrative in SC. The modifier then has to adjoin under the demonstrative. An appealing possibility arises here that the different behavior of Chinese and SC demonstratives may be related to the presence of a classifier on the demonstrative in Chinese (Chinese demonstratives must cooccur with a classifier), where the classifier that comes with a demonstrative may be a realization of the syntactically visible contextual restriction.⁷⁰

Another option for capturing the Chinese/SC difference regarding the possibility of adjectives preceding demonstratives, which I pursue in work in progress, concerns semantic types. Chierchia (1998) argues that although they both lack DP, Chinese and SC differ in the semantic type of bare nouns. Bare nouns are kind-denoting and of type *e* in Chinese (with numerals, classifiers are required, their function being to turn a kind individual into a set that contains countable individuals). However, Chierchia argues that bare nouns in SC are of type $\langle e, t \rangle$. Building on Chierchia's (1984, 1998) work, Huang (2006) suggests that bare adjectives in Chinese are of type *e*, just like bare nouns.⁷¹ Generalizing Huang's proposal, I suggest that (modifying) adjectives have the same type as bare nouns in any given language. Huang further suggests that prenominal modification follows a type-matching constraint whereby a bare noun and its modifier must be of the same type (see Huang 2006 for details).

The Chinese/SC difference in the TNP word order then follows from Chierchia's Chinese/SC difference in the semantic type of nouns. The relevant assumptions regarding Chinese (from Chierchia 1998, Huang 2006) are that bare nouns and adjectives are of type *e* and that prenominal modification (in all languages) observes the type-matching constraint. In light of this, consider the second example in Chinese (117b), where the adjective precedes the demonstrative. The type-matching constraint is satisfied since both the demonstrative NP and the adjective are of type *e*. This is not the case with the second example in SC (118b). Assuming that, unlike in Chinese, in SC bare nouns and adjectives are of type $\langle e, t \rangle$ (following Chierchia and the proposal regarding noun/adjective type-matching), a problem arises: the demonstrative NP 'this car' is of type *e* (see the discussion below (118)), and the adjective is of type $\langle e, t \rangle$; therefore, the type-matching constraint is violated if an adjective precedes a demonstrative.⁷²

⁷⁰ Japanese and Korean, also classifier languages, could then have a null classifier cooccurring with a demonstrative (note that such classifiers are different from those that cooccur with numerals; see Bošković and Hsieh 2012).

⁷¹ Here, I am simplifying Huang's treatment of Chinese adjectives. Note also that I depart from Huang in assuming that *-de* has no semantic impact; rather, it is a contextual marker whose distribution is determined by a separate rule (see Kuo 2009).

⁷² This account assumes that type-shifting of adjectives from type $\langle e, t \rangle$ to type *e* is banned; otherwise, the adjective could be type-shifted to type *e* in the example under consideration. However, note that such type-shifting is an operation of nominalizing an adjective. The suggestion is that adjectival nominalization is possible only when no noun is present, hence not here.

Under the analysis outlined above, the Chinese/SC difference in the TNP-internal word order ultimately follows from the Chinese/SC difference in the type of bare nouns proposed in Chierchia 1998.

To sum up, radically different behavior of languages without articles like SC and Chinese and languages with articles like English with respect to word order freedom and binding possibilities (see section 2.1) within TNPs provides strong evidence for the NP/DP analysis and shows conclusively that a uniform analysis for all these languages is not empirically warranted. The NP analysis also accounts for the remaining difference between Chinese and SC with respect to the ordering of TNP-internal elements concerning demonstratives, tying it to independent factors.

