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Current Issues in Syntactic Cartography

A crosslinguistic perspective

Edited by
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Current Issues in Syntactic Cartography. A crosslinguistic perspective
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CHAPTER 1

Introduction

On the comparative basis of cartographic studies

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1. General background

Syntactic structures are complex objects. If the minimalist program is on the right track, the generating mechanism, Merge, is optimally simple, but its recursive applications on a richly structured lexicon may yield hierarchically organized representations of great complexity. As an illustration, consider the sentence you just read: two lines of text, expressed on the surface by a sequence of some 30 words, correspond to a richly articulated hierarchical structure, involving a considerable depth of phrasal and clausal embedding, and resulting from several dozens of applications of Merge. Importantly, such representations are not just the result of blind applications of Merge on arbitrarily chosen lexical elements. On the contrary, they are determined in part by the combinatorial requirements, in a broad sense, of the lexical items involved, both functional and contentive. Such requirements determine regularities, and recurrent patterns. The cartography of syntactic structures is the line of research which tries to map such complex representations as accurately as possible, in the aim of extracting and highlighting the emerging regularities.

Cartographic studies have been pursued since the late 1990s, stemming from Rizzi's (1997) cartography of the left periphery, and Cinque's (1999) map of the IP system. In the last quarter of a century, the crosslinguistic basis of such studies has expanded steadily. The initial strategy was not the same for the IP and CP systems. The IP structure was immediately addressed through a large comparative perspective by Cinque, whereas the CP structure was initially studied by looking in great detail at the left periphery of one language (Italian), and then progressively extending the analysis to neighboring languages. The two strategies turned out to be fully complementary, and in fact they quickly converged. On the one hand, many studies were devoted to the functional structure of the IP in individual languages, asking the question of whether and to what extent it would conform to the Cinque hierarchy. On the other hand, the data base on the left periphery was rapidly

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extended, first to Romance and Germanic, and then, progressively, to languages that are very distant, historically and typologically, asking whether and to what extent the structure proposed for Italian was echoed by the peripheries in other languages.

2. The growth of the empirical coverage and the impact of the study of African languages

Outside Indo-European, cartographic analyses where conducted on Finno-Ugric (Hungarian: Puskas 2000), Austronesian (Maori: Pearce 1999), Semitic (Arabic, Hebrew: Cinque 2003; Shlonsky 2000), Australian Aboriginal (Warlpiri: Legate 2002), among many other language families. For a comprehensive picture, see the website of the SynCart project (https://www.unige.ch/lettres/linguistique/syncart/home/), set up by Giuliano Bocci, Giuseppe Samo and Karen Martini at the University of Geneva. Already in the early years of cartographic studies, a major impulse came from the detailed cartographic analysis of African languages, initiated by Enoch Aboh's seminal dissertation on the Gbe languages (a revised version of which was later published as Aboh 2004). Among many other contributions, what African languages brought to the general picture is a system of overt particles marking left peripheral positions of topic and focus, as well as the landing site of *wh*-movement. These studies offered straightforward empirical support to the structural approach to scope-discourse constructions, the so-called "criterial approach", which had been proposed on the basis of much more indirect empirical evidence in the study of Romance. Let us focus for a moment on these issues, in order to illustrate the varied contribution that can come from individual languages to the cartographic enterprise.

According to the criterial approach, the left periphery of the clause is populated by a sequence of functional heads such as Top, Foc, Q, and others, which have both a syntactic and an interface function. In syntax, criterial heads trigger movement: they attract phrases endowed with matching features to their Spec (and in *in-situ* constructions, for instance in languages permitting or requiring *wh-in situ*, criterial heads presumably enter into an agree relation with the relevant phrase, without triggering subsequent movement). At the interfaces with sound and meaning, criterial heads guide interpretive procedures. At PF, they trigger procedures for the assignment of the appropriate intonational contour (see, e.g., Bocci 2013). At LF, they trigger procedures for the interpretations of such bipartite articulations as topic-comment, focus-presupposition, operator-scope domain, which constitute the core of what is often called scope-discourse semantics.

The criterial approach is structure-based in a deep sense: not only does it assume that interpretive systems read the syntactic structures and capitalize on

their configurational properties (this is generally assumed within generative grammar), but also that the configurations to be interpreted are uniform Spec-head-complement structures, and the procedures are driven by the heads. So, an important empirical contribution provided by the cartographic study of Kwa languages, initiated by Aboh (2004) was to provide straightforward empirical evidence for such crucial system of heads, which tend to be overt in these (and many other) languages. Of course, this kind of evidence had to be completed by empirical arguments that topic, focus and Q markers are indeed part of the clausal spine, and not kinds of case-markers attached to the criterial phrases. Types of evidence of this sort started being elaborated in Rizzi (2013) and gave rise to a lively line of debate in workshops and colloquia devoted to cartography in recent years.

3. The importance of comparative studies and the cartography of East Asian languages

The role of comparative studies is to disentangle invariant and variable properties across languages. Comparative analysis thus plays a crucial role in the endeavor of uncovering the universal features of human language, hence improving our understanding of the human language faculty. The precise study of even a single language, or of closely related languages, can be highly informative to this goal: the first decades of the history of generative grammar clearly show that important general progress can come even from a very reduced empirical basis in terms of crosslinguistic coverage. Nevertheless, the extension of the comparison to other languages, possibly distant systems historically and typologically, is of fundamental importance: each language offers a particular variation on the theme of the human language faculty, and some particular variations may straightforwardly offer insights on properties that remain more opaque in other languages. This is true for comparative syntax in general, and also for comparative cartographic studies. Studying the fine articulation of syntactic structures in very different languages under uniform cartographic guidelines can make much progress possible on the identification of the right structural maps. So, the extension of cartographic analysis to larger and larger sets of languages is of great importance.

Over the last decade, the interest for cartographic analyses of East-Asian languages has grown very significantly. Yoshio Endo's doctoral dissertation (a revised version was published as Endo 2007) brought the cartography of Japanese to center stage, both for the structure of the clause and of the clausal periphery. Endo put special emphasis on the status of clause-final particles, assumed in previous work to be mainly of pragmatic relevance, but which could receive a precise syntactic analysis under cartographic guidelines, also illuminating the important interactions

of such particles with syntactic properties such as the EPP. And Mamoru Saito's study of the structure of the right periphery of the Japanese clause (Saito 2012) elegantly supported, in a head-final language, the peripheral map originally built on the basis of head-initial Romance. These contributions generated much work on Japanese and also contributed, more recently, to spark interest for the cartographic analysis of Korean, as witnessed by the cartographic workshop at the Seoul National University International Conference on Linguistics, Seoul, June 15–16, 2018.

More recently, the analysis of Chinese has become a major focus of cartographic research. Two properties make Chinese particularly suitable for cartographic analysis. On the one hand, Chinese manifests a high degree of what James Huang calls "syntactic analyticity", with functional elements visibly spread over projections, with very limited use of head movement producing synthetic forms of the kind typically found in Indo-European and other languages (Huang 2015). On the other hand, there is a general reluctance to perform phrasal movement, as argued by Dylan Tsai, determining the fact that external Merge configurations remain largely intact in many cases, whereas movement introduces a higher level of distortion in other languages. External Merge configurations, more opaque in other languages, are thus manifested more transparently on the surface in Chinese (Tsai 2015). Three collective volumes gave a tangible sign of this growing interest: Li, Simpson and Tsai, eds, (2015); Tsai, ed., (2015) and Si, ed. (2017), the last two with papers entirely devoted to cartographic studies.

Other initiatives contributed to create a suitable infrastructure to promote these studies.

First, Fuzhen Si created the International Workshop on Syntactic Cartography, which took place in 2015, 2017 and 2019 at the Beijing Language and Culture University. The goal was to create an international forum for discussion of topics of syntactic cartography, with the participation of leading figures as well as young scholars from Italy, Switzerland, China, US, UK, Japan and other countries and regions. This initiative is intended to continue on a biannual basis.

Second, the International Association of Syntactic Cartography (IAOSCS) was founded at Macau in 2018, with the purpose of providing a platform of exchange and communication and enhancing further international collaborations. The first members' assembly of the association was held on 26 October 2019 in Beijing.

Third, the Department of Linguistics at BLCU (DLB) announced its birth on 29 October 2018. As the very first department of linguistics containing a full range of degree programs of linguistics (bachelor, MA and PhD program) in China, DLB has the ambition to make itself a center of syntactic cartographic studies in Asia. The birth of the new department was celebrated in a special event, the "International Forum on Frontiers in Linguistics & Inauguration Ceremony of the DLB", in 2018. Many leading figures in the generative linguistics field such as

David Lightfoot, C.-T. James Huang, Adriana Belletti, Ian Roberts participated in the forum. Noam Chomsky, Samuel Jay Keyser, Richard Larson, Audrey Y.-H. Li, Hajime Hoji and Narasha Warner presented their video greetings to celebrate the birth of the department.

The present volume offers a selection of papers presented at the aforementioned events. We are convinced that, far from being a mere collection of conference papers, the different chapters of this volume offer a coherent picture of the current issues addressed in comparative cartographic studies, with special reference to the contributions coming from the cartography of Chinese syntax.

4. The contributions

The present volume contains 12 papers, which are divided into two sections. The first is focused on contributions on Romance, Germanic, Semitic, and Japanese, offering a sample of the comparative dimension and empirical coverage of cartographic studies. The second section is devoted to studies open to the comparative dimension but focusing primarily on Chinese.

Ur Shlonsky's paper "Cartography and selection in subjunctives and interrogatives" is mainly concerned with the question "how is selection satisfied in a left periphery with a rich functional sequence (Rizzi 1997, etc.)". The empirical material comes primarily from French and Hebrew, with reference to various other languages. It is argued, based on the observations of the Force layer, that apparent cases of "non-local" selection involve local selection of a feature on Force° by a higher selector, and agreement between Force° and a lower occurrence of the selected feature. The selection by a higher selector and a property internal to the complement is thus split into two components (along the lines of Rizzi 2013). It is suggested that if selection is a strictly local relation, holding of structurally adjacent heads, agreement also is a local relation, but to a lesser extent: it is constrained only by Relativized Minimality (based on the concept of intervention) and by phase impenetrability. Shlonsky's chapter also addresses the nature of some root/embedded asymmetries, as well as the connections between cartographic representations and a phase-based grammatical architecture.

Masatoshi Honda's chapter "The syntax and information-structural semantics of negative inversion in English and their implications for the theory of focus" discusses the relationship between negative inversion in English and focus structures in the left periphery. The analysis is prompted by the observation that, if the link with focus appears to be straightforward, negative inversion structures do not seem to give rise to Focus-presupposition articulations, as other left-peripheral focal structures do. This is argued on the basis of English negative inversion, as

well as the corresponding inversion construction in Spanish, analyzed along the lines of Leonetti and Escandell-Vidal's (2009). Honda adopts Cruschina's (2011) two-layered focus hypothesis and argues that Negative Inversion in English is derived by fronting the negative element to [Spec, IFocP], the lower left-peripheral focal position in Cruschina's analysis. This structural hypothesis is shown by the author to capture the special interface properties of negative inversion, akin but distinct from the interpretation of other focal structures.

Karen De Clercq and Liliane Haegeman's chapter "Invariant *die* and adverbial resumption in the Ghent dialect" focuses on the distribution of specialized and generalized resumptive elements in Standard Dutch and in the Ghent dialect. The analysis directly bears on the proper treatment of the V2 constraint, which appears to be systematically violated (on the surface) by resumptive configurations in which the inflected verb appears in third position. Building on the Poletto/Wolfe typology of V2 languages, the authors argue for a distinct categorical status of resumptives in Standard Dutch and in the dialect, from which distributional differences are made to follow.

Giuseppe Samo and Massimiliano Canuti's chapter "Uncovering the left periphery of Etruscan: Some theoretical insights" adds an important new dimension to the volume by addressing the structure of the left periphery in an ancient language, Etruscan. Given the fragmentary nature of the available evidence, the task of developing a refined cartography is particularly challenging. Nevertheless, the authors arrive at the identification of basic properties of the Etruscan clause structure, and of the complementizer system. They also discuss various criteria by which non-canonical word orders in the language, derived by leftward movement of a constituent and the verb, can be shown to give rise to familiar discourse-pragmatic interface effects.

Yoshio Endo's chapter "Subject drop in *how come* questions in English" combines the special properties of of *how come* questions in English with the option of dropping subjects in the diary register of English, thoroughly studied by Liliane Haegeman (see e.g., Haegeman 2013). The new empirical observation here is that diary subject drop appears to be possible in the context of *how come* questions. Endo develops a cartographic analysis of this unexpected effect and shows its relevance to capture another case of surprising deletion in the context of a high left peripheral licenser: nominative case drop in Japanese in the domain of a sentence final particle.

Mohamed Naji's chapter "Causativity alternation in the lower field" deals with properties of the lower part of the clausal map, in which the lexical root gets categorized by *v*. Based on data from Standard Arabic, Naji argues that the makeup of anticausative verbs is linked to an independent, autonomous, head Caus°(ative). This head is merged with the lexical root, under *v*, as the configuration is preserved in the corresponding nominal. Anticausative and passive morphology crucially

differ in this transcategorial respect, thus suggesting an articulated map for the specification of the root, the categorizer, and the voice systems. The chapter also provides evidence for a positional distinction between the locus of assignment of the agent and cause theta roles to the subject.

Koichiro Nakamura's chapter "Another argument for the differences among *wa*-marked phrases" deals with the distributional and interpretive differences of Japanese *wa*-structures. Morpheme *wa* is shown to mark distinct kinds of peripheral elements depending on its position in the clausal spine: in the high periphery, *wa* marks topics (contrastive and non-contrastive), whereas in the low periphery surrounding the *v*P, *wa* marks contrastive focal elements. The two markers are shown to differ in syntactic and interface properties: position in the high/low periphery, interpretation as topic or focus at LF, and special stress properties at PF.

