Belletti, A., & Collins, C. (Forthcoming). Introduction: Smuggling in Syntax. In Smuggling in Syntax. Oxford University Press.

1. Introduction

Since the beginning of generative grammar, displacement has been identified as a characteristic property of human languages: a constituent (e.g., a DP) is interpreted only in part in the position in which it is pronounced, in part it is interpreted in the position where it is first merged (and assigned its theta-role in the case of a DP). Displacement occurs in different guises, as A, A' and head-movement.

Sometimes movement can affect a chunk of clause structure that is attracted by some feature to a higher position. From the landing site of the large chunk, movement can further affect a constituent contained in it. This sequence of operations is often involved in *smuggling* (a term coined by Collins 2005, see section 2 of this introduction for a definition). Looked at in this way, smuggling is a kind of movement interaction, where one movement operation precedes another of a certain type. Other kinds of movement interactions include remnant movement, crossing and nested paths.

As shown in Collins 2005, an effect of smuggling may be the possibility of circumventing locality constraints on movement (e.g., Relativized Minimality). This, he argues, is the case in passive, where a verbal chunk containing the object is moved over the vP-internal external argument that is not included in the moved chunk, thus circumventing a violation of locality.

Cases of smuggling have already been proposed for the derivation of passive, the dative alternation and causatives, all of which involve A-movement (also interacting with the labeling algorithm in the proposal in Belletti 2017, in the terms of Chomsky 2013 and Rizzi 2015). However, there is no principled reason why the process should only make reference to A-movement, giving rise to the expectation that cases of smuggling could occur also in the domain of A'-movement and head movement. See section 3 of this introduction for discussion.

The main questions explored in this volume include the following:

a. What is the full range of smuggling phenomena?
b. Derivations involving smuggling give rise in principle to violations of *freezing*, a constraint that is standardly formulated as prohibiting extraction out of a moved constituent. What is the status of this constraint in UG and how does smuggling comply with it?
c. Should smuggling be seen as a strategy for circumventing locality constraints (or other constraints as well), or, rather, is the possibility of complying with locality an indirect consequence made available by movement of the relevant chunk?
d. How are derivations yielding smuggling acquired by children?

In the rest of this introduction we will address what we take to be some of the fundamental issues that arise with syntactic derivations involving smuggling. First, we elaborate in Section 2 on the fundamental insight that smuggling is not a process per se, but rather the

possible outcome of a two-step syntactic derivation. Section 3 illustrates other possible cases and syntactic constructions, not addressed in this volume, that may also involve smuggling, such as in A'-movement derivations in particular, thus indicating the wide scope of this type of syntactic derivation. In Section 4 summarizes the contributions to the present volume.

2. Steps towards Smuggling

The term smuggling was introduced by Collins (2005) to describe derivations that involve circumventing locality constraints on movement of XP, by moving a larger constituent YP containing XP.

For example, consider the passive, illustrated in (1):

(1) The book was written by John.

In (1), the DP *the book* undergoes movement to Spec TP. Such movement should be blocked by the External Argument/EA DP *John* in Spec vP by the Minimal Link Condition/Relativized Minimality. But Collins argues that *the book* is smuggled over *John* by movement of the participle phrase. The derivation is sketched in (2):

(2) [The book] was [$_{\text{PartP}}$ written <DP>] by John <PartP>

In (2), the PartP starts out in a position lower than the external argument and then moves around it to a higher position (Spec VoiceP in Collins 2005). Movement of the participle is not blocked by the presence of the external argument since the movement of participles and the movement of DPs are triggered by different features. The verbal and nominal constituent carry different relevant features in turn yielding a probe-goal relation between the attracting head and the attracted goal in a way that is compatible with syntactic constraints, including locality constraints.

Such a derivation is thus decomposed into derivational components, involving a sequence of two internal Merge (movement) operations, which we refer to as Step A and Step B:

(3) a. Step A: Movement of the chunk/Pied-Piping: YP containing XP undergoes movement.
b. Step B: Extraction: XP undergoes movement evacuating YP.