References

- Abels, Klaus. 2003. Successive cyclicity, anti-locality, and adposition stranding. Doctoral dissertation, University of Connecticut, Storrs.
- Abels, Klaus. 2009. Some implications of improper movement for cartography. In *Alternatives to cartography*, ed. by Jeroen van Craenenbroeck, 325–335. Berlin: Mouton de Gruyter.
- Abney, Steve. 1987. The English noun phrase in its sentential aspect. Doctoral dissertation, MIT, Cambridge, MA.
- Aelbrecht, Lobke. 2010. *The syntactic licensing of ellipsis*. Amsterdam: John Benjamins.
- Agbayani, Brian, and Ed Zoerner. 2004. Gapping, pseudogapping and sideward movement. *Studia Linguistica* 58:185–211.
- Akmajian, Adrian, and Thomas Wasow. 1975. The constituent structure of VP and AUX and the position of the verb *be*. *Linguistic Analysis* 1:205–245.
- Almeida, Diogo A. de A., and Masaya Yoshida. 2007. A problem for the preposition stranding generalization. *Linguistic Inquiry* 38:349–362.
- Alexiadou, Artemis. 2005. Possessors and (in)definiteness. *Lingua* 115:787–819.
- An, Duk-Ho. 2007. Syntax at the PF interface. Doctoral dissertation, University of Connecticut, Storrs.
- An, Duk-Ho. 2009. Note on genitive drop in Korean. *Nanzan Linguistics* 5:1–16.
- Bach, Emmon, and Robin Cooper. 1978. The NP-S analysis of relative clauses and compositional semantics. *Linguistics and Philosophy* 2:145–150.
- Bach, Emmon, and George M. Horn. 1976. Remarks on “Conditions on Transformations.” *Linguistic Inquiry* 7:265–299.
- Baltin, Mark. 2002. Movement to the higher V is remnant movement. *Linguistic Inquiry* 33:653–659.
- Baltin, Mark. 2007. Deletion versus pro-forms: A false dichotomy? Ms., New York University, New York.
- Bastos, Ana. 2011. Information structure within the traditional nominal phrase: The case of Brazilian Portuguese. Doctoral dissertation, University of Connecticut, Storrs.
- Belletti, Adriana. 2004. Aspects of the low IP area. In *The structure of CP and IP: The cartography of syntactic structure, vol. 2*, ed. by Luigi Rizzi, 52–75. Oxford: Oxford University Press.
- Belletti, Adriana, and Ur Shlonsky. 1995. The order of verbal complements: A comparative study. *Natural Language and Linguistic Theory* 13:489–526.
- Bobaljik, Jonathan David. 1995. Morphosyntax: The syntax of verbal inflection. Doctoral dissertation, MIT, Cambridge, MA.
- Bobaljik, Jonathan David, and Susi Wurmbrand. 2005. The domain of agreement. *Natural Language and Linguistic Theory* 23:809–865.
- Bobaljik, Jonathan David, and Susi Wurmbrand. 2012. Word order and scope: Transparent interfaces and the $\frac{3}{4}$ signature. *Linguistic Inquiry* 43:371–421.

- Boeckx, Cedric. 2003. *Islands and chains: Resumption as stranding*. Amsterdam: John Benjamins.
- Boeckx, Cedric. 2007. *Understanding Minimalist syntax*. Oxford: Blackwell.
- Boeckx, Cedric. 2009. On the locus of asymmetry in UG. *Catalan Journal of Linguistics* 8:41–53.
- Boeckx, Cedric, and Kleanthes K. Grohmann. 2007. Putting phases in perspective. *Syntax* 10:204–222.
- Borer, Hagit. 1994. The projection of arguments. In *Functional projections*, ed. by Elena Benedicto and Jeffrey Runner, 19–47. University of Massachusetts Working Papers in Linguistics 17. Amherst: University of Massachusetts, Graduate Linguistic Student Association.
- Borer, Hagit. 2005. *Structuring sense*. Oxford: Oxford University Press.
- Bošković, Željko. 1994. D-Structure, Theta-Criterion, and movement into theta-positions. *Linguistic Analysis* 24:247–286.
- Bošković, Željko. 1997. Fronting *wh*-phrases in Serbo-Croatian. In *Formal Approaches to Slavic Linguistics: The Indiana Meeting, 1996*, ed. by Martina Lindseth and Steven Franks, 86–107. Ann Arbor: Michigan Slavic Publications.
- Bošković, Željko. 1999. On multiple feature checking: Multiple *wh*-fronting and multiple head movement. In *Working Minimalism*, ed. by Samuel David Epstein and Norbert Hornstein, 159–188. Cambridge, MA: MIT Press.
- Bošković, Željko. 2002. A-movement and the EPP. *Syntax* 5:167–218.
- Bošković, Željko. 2004a. Be careful where you float your quantifiers. *Natural Language and Linguistic Theory* 22:681–742.
- Bošković, Željko. 2004b. Two notes on right node raising. In *Cranberry linguistics 2*, ed. by Miguel Rodríguez-Mondoñedo and M. Emma Ticio, 13–24. University of Connecticut Working Papers in Linguistics 12. Storrs: University of Connecticut, Department of Linguistics.
- Bošković, Željko. 2005. On the locality of left branch extraction and the structure of NP. *Studia Linguistica* 59:1–45.
- Bošković, Željko. 2008. What will you have, DP or NP? In *NELS 37*, ed. by Emily Elfner and Martin Walkow, 101–114. Amherst: University of Massachusetts, Graduate Linguistic Student Association.
- Bošković, Željko. 2009. More on the NP-DP analysis of article-less languages. *Studia Linguistica* 63:187–203.
- Bošković, Željko. 2011. Rescue by PF deletion, traces as (non)interveners, and the *that*-trace effect. *Linguistic Inquiry* 42:1–44.
- Bošković, Željko. 2012a. On NPs and clauses. In *Discourse and grammar: From sentence types to lexical categories*, ed. by Günther Grewendorf and Thomas Ede Zimmermann, 179–242. Berlin: Mouton de Gruyter.
- Bošković, Željko. 2012b. Phases in NPs and DPs. In *Phases: Developing the framework*, ed. by Ángel J. Gallego, 343–383. Berlin: Mouton de Gruyter.
- Bošković, Željko. 2012c. Traces do not head islands: What can PF deletion rescue? Ms., University of Connecticut, Storrs.
- Bošković, Željko. 2013a. Adjectival escapades. In *Formal Approaches to Slavic Linguistics: The Indiana Meeting, 2012*, ed. by Steven Franks, Markus Dickinson, George Fowler, Melissa Witcombe, and Ksenia Zanon, 1–25. Ann Arbor: Michigan Slavic Publications.
- Bošković, Željko. 2013b. On the edge. Paper presented at Formal Approaches to Slavic Linguistics 22, McMaster University, 3–5 May.
- Bošković, Željko. Forthcoming. Phases beyond clauses. In *Nominal constructions in Slavic and beyond*, ed. by Lilia Schürcks, Anastasia Giannakidou, Urtzi Etxeberria, and Peter Kosta. Berlin: Mouton de Gruyter.
- Bošković, Željko. In preparation. On crosslinguistic variation in possessor-stranding ellipsis. Ms., University of Connecticut, Storrs.