The second section includes contributions that are focused, fully or in part, on Chinese and Chinese dialects. Following Huang (2005, 2015), Si (2018) distinguished between syntactically analytic languages and morphologically analytic languages. It was suggested in Si (2018) that both syntactically analytic languages such as Chinese and morphologically analytic languages such as Altaic languages are ideal specimens in demonstrating syntactic-semantic interactions and in testing corresponding orderings in syntactic cartography. The papers presented here in the second section intend to show that being a syntactically analytic language, Chinese not only conforms to cartographic constraints which have been observed in other languages, but also illustrates structural properties in novel ways and suggests new directions for further studies.

C.-T. James Huang and Jo-Wang Lin's "Quantificational binding without surface c-command in Mandarin Chinese" addresses aspects of the syntax-interpretation interface in Mandarin Chinese. The main focus is on pronominal binding by a quantificational NP, also in comparison with the functioning of non-coreference effects in Chinese. The analytic proposal crucially capitalizes on a general Condition on Scope Interpretation, which prevents a quantificational NP to take scope over another one that c-commands it at surface structure, a constraint reminiscent of familiar locality principles banning intervention effects. The rich empirical dimension addressed in this chapter also allows the authors to revisit classical issues of interface studies in Chinese, such as subject – object asymmetries, reconstruction, the interplay of c-command and leftness effects. The paper is not explicitly couched in cartographic terms, but it addresses interface issues of great significance for cartographic studies, issues which are partly expressible in cartographic terms under approaches such as Beghelli & Stowell (1994), with dedicated scope positions for particular quantified expressions.

Fuzhen Si's chapter "Towards a cartography of light verbs" suggests that the structural zone corresponding to a single light verb in more standard representations

can be further analyzed as a "light verb field", containing several layers of different light verbs, conveying different kinds of information. Following the "splitting" tradition of cartographic studies (Pollock 1989; Belletti 1990; Rizzi 1997), also in light of Jespersen (1954), Larson (1988, 2014), Chomsky (1995); Harley (2002), Hale & Keyser (1991, 1993, 1998, 2002), Beninca & Poletto (2004) and Huang (2008), this chapter provides a "magnifier-like" means for the study of various light verb structures. The approach will be mainly illustrated by Chinese, taking advantage of the high degree of "analyticity" shown by the language (Huang 2005, 2015), which makes Chinese an ideal testing ground for the full understanding of syntax-semantics mapping under the cartographic approach. The aim is not only to shed light on specific Chinese syntactic structures, but also approaching a new perspective on the study of light verb structures in general and contributing to the cartographic enterprise. One major assumption and two subsequent assumptions are proposed: (1) Split light verb hypothesis: from a cartographic point of view, the light verb "*v*" is not a single head, but an umbrella name for a rather rich structural zone: "light verb field". (2) About the argument structure, it is proposed that in the complex light verb constructions, the core of the predicate is not composed of one single argument structure, but a chain of several argument structures. (3) Correspondingly, the event structure can also be looked at in more details in these structures: the idea is that in the sentences containing chain argument structures, the event can also be analyzed as a chain of event fragments, following a rule-to-rule correspondence principle.

Seng-Hian Lau and Wei-Tien Dylan Tsai's chapter "Attitudinal applicative in action" addresses the issue of pronominal elements which are not part of the argument structure of the verb, but may correspond to participants which are positively or adversely affected by the event. The chapter explores a rather peculiar attitudinal construal of an applicative pronoun in Taiwan Southern Min, and extends the approach to the analysis of the split affectivity in Chinese dialects (cf. Tsai 2017). Many languages manifest cases of special pronominal usages not belonging to the argument structure and with particular attitudinal interpretations: the chapter discusses cases from Vietnamese, Finnish, West Flemish, and Dominican Spanish (see Greco et al. 2017). In the case at issue, the attitudinal applicative pronoun does not have a referential interpretation, but it may imply some unspecified affectee(s) in the context. A connection with the causative/passive marker is suggested and analyzed.

Zhuosi Luo's chapter "Multiple counterparts of Mandarin *qu* (go) in Teochew and their cartographic distributions: A new perspective into its multiple syntactic functions and grammaticalization process" mainly focuses on Teochew (a southern Chinese dialect also known as Chaozhou Dialect), and its major concern is the syntactic distributions of three varieties of "Teochew" "去" (a word corresponding to "去 [tɕy]" [lit. "go" in its basic meaning] in Mandarin). Unlike in Mandarin, in

which "去" basically has only one phonetically form [tɕy], in Teochew, the phonologically realization of the counterpart has three varieties: [k'u], [k'a] and [k'ə] respectively. It is argued that these three varieties are distributed differently, and belong to the VP domain, the TP domain and the CP domain, respectively. More specifically, the basic form of the three varieties is [k'u], which is a verb, a lexical category. Under certain syntactic conditions, [k'u] can also be moved to higher positions in the *v*P, TP or even CP domain. [k'a] is morphologically derived from [k'u], and syntactically, it is located in some layers of the CP domain. And [k'ə] is functionally equivalent to the infinitival 'to' in English, and located somewhere in the TP layer. Some crosslinguistic comparisons between Teochew and Old Chinese, Mandarin Chinese as well as English are also offered to make the picture of the cartographic distributions of Teochew "去" clearer.

Fuqiang Li's chapter "On the syntactic representation of Chinese *you* (有) in "*you*+VP" construction" aims at drawing the syntactic maps of *you* (有 lit. have) in "*you* + VP" construction in Chinese within the cartographic framework following Rizzi 1997; Cinque 1999, and also on the basis of Huang (1988). More precisely, it is argued in this paper that a syntax-semantics mismatch of *you* is observed in the literature, namely, previous studies claim that *you* can convey several semantic readings, for instance, past reading, future reading, perfective reading, as well as (emphatic) affirmative reading; its syntactic representation, however, is put under the syntactic node of I/T (Huang 1988, etc.). This paper first offers an empirical verification of these claimed features on *you*, and then proposes a cartographic analysis of its occurrences. Some crosslinguistic parallels are observed by comparing the "*you* + VP" construction with the strategies applied in emphatic affirmative sentences in Basque (i.e. auxiliary fronting) and English (i.e. *do*-support). Building on Laka's (1990) analysis of these languages, a *you*-support hypothesis is suggested to capture the different occurrences of *you* in the "*you* + VP" construction in Chinese.

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References

Aboh, Enoch O. 2004. *The Morphosyntax of Complement-head Sequences: Clause Structure and Word Order Patterns in Kwa*. Oxford: OUP. https://doi.org/10.1093/acprof:oso/9780195159905.001.0001

Beghelli, Fillippo & Tim Stowell. 1994. The direction of quantifier movement. GLOW Newsletter.

Belletti, Adriana. 1990. *Generalized Verb Movement: Aspects of Verb Syntax*. Turin: Rosenberg & Sellier.

Benincà, Paola & Poletto, Cecilia. 2004. Topic, focus and V2: Defining the CP sublayers. In *The Structure of IP and CP:The Cartography of Syntactic Structures*, Luigi Rizzi (ed.), 52–75. Oxford: OUP.

Bocci, Giuliano. 2013. *The Syntax–Prosody Interface. A Cartographic Perspective with Evidence from Italian* [Linguistik Aktuell/Linguistics Today 204]. Amsterdam: John Benjamins. https://doi.org/10.1075/la.204

Chomsky, Noam. 1995. *The Minimalist Program*. Cambridge MA: The MIT Press.

Cinque, Guglielmo. 1999. *Adverbs and Functional Heads: A Cross-Linguistic Perspective*. Oxford: OUP.

Cinque, Guglielmo. 2003. The prenominal origin of relative clauses. Paper presented at the Workshop on Antisymmetry and Remnant Movement, NYU, 31 October-November 1, 2003.

Cruschina, Silvio. 2011. *Discourse-Related Features and Functional Projections*. Oxford: OUP.

Endo, Yoshio. 2007. *Locality and Information Structure* [Linguistik Aktuell/Linguistics Today 116]. Amsterdam: John Benjamins. https://doi.org/10.1075/la.116

Greco, Ciro, Marelli, Marco & Haegeman, Liliane. 2017. External syntax and the cumulative effect in subject sub-extraction: An experimental evaluation. *Linguistic Review* 34(3): 479–531. https://doi.org/10.1515/tlr-2017-0009

Haegeman, Liliane. 2013. The syntax of registers: Diary subject omission and the privilege of the root. *Lingua* 130: 88–110. https://doi.org/10.1016/j.lingua.2013.01.005

Hale, Ken & Keyser, Samuel Jay. 1991. On the syntax of argument structure. *Lexicon Project Working Papers*. Cambridge MA: Center for Cognitive Science, MIT.

Hale, Ken & Keyser, Samuel Jay. 1993. On argument structure and the lexical expression of syntactic relations. In *The View from Building 20: Essays in linguistics in Honor of Sylvain Bromberger*, Ken Hale & Samual Jay Keyser (eds), 53–109. Cambridge MA: The MIT Press.

Hale, Ken & Keyser, Samuel Jay. 1998. The basic elements of argument structure. In *Papers from the UPenn/MIT Roundtable on Argument Structure and Aspect* [MIT Working Papers in Linguistics 32], Heidi Harley (ed.), 73–118. Cambridge MA: MITWPL.

Hale, Ken & Keyser, Samuel Jay. 2002. *Prolegomenon to a Theory of Argument Structure*. Cambridge MA: The MIT Press. https://doi.org/10.7551/mitpress/5634.001.0001

Harley, H. 2002. Possession and the double object construction. In *Yearbook of Linguistic Variation* 2, Pierre Pica & Johan Rooryck (eds), 31–70. Amsterdam: John Benjamins. https://doi.org/10.1075/livy.2.04har

Huang, C.-T. James. 2005. Syntactic analyticity and the other end of the parameter. *Lecture handout distributed at 2005 LSA Linguistic Institute for course by the same title*.

Huang, C.-T. James. 1988. Wo Pao de Kuai and Chinese phrase structure. *Language* 64: 274–311. https://doi.org/10.2307/415435

Huang, C. -T. James. 2008. On Ta De Laoshi Dang-de Hao and related problems. *Linguistic Sciences* 3.

Huang, C.-T. James. 2015. On syntactic analyticity and parametric theory. In *Chinese Syntax in a Cross-Linguistic Perspective*, Audrey Li, Andrew Simpson & Wei-Tien Dylan Tsai (eds), 1–48. Oxford: OUP.

Jespersen, Otto. 1954. *A Modern English Grammar on Historical Principles*. London: George Allen & Unwin and Copenhagen: Ejnar Munksgaard.

Laka, Miren Itziar. 1990. Negation in Syntax: On the Nature of Functional Categories and Projections. PhD dissertation, MIT.

Larson, Richard K. 1988. On the double object construction. *Linguistic Inquiry* 19(3): 335–391.

Larson, Richard K. 2014. *On Shell Structure*. London: Routledge. https://doi.org/10.4324/9780203429204

Legate, Julie Anne. 2002. Some interface properties of the phase. *Linguistic Inquiry* 34: 506–516. https://doi.org/10.1162/ling.2003.34.3.506

Leonetti, Manuel & Escandell-Vidal, María Victoria. 2009. Fronting and verum focus in Spanish. In *Focus and Background in Romance Languages*, Andreas Dufter & Daniel Jacob (eds), 155–204. Amsterdam: John Benjamins. https://doi.org/10.1075/slcs.112.07leo

Li, Audrey, Simpson, Andrew & Tsai, Wei-Tien Dylan (eds). 2015. *Chinese Syntax in a Cross-linguistic Perspective*. Oxford: OUP.

Pearce, Elizabeth. 1999. Topic and focus in a head-initial language: Maori. In *Proceedings of AFLA (Austronesian Formal Linguistics Association) VI*, Carolyn Smallwood & Catherine Kitto (eds), 181–200. Toronto: Toronto Working Papers in Linguistics.

Pollock, Jean-Yves. 1989. Verb movement, universal grammar, and the structure of IP. *Linguistic Inquiry* 20: 365–424.

Puskás, Genoveva. 2000. *Word Order in Hungarian: The Syntax of A'-positions* [Linguistik Aktuell/Linguistics Today 33]. Amsterdam: John Benjamins. https://doi.org/10.1075/la.33

Rizzi, Luigi. 1997. The fine structure of the left periphery. In *Elements of Grammar: Handbook of Generative Syntax*, Liliane Haegeman (ed.), 282–337. Dordrecht: Kluwer. https://doi.org/10.1007/978-94-011-5420-8_7

Rizzi, Luigi. 2013. The functional structure of the sentence, and cartography. In *The Cambridge Handbook of Generative Syntax*, Marcel den Dikken (ed.). Cambridge: CUP. https://doi.org/10.1017/CBO9780511804571.016

Saito, Mamoru. 2012. Case checking/valuation in Japanese. *Nanzan Linguistics* 8: 109–127.

Shlonsky, Ur. 2000. Remarks on the complementizer layer of Standard Arabic. In *Research in Afroasiatic Grammar* [Current Issues in Linguistic Theory 202], Jaqueline Lecarme, Jean Lowenstamm & Ur Shonsky (eds), 325–343. Amsterdam: John Benjamins. https://doi.org/10.1075/cilt.202.15shl

Si, Fuzhen (ed.). 2017. *Studies Syntactic Cartography*. Beijing: China Social Sciences Press.

Si, Fuzhen. 2018. A cartographic study on the light verb constructions. *Linguistic Research* 1: 11–17.

Tsai, Wei-Tien Dylan (ed.). 2015. *The Cartography of Chinese Syntax. The Cartography of Syntactic Structures*, Vol. 11. Oxford: OUP.