Collins' original term *smuggling* aims at highlighting the possibility that opens up through Step A whereby extraction of XP out of YP becomes possible without XP crossing over a potential intervening constituent which would otherwise block its movement and the movement created dependency.

Step A and Step B are independent of each other. Step A in (3a) is called *smuggling* when it allows movement of XP or more generally a syntactic relation involving XP outside YP, avoiding a potential violation of a syntactic constraint, a core one being locality. As mentioned in section 1, derivations of this type involving *smuggling* give rise in principle to violations of so-called

freezing, the constraint that in its standard formulation excludes extraction out of a previously moved constituent. On this, see the contribution of Bošković in this volume for critical discussion of the standard *freezing* constraint and related references. The operation in (3b) can thus be seen as a sort of *anti-freezing* operation since it crucially relies on the lack of any violation induced by the extraction step, including *freezing*. Interestingly, the criterial approach to *freezing* (Rizzi 2006, 2014) assumes a partly different view of the relevant constraint, which has precisely the consequence of allowing for the kind of extraction instantiated by Step B. Under criterial freezing only a constituent satisfying a relevant criterion is frozen in place, constituents contained in it may be available for further displacement for satisfaction of a different criterion (see also example 11 in section 3).

In Collins' (2005) own terms, the second evacuation step in (3b) is not part of the definition of smuggling *per se*: "Suppose a constituent YP contains XP. Furthermore, suppose that XP is inaccessible to Z because of the presence of W (a barrier, phase boundary, or an intervener for the Minimal Link Condition and/or Relativized Minimality), which blocks a syntactic relation between Z and XP (e.g., movement, Case checking, agreement, binding). If YP moves to a position c-commanding W, we say that YP smuggles XP past W."

The definition in Collins (2005) is general enough to include cases where YP moves, making XP accessible to higher heads (e.g., for Case checking, agreement or some other syntactic relation), but where XP does not undergo any further movement. Most of the cases considered in this volume involve both Step A, i.e. movement of the chunk YP/pied-piping and Step B, i.e. extraction from YP. One notable exception is the case of Romance type causatives (see the discussion in Belletti's contribution to this volume and references cited there), which do not necessarily involve Step B. Indeed, in this construction Step B occurs as well when the object is extracted through some process such as cliticization (as in *Lo farò comprare a Maria*/I it-CL will make buy to Maria/'I will let Maria buy it') or through A-movement to Spec/TP, as in *si*-causative passive (the latter case is discussed in detail in the quoted chapter of this volume). The preposing of the verbal chunk occurring in this type of causatives opens up the possibility for the further movement of the internal argument, as in Step A of typical *smuggling* computations. Hence, the case of causatives differs from the VP preposing case to be discussed momentarily in (4) below.

This approach to *smuggling* as essentially pied-piping (Step A) possibly but not necessarily combined with further extraction out of the moved large constituent (Step B) does not imply any looking ahead in the relevant computation. Once YP is moved and XP is *smuggled* past a blocking intervening constituent, XP may or may not undergo further movement, depending on the relevant syntactic construction in which the computation occurs. This is just a possibility that opens up given Step A. The syntax of the large YP and the syntax of the XP contained in it are independent of one another. Movement of YP does not occur 'to allow for' an otherwise impossible movement of XP. Hence, there is no look ahead in Step A, the *smuggling* step.

Indeed, not all instances of the operation in (3a) constitute *smuggling*. Consider VP fronting in this respect:

(4) …and [$_{VP}$ go [$_{PP}$ to the store]], John did <VP>

In this structure, movement of the VP carries along (pied-pipes) the PP, so that both the VP and the PP have two occurrences in the structure in (4) (see the definition of occurrence

Collins and Stabler 2016). But the movement of the VP in (4) is not characterized as *smuggling*, since it does not result in any locality constraints being circumvented (and in fact, PP does not undergo movement at all).