- Bošković, Željko, and I-Ta Chris Hsieh. 2012. On word order, binding relations, and plurality within Chinese NPs. In *Proceedings of the 13th International Symposium on Chinese Languages and Linguistics*, 19–47. Taipei: National Taiwan Normal University, Department of English.
- Bošković, Željko, and Serkan Şener. 2012. The Turkish NP. Ms., University of Connecticut, Storrs, and Yeditepe University, Istanbul. Forthcoming in *Crosslinguistic studies on nominal reference: With and without articles*, ed. by Patricia Cabredo Hofherr and Anne Zribi-Hertz. Leiden: Brill.
- Cheng, Hsu-Te Johnny. 2013. Argument ellipsis, classifier phrases, and the DP parameter. Doctoral dissertation, University of Connecticut, Storrs.
- Chierchia, Gennaro. 1984. Topics in the syntax and semantics of infinitives and gerunds. Doctoral dissertation, University of Massachusetts, Amherst.
- Chierchia, Gennaro. 1998. Reference to kinds across languages. *Natural Language Semantics* 6:339–405.
- Chomsky, Noam. 1986. *Barriers*. Cambridge, MA: MIT Press.
- Chomsky, Noam. 1995. *The Minimalist Program*. Cambridge, MA: MIT Press.
- Chomsky, Noam. 2000. Minimalist inquiries. In *Step by step: Essays on Minimalist syntax in honor of Howard Lasnik*, ed. by Roger Martin, David Michaels, and Juan Uriagereka, 89–155. Cambridge, MA: MIT Press.
- Chomsky, Noam. 2001. Derivation by phase. In *Ken Hale: A life in language*, ed. by Michael Kenstowicz, 1–52. Cambridge, MA: MIT Press.
- Chomsky, Noam. 2008. On phases. In *Foundational issues in linguistic theory: Essays in honor of Jean-Roger Vergnaud*, ed. by Robert Freidin, Carlos P. Otero, and Maria Luisa Zubizarreta, 133–166. Cambridge, MA: MIT Press.
- Cinque, Guglielmo. 1990. *Types of \bar{A} -dependencies*. Cambridge, MA: MIT Press.
- Compton, Richard, and Christine Pittman. 2007. Affixation by phase: Inuktitut word-formation. Paper presented at the 81st annual meeting of the Linguistic Society of America, Anaheim.
- Corver, Norbert. 1992. Left branch extraction. In *NELS 22*, ed. by Kimberley Broderick, 67–84. Amherst: University of Massachusetts, Graduate Linguistic Student Association.
- Craenenbroeck, Jeroen van. 2010. *The syntax of ellipsis: Evidence from Dutch dialects*. New York: Oxford University Press.
- Depiante, Marcela. 2000. The syntax of deep and surface anaphora: A study of null complement anaphora and stripping/bare argument ellipsis. Doctoral dissertation, University of Connecticut, Storrs.
- Despić, Miloje. 2011. Syntax in the absence of determiner phrase. Doctoral dissertation, University of Connecticut, Storrs.
- Despić, Miloje. 2013. Binding and the structure of NP in Serbo-Croatian. *Linguistic Inquiry* 44:239–270.
- Dikken, Marcel den. 2007. Phase extension: Contours of a theory of the role of head movement in phrasal extraction. *Theoretical Linguistics* 33:1–41.
- Drubig, Hans Bernhard. 2003. Toward a typology of focus and focus constructions. *Linguistics* 41:1–50.
- Drummond, Alex, Norbert Hornstein, and Howard Lasnik. 2010. A puzzle about P-stranding and a possible solution. *Linguistic Inquiry* 41:689–692.
- Dubinsky, Stanley William, and Shoko Hamano. 2003. Case checking by AspP: The syntax and semantics of predicative postpositions. In *Japanese/Korean Linguistics 12*, ed. by William McClure, 231–242. Stanford, CA: CSLI Publications.
- Epstein, Samuel David, and T. Daniel Seely. 1999. SPEC-ifying the GF ‘‘subject’’; eliminating A-chains and the EPP within a derivational model. Ms., University of Michigan, Ann Arbor, and Eastern Michigan University, Ypsilanti.
- Epstein, Samuel David, and T. Daniel Seely. 2002. Rule applications as cycles in a level-free syntax. In *Derivation and explanation in the Minimalist Program*, ed. by Samuel David Epstein and T. Daniel Seely, 65–89. Oxford: Blackwell.