Tsai, Wei-Tien Dylan. 2017. On split affectivity in Chinese. *Tsing Hua Journal of Chinese Studies, New Series* 47(2): 409–434.

SECTION I

Theoretical and descriptive issues in syntactic cartography

A crosslinguistic perspective

CHAPTER 2

Cartography and selection in subjunctives and interrogatives

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On the assumption that a head c-selects the head of its sister phrase, the question I try to answer is how to implement selection of (indirect) questions and of subjunctive complements. The question is relevant to cartography because the head encoding Q (in interrogatives) and Mood-Subjunctive (in subjunctive complement clauses) is presumably not the head of ForceP but is merged lower down. I argue that it is always Force° which is selected and the relation between Force° and material lower in the left periphery is mediated by Agree. I further show that an Agree probe in the left periphery, whose search domain is TP, must implicate Fin, which I argue to be a phase head.

Keywords: cartography, selection, FORCE, left periphery, subjunctives, interrogatives

1. The problem

On the assumption that a head syntactically selects the head of its sister phrase, the following question arises:

(1) How is selection satisfied in a left periphery with a rich functional sequence? (Rizzi 1997, etc.)

In non-cartographic approaches, V selects declarative C (CDEC) – lexicalized by *that* in (2a) – and a phonetically-null interrogative C (CINT) in (2b).

(2) a. I think [that$_{CDEC}$ John ate the cake].
b. I wonder [what Ø$_{CINT}$ John bought].

If we take C to be FORCE, a problem arises because the landing site of *what* in (2b) is not Spec/FORCE but a lower position, presumably Spec/FOC(US). This is evidenced by Spanish (3) from Suñer (1994) and Gungbe (4), from Aboh & Pfau

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(2010), illustrating the crosslinguistically not uncommon co-occurrence of an overt FORCE and a *wh*-expression in indirect questions. If *ask* selects for an indirect question, how can it "see" the *wh*-word embedded within ForceP, to the right of and lower than FORCE?

(3) Briana preguntó (que) qué había comprado Mara ayer.
Briana asked (that) what has bought Mara yesterday
'Briana asked what Mara bought yesterday'.

(4) Ùn kànbíɔ́ ɖɔ̀ mɛ́nù wɛ̀ wá?
1.SG ask that who FOC come
'I asked who came?'

The problem is also apparent when a fronted topic appears to the left of *wh*, as in the Hebrew (5b) (topics in Hebrew can both precede and follow *wh*: Shlonsky 2014a; Shlonsky & Bocci 2019).

(5) a. ša'alta oti le-mi Dani hexzir et ha sefer.
(you).asked me to-whom Dani returned ACC the book
'You asked me who Dani returned the book to.'
b. ša'alta oti et ha sefer le-mi Dani hexzir.
*(you).asked me ACC the book to-whom Dani return*ed
lit: 'You asked me the book to whom Dani returned.'

To conclude, a cartographically-explicit left peripheral architecture – (6), (Rizzi 1997) – is prima facie at odds with the strict locality of selection.

(6) ask/wonder [ForceP FORCE [TopicP this book TOP [FocP to whom FOC …]]]

2. Structure of the paper

Expanding upon Rizzi (2013: 207), we argue that apparent "non-local" selection is composed of strictly local selection of a feature on FORCE and agreement between FORCE and a lower occurrence or occurrences of the selected feature (and, in some cases, movement of a morpheme bearing that feature to the FOC probe.) If selection is strictly local, agreement in not. It is constrained only by relativized minimality (intervening features) and by phrase impenetrability. Section 3 studies selection of subjunctive mood and Section 4 considers interrogatives. Section 5 explores the role of Force in root clauses and suggest that some root/embedded asymmetries should be ascribed to the fact that the phase head FORCE is uninterpretable in root clauses.

3. The selection of (subjunctive) mood

Across languages, selected subjunctive mood is morphologically expressed in diverse ways. In the national Romance languages, for example, subjunctive mood is morphologically coded by a dedicated morphology on the tensed verb of the subjunctive clause. (7) is an example from French.

(7) a. Indicative:
Tu dis [que Jean dɔr, fɛ]
You say that John sleeps-IND, does-IND
'You say that John sleeps/does.'
b. Subjunctive:
Tu veux [que Jean dɔrm, fas]
You want that John sleeps-SUBJ, does-SUBJ
'You want John to sleep/do.'

The aspectual/temporal form of the verb and its position are also implicated in subjunctive mood in Balkan and Slavic (Sočanac 2017). Russian deploys a different complementizer in indicative and subjunctive complement clauses:

(8) a. Indicative
Ja dumaju, chto Ivan prishel.
I think that John came
'I think that John came.'
b. Subjunctive
Ja hochu, chtoby Ivan prishel.
I want that John come
'I want John to come.'

In other languages, the subjunctive is expressed by a special "particle", illustrated by the following Greek pair.

(9) a. Indicative
Ksero oti o Janis elise to provlima.
Know-1s that the John solved-3s the problem
'I know that/*if John solved the problem.'
b. Subjunctive
Thelo na kerdisi o Janis.
want.1s PRT.SUBJ win.3s. the John
'I want John to win.'

These three modes of expression of subjunctive mood, namely, a dedicated verbal form, a specialized complementizer and a subjunctive particle, are not mutually

exclusive. Romance vernaculars such as Salentino, manifest both a dedicated verbal morphology and a specialized "complementizer":

(10) Speru cu began faccincunu.
hope.1s CSUBJ *comes-*SUBJ *someone*
'I hope someone comes.'

In Romanian (and Albanian, not illustrated), a specialized complementizer is followed by the subjunctive "particle" (Sočanac 2017: 107):

(11) Vreau ca Petru să citească o carte.
(*I*) *want* CSUBJ *Peter* PRT.SUBJ *read3.* SG *a book*
'I want Peter to read a book.'

Ligurian and Turinese – spoken in Northwest Italy – employ a specialized complementizer, a subjunctive particle and a dedicated verbal inflection (Ligurian: Paoli 2003):

(12) Gioanin a spera che Ghitin ch'as në vada tòst
John SCL *hopes that Margaret* CSUBJ-SCL PRT-SUBJ *go-*SUBJ *soon*
'John hopes that Margaret leave as soon as possible.'

The assumption of linguistic uniformity leads to a generalization of these empirical observations. Subjunctive is universally encoded in FORCE – the subjunctive complementizer in e.g., Russian, in FIN – the subjunctive particle in e.g., Greek, as well as in the inflectional system, either as a specialized inflectional paradigm or in the form of restrictions on tense/aspect/mood. The data discussed in this section are summarized in (13). TENSE denotes the inflectional system (undoubtedly composed of a myriad specialized moods, modal, tense and aspectual functional projections, cf. Cinque (1999).) I take the gaps in this table to reflect the (arbitrary) absence of overt morphemes spelling out features in the lexicon of specific languages.

(13)

	Force	**Fin**	**Tense**	
			Specialized paradigm	**Restrictions on tense/aspect**
National Romance			+	
Salentino	+		+	
Balkan Slavic		+		+
Non-Balkan Slavic	+			+
Romanian	+	+		+
Ligurian	+	+	+	

Selection is evaluated in a strictly local fashion: A head syntactically selects the head of its sister phrase. Since +subjunctive is clearly selected (by a certain class of predicates), it follows that +subjunctive must be encoded on the highest head of the left periphery, namely FORCE. Selection is thereby satisfied in a local c-command configuration between V and FORCE.

The occurrence of +subjunctive also on TENSE, which is not in a local or minimal c-command configuration with FORCE, suggests that TENSE and FORCE agree in this feature. Formally, FORCE probes for +subjunctive on TENSE. Agreement is feature-specific: Probe by FORCE targets +subjunctive and is blind to intervening material. This is the reason for which the presence of a topic (head and/or phrase) below FORCE, or a subject, do not block agreement in the subjunctive feature, as diagrammed in the French example in (14), which contains a clitic left-dislocated object.

(14) Je voudrais [$_{\text{ForceP}}$ [$_{\text{Force}}$ que] [$_{\text{TopicP}}$ ce livre TOP [$_{\text{FinP}}$ FIN [$_{\text{TP}}$ tu le lise]]]]
I like-COND that$_{SUBJ}$ this book you it read-SUBJ
Selection **Agreement**

However, if FIN is also implicated in the computation of subjunctive mood, as linguistic uniformity leads us to believe, it follows that FORCE probes FIN and FIN probes TENSE. (14) should be replaced by (15).

(15) Je voudrais [$_{\text{ForceP}}$ [$_{\text{Force}}$ que] [$_{\text{TopicP}}$ ce livre TOP [$_{\text{FinP}}$ FIN [$_{\text{TP}}$ tu le lise]]]]
I like-COND that$_{SUBJ}$ this book you it read-SUBJ
Selection **Agreement** **Agreement**

One intriguing question is why FIN must be implicated or, to put it differently, why FORCE cannot probe TENSE directly.

A possibility that comes to mind is that FIN is intrinsically marked for mood and is therefore the closest candidate for search by a +subjunctive FORCE. +Subjunctive FIN then agrees with the relevant mood feature on TENSE. In this respect, mood is similar to Tense/finiteness in that both types of features are represented both on TENSE and on FIN.

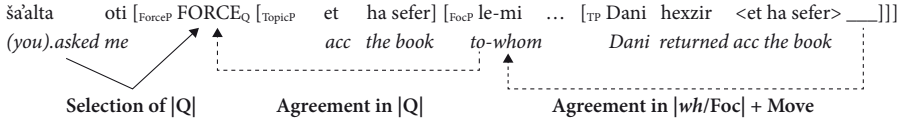
A second possibility to consider is that FIN is a phase head (in addition to FORCE). Due to the Phase Impenetrability Condition (Chomsky 2001), FORCE cannot probe into the c-command domain of a lower phrase head and can only access the phase head and its spec. Hence, FIN probes for T in the embedded phase, then FORCE probes for FIN, then the required specification in FORCE is licensed by selection from a higher V.

4. Selection and agreement in indirect questions

4.1 *Wh*-interrogatives

Like +subjunctive, the question feature, +Q, must be present on FORCE to satisfy selection by a higher (Q-selecting) verb. *Wh*-words, recall from (3) and (5b), do not move to ForceP but target a lower position, presumably Spec/FOC. So how is selection implemented in these cases? Assume that *wh*-expressions are endowed with two features, *wh* (or Foc) and Q. Probe of *wh*/Foc by FOC leads to *wh*-movement to Spec/FOC. The Q feature is pied-piped and becomes accessible to probe by FORCE. Agreement between FORCE and the Q feature on FORCE is, just as in the case of subjunctive complements, blind to the presence of intervening topics, which are clearly not +Q. The relevant selection, movement and agreement relations in (5b) are diagrammed in (16).

(16)



If FIN is a phase head, then either *wh*-movement transits through Spec/FIN on its way to Spec/FOC or, alternatively, FIN moves to FOC and this combined head probes for *wh* (see Rizzi (2011) and Shlonsky (2014b) for other cases of incorporation of one head into another and multiple probing.) That this may indeed be the case is supported by the observation that in many cases of *wh*-triggered T-to-C, the tensed verb moves to the head of which *wh* is the specifier, namely FOC, and does not stop at FIN. (Subject-auxiliary inversion is briefly taken up at the end of § 5). This explains why left-peripheral material such as topics, fronted modifiers, etc., that may follow a *wh* when TENSE does not move to the left periphery, may not occur between *wh* and the tensed verb when the verb raises. In such cases, T+V moves first to FIN and then FIN+T+V moves to FOC. Movement of FIN to FOC makes it possible for *wh* to move directly from TP to Spec/FOC, without violating the Phrase Impenetrability Condition.[1]

1. I leave open the question of whether movement of a phase head α to a higher head β extends the phase so that β becomes the new phase head (den Dikken 2007), or whether the phasal character of FinP is simply eliminated.

In an oral presentation of this paper, I was asked why FinP, if it is a phase boundary, allows multiple movements out of it, in apparent violation of the Phase Impenetrability Condition (PIC). If the phrase structure component of the grammar allows multiple specifiers (perhaps only to phase heads), then multiple movements out of a phase are actually predicted. The vP phase

4.2 Yes-No interrogatives

In standard cartographic architecture, the interrogative head in yes-no question heads Int(errogative)P, which is sequenced below ForceP (see Rizzi 2001 and much subsequent work). Following Lipták (2001), Nye (2013) and Rizzi (2017), I argue that Q on FORCE ensures that selection is properly implemented and that FORCE_{Q} then agrees with Q on INT. Again, the occurrence of a topic above IntP does not perturb the feature-specific relation of agreement. I illustrate the workings of this mechanism by the following French example.

(17)

Je me demande [$_{\text{ForceP}}$ FORCE_{Q} [$_{\text{TopicP}}$ ce film TOP [$_{\text{IntP}}$ [$_{\text{Int}}$ si_{Q}] [$_{\text{FinP}}$ FIN [$_{\text{TP}}$ tu l'as vu hier]]]]]

Selection **Agreement**

Lit: 'I wonder, this film, if you saw it yesterday.'

Consider now the fact that while Romance topics both precede and follow INT, Hebrew topics can only follow INT in indirect questions, (direct questions are discussed in § 5). Compare (a) and (b).

(18) a. French:
Je ne me souviens pas (ce film) si (ce film) tu l'as
I NEG remember NEG (this film) If (this film) you it-have
déjà vu.
already seen

b. Hebrew:
ani lo zoxer *(et ha seret ha ze) 'im (et ha seret ha
I NEG remember (ACC the film the this) if (ACC the film the
ze) kvar ra'it.
this) already saw.2FS
'I don't remember if you have already seen this film.'

---

notoriously allows movement of more than a single constituent from the c-command domain of v. I believe that this is also true for the ForceP (CP) phase. Sentence (i) illustrates multiple extraction from a tensed clause. The sentence is deviant but not worse than (ii), a *wh*-island violation (though it is in Hebrew; see Preminger 2010 for discussion).