If the order of the operations in (3) is reversed, and Step B precedes Step A, then the derivation that results is remnant movement:

(5) a. Step B: Extraction: XP undergoes movement evacuating YP.
b. Step A: Movement of the chunk/Pied-Piping:
YP containing XP undergoes movement.

In standard terminology, the operation in step (5b) is called remnant movement: step (5a) creates a remnant which then undergoes movement in (5b). In this sense, the sequence in (5) is the inverse of the sequence in (3): (3) and (5) are the mirror image of one another. Seen in this way, smuggling and remnant movement are two intimately related syntactic computations: Both start off with two syntactic objects YP and XP, where XP is contained in YP. Both syntactic objects undergo internal Merge, but in the opposite order. In smuggling YP moves first, then XP moves. In remnant movement, XP moves first, then YP moves. They both involve two internal Merge operations, but in the opposite order. In both cases the constituent that moves last c-commands the position to which the constituent that moves first has moved.

Another example of inverse derivations, where one is the mirror image of the other, involves nested paths and crossing paths. In smuggling/remnant movement, YP contains XP. But in nesting/crossing, YP asymmetrically c-commands XP:

(6) a. Nesting: XP YP <YP> <XP>
b. Crossing: YP XP <YP> <XP>

Both nesting and crossing start out with two syntactic objects YP and XP, where YP asymmetrically c-commands XP. In nesting YP undergoes movement first, then XP moves. In crossing, first XP undergoes movement and then YP does.

For both smuggling/remnant movement, and nesting/crossing, YP is the highest constituent (as measured by path length from the root node) and XP is the lowest constituent. The four kinds of movement sequences can be classified as follows:

(7)

	YP moves first	XP moves first
YP contains XP	smuggling	remnant movement
YP c-commands XP	nesting	crossing

If contain and c-command are the only relevant syntactic relations made use of by the faculty of language, then the classification in (7) is complete for the movement of two different syntactic objects. So, the recognition of smuggling (and the rejection of standard *freezing*), allows us to establish some deep asymmetries (smuggling/nesting are the inverse of remnant movement/crossing) and symmetries (smuggling is parallel to nesting, and remnant movement is parallel to crossing).

3. The Scope of Smuggling

In the preceding section, we divided smuggling up into Step A and Step B. We can use those steps to classify existing accounts of smuggling. For example, in Collins 2005, Step A was movement of a PartP, and Step B was A-movement of a DP. Hicks 2009 presents a compelling case for smuggling in the derivation of *tough*-movement, as sketched below:

(8) John is tough $[_{CP}\ [_{DP}$ OP <John>$]_1\ [_{TP}$ PRO to please <DP_1>]]

On Hicks' analysis, *tough*-movement involves an A'-movement step ([OP John] is moved from the object position of *please* to Spec CP of the embedded clause), followed by an A-movement step (*John* undergoes A-movement from the operator phrase to the matrix Spec TP). The first step is the smuggling step, allowing *John* to escape the embedded CP phase.

The following table summarizes some of the existing accounts:

(9)

	Step A	Step B
Collins 2005	PartP movement	A-movement
Belletti and Rizzi 2012	vP/VP movement	A-movement
Hicks 2009	A'-movement	A-movement

Most of the contributions in this volume involve moving a verbal chunk (e.g., VP or PartP) as Step A, followed by A-movement in Step B, as mentioned in section 2. But Hicks account crucially involves A'-movement in Step A, and raises the possibility that smuggling may be quite pervasive in A'-movement.