- Epstein, Samuel David, and T. Daniel Seely. 2006. *Derivations in Minimalism: Exploring the elimination of A-chains and the EPP*. Cambridge: Cambridge University Press.
- Fanselow, Gisbert. 1988. Kasusminimalität und L-Markierung. *Groninger Arbeiten zur germanistischen Linguistik* 29:114–136.
- Fernández-Rubiera, Francisco. 2009. Clitics at the edge: Clitic placement in Western Iberian Romance languages. Doctoral dissertation, Georgetown University, Washington, DC.
- Fox, Danny, and Howard Lasnik. 2003. Successive-cyclic movement and island repair: The difference between sluicing and VP-ellipsis. *Linguistic Inquiry* 34:143–154.
- Franks, Steven. 1994. Parametric properties of numeral phrases in Slavic. *Natural Language and Linguistic Theory* 12:570–649.
- Fukui, Naoki, and Hiromu Sakai. 2003. The visibility guideline for functional categories: Verb raising in Japanese and related issues. *Lingua* 113:321–375.
- Gallego, Ángel J., and Juan Uriagereka. 2007a. Conditions on sub-extraction. In *Coreference, modality, and focus*, ed. by Luis Eguren and Olga Fernández-Soriano, 45–70. Amsterdam: John Benjamins.
- Gallego, Ángel J., and Juan Uriagereka. 2007b. Sub-extraction from subjects: A phase theory account. In *Romance Linguistics 2006*, ed. by José Camacho, Nydia Flores-Ferrán, Liliana Sánchez, Viviane Déprez, and María José Cabrera, 149–162. Amsterdam: John Benjamins.
- Gengel, Kirsten. 2007. Focus and ellipsis: A generative analysis of pseudogapping and other elliptical structures. Doctoral dissertation, University of Stuttgart.
- Gengel, Kirsten. 2009. Phases and ellipsis. *Linguistic Analysis* 35:21–42.
- Grohmann, Kleanthes K. 2003. *Prolific domains: On the anti-locality of movement dependencies*. Amsterdam: John Benjamins.
- Gutiérrez-Rexach, Javier, and Enrique Mallen. 2001. NP movement and adjective position in the DP phases. In *Features and interfaces in Romance*, ed. by Julia Herschensohn, Enrique Mallen, and Karen Zagona, 107–132. Amsterdam: John Benjamins.
- Hartmann, Katharina. 2000. *Right node raising and gapping: Interface conditions on prosodic deletion*. Amsterdam: John Benjamins.
- Harwood, Will. 2013. Being progressive is just a phase: Celebrating the uniqueness of progressive aspect under a phase-based analysis. Ms., Ghent University.
- Heck, Fabian, and Gereon Müller. 2003. Derivational optimization of *wh*-movement. *Linguistic Analysis* 33:97–148.
- Heck, Fabian, Gereon Müller, and Jochen Trommer. 2008. A phase-based approach to Scandinavian definiteness marking. In *WCCFL 26*, ed. by Charles B. Chang and Hannah J. Haynie, 226–233. Somerville, MA: Cascadia Proceedings Project.
- Hiraiwa, Ken. 2005. Dimensions of symmetry in syntax: Agreement and clausal architecture. Doctoral dissertation, MIT, Cambridge, MA.
- Holmberg, Anders. 2001. The syntax of *yes* and *no* in Finnish. *Studia Linguistica* 55:141–175.
- Hoof, Hanneke van. 2006. Split topicalization. In *The Blackwell companion to syntax*, ed. by Martin Everaert and Henk van Riemsdijk, 408–462. Oxford: Blackwell.
- Hornstein, Norbert, and Amy Weinberg. 1981. Case theory and preposition stranding. *Linguistic Inquiry* 12:55–91.
- Horrocks, Geoffrey, and Melita Stavrou. 1987. Bounding theory and Greek syntax: Evidence for *wh*-movement in NP. *Journal of Linguistics* 23:79–108.
- Hout, Angeliek van. 1996. Event semantics of verb frame alternations: A case study of Dutch and its acquisition. Doctoral dissertation, Tilburg University.
- Huang, C.-T. James. 1982. Logical relations in Chinese and the theory of grammar. Doctoral dissertation, MIT, Cambridge, MA.