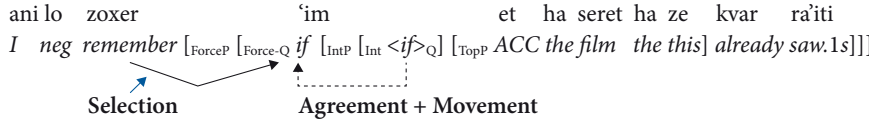
(i) ?(?)Which book did Bill wonder to which man Mary thought that she ought to give.

(ii) ?(?)Which book did Bill wonder to which man Mary ought to give.

It could also be the case – as a reviewer suggests – that PIC violations are relatively weak, much as Subjacency violations in classical discussions.

Shlonsky (2014a) and Shlonsky & Bocci (2019) argue that this difference between French and Hebrew is the consequence of a minimal parametric choice, namely, whether agreement between $FORCE_Q$ and INT is followed by movement of INT to FORCE (Hebrew) or not (French). More generally, if α moves to β then a fortiori α agrees with β. Assuming, then, that Hebrew requires movement of INT to FORCE, it follows – as an anonymous reviewer points out – that a TOPP cannot be merged above INTP, as its head would block movement of INT to FORCE. Consequently, the highest topic position in the clause (assuming, as always, that topics cannot be merged higher than FORCE) is necessarily to the right of *'im*, as diagrammed in (19).[2]

(19)



5. FORCE in root clauses

Once a phase is completed, the complement of the phase head is transferred to the interfaces (PHON and SEM). The phase edge (head and spec) is transferred upon the completion of the next phase (Chomsky 2001). But if the phase edge is the root, then it never gets transferred and hence cannot be interpreted (neither phonologically nor semantically). Under this view, FORCE in root clauses has a purely formal role: It enables the transfer of its complement to the interfaces PHON and SEM.

Nissenbaum (2000) and Rizzi (2005a, b) point out that this view entails that interpretable features that must occur on FORCE to satisfy selection in embedded contexts, cannot occur there in root contexts. We can assume that indicative sentences constitute the default mode of interpretation of a root clause so the question

2. Movement of INT to FORCE should further be restricted to the phonetically overt variant of INT, *'im*. Assuming that *why*-like elements are (internally or externally) merged in Spec/INT, the fact that topics can precede and follow *lama* 'why' in both direct and indirect questions shows that a null INT does not have to move to FORCE. Consequently, a TOPICP can be merged above INTP since its head, TOP would not block movement of INT to FORCE.

(i) ani lo zoxer (et ha seret ha ze) lama (et ha seret ha ze) ba
I NEG *remember* (ACC *the film the this*) *why* (ACC *the film the this*) *in-the*
sof lo ra'iti.
end NEG *saw*.1s
'I don't remember (this film) why (this film) I ended up not seeing.'

only arises for non-default interpretations. What, in particular, is the mechanism that enables the interpretation of interrogative root sentences?

Recall from § 4.2 that in Hebrew indirect yes-no questions, (overt) INT moves to FORCE. The prediction now is that such movement cannot occur in root clauses. If the Q feature moves and ends up in FORCE, it would not be transferred to PHON and SEM. If Q remains on INT, in the complement of FORCE, then it would be transferred and hence interpreted at the interfaces. So, the simple fact that FORCE is (optionally) pronounced in root clauses (taking the form *ha'im*, as opposed to the form '*im* in indirect questions) is evidence that it is not in FORCE.

(20) (ha'im) kvar ra'it et ha seret ha ze?
(*Q*) *already saw.2FS ACC the film the this*
'Have you already seen this film?'

In indirect questions, topics cannot precede '*im*, (18b), because their associated head, TOP would block movement of INT to FORCE. If root *ha'im*, as opposed to embedded '*im*, does move to FORCE, we predict that topics such as *et ha seret ha ze* 'this film' should be able to both precede and follow it as nothing would prevent merging TOPICPs both immediately above and immediately below INTP. This prediction is fully met, as shown in (21), with the associated derivation in (22).

(21) a. ha'im et ha seret ha ze kvar ra'ita?
Q ACC the film the this already saw.2MS
b. et ha seret ha ze ha'im kvar ra'ita?
ACC the film the this Q already saw.2MS
'This film, have you seen?'

(22) [$_{\text{ForceP}}$ [$_{\text{Force}}$ [$_{\text{TopP}}$ (et ha seret ha ze) *ACC the film the this*] [$_{\text{IntP}}$ [$_{\text{Int}}$ ha'im *if*] [$_{\text{TopP}}$ (et ha seret ha ze) *ACC the film the this*] kvar ra'ita? *already saw.2 MS*]]]

In the absence of a transferable (and hence interpretable) FORCE in root clauses, Q, merged in Hebrew INT, is not probed by a higher head. It presumably serves to attract a phonetically-null yes/no operator to its specifier. English INT contains a morpheme only in indirect (selected) questions – *whether* or *if*.[3] In direct questions, subject-auxiliary inversion applies: The tensed verb moves to FIN and then FIN moves to INT (in *wh*-questions, FIN moves to FOC/WH; see the last paragraph of § 4.1).

3. See Shlonsky & Soare (2011: note 4) for the suggestion that these two morphemes should be distinguished cartographically.

6. Summary and conclusion

This paper has explored the theoretical question of how to model long-distance selection in two environments, that of a morphologically-distinct subjunctive verbal form (e.g., in Romance) and that of indirect questions. Adopting the view that a higher predicate locally-selects the head of its sister node, we have tried to construe these cases of long-distance selection as the consequence of an agreement relation established by the selected head and like-feature bearing material lower in the clause. In so doing, we examined both the featural basis of these agreement relations as well as the locality conditions that require agreement to be carried-out cyclically, in accordance with phase boundaries. The model proposed predicts that (subjunctive) mood features appear on FORCE, FIN and T and language variation in this domain devolves from the arbitrariness of lexicalization by phonologically overt material. We then examined both yes-no and *wh*-questions and used the intervention of topics at various positions in the left periphery to argue for the view that interrogative force is represented on FORCE, which enters into an agreement relation with the interrogative operator (in yes-no questions) or the *wh*-expression (in constituent questions.) This double articulation of indirect questions results from the cartographic representation of interrogative syntax, in which the head which attracts a Q operator or a *wh*-word does not itself "type" the clause as an interrogative.

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References

Aboh, Enoch O. & Pfau, Roland. 2010. What's a wh-word got to do with it? In *Mapping the Left Periphery. The Cartography of Syntactic Structures*, Vol. 5, Paola Benincà & Nicola Munaro (eds), 91–125. Oxford: OUP.

Chomsky, Noam. 2001. Derivation by phase. In *Ken Hale: A Life in Language*, Michael Kenstowicz (ed.), 1–50. Cambridge MA: The MIT Press.

Cinque, Guglielmo. 1999. *Adverbs and Functional Heads: A Cross-linguistic Perspective*. Oxford: OUP.

den Dikken, Marcel. 2007. Phase extension contours of a theory of the role of head movement in phrasal extraction. *Theoretical Linguistics* 33(1): 1–41. https://doi.org/10.1515/TL.2007.001

Lipták, Anikó K. 2001. *On the Syntax of Wh-items in Hungarian*. Utrecht: LOT.

Nissenbaum, Jon. 2000. Investigations of Covert Phrase Movement. PhD dissertation, MIT.

Nye, Rachel. 2013. How Complement Clauses Distribute: Complementiser-how and the Case against Clause-type. PhD dissertation, University of Ghent.

Paoli, Sandra. 2003. COMP and the Left-periphery: Comparative Evidence from Romance. PhD dissertation, University of Manchester.

Preminger, Omer. 2010. Nested interrogatives and the locus of wh. In *The Complementizer Phase: Subjects and Operators*, Phoevos Panagiotidis (ed.), 200–235. Oxford: OUP. https://doi.org/10.1093/acprof:oso/9780199584352.003.0009

Rizzi, Luigi. 1997. The fine structure of the left periphery. In *Elements of Grammar: A Handbook of Generative Syntax*, Liliane Haegeman (ed.), 281–337. Dordrecht: Kluwer. https://doi.org/10.1007/978-94-011-5420-8_7

Rizzi, Luigi. 2001. On the position "int(errogative)" in the left periphery of the clause. In *Current Studies in Italian Syntax: Essays Offered to Lorenzo Renzi*, Guglielmo Cinque & Giampaolo Salvi (eds), 267–296. Amsterdam: Elsevier.

Rizzi, Luigi. 2005a. Phase theory and the privilege of the root. In *Organizing Grammar: Linguistic Studies in Honor of Henk van Riemsdijk*, Hans Broekhuis, Norbert Corver, Riny Huybregts, Ursula Kleinhenz & Jan Koster (eds), 529–553. Berlin: Walter de Gruyter.

Rizzi, Luigi. 2005b. On the grammatical basis of language development: A case study. In *The Oxford Handbook of Comparative Syntax*, Richard S. Kayne & Guglielmo Cinque (eds), 70–109. Oxford: OUP.

Rizzi, Luigi. 2011. Minimality. In *A Handbook of Minimalism*, Cedric Boeckx (ed.). Oxford: OUP. https://doi.org/10.1093/oxfordhb/9780199549368.013.0010

Rizzi, Luigi. 2013. Notes on cartography and further explanation. *Probus* 25(1): 197–226. https://doi.org/10.1515/probus-2013-0010

Rizzi, Luigi. 2017. Locality and the functional sequence in the left periphery. In *Elements of Comparative Syntax*, Enoch Aboh, Eric Haeberli, Genoveva Puskás & Manuela Schönenberger (eds), 319–348. Berlin: De Gruyter. https://doi.org/10.1515/9781501504037-012

Shlonsky, Ur. 2014a. Topicalization and focalization: A preliminary exploration of the Hebrew left periphery. In *On Peripheries*, Anna Cardinaletti, Guglielmo Cinque & Yoshio Endo (eds.), 327–341. Tokyo: Hitsuzi Synobo.

Shlonsky, Ur. 2014b. Subject positions, subject extraction, EPP and the subject criterion. In *Locality*, Enoch O. Aboh, Maria Teresa Guasti & Ian Roberts (eds), 58–86. Oxford: OUP. https://doi.org/10.1093/acprof:oso/9780199945269.003.0003

Shlonsky, Ur & Bocci, Giuliano. 2019. Syntactic cartography. In *Oxford Research Encyclopedia of Linguistics*. Oxford: OUP. <http://linguistics.oxfordre.com/> https://doi.org/10.1093/acrefore/9780199384655.013.310

Shlonsky, Ur & Soare, Gabriela. 2011. Where's why? *Linguistic Inquiry* 42(4): 651–669. https://doi.org/10.1162/LING_a_00064

Sočanac, Tomislav. 2017. Subjunctive Complements in Slavic Languages. PhD dissertation, University of Geneva.

Suñer, Margarita. 1994. V-movement and the licensing of argumental wh-phrases in Spanish. *Natural Language & Linguistic Theory* 12(2): 335–372. https://doi.org/10.1007/BF00993148

CHAPTER 3

The syntax and information-structural semantics of negative inversion in English and their implications for the theory of focus

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Negative inversion in English (e.g. *Never have I seen such a hippopotamus.*) has inspired empirical and theoretical interest because it shows complex syntactic and semantic properties. One widely-held cartographic view (e.g. Haegeman (2000, 2012)) has been that negative inversion targets FocP in the CP domain, thereby satisfying the NEG-criterion that requires the fronted NEG operator to be in a Spec-Head configuration with the Foc head occupied by the inverted auxiliary. Focusing on the syntax and information-structural semantics of negative inversion, this study aims to develop the criterial approach in terms of Cruschina's (2011) split CP model, according to which the Focus projection splits into two: Contrastive Focus (CFoc) and Information Focus (IFoc). On the empirical side, drawing on Leonetti & Escandell-Vidal's (2009) insights into QP-fronting in Spanish, it is demonstrated that negative inversion displays certain properties related to (non-contrastive) polarity emphasis, which does not contribute to a split between Focus and Presupposition. On the theoretical side, it is argued that the properties relevant to polarity emphasis in negative inversion are attributed to IFoc fronting operations. The proposed analysis, a sophisticated version of the criterial approach proposed in Haegeman (2000, 2012), naturally captures the otherwise-unexplained polarity emphasis effects in negative inversion.

Keywords: negative inversion, NEG-criterion, information-structural semantics, split CP model, polarity

1. Introduction

The following contrast has been widely discussed in the syntactic and semantic literature:

(1) a. With no job would Mary be happy. [Negative Inversion]
b. With no job, Mary would be happy. [Adverbial Preposing]
(Haegeman (2000: 21), with modifications)

https://doi.org/10.1075/la.267.03hon

The two examples in (1) involve the same preposed negative PP *with no job*; however, the preposed PP is followed by the inverted auxiliary in (1a). Hence, a sentence like (1a) with Subject-Auxiliary Inversion (henceforth SAI) is usually referred to as Negative Inversion (hereafter NI) and a sentence like (1b) without SAI is called adverbial PP preposing, which is similar to topicalization. In the literature, the contrast in (1) has been considered in terms of scope of negation (Klima (1964); Büring (2005)) and syntactic/semantic conditions on the two types of preposed negative constituents (Jackendoff (1972); Rudanko (1982); Collins & Postal (2014)). For example, the negative quantifier in (1a) takes sentential scope, while that in (1b) has its scope restricted to the preposed PP (i.e. constituent negation). As a result of the scope differences between (1a) and (1b), (1a) can be paraphrased by a negative sentence like "Mary would not be happy with any job."; (1b) is equivalent to a positive sentence like "Mary would be happy without a job." Another important difference is that NI sentences are monotone decreasing (2), whereas sentences with adverbial PP preposing are monotone increasing (3) (Haegeman (2000: 32), Haegeman (2012: 43)).