The table in (9) opens up the following research question: Which kinds of movement can be Step A and which kinds of movement can be Step B? If we limit ourselves to head movement, verbal chunk movement (e.g., VP/vP/PartP), A-movement and A'-movement, there are in principle 12 different combinations (assuming that head movement can only be Step B). Are all of these attested? The full range of possibilities is illustrated in (10):

(10)

	Step A	Step B	
a.	verbal chunk	verbal chunk	*
b.	verbal chunk	A-movement	Collins (2005), B&R (2012), Belletti (2017, this volume)
c.	verbal chunk	A'-movement	
d.	verbal chunk	head movement	Koopman (this volume)
e.	A-movement	verbal chunk	*
f.	A-movement	A-movement	*
g.	A-movement	A'-movement	
h.	A-movement	head movement	
i.	A'-movement	verbal chunk	
j.	A'-movement	A-movement	Hicks (2009)

k.	A'-movement	A'-movement	*
l.	A'-movement	head movement	

It may be that certain combinations, such as verbal chunk movement in Steps A and B (see (10a)) are ruled out for locality reasons (indicated by the * in line (10a)). Moving a verbal chunk from a verbal chunk may be impossible, since if a head probes for a feature of a verbal chunk then that head will find the highest verbal chunk first. In a similar way, (10f) may be ruled out, since A-movement always involves a feature probing for uPhi, and so it should find the highest DP first. Some cases of (10k) might be ruled out in a similar way (although see (11) below). Cases of A-movement in Step A followed by verbal chunk movement in Step B would be ruled out since presumably in this case the verbal chunk would have to move out of an embedded relative clause (internal to the moved DP). Whether any other combinations can be ruled out theoretically, and whether any other combinations exist is now an open research question of great interest.

We conclude this section by illustrating in some detail a possible case in which both Step A and Step B occur in the A' system, giving rise to a particular instance of (10k) in which the computation is not blocked. Such case may be instantiated by examples like (11) in Italian:

(11) [Di quale autore] Int [il primo romanzo <PP>] Top [$_{TP}$ non lo regaleresti a nessuno <DP>]?
"Of which author the first novel you (it-CL) would never offer to anybody?"

(11) illustrates a case of wh-extraction of a PP [di quale autore] "of which author" out of a DP occupying a left peripheral A' position. Such position is identified with the Spec TopP position, under the articulated map of the CP space as proposed in cartographic analyses (Rizzi 1997 and much subsequent work). The wh-PP moves to the Spec of an interrogative head (Int), higher than the topic head (Top) in (11). The DP in Spec TopP is followed by the TP that predicates some property of it and a resumptive clitic pronoun is (obligatorily) present in the clause yielding the construction known as Clitic Left Dislocation/ClLD (Cinque 1990). Hence, in (11) the PP is wh-extracted out of a left peripheral topic DP. Two A' movements combine in (11) in the familiar *smuggling* way: Movement of the big DP to Spec TopP in the left periphery results in an instance of Step A. Then, the wh-phrase contained in it is further extracted as in Step B. Furthermore, this movement sequence is performed in compliance with the criterial approach to *freezing* referred to in Section 2: the DP in Spec TopP satisfies the relevant topic criterion and the subpart originally contained in it, the wh-PP, satisfies the relevant interrogative wh-criterion in Spec Int. Consider now a case like (12) below in which the left dislocated topic is extracted out of a wh-island and the PP contained in it is further wh-extracted. The first movement to the specifier of the topic head constitutes a well-behaved Step A, smuggling the wh-phrase contained in it to a position from which it can be further extracted as in Step B:

(12) [Di quale autore] Int hai detto [che [il primo romanzo <PP>] Top [non sai quando lo regaleresti <DP>]]]
"Of which author you said that the first novel you do not know when (it-CL) you would offer?"

It appears that the topicalization Step A that derives the CLLD is indeed required for the extraction of the wh-PP to become possible. In (13) such a step does not occur and direct extraction of the PP out of the wh-island produces a clearly degraded result:

(13) *?Di quale autore hai detto [che non sai [quando regaleresti [il primo romanzo <PP>]]]
"Of which author (did) you said that you don't know when you would offer the first novel?"