- Huang, Shi-Zhe. 2006. Property theory, adjectives, and modification in Chinese. *Journal of East Asian Linguistics* 15:343–369.
- Iwakura, Kunihiro. 1977. The auxiliary system in English. *Linguistic Analysis* 3:101–136.
- Jayaseelan, K. A. 1990. Incomplete VP deletion and gapping. *Linguistic Analysis* 20:64–81.
- Jayaseelan, K. A. 2001. IP-internal topic and focus phrases. *Studia Linguistica* 55:39–75.
- Johnson, Kyle. 2001. What VP ellipsis can do, and what it can't, but not why. In *The handbook of contemporary syntactic theory*, ed. by Mark Baltin and Chris Collins, 439–479. Oxford: Blackwell.
- Johnson, Kyle. 2009. Gapping is not (VP-) ellipsis. *Linguistic Inquiry* 40:289–328.
- Kadowaki, Makoto. 2005. N'-ellipsis reconsidered. In *Proceedings of the 6th Tokyo Conference on Psycholinguistics*, ed. by Yukio Otsu, 191–215. Tokyo: Hituzi Syobo.
- Kang, Jungmin. In preparation. On syntactic and semantic consequences of phases. Doctoral dissertation, University of Connecticut, Storrs.
- Kaplan, David. 1989. Demonstratives. In *Themes from Kaplan*, ed. by Joseph Almog, John Perry, and Howard Wettstein, 481–563. Oxford: Oxford University Press.
- Kayne, Richard. 1994. *The antisymmetry of syntax*. Cambridge, MA: MIT Press.
- Kayne, Richard. 2006. On parameters and on principles of pronunciation. In *Organizing grammar: Linguistic studies in honor of Henk van Riemsdijk*, ed. by Hans Broekhuis, Norbert Corver, Riny Huybregts, Ursula Kleinhenz, and Jan Koster, 289–299. Berlin: Mouton de Gruyter.
- Kim, Jeong-Seok. 1997. Syntactic focus movement and ellipsis: A Minimalist approach. Doctoral dissertation, University of Connecticut, Storrs.
- Kim, Sun-Woong. 1999. Sloppy/strict identity, empty objects, and NP ellipsis. *Journal of East Asian Linguistics* 8:255–284.
- Kiparsky, Paul. 1998. Partitive case and aspect. In *The projection of arguments: Lexical and compositional factors*, ed. by Miriam Butt and Wilhelm Geuder, 265–307. Stanford, CA: CSLI Publications.
- Kiparsky, Paul. 2001. Structural Case in Finnish. *Lingua* 111:315–376.
- Koopman, Hilda. 2006. Agreement configuration: In defense of the Spec head configuration. In *Agreement systems*, ed. by Cedric Boeckx, 159–199. Amsterdam: John Benjamins.
- Koulidobrova, Elena V. 2012. Why choose a language and what happens if you don't: Evidence from bimodal bilinguals. Doctoral dissertation, University of Connecticut, Storrs.
- Kramer, Ruth. 2009. Definite markers, phi features and agreement: A morphosyntactic investigation of the Amharic DP. Doctoral dissertation, University of California, Santa Cruz.
- Kratzer, Angelika. 2004. Telicity and the meaning of objective case. In *The syntax of time*, ed. by Jacqueline Guéron and Jacqueline Lecarme, 389–424. Cambridge, MA: MIT Press.
- Kuno, Susumu. 1981. The syntax of comparative clauses. In *Papers from the seventeenth regional meeting of the Chicago Linguistic Society*, ed. by Roberta A. Hendrick, Carrie S. Masek, and Mary Frances Miller, 136–155. Chicago: University of Chicago, Chicago Linguistic Society.
- Kuo, Pei-Jung. 2009. IP internal movement and topicalization. Doctoral dissertation, University of Connecticut, Storrs.
- Lahne, Antje. 2008. Where there is fire there is smoke: Local modelling of successive-cyclic movement. Doctoral dissertation, University of Leipzig.
- Laka, Itziar. 2006. Deriving split ergativity in the progressive: The case of Basque. In *Ergativity: Emerging issues*, ed. by Alana Johns, Diane Massam, and Juvenal Ndayiragije, 173–196. Dordrecht: Springer.
- Lasnik, Howard. 1995. A note on pseudogapping. In *Papers on Minimalist syntax*, ed. by Rob Pensalfini and Hiroyuki Ura, 143–163. MIT Working Papers in Linguistics 27. Cambridge, MA: MIT, MIT Working Papers in Linguistics.
- Lasnik, Howard. 1999a. On feature strength: Three Minimalist approaches to feature movement. *Linguistic Inquiry* 30:197–217.