(2) a. On no account should you eat a piece of fruit for breakfast.
⇒ On no account should you eat an apple for breakfast.
b. On no account should you eat an apple before breakfast.
*⇒ On no account should you eat a piece of fruit for breakfast.

(3) a. In no time he had stolen a piece of fruit.
*⇒ In no time he had stolen an apple.
b. In no time he had stolen an apple.
⇒ In no time he has stolen a piece of fruit.

In addition to the two main properties mentioned above, NI has been argued to be an instance of root transformation which yields "emphasis" (e.g., Hooper & Thompson (1973); Akatsuka (1977)). Since the early stage of generative grammar, many questions have arisen as to what the notion "emphasis" involved in NI actually means and what syntactic/semantic mechanism is needed to account for "emphasis." In connection with this, by adopting the cartographic approach proposed by Rizzi (1997), Haegeman (2000, 2012) provides an important step in exploring the nature of emphasis involved in NI from the perspective of focus-related fronting operations (See also Rizzi (1996)). Within the cartographic approach, discourse-related features (e.g. topic, focus) play a fundamental role in motivating the movement of constituents to dedicated functional projections such as TopicP (TopP) and FocusP (FocP) in the left periphery of the sentence (cf. (4)). According to Rizzi's (1996, 1997) original formulation, the *wh*-interrogative in (5a) targets FocP in (4) and satisfies the WH-criterion, which requires the *wh*-operator with the [wh] feature to be in a Spec-Head configuration with the Foc head bearing the same feature; the

preposed contrastive focus element in (5b) targets [Spec, FocP], thereby satisfying the FOCUS-criterion that requires the focus operator with the [foc] feature to be in a Spec-Head configuration with the Foc head carrying the same feature.

(4) Force … Topic* … Focus … Topic* … Fin IP …

(5) a. What did you give t to Paul?
b. YOUR BOOK you should give t to Paul (not mine). (Rizzi (1997: 285))

Haegeman (2000: 23), furthermore, proposes that NI targets FocP and satisfies the NEG criterion, according to which the negative operator must be in a Spec-Head configuration with the Foc head bearing the same feature. Thus, at least the [wh] feature, the [neg] feature, and the [Foc] feature are assumed to trigger fronting operations to FocP at syntax (See Rizzi (2004, 2006) for a further classification of discourse-related features; see also Veselovská (2011) for a unified approach to the criteria satisfied in FocP). From a semantic perspective, focus fronting operations, in general, contribute to the Focus-Presupposition articulation; the fronted element is interpreted as focus (i.e. new information), while the rest of the propositional content is presupposed (i.e. old information or the shared knowledge of the speaker and the other discourse participants) (Rizzi (1997)). Haegeman's proposal that NI deploys FocP seems to suggest that the emphatic nature of NI is concerned with focus. In connection with this, some previous studies (Han & Romero (2004); Romero & Han (2004); Leonetti & Escandell-Vidal (2009); Breitbarth, De Clercq & Haegeman (2013)) argue that NI syntactically functions to emphasize the (negative) polarity value of a sentence. If so, the following two questions arise: (i) what syntactic and information-structural properties NI involving polarity emphasis display?; (ii) how the relevant properties are theoretically accounted for within the cartographic framework?

Hoping to contribute to a better understanding of the emphatic nature of NI, the present study aims to explore the syntax and information-structural semantics of NI in terms of polarity emphasis, with a particular reference to Leonetti & Escandell-Vidal (2009). According to their proposal, NI in English, as well as QP-fronting in Spanish, should be treated as (non-contrastive) polarity emphasis fronting, which avoids information partitioning: that is, the fronted negative phrase does not result in the Focus-Presupposition articulation (cf. (5)). Based on the study by Leonetti and Escandell-Vidal, the present study will empirically demonstrate that NI in English also does not constitute the Focus-Presupposition articulation. This fact raises conceptual and empirical problems regarding the unification of NI into fronting operations to FocP because it is assumed that fronting operations to FocP contribute to the Focus-Presupposition articulation, which NI does not. The present study will argue that the conceptual and empirical problems are solved under Cruschina's (2011) two-layered focus hypothesis, which is proposed on the basis of

non-contrastive focus fronting phenomena in Romance languages (e.g., Sicilian). According to Cruschina's hypothesis, there are two focus projections in the CP domain: Contrastive Focus (CFoc) and Information Focus (IFoc) (See Subsection 4.1). On the basis of the two-layered focus hypothesis, he argues that non-contrastive focus fronting phenomena including QP-fronting in Romance languages are derived by IFoc fronting operations. Extending his approach to NI in English, the present study will propose that NI is derived by fronting a negative phrase to [Spec, IFocP]. As a consequence, the alternative proposal enables us to clarify the theoretical treatment of fronting phenomena related to polarity emphasis by sophisticating Haegeman's criterial approach on the basis of IFoc fronting operations.

This paper is organized as follows. Section 2 reviews Haegeman (2000, 2012) and Leonetti & Escandell-Vidal (2009), both of which attempt to explore and capture fundamental syntactic and information-structural properties of NI in English. Section 3 sets up conceptual and empirical issues concerning the treatment of NI within the cartographic framework. Section 4 proposes an analysis on the basis of Cruschina's (2011) two-layered focus hypothesis, and Section 5 provides some supportive evidence for this hypothesis. Section 6 concludes by discussing the consequences of the present proposal.

2. Previous studies

2.1 Haegeman (2000, 2012)

A series of Haegeman's work (Haegeman (1995, 2000, 2012); Haegeman & Zanuttini (1991)) has developed the NEG-criterion which NI in English must satisfy and has integrated it with the WH-criterion into the AFFECT-criterion (See also Rizzi (1996)). Under her analysis, the fronted negative phrase and the inverted auxiliary in NI establish a Spec-Head agreement configuration and share the [neg] feature in the Focus projection, as shown below:

(6) a. … [$_{FocP}$ With what job$_{[wh]j}$ [$_{Foc'}$ would$_{[wh]i}$ [$_{FinP}$ [$_{IP}$ Mary t_i be happy t_j]]]]?
b. … [$_{FocP}$ With no job$_{[neg]j}$ [$_{Foc'}$ would$_{[neg]i}$ [$_{FinP}$ [$_{IP}$ Mary t_i be happy t_j]]]]

On the syntactic side, Haegeman's proposal naturally captures the formal similarity between NI and *wh*-movement in that the preposed operator and the inverted auxiliary result in the adjacent configuration (cf. Culicover (1991)).[1] On

1. Culicover (1991) proposes a similar analysis by assuming "Polarity Phrase," which is sandwiched between the CP domain and the IP domain. He proposes that the negative phrase targets [Spec, PolP] and the auxiliary the Pol head; as a result, they establish a Spec-Head agreement relationship. Culicover's analysis is similar to Haegeman's (2000, 2012), though these two analyses are independently motivated in different frameworks.

the semantic side, the established Spec-Head agreement relationship between the preposed negative phrase and the inverted auxiliary accounts for the sentential scope of negation, under the assumption that the auxiliary with the (covert) [neg] feature is responsible for the sentential scope of negation. In what follows, some of the other consequences of Haegeman's analysis are reviewed.

First, the prosodic differences between NI and adverbial PP preposing are accounted for.

(7) a. With no job would John be happy. (= (1a))
b. With no job, John would be happy. (= (1b))

In NI, the preposed negative PP and the rest of the sentence are not separated by the comma intonation break, while in adverbial PP preposing, the preposed PP is separated from the rest of the sentence by the comma intonation break. The presence of the comma intonation break is typical of topicalization, and hence the treatment of NI as fronting to FocP naturally captures the absence of the comma intonation break in NI.

Second, the preposed negative PP in NI must be interpreted as a focus (roughly speaking, new information), and therefore, cannot behave as a topic (See also Culicover 1991). This property is indicated by the following contrast:

(8) How would you feel with no job?
a. With no job, I would feel relieved.
b. #With no job would I feel relieved.
(Haegeman (2000: 34), with a slight modification)

The negative PP in the *wh*-question is established as a topic in this mini-discourse. The *wh*-question can be answered by the sentence with adverbial PP preposing, but not by the one with NI. This fact shows that the preposed negative PP cannot behave as a topic in NI. Instead, Culicover (1991: 30) argues that "a fronted negative […] can serve as the answer to a *wh*-question, and in fact must be focus." If we adopt yes-no question/answer pairs as a diagnostics for the focus-hood of a constituent (Chomsky (1971); Rochemont (1978, 1986)), the yes-no question with narrow focus on the object position occupied by the negative polarity item will be regarded as a Focus-Presupposition configuration equivalent to a *wh*-question in the following case:

(9) a. Did you see anyone?
b. No, NOT A SINGLE PERSON did I see. (Culicover (1991: 34))

According to Culicover, the question/answer pair given in (9) shows that the preposed negative element functions to provide an answer to the *wh*-question (i.e. satisfies the unknown value of the *wh*-phrase). If this observation is correct, the

idea that NI deploys FocP will enable us to capture the focus status of the preposed negative element.[2]

Third, NI and *wh*-movement do not co-occur in the same clausal domain because they compete for the single focus position in the split CP domain in (4) (i.e., the one-focus-per-sentence principle). This is shown by the following examples:

(10) With no job, where can we go? (Haegeman (2000: 47))

(11) a. *On no account where should I go?
b. *Where on no account should I go? (Haegeman (2000: 46))

The example in (10) shows that the preposed adverbial PP is compatible with the *wh*-interrogative, while the ones in (11) suggest that NI and *wh*-movement are in complementary distribution. This fact naturally follows from Haegeman's (2000) analysis because NI and *wh*-movement both target the unique FocP in the CP domain.

This subsection reviewed Haegeman's (2000, 2012) analysis of NI and the three main consequences.[3] Haegeman does not clearly mention what exact focus status NI has, but some recent previous studies (Han & Romero (2004); Romero & Han (2004); Leonetti & Escandell-Vidal (2009); Breitbarth, De Clercq & Haegeman (2013)) argue that NI syntactically serves to emphasize the (negative) polarity value of a sentence. For the sake of discussion, in order to elucidate some key properties of fronting phenomena related to polarity emphasis, the next subsection reviews Leonetti & Escandell-Vidal's (2009) work on QP-fronting in Spanish.

2.2 Leonetti & Escandell-Vidal (2009)

As briefly mentioned in Section 1, it is a traditional observation that NI in English is seen as a main clause phenomenon (Hooper & Thompson (1973); Haegeman (2012); Breitbarth, De Clercq & Haegeman (2013)). Within the cartographic framework, this fact suggests that NI utilizes the CP domain (i.e. FocP). QP fronting in Spanish can also be argued to be a main clause phenomenon because, as observed by Quer (2002: 263–264), the embedding predicates are restricted to assertive and epistemic predicates, which seem to introduce the kind of subordinate clauses that exhibit properties of root sentences (See Haegeman (2012) for the occurrence of main clause phenomena in embedded sentences and its theoretical treatment).

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2. As the present study will discuss later, this mini-discourse requires careful consideration (See Section 3 for the relevant discussion regarding this example).

3. Another potential consequence concerns weak cross-over effects. Koizumi (1995: 143, n.3) observes that the FOCUS operator status of the preposed negative constituent is confirmed by weak cross-over effects, as shown in (i).

(i) *No book$_i$ would I expect its$_i$ author to praise t$_i$ publicly.

This fact supports a cartographic view that Spanish QP fronting targets a certain projection (i.e. FocP) in the CP domain (See also Batllori & Hernanz (2015); see Jiménez-Fernández & Miyagawa (2014) for a different approach).

In the literature, the pragmatic effect of Spanish QP-fronting is discussed under the broad term of (non-contrastive) "emphasis" (Zubizarrera (1998); cf. Quer (2002)). Leonetti & Escandell-Vidal (2009) claim that what the term "emphasis" means is well-understood in terms of verum focus, traditionally known as polarity emphasis. Verum focus is originally coined by Höhle (1992) on the basis of the observation that the focal stress on the finite verb (or the complementizer) functions to put an emphasis on the truth of a propositional content in German.[4] In what follows, polarity emphasis is used as a theory-neutral cover term for verum focus and polarity focus. Leonetti and Escandell-Vidal's core claim is that QP-fronting has a discourse structure where the polarity component of a sentence is in focus and the rest of the sentence is seen as a background: that is, the preposed QP is not interpreted as a CFoc constituent. Therefore, the preposed QP itself does not contribute to the Focus-Presupposition articulation which CFoc fronting creates. What follows will review some crucial syntactic and information-structural properties of QP-fronting in Spanish.

First, according to Leonetti and Escandell-Vidal (2009: 159–160), Spanish QP-fronting must satisfy the adjacency requirement between the fronted QP and the verb (See also Quer (2002)). The adjacency condition in question is indicated by the following fact that the subject cannot appear in a preverbal position:

(12) a. *Algo ella debe saber.
something she must.PRS.3SG know
b. *Poco yo te puedo decir.
little I you.OBL can.PRS.1SG say
(Leonetti & Escandell-Vidal (2009: 160))

The adjacency requirement seems to be similar to the structural relationship between the fronted negative phrase and the inverted auxiliary in NI in English.

4. The theoretical implementation of verum focus seems to vary in the literature (e.g., Romero & Han (2004) for the treatment of verum as a conversational epistemic operator; Lornstein (2016) for a sentential mood approach to verum focus; Gutzmann and Castroviejo-Miró (2011) for the analysis of verum as a (speaker-oriented) expressive function that operates in the use-conditional dimension). For example, a sentence involving verum focus (e.g., John **does** write a book.) is roughly translated as "**I (= the speaker) am sure that we should add** the proposition p **to the common ground**," wherein the part in bold is the reflex of verum focus as a conversational epistemic operator that is "used not to assert that the speaker is entirely certain about the truth of p, but to assert that the speaker is certain that p should be added to the Common Ground (CG)." (Romero & Han (2004: 627)).