Although extraction out of a wh-island gives rise to relatively mild degrees of deviance in the general case, the contrast between (12) and (13) is clearly detectable. Under the proposed analysis, in (12), but not in (13) the wh-PP is extracted from the topic DP, filling a position which is in fact outside the wh-island altogether. Hence, the topicalization step is a crucial *smuggling* step.

Deviant examples similar to (13) had been pointed out in Rizzi (1982: 61, exx. 29-31), who noted that, given the approach to islandhood of the time, they would in fact involve the violation of *subjacency*, with the crossing of NP and S' boundaries: whence their relatively strong deviance compared to simple wh-island violations. Under the approach outlined here, we can conclude that in (12) the topicalization step involving the left dislocated DP frees the PP contained in it: this step makes the PP accessible for extraction and displacement to its final interrogative landing site, which, as a consequence of the topicalization of the DP, becomes close enough for the PP to move into it. Thus, the combination of the *smuggling* Step A (topicalization) followed by Step B (wh-extraction) both occurring within the A' system results in a well-formed computation.

4. Contributions

The contributions to the volume show a wide range of interesting applications of smuggling derivations. Here we present summaries of the papers.

Belletti's contribution presents and discusses a number of derivations such as passive, causative and passive in the causative voice/*si*-causative passive, which all involve movement of a chunk of the verb phrase containing the verb and its internal argument, yielding *smuggling* in Collins' (2005) sense. The questions of what the engine of a *smuggling* derivation is and how the relevant chunk to be *smuggled* is identified guide the discussion. Evidence from acquisition is also considered where derivations involving *smuggling* appear to be at the same time more complex and more readily available to the developing child. The relevant chunks can be attracted by different types of heads in the clause structure, which all have the property of attracting syntactic movement into their specifier. Such heads may express features of different nature present in the clausal map, such as the passive and causative voice, as well as discourse related features such as the (vP-peripheral) topic and focus features.

Bianchi's contribution discusses smuggling in relation to the syntax and semantics of certain adverbs in Italian. In past and future perfect sentences, punctual time adverbials like *at five o'clock* can specify either the Event Time or the Reference Time. In Italian, their interpretation is affected by syntactic position: a clause-peripheral adverbial allows for both interpretations, while a clause-internal adverbial only has the E-interpretation. Moreover, for clause-peripheral adverbials the presence of the adverb *già* (already) blocks the E-interpretation.

It is shown that this pattern can be accounted for under a smuggling analysis, in which (i) the adverbial is merged as a DP in a functional projection intervening between T and the subject in the edge of v/VP P, thus blocking Agree between them; (ii) smuggling of v/VP past the adverbial solves the intervention effect; (iii) an E-adverbial originates in a projection below *già* (already), while an R-adverbial originates in a projection above it. A compositional semantic analysis is provided for the proposed syntactic structure.

Bošković's contribution argues that there is no general freezing ban. As discussed in section 2, smuggling refers to a situation where, in Bošković's words, movement of α would induce a violation that is voided by movement of a larger constituent β that contains α, which is followed by movement of α. Smuggling thus involves movement out of a moved element, which is traditionally assumed not to be possible (the constraint is referred to as the freezing ban). Rather, Bošković argues that extraction out of moved elements is in fact generally allowed. The cases where such extraction appears not to be allowed involve independent problems concerning labeling. The paper re-examines from this perspective the smuggling derivations proposed in Collins (2005a,b), focusing on the passive construction, and the smuggling analysis of *tough*-constructions proposed in Hicks (2009) illustrated in section 3. A modified version of the latter is argued to be superior to the traditional null Op analysis of *tough*-constructions. Several conclusions regarding the structure of infinitives are also drawn. Furthermore, the discussion in the paper also shows that there is a strong relationship between movement and labeling: unlabeled elements cannot undergo movement, do not function as interveners, and cannot be the target of movement.