- Lasnik, Howard. 1999b. Pseudogapping puzzles. In *Fragments: Studies in ellipsis and gapping*, ed. by Shalom Lappin and Elabbas Benmamoun, 141–174. New York: Oxford University Press.
- Legate, Julie Anne. 2003. Some interface properties of the phase. *Linguistic Inquiry* 34:506–516.
- Levin, Nancy. 1986. *Main-verb ellipsis in spoken English*. New York: Garland.
- Lin, Jo-Wang. 2003a. On restrictive and non-restrictive relative clauses in Mandarin Chinese. *Tsinghua Journal of Chinese Studies* 33:199–224.
- Lin, Jo-Wang. 2003b. Temporal reference in Mandarin Chinese. *Journal of East Asian Linguistics* 12: 254–311.
- Lin, Jo-Wang. 2005. Time in a language without tense: The case of Chinese. *Journal of Semantics* 23:1–53.
- Lobeck, Anne. 1987. *Syntactic constraints on VP ellipsis*. Bloomington: Indiana University Linguistics Club. (Doctoral dissertation, University of Washington, Seattle, 1986.)
- Lobeck, Anne. 1990. Functional heads as proper governors. In *Proceedings of NELS 20*, ed. by Juli Carter, Rose-Marie Déchaine, Bill Philip, and Tim Sherer, 348–362. Amherst: University of Massachusetts, Graduate Linguistic Student Association.
- Lobeck, Anne. 1995. *Ellipsis: Functional heads, licensing, and identification*. New York: Oxford University Press.
- López, Luis. 2009. *A derivational syntax for information structure*. Oxford: Oxford University Press.
- Manzini, Rita. 1994. Locality, Minimalism, and parasitic gaps. *Linguistic Inquiry* 25:481–508.
- Marelj, Marijana. 2008. Probing the relation between binding and movement: A left branch extraction and pronoun insertion strategy. In *NELS 37*, ed. by Emily Elfner and Martin Walkow, 73–86. Amherst: University of Massachusetts, Graduate Linguistic Student Association.
- Martin, Roger. 2001. Null Case and the distribution of PRO. *Linguistic Inquiry* 32:141–166.
- McCloskey, James. 1991. Clause structure, ellipsis and proper government in Irish. *Lingua* 85:259–302.
- Merchant, Jason. 2001. *The syntax of silence: Sluicing, islands, and the theory of ellipsis*. Oxford: Oxford University Press.
- Merchant, Jason. 2008a. An asymmetry in voice mismatches in VP-ellipsis and pseudogapping. *Linguistic Inquiry* 39:169–179.
- Merchant, Jason. 2008b. Variable island repair under ellipsis. In *Topics in ellipsis*, ed. by Kyle Johnson, 132–153. Cambridge: Cambridge University Press.
- Morzycki, Marcin. 2008. Nonrestrictive modifiers in nonparenthetical positions. In *Adverbs and adjectives: Syntax, semantics, and discourse*, ed. by Louise McNally and Christopher Kennedy, 101–122. Oxford: Oxford University Press.
- Müller, Gereon. 2010. On deriving CED effects from the PIC. *Linguistic Inquiry* 41:35–82.
- Müller, Gereon. 2011. Constraints on displacement: A phase-based approach. Ms., Universität Leipzig.
- Munn, Alan. 1995. The possessor that stayed close to home. In *Proceedings of the 24th Western Conference on Linguistics*, ed. by Vida Samiian and Jeanette Schaeffer, 181–195. Fresno: California State University, Department of Linguistics.
- Nelson, Diane. 1998. *Grammatical Case assignment in Finnish*. New York: Garland.
- Oku, Satoshi. 1998. A theory of selection and reconstruction in the Minimalist perspective. Doctoral dissertation, University of Connecticut, Storrs.
- Otaki, Koichi. 2011. Argument ellipsis arising from non-fusional case morphology. Paper presented at GLOW in Asia Workshop for Young Scholars, Mie University, Japan, September 2011.
- Otani, Kazuyo, and John Whitman. 1991. V-raising and VP-ellipsis. *Linguistic Inquiry* 22:345–358.
- Partee, Barbara H. 1973. Some transformational extensions of Montague Grammar. In *Montague Grammar*, ed. by Barbara H. Partee, 509–534. New York: Academic Press.
- Partee, Barbara H., and Vladimir Borshev. 1998. Integrating lexical and formal semantics: Genitives, relational nouns, and type-shifting. In *Proceedings of the Second Tbilisi Symposium on Language*,