However, Spanish QP-fronting is different from NI in English in that it involves fronting of either a positive quantifier or a negative quantifier.[5]

Second, Leonetti & Escandell-Vidal (2009) point out that QP-fronting in Spanish always lacks the focal stress which characterizes CFoc fronting in this language.

Third, QP-fronting does not indicate that the fronted QP should be singled out from a discourse set of competing alternatives and cannot co-occur with an explicit mention of the discarded alternative (indicated by a negative tag):

(13) a. Nada tengo que añadir, (* no algo).
Nothing have.PRS.1SG to add not something
'Nothing more can be added. (* not something)'
b. Poco te puedo decir, (* no bastante).
little you.OBL can.PRS.1SG say not a-lot
'There is little I can tell you. (* not lots)'
(Leonetti and Escandell-Vidal (2009: 161))

These observations lead Leonetti and Escandell-Vidal to conclude that QP-fronting cannot be reduced to CFoc fronting (See also Quer (2002)).

Fourth, Leonetti & Escandel-Vidal (2009) argue that the preposed quantifier in QP-fronting does not work as answers to *wh*-questions. This means that the preposed quantifier itself does not carry a new piece of information. To see this point, let us consider the following examples:

(14) A. ¿Qué me puedes decir?
What me.OBL can.PRS.2SG say
'What can you tell me?'
B. #Nada te puedo decir.
Nothing you.OBL can.PRS.1SG say
'#I can tell you NOTHING.'
(Leonetti & Escandell-Vidal (2009: 185), with slight modifications)

According to Leonetti and Escandell-Vidal, the answer with QP-fronting in (14B) is odd because the *wh*-question requires an answer in which the preposed quantifier can be understood as carrying focus on the newly presented information. This fact suggests that the fronted quantifier in QP-fronting does not satisfy the unknown value of the *wh*-question. A sentence with QP-fronting, on the other hand, is acceptable as a reply (a response, but not an answer) to the *wh*-question in the following context:

5. By observing that QP-fronting in Spanish does not co-occur with a clitic, Leonetti & Escandell-Vidal (2009) exclude the possibility that QP-fronting is assimilated into topicalization (clitic left dislocation).

(15) A. ¿Qué, sabes?
What know.PSR.2SG
'What do you know?'
B. Nada te puedo decir.
Nothing you.OBL can.PRS.1SG say
'There's nothing I can tell you.' (Leonetti & Escandell-Vidal (2009: 185))

In (15), the preposed quantifier does not provide any information about the variable introduced by *what*, but rejects the underlying prerequisite of the act of questioning itself (i.e., the prerequisite as to whether the interlocutor B can give an answer or not). This pragmatic function can be satisfied by other possible replies such as *I don't want to talk about it, you know it better than I do, No comments*, etc. These observations exclude the possibility that the preposed quantifier constitutes a syntactic unit which carries IFoc.

Fifth, QP-fronting can be used as answers to yes-no questions (or polar interrogatives which includes the unknown variable concerning the polarity).

(16) A. ¿Encontrarás a alguien?
find.FUT.2SG to someone
'Will you find someone?'
B. A alguien encontraré (estoy seguro).
to someone find.FUT.1SG (*be.PRS.1SG sure*)
'I WILL find someone.'
(Leonetti & Escandell-Vidal (2009: 182), glosses and translations mine)

This mini-discourse shows that the yes-no question by Speaker A introduces a possibility that the interlocutor can find someone (to help her/him), without asserting any of the available alternative persons. Speaker B uses the sentence with QP-fronting to choose the affirmative possibility, emphasizing that she or he definitely considers the proposition to be true. This fact shows that sentences with QP-fronting can be used as answers to yes-no questions: in other words, they convey a new piece of information concerning the polarity component of the sentence, with the speaker's strong commitment to the polarity value.

The discussions reviewed so far lead Leonetti and Escandell-Vidal (2009) to make the following two-fold claim. First, QP-fronting is triggered to meet the polarity emphasis requirement. Second, the preposed quantifier does not constitute a syntactic unit which carries CFoc (cf. (13)) nor IFoc (cf. (15)) and does not contribute to the Focus-Presupposition articulation. This means that QP-fronting cannot be reduced to CFoc fronting; instead, the fronted quantifier indicates that the polarity of the propositional content is in focus.

This subsection reviewed Leonetti and Escandell-Vidal's (2009) analysis of QP-fronting from the perspective of polarity focus. They, furthermore, mention the

possibility that the notion of polarity focus can be extended to NI in English, though they do not provide further empirical arguments for their claim. On the basis of their argument, the next section reconsiders NI in English and points out some empirical and conceptual problems within Rizzi's (1997) original split CP hypothesis.

3. Some empirical and conceptual problems: Treatment of polarity focus fronting

Within Rizzi's (1997) original split CP hypothesis, it is assumed that fronting operations to FocP contributes to the Focus-Presupposition articulation, as shown below:

(17) $[_{\text{FocP}}$ Focus $[_{\text{Foc'}}$ $[_{\text{FinP}}$ Presupposition]]]

This means that the fronted focus element (i.e. new information) and the rest of the sentence (i.e. presupposition) is separated from each other, resulting in a bipartite information structure. Drawing on Rizzi's split CP hypothesis, Haegeman (2000) proposes that NI in English deploys FocP and satisfies the NEG-criterion by establishing the Spec-Head agreement relationship between the preposed negative element with the [neg] feature and the inverted auxiliary with the same feature. Under this view, the preposed focus element is seen as a syntactic unit which may carry a piece of new information. As we have seen in (9), reproduced below as (18), she attempts to support her claim on the basis of Culicover's (1991: 30) observation that "a fronted negative […] can serve as the answer to a *wh*-question, and in fact must be focus.":

(18) a. Did you see anyone? (= (9))
b. No, NOT A SINGLE PERSON did I see.

This fact, however, needs careful consideration. First, the interrogative in (18a) is not a pure instance of a *wh*-question, but a yes-no question with a negative polarity item. More precisely, the question "Did you see anyone?" is a yes-no question with narrow focus on the object. Thus, the answer with NI should be interpreted to convey two pieces of new information; one is the new information (i.e. negative) for the polarity value, and the other is the new information for the narrow focus (i.e. "(not) a single person" for "anyone"). Among these two pieces of new information, the primary one is the polarity value for the yes-no question. In contrast, NI cannot be used as a direct answer to a *wh*-question like '*Who did you see?*' as shown below:[6]

(19) a. Who did you see?
b. #NOT A SINGLE PERSON did I see.

6. My two informants reported that NI cannot be used as direct answers to *wh*-questions, but they also found that NI can be used as answers to yes-no questions.

In this context, answering with NI is actually unacceptable because the *wh*-question is followed by the answer in which the preposed quantifier cannot be understood as satisfying the unknown value of the *wh*-question. In this respect, NI patterns like QP-fronting in Spanish (cf. (14)). Given this point, what the apparently acceptable yes-no question/answer pair in (18) tells us is that NI can be used as answers to yes-no questions, not as answers to *wh*-questions. This fact means that the preposed negative element in NI, as well as the preposed quantifier in Spanish QP fronting, does not carry a new piece of information which satisfies the unknown value of a *wh*-phrase. This turns out to be an empirical problem that needs to be accounted for within the cartographic framework.

On the conceptual side, the idea that NI targets FocP also raises a potential problem in that NI does not naturally fall into the typical case of the Focus-Presupposition articulation; rather, the fronted negative element functions to avoid the information partitioning in (17) and contributes to the emphasis on the polarity value of the sentence as a whole. If one allows this possibility, then they will need to assume that FocP allows two information structural patterns, according to the different types of focus; one with the Focus-Presupposition articulation (e.g., *wh*-movement and CFoc fronting) and the other with no such articulation (e.g., English NI and Spanish QP-fronting).

In the next section, the present study proposes a developed version of Haegeman's (2000, 2012) analysis in order to solve the empirical and conceptual problems, by adopting Cruschina's (2011) two-layered focus hypothesis.

4. Proposal

Section 2 reviewed Haegeman's (2000, 2012) analysis of NI, and under her analysis, SAI (i.e., head movement/verb raising) is accounted for by assuming that the preposed negative phrase and the inverted auxiliary satisfies the NEG-criterion (i.e. the Spec-Head agreement in the Focus layer). The previous section, furthermore, pointed out that the preposed negative element does not constitute the Focus-Presupposition articulation, avoiding informational partition. These two properties (i.e, head movement of a verbal element/SAI and the lack of informational partition) are typical of IFoc fronting operations under Cruschina's (2011) two-layered hypothesis.[7] In what follows, the present study proposes the details of the derivation of NI.

7. On the basis of the fact that QP-fronting in Romance languages requires adjacency to the verb (cf. (12)), Cruschina (2011: 111–117) proposes that QP-fronting targets [Spec, IFocP]. Cruschina, however, neither extends his approach to NI in English nor explores the issue of whether and how polarity emphasis is treated in his approach.

4.1 Cruschina's (2011) two-layered focus hypothesis

Within the cartographic framework, by conducting a comparative analysis of focus-related fronting phenomena in Romance languages such as Sicilian (Sicilian, Indo-European), Cruschina (2011) proposes that focus fronting phenomena are divided into contrastive and non-contrastive focus fronting operations. In the literature, it has been observed in many languages that focus fronting contributes to CFoc, whose main function is to correct an incorrect piece of information provided in the preceding discourse. CFoc fronting indicates that the assertion corresponds to correcting a previous innovative assertion or presupposition that is not shared by the speaker (indicated by the negative tag).[8]

(20) N'ARTICULU scrissi, no na littira. [Sicilian]
an-article write.PAST.1SG not a letter.
'I wrote an article, not a letter.' (Cruschina (2011: 25))

By virtue of the corrective function, a sentence with CFoc fronting cannot be used as answers to *wh*-questions (Rizzi (1997: 285–289)). On the other hand, Sicilian allows the type of focus fronting in which the fronted focus element carries new information focus (IFoc) and serves as answers to *wh*-questions.

(21) A. Chi scrivisti? [Sicilian]
what write.PAST.2SG
'What did you write?'
B. a. Scrissi **n'articulu**.
write.PAST.1SG an article
'I wrote an article.'
b. **N'articulu** scrissi!
an article write.PAST.1SG
'I wrote an article.' (Cruschina (2011: 58), with slight modifications)

The mini-discourse in (21) shows that the *wh*-question by Speaker A can be answered by either the declarative sentence in (21Ba) or the focus-fronting sentence in (21Bb). In (21Ba), the DP with information focus occurs at the object position and provides a new piece of information in a neutral way (i.e. neutral IFoc): that is, the IFoc element does not necessarily express "emphasis" or "special 'contextual effects' created by the interplay of the new information provided with the old information already available. (Cruschina (2011: 59))" On the other hand, the fronted DP in (21Bb) carries new information associated with "emphasis" (i.e. what

8. In what follows, CFoc elements are indicated by capitalized letters, while IFoc elements are denoted by bold letters.

he called "emphatic IFoc"). This fact suggests that focus fronting phenomena in Sicilian are not uniquely associated with a contrastive interpretation. Borrowing the term "mirativity" from a series of linguistic typology studies by DeLancey (1997, 2001), Cruschina, furthermore, argues that focus fronting phenomena in Sicilian include "mirative fronting," which serves to mark the propositional content as being new and unexpected (In what follows, mirative fronting is called emphatic IFoc fronting). One crucial property of emphatic IFoc fronting is its compatibility with sentence-focus in the event/news-reporting context (Cruschina (2011: 69–73); Bianchi, Bocci & Cruschina (2016)). Observe the following examples from Italian:

(22) a. Ma guarda te! **In bagno** ha messo le chiavi!
but look.IMP.2SG you in bathroom have.PRES.3SG put.PP the keys
'Look at that! He put the keys in the bathroom!' (Cruschina (2011: 120))

b. [Context: Lucy is telling news about her friend's new boyfriend]
Pensa un po': **un anello di diamanti** le ha regalato!
think a little: a ring of diamonds to-her.CL has given
'Guess what! He gave her *a diamond ring*!'
(Bianchi, Bocci & Cruschina (2016: 18))

The speaker in (22a) uses the sentence with emphatic IFoc fronting as an on-the-spot emotional reaction to the given situation. By using the sentence-focus *wh*-question (i.e., *Pensa un po'* 'Guess what!'), the speaker (Lucy) in (22b) invites the interlocutor to deduce what she is going to say. Then, she utters the emphatic IFoc fronting sentence to convey the propositional content as new and surprising to the interlocutor. This fact suggests that both the fronted focus element and the rest of the sentence carry new information: that is, they constitute an assertive unit as a whole. Furthermore, emphatic IFoc fronting is not readily acceptable in embedded clauses (Cruschina (2011: 119. n. 26)): in other words, emphatic IFoc fronting is an instance of a main-clause phenomenon. In summary, CFoc fronting contributes to the bipartite Focus-Presupposition discourse structure, while emphatic IFoc fronting does not.

On the basis of the observations provided above, Cruschina (2011) attempts to draw a distinction between emphatic IFoc fronting and CFoc fronting in a feature-driven approach to information structure by refining its theoretical implementation within the cartographic framework. Cruschina assumes three discourse-related features, namely, [topic], [foc(us)], and [contr(astive)], and distinguishes between TopP with [top], IFocP with [foc] and CFocP with [contr]. Cruschina's two-layered focus hypothesis in (23b) departs from Rizzi's (1997) original split CP hypothesis in (23a) because there are two syntactic positions for CFoc and IFoc in the left periphery.