Collins' contribution discusses the dative alternation in English, which relates the double object construction (*John gave Mary the car*) to the prepositional dative (*John gave the car to Mary*). On the basis of traditional c-command tests, it is argued that the prepositional dative is derived from the structure underlying the double object construction. If the theme is smuggled over the goal by VP movement there is no violation of locality constraints.

Corver's contribution examines the phenomenon of M(easure) P(hrase) alternation from a cross-categorial perspective. An illustration of this phenomenon is given by the minimal pair: (i) *John is two inches too tall*; (ii) *John is too tall by two inches*. The former features a bare MP, the latter *by*+MP. Interestingly, clauses permit only one order: **Mary two years outlived her husband*; (ii) *Mary outlived her husband by two years*. It is proposed that the pattern featuring the bare MP is the base order. The pattern featuring *by+*MP is the derived order. This derived order results from leftward movement of a phrasal constituent past MP. In clauses, this phrasal constituent is a VP which smuggles the subject across MP. The ill-formedness of the clause featuring a bare MP is due to a locality violation: a subject moves across an intervening MP. In non-clausal configurations, this violation does not occur since the (small clause) subject is located higher than MP.

Den Dikken's contribution defends an analysis of the active/passive alternation sharing with Collins' smuggling proposal the idea that the participial VP occupies a specifier position above the external argument, but base-generating it in this position rather than moving it there. In both the active and the passive, the VP and the external argument are in a predication structure, with a RELATOR mediating the predication relation. The active voice builds a canonical predication structure, with the VP in the RELATOR's complement position and the subject of predication as the specifier. In the passive voice, the VP is externally merged in the specifier of

the RELATOR and the external argument in its complement. This analysis provides an explanation for obligatory auxiliation, the unavailability of accusative Case for the internal argument, Visser's Generalization (the ban on personal passivization of subject control verbs), and the restrictions on referential dependencies and depictive secondary predication in passives.

Koopman's contribution focuses on the syntax of the *can't seem to* construction in English, as in *I can't seem to fix this*, which present a syntax semantics mismatch, raising the question how and where it should be resolved. The paper establishes that the problem calls for a syntactic solution: there is unambiguous evidence from idioms and absence of aspectual restrictions that the linear order of *I can't seem to fix this* must be derived from a merge order where *seem* is merged higher than *not can V*, as in *it seems I can't fix this*. The paper motivates each step in the bottom up derivation, with crucial insights coming from comparative syntax, i.e. from the verb clustering West Germanic OV languages. The properties of the construction and the restrictions, including intervention, are shown to reduce to structure building Merge (E- and I- merge), in conjunction with general principles (Attract Closest, and the Extension condition). Pied-piping is a central ingredient in the derivation; Remnant movements play a role in "smuggling" around interveners; a strong intervention effect caused by experiencers can be reduced entirely to a required sequence of Merge, necessary for convergence. Finally, returning to comparative syntax, the paper discusses how the proposed derivation for English can in turn shed light on a syntactic solution of so-called displaced *zu* in German. It is precisely because this construction is so restricted, that it provides a valuable testing ground for the type of syntax we should pursue. The proposed analysis thus has direct bearings on the architecture of UG.

The goal of Mateu and Hyams' study is to address two questions: (i) whether the delays in the acquisition of subject-to-subject raising (StSR) *seem* and subject control (SC) *promise* are related, as would be predicted by various developmental accounts, and (ii) whether delays are due to limited processing capacity or immature grammatical abilities. Two comprehension tasks reveal two groups of children: (i) below-chance group: they have a non-adult grammar of StSR or SC and processing capacity does not predict performance; and (ii) at-/above-chance group: they have an adult-like grammar of StSR or SC and processing capacity modulates performance. Importantly, no correlation is found between StSR and SC performance – some children have mastered StSR with *seem* but not SC with *promise* and some show the opposite pattern, suggesting a dissociation between the grammatical development of StSR and SC, specifically of the mechanisms required to circumvent intervention.