- Logic, and Computation*, ed. by Robin Cooper and Thomas Gamkrelidze, 229–241. Tbilisi: Tbilisi State University, Center on Language, Logic, Speech.
- Pires, Acrisio. 2006. *The Minimalist syntax of defective domains: Gerunds and infinitives*. Amsterdam: John Benjamins.
- Radford, Andrew. 2000. NP shells. *Essex Research Reports in Linguistics* 33:2–20. Available at <http://privatewww.essex.ac.uk/~radford/PapersPublications/npshells.htm>.
- Radkevich, Nina. 2010. On location: The structure of case and adpositions. Doctoral dissertation, University of Connecticut, Storrs.
- Ramchand, Gillian Catriona. 1993. Verbal nouns and event structure in Scottish Gaelic. In *Proceedings of SALT 3*, ed. by Utpal Lahiri and Adam Zachary Wyner, 162–181. Available at <http://elanguage.net/journals/salt/issue/view/286>.
- Reintges, Chris, and Anikó Lipták. 2006. Have = be + prep: New evidence for the preposition incorporation analysis of clausal possession. In *Phases of interpretation*, ed. by Mara Frascarelli, 107–132. Berlin: Mouton de Gruyter.
- Rizzi, Luigi. 1997. The fine structure of the left periphery. In *Elements of grammar*, ed. by Liliane Haegeman, 281–337. Dordrecht: Kluwer.
- Roberts, Ian. 1998. *Have/Be* raising, Move-F, and Procrastinate. *Linguistic Inquiry* 29:113–125.
- Roehrs, Dorian. 2006. The morpho-syntax of the Germanic Noun Phrase: Determiners *move* into the Determiner Phrase. Doctoral dissertation, Indiana University, Bloomington.
- Ross, John Robert. 1967. Constraints on variables in syntax. Doctoral dissertation, MIT, Cambridge, MA.
- Rouveret, Alain. 2012. VP ellipsis, phases and the syntax of morphology. *Natural Language and Linguistic Theory* 30:897–963.
- Runić, Jelena. Forthcoming a. Cliticization phenomena in languages “on the border.” In *Penn working papers in linguistics* 19.
- Runić, Jelena. Forthcoming b. A new look at argument ellipsis: Evidence from Slavic. In *NELS 43*. Amherst: University of Massachusetts, Graduate Linguistic Student Association.
- Saab, Andrés. 2009. *Hacia una teoría de la identidad parcial en la elipsis*. Doctoral dissertation, Universidad de Buenos Aires.
- Sag, Ivan. 1976. Deletion and Logical Form. Doctoral dissertation, MIT, Cambridge, MA.
- Saito, Mamoru. 2001. Genitive subjects in Japanese: Implications for the theory of null objects. Paper presented at the International Symposium on Non-Nominative Subjects. Institute for the Study of Languages and Cultures of Asia and Africa, Tokyo University of Foreign Studies, December 2001.
- Saito, Mamoru. 2004. Ellipsis and pronominal reference in Japanese clefts. *Nanzan Linguistics* 1:21–50.
- Saito, Mamoru. 2007. Notes on East Asian argument ellipsis. *Language Research* 43:203–227.
- Saito, Mamoru. 2011. Case checking/valuation in Japanese: Move, Agree, or Merge? Paper presented at GLOW in Asia Workshop for Young Scholars, Mie University, Japan, September 2011.
- Saito, Mamoru, T.-H. Jonah Lin, and Keiko Murasugi. 2008. N'-ellipsis and the structure of Noun Phrase in Chinese and Japanese. *Journal of East Asian Linguistics* 17:247–271.
- Saito, Mamoru, and Keiko Murasugi. 1990. N'-deletion in Japanese. In *University of Connecticut working papers in linguistics* 3, ed. by Javier Ormazabal and Carol Tenny, 87–107. Storrs: University of Connecticut, Department of Linguistics.
- Sato, Yosuke. 2012. Particle-stranding ellipsis in Japanese, phase theory, and the privilege of the root. *Linguistic Inquiry* 43:497–504.
- Sato, Yosuke, and Jason Ginsburg. 2007. A new type of nominal ellipsis in Japanese. In *Formal Approaches to Japanese Linguistics: Proceedings of FAJL 4*, ed. by Yoichi Miyamoto and Masao Ochi, 197–204. MIT Working Papers in Linguistics 55. Cambridge, MA: MIT, MIT Working Papers in Linguistics.
- Şener, Serkan. 2006. P-stranding and the anti-locality effects in Turkish PPs. Paper presented at the Central EuroAsian Studies Society Meeting, Ann Arbor, Michigan, September 2006.