(23) a. Force … Topic* … Focus … Topic* … Finite IP (= (4))
b. Force … Topic* … CFoc … Topic* … IFoc … Finite IP

According to Cruschina's (2011) analysis, certain types of IFoc fronting operations may allow the possibility that they naturally fit well with all-sentence focus in the event/news-reporting context.[9] For example, emphatic IFoc fronting (i.e. mirative fronting) yield a bipartite discourse structure: that is, the fronted IFoc and the remainder of the sentence constitute unified assertion. By contrast, fronting to CFocP contributes to the Focus-Presupposition partition, where the fronted CFoc is separated from the presupposed propositional content. The information structural differences are schematically illustrated below:

(24) a. …[$_{\text{CFocP}}$ N'ARTICULU$_{[\text{contr}]_i}$ [$_{\text{CFoc'}}$ φ$_{[\text{contr}]}$…
CONTRASTIVE FOCUS
[$_{\text{FinP}}$ [$_{\text{IP}}$ *pro* scrissi t$_i$]]]] (no na littira) (= (20))
Presupposition

b. …[$_{\text{IFocP}}$ **in bagno**$_{[\text{foc}]_i}$ [$_{\text{IFoc'}}$ ha$_{[\text{foc}]_j}$
Information Focus
[$_{\text{FinP}}$ [$_{\text{IP}}$ *pro* [$_{\text{I'}}$ t$_j$ [$_{v\text{P}}$ t$_j$ [$_{\text{VP}}$ messo le chiavi t$_i$ …]]]]]]] (= (22a))
Assertion

(24a) suggests that the fronted CFoc element with [contr] and the null CFoc head bearing [contr] are in the Spec-head configuration. In contrast, (24b) shows that the fronted IFoc element with [foc] and the inverted verb with [foc] results in the Spec-Head configuration. This configurational difference is the source of the following syntactic difference: the emphatic IFoc element, unlike the CFoc element, must be adjacent to the verb. This property is indicated by the fact that the emphatic IFoc element cannot be separated from the verb, whereas the CFoc element and the verb allow interpolation of a topic in between, as shown in the contrast in (25).

(25) a. A SALVO *i chiavi* i detti (, no a Pinu.).
*to Salvo the keys them.*CL *give.*PAST.1SG *not to Pinu*
'I gave the keys to SALVO, but not to Pinu.' [Sicilian: CFoc]

b. ***A Salvo** *i chiavi* i detti.
*to Salvo the keys them.*CL *give.*PAST.1SG
'I gave the keys to Salvo.' [Sicilian: IFoc]
(Cruschina (2011: 106), with modifications)

9. Fronting operations to IFocP cannot be exclusively associated with an exclamatory function (e.g. Non-contrastive focus fronting in Sardinian). Interested readers are referred to Cruschina (2011: 99–102) and the references cited therein.

According to Cruschina (2011: 121–122), many native speakers accept the sequence with an intervening element between the focus element and the verb only in a contrastive context where the excluded alternative is explicitly mentioned in the previous discourse.

Cruschina (2011) has theoretically contributed to the cartographic framework by identifying two different focus projections in the clausal domain: CFocP and IFocP. His two layered-focus hypothesis has led scholars to explore emphatic IFoc fronting phenomena crosslinguistically (e.g. Jiménez-Hernández (2015) for mirative fronting in Spanish; Authier & Haegeman (2019) for mirative fronting in French). Another important contribution made by Cruschina (2011: 111–116) is the unification of QP-fronting in Romance languages including Spanish into fronting operations to IFocP. His unified approach allows us to account for the following main properties of QP-fronting: the non-contrastive focus status of QP-fronting (e.g. the unavailability of contrastive tags (13a, b)) and the focus-verb adjacency ((12a, b)). Although Cruschina's two-layered focus model is proposed on the basis of focus-related phenomena in Romance languages, it also provides a theoretical basis to account for the syntax and information-structural semantics of NI in English. The next subsection proposes an analysis of English NI on the basis of Cruschina's two-layered focus hypothesis.

4.2 Application to NI

To make clear the syntactic licensing process involved in NI on the basis of Cruschina's (2011) two-layered focus hypothesis, the present study adopts the following two assumptions: the sigma (Σ) phrase proposed by Laka (1990) and the [EMPH(atic)] feature proposed by Hernanz (2007).

First, this study adopts Laka's (1990) assumption that the sigma projection is responsible for encoding the polarity of a sentence as affirmative (AFF) or negative (NEG). According to Laka, the sigma projection is located below IP in English, as illustrated in (26a).

(26) a. (… FinP) IP … ΣP … vP … VP …
b. [$_{IP}$ John [$_{I'}$ did [$_{ΣP}$ [$_{Σ'}$ NEG (= not) [$_{vP}$ meet Mary]]]]]

Then, it is assumed that the sigma head possesses the covert affirmative feature or the overt negative feature (indicated by NEG realized as 'not'). When the sigma head is endowed with the [neg] feature, the auxiliary *do* is inserted at the I head to realize the tense feature, as well as the phi-feature agreement with the subject, as illustrated in (26b).

Second, this study adopts Hernanz's (2007) assumption that a syntactic element with the [EMPH(atic)] feature may enter in a Spec-Head relationship with an inverted auxiliary with the same feature in order to satisfy the Focus criterion (the IFOCUS criterion in the present proposal): as a result, the Spec-Head configuration in question syntactically realizes polarity emphasis. Hernanz proposes the [EMPH] feature on the basis of the polarity emphasis involved in the Spanish assertion marker *bien*, whose distribution is restricted to the main clause domain (Hernanz (2007: 144–145); see also Haegeman 2012).

(27) a. Pepito ha comido bien.
Pepito has eaten well
'Pepito has eaten well.'
b. Bien ha comido Petito.
Well has eaten Pepito
'But Pepito has eaten.' (Hernanz (2007: 138–139))

According to Hernanz (2007: 139), *bien* allows a manner interpretation in (27a), whereas the sentence-initial *bien* in (27b) function "to emphasize the positive value of the sentence, which is interpreted as a confirmation that '*Pepito has really / indeed eaten*.'" Under Hernanz's approach, the sentence with polarity emphasis in (28a) has the syntactic configuration in (28b) (Here, the denotation PolP corresponds to SigmaP.).

(28) a. Bien ha llovido hoy.
Well has rained today
'But it has rained today.' (Hernanz (2007: 134))
b. $[_{\text{ForceP}}\ [_{\text{FocusP}}\ \text{bien}_i\ [_{\text{Foc'}}\ [_{\text{Foc0}}\ \text{ha llovido}]\ [_{\text{PolP}}\ t_i\ [_{\text{Pol'}}\ [_{\text{IP}}\ t_V\ \text{hoy}]]]]]]$

The configuration in (28b) shows that the assertion marker with the [EMPH] feature enters a Spec-Head agreement relation with the fronted finite verb with the same feature, thereby satisfying the FOCUS-criterion. As a result, sentences with the affirmative marker *bien* parallel NI in English in that they trigger SAI (Hernanz (2007: 153, n. 31)).

Combining the two assumptions introduced so far with Cruschina's (2011) two-layered focus hypothesis, the present study proposes that English NI targets IFocP in order to satisfy the IFOCUS criterion, which creates a Spec-Head configuration between the fronted negative expression with the [EMPH-neg] feature and the fronted auxiliary with the same feature. Here, it is assumed that the [EMPH] feature comes in two types: the [EMPH-aff(irmative)] feature and the [EMPH-neg(ative)] feature, the latter of which plays crucial syntactic and semantic roles in NI. On the syntactic side, it triggers SAI (i.e. Spec-Head agreement in FocP). On the semantic side, it is responsible for the monotone decreasing function (cf. (2)) and the (non-contrastive) emphasis on the negative value of a propositional

content. Bearing these assumptions in mind, let us consider the examples in (29a, b) and their derivations shown in (30a, b).

(29) a. Never has Mary lied.
b. No one did I meet in the park.

(30) a. [$_{IP}$ Mary [$_{I'}$ has [$_{\Sigma P}$ never$_{[EMPH\text{-}neg]}$ [$_{\Sigma'}$ EMPH-neg [$_{vP}$ lied]]]]]
b. [$_{IP}$ Mary [$_{I'}$ [has+ EMPH-neg]] [$_{\Sigma P}$ never$_{[EMPH\text{-}neg]}$ [$_{\Sigma'}$ t_{Σ} [$_{vP}$ lied]]]]]
c. [$_{IFocP}$ never$_{[EMPH\text{-}neg]j}$ [$_{IFoc'}$ [has+ EMPH-neg]]$_i$ [$_{FinP}$ t_j [$_{Fin'}$ t_i [$_{IP}$ Mary [$_{I'}$ t_i [$_{\Sigma P}$ t_j [$_{\Sigma'}$ t_{Σ} [$_{vP}$ lied]]]]]]]]]

(31) a. [$_{IP}$ I [$_{I'}$ did [$_{\Sigma P}$ [$_{\Sigma'}$ EMPH-neg [$_{vP}$ meet no one$_{[EMPH\text{-}neg]}$ in the park]]]]]
b. [$_{IP}$ I [$_{I'}$ [did+ EMPH-neg]] [$_{\Sigma P}$ [$_{\Sigma'}$ t_{Σ} [$_{vP}$ meet no one$_{[EMPH\text{-}neg]}$ in the park]]]]]
c. [$_{IFocP}$ no one$_{[EMPH\text{-}neg]j}$ [$_{IFoc'}$ [did+ EMPH-neg]]$_i$ [$_{FinP}$ t_j [$_{Fin'}$ t_i [$_{IP}$ I [$_{I'}$ t_i [$_{\Sigma P}$ [$_{\Sigma'}$ t_{Σ} [$_{vP}$ meet t_j in the park]]]]]]]]]

The NI sentence with the fronted negative adverb in (29a) has the base structure corresponding to the neutral negative sentence in (30b). The sigma head in (30b) is endowed with the covert [EMPH-neg] feature, and the negative adverb with the [EMPH-neg] feature *never* is assumed to be generated at [Spec, SigmaP]. The covert [EMPH-neg] feature undergoes head movement to the I head and adjoins to it (30b). Then, putting aside the adjunction process, the complex head [has+ EMPH-neg] undergoes head movement to the IFoc head via the Fin head, as in (30c). The negative adverb with the [EMPH-neg] feature moves to [Spec, IFocP] through [Spec, FinP], and as a result, the negative adverb with the [EMPH-neg] feature and the complex head with the covert [EMPH-neg] feature establish a Spec-Head agreement relation in the IFoc layer and satisfy the IFOCUS criterion in the present analysis. The NI sentence with the argument negative phrase in (29b) follows a similar derivation process (31a–c), except that the negative phrase occurs as a complement of the verb in the base structure (31a).[10]

Next, let us consider how the information structure of NI is accounted for in the present proposal. For concreteness, let us consider the following simplified version of the syntactic configuration in (30c):

(32) [$_{IFocP}$ never$_{[EMPH\text{-}neg]}$ [$_{IFoc'}$ has+ EMPH-neg] [$_{FinP}$ [$_{IP}$ Mary … lied]]]]
IFocus *Assertion*

10. The present proposal suggests that polarity effects may come in two patterns: one with polarity emphasis realized in the CP domain (i.e. IFocP) and the other with polarity marking (i.e. SigmaP) in the IP domain. The latter is supposed to allow a possibility that SigmaP triggers certain fronting operations in the IP domain (See De Clercq, Haegeman & Lohndal (2012) for the relevant discussion). I appreciate an anonymous reviewer for raising this issue.

The syntactic configuration in (32) is read off at LF as follows. First, the fronted negative element and the inverted auxiliary share the [EMPH-neg] feature by establishing the Spec-Head agreement relationship in the IFoc layer. As a consequence, the negative polarity component of the propositional content is marked as the primary focus (i.e. polarity emphasis), and the negative IFoc element carries the secondary focus. This amounts to saying that NI (non-contrastively) stresses the negative polarity of the propositional content, and at the same time, it greatly weakens the possibility to assert the alternative (positive) proposition, which is lexically implied by the presence of negation (as in the case of yes-no question/answer pairs). Therefore, NI can be used as answers to yes-no questions in an "emphatic" way:

(33) a. Did you see anyone? (= (9))
b. No, NOT A SINGLE PERSON did I see.

Second, NI, as well as emphatic IFoc fronting in Sicilian, does not create the Focus-Presupposition partition; in other words, the fronted IFoc element and the rest of the sentence are interpreted as a unified assertion. This accounts for the lack of the information partition in NI in English (See Section 3).

It should be also noted that the apparently contrastive meaning of NI is derived from the lexical meaning of negation in the present proposal. As Lambrecht (1994: 63–64) argues, negative sentences are ordinarily uttered only if the speaker assumes that the interlocutor believes, or at least entertains the possibility, that the corresponding affirmative sentence is true. Due to this lexical property, NI seems to carry a contrastive meaning, but this contrastive meaning is triggered by the lexical meaning of negation; the information structure of NI itself is different from that of CFoc fronting, in which the fronted CFoc element serves to correct an incorrect piece of information given in the previous discourse.

On the basis of Cruschina's (2011) two-layered focus hypothesis, this section has proposed the alternative analysis to Haegeman's (2000, 2012) analysis of NI. Under the proposed analysis, the use of NI as answers to yes-no questions and the lack of the Focus-Presupposition partitioning are naturally accounted for. The present proposal, furthermore, makes the following two predictions: (i) English NI must meet the adjacency requirement between the negative element at [Spec, IFocP] and the inverted auxiliary at the IFoc head; (ii) the polarity emphasis involved in NI shows non-CFoc properties. In connection with the second prediction, it is worthwhile mentioning that polarity emphasis is reported to signal that the truth of the propositional content is unexpected either for the hearer or in general (See Giurgea & Remberger (2012) for the relevant discussion regarding polarity fronting phenomena in Romaninan and Sardinian). The next section aims to test these two predictions.