Poletto and Pollock's contribution analyzes the syntax of interrogative clauses in French and in some Northern Italian dialects (NIDs), including so-called wh-in-situ configurations. They show that their intricate properties can be derived from standard computations (wh-movement and remnant movement of vP/IP to a Top/ground slot) to either the vP Left periphery (Low Left Periphery/LLP) or the CP domain (High Left Periphery/HLP). The question arises of why languages make use of the LLP or the HLP or indeed both, like French. They argue that in significant cases the morphological properties of the various Wh-words and the surface forms of the sentences provide all the clues required by the language learner and the linguist. Among their various proposals the authors assume that in French movement of interrogative pronouns to the HLP is

actually movement to a free relative layer and that the peculiar properties of French *que* are captured by analysing it as both an interrogative and relative element in conjunction with a 'smuggling' analysis of Subject Clitic Inversion (SCLI).– They show that many NIDs make use of both the LLP and the HLP and that smuggling is again crucially involved in a number of them. In addition to the fruitfulness of the 'smuggling' idea for Romance, ~~the~~ one main theoretical result of their chapter is that notions like 'relative constructions' or 'interrogative constructions' are not primitives of the language faculty (Kayne 2015) since in significant cases the derivation of questions activates both the interrogative side of the LLP and the (free) relative side of the HLP.

Roberts' contribution argues that the lack of SVO ergative languages ("Mahajan's Generalization", see Taraldsen 2017) can be explained by the combination of a smuggling analysis of ergative alignments and the Final over Final Condition (FOFC). The smuggling derivation, when the smuggled category is internally head-initial, creates a configuration which violates FOFC. For this reason, SVO and ergativity do not combine in the world's languages, a notable typological lacuna that has hitherto defied explanation. The implications of the analysis for V-initial ergative languages and for passives are also briefly explored in the paper.

Adriana Belletti & Chris Collins, October 2019

References

Belletti, A. 2017. Labeling (Romance) Causatives. In: *Elements of comparative syntax: Theory and description,* Enoch Aboh, Eric Haeberli, Genoveva Puskas, Manuela Shonenberg eds. De Gruyter, 13-46.

Belletti, Adriana and Luigi Rizzi. 2012. Moving Verbal Chunks in the Low Functional Field. In Laura Brugé, Anna Cardinaletti, Giuliana Giusti, Nicola Munaro and Cecilia Poletto (eds.), *Functional Heads: The Cartography of Syntactic Structures, Volume 7*. Oxford University Press, Oxford.

Chomsky, N. 2013. Problems of projection. *Lingua* 130: 33–49.

Cinque, G. 1990. Types of A-bar Dependencies. Cambridge, Mass.: MIT Press

Collins, Chris. 2005. A Smuggling Approach to the Passive in English. *Syntax* 8, 81-120.

Collins, Chris and Edward Stabler. 2016. A Formalization of Minimalist Syntax. *Syntax* 19, 43-78

Hicks, Glyn. 2009. Tough-Constructions and their Derivation. *Linguistic Inquiry* 40, 535-566.

Rizzi, L. 1982. Issues in Italian Syntax. Foris Publications, Dordrecht.

Rizzi, L. 2006. On the form of chains: Criterial positions and ECP effects. In *Wh-movement: Moving on*, ed. Lisa Lai-Shen Cheng and Norbert Corver, 97–134. Cambridge, MA: MIT Press

Rizzi, L. 2014. Some Consequences of Criterial Freezing. In P. Svenionius, ed., The Cartography of Syntactic Structures, Vol. 9, 19–54. New York: Oxford University Press

Rizzi, L. 2015. Cartography, Criteria, and Labeling. In U. Shlonsky, ed., *Beyond Functional Sequence- The Cartography of Syntactic Structures*, Vol 10, 314-338. New York: Oxford University Press