- Şener, Serkan, and Daiko Takahashi. 2010. Ellipsis of argument in Japanese and Turkish. *Nanzan Linguistics* 6:79–99.
- Shinohara, Michie. 2006. On some differences between the major deletion phenomena and Japanese argument ellipsis. Ms., Nanzan University, Nagoya, Japan.
- Smith, Carlota S., and Mary S. Erbaugh. 2005. Temporal interpretation in Mandarin Chinese. *Linguistics* 43:713–756.
- Sportiche, Dominique. 1988. A theory of floating quantifiers and its corollaries for constituent structure. *Linguistic Inquiry* 19:425–449.
- Starke, Michal. 2001. Move dissolves into Merge: A theory of locality. Doctoral dissertation, University of Geneva.
- Stjepanović, Sandra. 1999. What do second position cliticization, scrambling, and multiple *wh*-fronting have in common? Doctoral dissertation, University of Connecticut, Storrs.
- Sugawa, Seichi. 2008. Ellipsis and repair effects. *Nanzan Linguistics: Special Issue* 32:165–183.
- Svenonius, Peter. 2002a. Case is uninterpretable aspect. In *Proceedings of Perspectives on Aspect Conference*, ed. by Henk Verkuyl, 1–10. Utrecht: University of Utrecht.
- Svenonius, Peter. 2002b. Icelandic Case and the structure of events. *Journal of Comparative Germanic Linguistics* 5:197–225.
- Svenonius, Peter. 2004. On the edge. In *Peripheries: Syntactic edges and their effects*, ed. by David Adger, Cécile De Cat, and George Tsoulas, 261–287. Dordrecht: Kluwer.
- Takahashi, Daiko. 2008a. Noun phrase ellipsis. In *The Oxford handbook of Japanese linguistics*, ed. by Shigeru Miyagawa and Mamoru Saito, 394–422. New York: Oxford University Press.
- Takahashi, Daiko. 2008b. Quantificational null objects and argument ellipsis. *Linguistic Inquiry* 39:307–326.
- Takahashi, Daiko. 2010. Argument ellipsis, anti-agreement, and scrambling. Ms., Tohoku University, Sendai.
- Takahashi, Masahiko. 2010. Case, phases, and nominative/accusative conversion in Japanese. *Journal of East Asian Linguistics* 19:319–355.
- Takahashi, Masahiko. 2011. Some consequences of Case-marking in Japanese. Doctoral dissertation, University of Connecticut, Storrs.
- Takahashi, Masahiko. Forthcoming. Phases and the structure of NP: A comparative study of Japanese and Serbo-Croatian. In *Proceedings of Formal Approaches to Slavic Linguistics* 21.
- Takita, Kensuke. 2011a. Argument ellipsis in Japanese right dislocation. In *Japanese/Korean Linguistics 18*, ed. by William McClure and Marcel den Dikken, 380–391. Stanford, CA: CSLI Publications.
- Takita, Kensuke. 2011b. An argument for argument ellipsis from *-sika* NPIs. In *NELS 39*, ed. by Suzi Lima, Kevin Mullin, and Brian Smith, 771–784. Amherst: University of Massachusetts, Graduate Linguistic Student Association.
- Tamm, Anne. 2006. Estonian transitive verbs and object case. In *The proceedings of the LFG '06 Conference*, ed. by Miriam Butt and Tracy Holloway King. Available at <http://cslipublications.stanford.edu/LFG/11/lfg06.html>.
- Tenny, Carol Lee. 1987. Grammaticalizing aspects and affectedness. Doctoral dissertation, MIT, Cambridge, MA.
- Thoms, Gary. 2010. Verb floating and VP-ellipsis: Towards a movement account of ellipsis licensing. In *Linguistic variation yearbook 2010*, ed. by Jeroen van Craenenbroeck and Johan Rooryck, 252–297. Amsterdam: John Benjamins.
- Ticio, Emma. 2003. On the structure of DPs. Doctoral dissertation, University of Connecticut, Storrs.
- Tomioka, Satoshi. 2003. The semantics of null arguments in Japanese and its cross-linguistic implications. In *Interfaces: Deriving and interpreting omitted structures*, ed. by Kerstin Schwabe and Susanne Winkler, 321–339. Amsterdam: John Benjamins.

- Todorović, Neda. 2013. VP-ellipsis and all its phases: The role of aspect in VP-ellipsis in Serbian. Paper presented at Formal Approaches to Slavic Linguistics 22, McMaster University, 3–5 May.
- Travis, Lisa. 2010. *Inner aspect: The articulation of VP*. Dordrecht: Springer.
- Uchishiba, Shin'ya. 2006. The enhancement/repression of phasehood. In *KLS 27: Proceedings of the Thirty-First Annual Meeting*, 195–205. Kansai Linguistic Society.
- Watanabe, Akira. 2010. Notes on nominal ellipsis and the nature of *no* and classifiers in Japanese. *Journal of East Asian Linguistics* 19:61–74.
- Wexler, Kenneth, and Peter Culicover. 1980. *Formal principles of language acquisition*. Cambridge, MA: MIT Press.
- Wilder, Chris. 1997. Some properties of ellipsis in coordination. In *Studies in Universal Grammar and typological variation*, ed. by Artemis Alexiadou and T. Alan Hall, 59–107. Amsterdam: John Benjamins.
- Winkler, Susanne. 2005. *Ellipsis and focus in generative grammar*. Berlin: Mouton de Gruyter.
- Wurmbrand, Susanne (Susi). 2001. *Infinitives: Restructuring and clause structure*. Berlin: Mouton de Gruyter.
- Wurmbrand, Susi. 2011. Tense and aspect in English infinitives. Ms., University of Connecticut, Storrs.
- Wurmbrand, Susi. In preparation. Untitled. Ms., University of Connecticut, Storrs.
- Zagona, Karen. 1988. *Verb phrase syntax: A parametric study of English and Spanish*. Dordrecht: Kluwer.
- Zlatić, Larisa. 1997. The structure of the Serbian Noun Phrase. Doctoral dissertation, University of Texas at Austin.
- Zlatić, Larisa. 1998. Slavic Noun Phrases are NPs, not DPs. Paper presented at the Comparative Slavic Morphosyntax Workshop, Bloomington, IN, June 1998.

University of Connecticut
Department of Linguistics
Oak Hall (East SSHB)
365 Fairfield Way
Storrs, CT 06269-1145
zeljko.boskovic@uconn.edu