5. Supportive evidence

5.1 Focus-verb adjacency

The first piece of evidence for the unification of NI into fronting operations to IFoc comes from the focus-verb adjacency. Since the IFoc element and the raised verb must establish a Spec-Head agreement relationship in the IFoc layer, sentences with IFoc fronting operations (e.g., emphatic IFoc fronting in Sicilian) must keep to the focus-verb adjacency (e.g., (30c), (31c)). The same syntactic condition, however, is not imposed on CFoc fronting, and hence the CFoc element can be followed by a lower topic element. Therefore, the unification of NI into fronting to IFocP predicts that the fronted negative phrase and the inverted auxiliary must be adjacent to each other. This prediction can be testified by observing whether the interpolation of an adjunct lower topic between the fronted negative quantifier and the fronted auxiliary is possible.[11]

The prediction stated above is confirmed with the contrast in (34).

(34) a. *Not a single paper, during the vacation, is he going to finish on time.
(Haegeman (2012: 49))
b. ?MY *MENTOR*, during the summer vacation, John is going to visit.

According to Haegeman, the preposed negative phrase cannot be followed by the adjunct lower topic in (34a). On the other hand, my two informants reported that the fronted CFoc element can precede the adjunct lower topic in (34b). Crucially, they found that (34b) is more acceptable than (34a). This fact corroborates the present proposal that the derivation of NI involves fronting a negative expression to [Spec, IFocP].

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11. It is a well-known observation that a fronted CFoc element cannot precede an argumental lower topic in English (Culicover (1991); Haegeman (2012)). The same pattern holds true of NI, as shown in (ii), wherein the fronted negative phrase is followed by the argumental lower topic.

(i) a. This book, to ROBIN I gave. (Culicover (1991: 36), with slight modifications)
b. *TO ROBIN, this book, I gave. (Haegeman (2012: 31), with slight modifications)

(ii) *Never in my life, beans, will I eat. (Haegeman (2012: 38))

Thus, the interpolation of an argumental lower topic does not tell the structural difference between CFoc fronting and IFoc fronting in NI. For this reason, the present study adopts the interpolation of an adjunct lower topic as a diagnostics to explore the difference in the focus-verb adjacency between CFoc fronting and IFoc fronting in NI.

5.2 Non-contrastive use of NI

The second piece of evidence comes from the focus status of the fronted negative element in NI. As we have already seen, Spanish QP-fronting does not indicate that the fronted QP should be singled out from a discourse set of competing alternatives, and the discarded alternative cannot be mentioned explicitly (cf. (13)). It seems that this point has not been discussed in the previous studies on NI in English, but my two informants reported that it is unnatural to add a negative tag to NI in order to indicate an incorrect piece of information given in the previous discourse, as shown below:[12]

(35) a. {Not a single person / No one} did I meet on the street (# not someone).
b. Little did I know about javascript (# not a lot).

Thus, the data in (35) will be naturally accounted for if it is assumed that the preposed negative element in NI targets IFocP, not CFocP.[13]

The lack of CFoc readings in NI can be also supported by the examples in (36) and (37).[14]

(36) [Context] The speaker is watching a huge hippopotamus.
Never have I seen such a hippopotamus!

(37) [Context] The author is writing about her impression about a hotel which she stayed for five nights.
I stayed here for 5 nights, and guess what? Never did they change the bed linen!

Intuitively, the NI sentence in (36) expresses the speaker's on-the-spot emotional reaction to a given situation and can be interpreted as "the speaker is surprised at the situation in which there exists a (huge) hippopotamus such that she or he

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12. It is reported that certain syntactic objects which denote scarce quantities (e.g., few) also appear in NI (See Collins & Postal (2014) for the relevant discussion); my two informants found that the syntactic element *little*, which also denotes scarce quantities, can also occur in NI.

13. It should be noted here that the acceptability of these examples may vary among native speakers of English. I would like to leave open the issue of what factors are involved in the acceptability of the occurrence of contrastive tags in NI.

14. Of particular interest here is the fact that a negative adverb like *never* allows NI, but strongly resists CFoc fronting (The following examples are (17b) and (18b) in Veselovská (2011)).

(i) a. Never will John help you.
b. *Never John will help you.

This contrast needs independent research and theoretical explanations, but speaks to the distinction between IFoc fronting operations and CFoc ones.

has never seen it before." The NI sentence in (37) seems to work in a similar way. In this context, the NI sentence is interpreted as follows: given all the facts and assumptions concerning hotel stays available to the author, there is no process of reasoning by which the author predicts that there is a possible situation such that hotel staff do not change the bed linen for five days. Contrary to this author's expectation, she actually experienced such an unexpected situation in the real world. Under this type of author's evaluative interpretation, the NI sentence can be used to introduce a surprising statement in the event-reporting context after the sentence-focus *wh*-question.[15] This type of interpretation related to polarity emphasis will be understood as an instance of scalar focus, which signals that a proposition *p* is something not expected in the context, or assumed by the speaker to be unexpected for the hearer (Giurgea & Remberger (2012: 21); see also Krifka (2007)).[16] The scalar effect is not typical of CFoc, because it primarily functions to correct an incorrect piece of information introduced in the previous discourse.

To summarize, the impossibility of adding contrastive tags to NI and the scalar focus interpretation will support the present proposal that NI should be reduced to fronting to IFoc.

6. Conclusion

Within the cartographic framework, it has been argued that NI in English is derived by satisfying the NEG criterion (i.e. the Spec-Head agreement relationship between a negative element at [Spec, FocP] and an inverted auxiliary) (Haegeman (2000, 2012)). This paper has reviewed Haegeman's criterial approach to NI, pointing out empirical and conceptual problems with it concerning the information-structural semantics of NI (i.e. the lack of the Focus-Presupposition partitioning). In order to overcome the relevant problems, adopting Cruschina's (2011) two-layered focus hypothesis, this study has argued that NI in English targets IFocP and satisfies

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15. One may wonder whether Spanish QP fronting can be uttered in sentence-focus contexts. This issue needs further examination, but interested readers are referred to Jiménez-Fernández (2015), according to which QP-fronting is compatible with sentence-focus.

16. The scalar effect of NI is different from the exclamative illocutionally force because *wh*-exclamatives cannot be used in the event/news-reporting context (Castroviejo-Miró (2008)).

(i) a. I've got some news / you're going to love this / check this out: Pau is very tall.
b. I've got some news / you're going to love this / check this out: # How tall Pau is!
(Castroviejo-Miró (2008: 51))

The unacceptable status of the *wh*-exclamative in (ib) suggests that the propositional content of *wh*-exclamatives is presupposed (see also Zanuttini & Portner (2003)).

the IFOCUS criterion. As a result, the fronted negative phrase at [Spec, IFocP] signals (non-contrastive) polarity emphasis; the fronted negative element and the rest of the sentence constitute a unified assertive unit. By virtue of polarity emphasis, NI conveys the speaker's strong commitment to the negative assertion. Furthermore, the pragmatic function of polarity emphasis in NI is not concerned with that of CFoc fronting (i.e. the correction of a previously-mentioned assumption or presupposition).

The present proposal has the following two consequences. First, it maintains Haegeman's core idea that NI utilizes FocP. Second, the conceptual and empirical problem that polarity emphasis involved in NI does not contribute to the Focus-Presupposition articulation is solved under the assumption that NI is unified into fronting to IFocP in Cruschina's (2011) sense. This unification implies that the emphatic nature of NI has its origin in fronting to IFoc, which serves to realize polarity emphasis and to keep assertive the rest of the propositional content.

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References

Akatsuka, Noriko. 1977. What is the "Emphatic Root Transformation" phenomenon? In *Papers from the 13th Annual Meeting of the Chicago Linguistic Society*, Woodford A. Beach, Samuel E. Fox & Shulamith Philosph (eds), 384–400. Chicago IL: CLS.

Authier, J.-Marc & Haegeman, Liliane. 2019. The syntax of mirative focus fronting: Evidence from French. In *Contributions of Romance Languages to Current Linguistic Theory*, Deborah Arteaga (ed.), 39–63. Cham: Springer. https://doi.org/10.1007/978-3-030-11006-2_3

Batllori, Montserrat & Hernanz, Maria-Lluïsa. 2015. Weak focus and polarity: Asymmetries between Spanish and Catalan. In *Syntax over Time: Lexical, Morphological, and Information-Structural Interactions* Theresa Biberauer & George Walkden (eds), 280–298. Cambridge: CUP. https://doi.org/10.1093/acprof:oso/9780199687923.003.0017

Bianchi, Valentina, Bocci, Giuliano & Cruschina, Silvio. 2016. Focus fronting, unexpectedness, and evaluative implicatures. *Semantics and Pragmatics* 9: 1–54. https://doi.org/10.3765/sp.9.3

Breitbarth, Anne, De Clercq, Karen & Haegeman, Liliane. 2013. The syntax of polarity emphasis. *Lingua* 128: 1–8. https://doi.org/10.1016/j.lingua.2013.02.004

Büring, Daniel. 2005. Negative inversion. In *Proceedings of the Thirty-Fifth Annual Meeting of the North East Linguistic Society*, Leah Bateman & Cherlon Ussery (eds), 1–22. Amherst MA: GLSA.

Castroviejo Miró, E. 2008. Deconstructing exclamations. *Catalan Journal of Linguistics* 7: 41–90. https://doi.org/10.5565/rev/catjl.132

Chomsky, Noam. 1971. Deep structure, surface structure, and semantic interpretation. In *Semantics: An Interdisciplinary Reader in Philosophy, Linguistics and Psychology*, Danny D. Steinberg & Leon A. Jacobovits (eds), 183–216. Cambridge: CUP.

Collins, Chris & Postal, Paul. 2014. *Classical NEG Raising. An Essay on the Syntax of Negation*. Cambridge MA: The MIT Press. https://doi.org/10.7551/mitpress/9780262027311.001.0001

Cruschina, Silvio. 2011. *Discourse-Related Features and Functional Projections*. Oxford: OUP.

Culicover, Peter W. 1991. Topicalization, inversion and complementizers in English. In *Going Romance and Beyond*, Denis Delfitto, Martin Everaert, Arnold Evers & Frits Stuurman (eds), 1–45. Utrecht: University of Utrecht.

De Clercq, Karen, Liliane Haegeman, and Terje Lohndal. 2012. *Medial Adjunct PPs in English: Implications for the Syntax of Sentential Negation*. *Nordic Journal of Linguistics* 35 (1): 5–26.

Delancey, Scott. 1997. Mirativity: The grammatical marking of unexpected information. *Linguistic Typology* 1: 33–52. https://doi.org/10.1515/lity.1997.1.1.33

Delancey, Scott. 2001. The mirativity and evidentiality. *Journal of Pragmatics* 33: 369–382. https://doi.org/10.1016/S0378-2166(01)80001-1

Giurgea, Ion & Remberger, Eva-Maria. 2012. Verum focus and polar questions. In *Bucharest Working Papers in Linguistics* 14, Alexandra Cornilescu (ed.), 21–41. Bucharest: University of Bucharest.

Gutzmann, Daniel & Castroviejo Miró, Elena. 2011. The dimensions of Verum. In *Empirical Issues in Syntax and Semantics* 8, Oliver Bonami & Patricia C. Hofherr (eds), 143–165. Paris: CSSP.

Haegeman, Liliane. 1995. *The Syntax of Negation*. Cambridge: CUP. https://doi.org/10.1017/CBO9780511519727

Haegeman, Liliane. 2000. Negative preposing, negative inversion, and the split CP. In *Negation and Polarity*, Lawrence Horn & Yasuhiko Kato (eds), 21–61. Oxford: OUP.

Haegeman, Liliane. 2012. *Adverbial Clauses, Main Clause Phenomena, and the Composition of the Left Periphery*. Oxford: OUP. https://doi.org/10.1093/acprof:oso/9780199858774.001.0001

Haegeman, Liliane & Zanuttini, Raffaella. 1991. Neg-movement and the Neg-criterion. *The Syntactic Review* 8: 233–252.

Han, Chung-Hye & Romero, Maribel. 2004. Disjunction, focus, and scope. *Linguistic Inquiry* 35: 197–217. https://doi.org/10.1162/002438904323019048

Hernanz, Maria-Lluïsa. 2007. From polarity to modality: Some (a)symmetries between *bien* and *sí* in Spanish. In *Coreference, Modality and Focus* [Linguistik Aktuell/Linguistics Today 111], Luis Eguren & Olga Fernández-Soriano (eds), 133–169. Amsterdam: John Benjamins. https://doi.org/10.1075/la.111.08her

Höhle, Tilman N. 1992. Über Verum-Fokus im Deutschen. *Linguistische Berichte, Sonderheft* 4: 13–56. https://doi.org/10.1007/978-3-663-12176-3_5

Hooper, John & Thompson, Sandra A. 1973. On the applicability of root transformations. *Linguistic Inquiry* 4: 465–497.

Jackendoff, Ray. 1972. *Semantic Interpretation in Generative Grammar*. Cambridge MA: The MIT Press.

Jiménez-Fernández, Ángel & Miyagawa, Shigeru. 2014. A feature-inheritance approach to root phenomena and parametric variation. *Lingua* 145: 276–302. https://doi.org/10.1016/j.lingua.2014.04.008

Jiménez-Fernández, Ángel. 2015. Towards a typology of focus: Subject position and microvariation at the discourse-syntax interface. *Ampersand* 2: 49–60. https://doi.org/10.1016/j.amper.2015.03.001

Klima, Edward S. 1964. Negation in English. In *The Structure of Language*, Jerry A. Foder & Jerrold J. Katz (eds), 264–323. Englewood Cliffs NJ: Prentice-Hall.

Koizumi, Masatoshi. 1995. Phrase Structure in Minimalist Syntax. PhD dissertation. MIT.

Krifka, Manfred. 2007. Basic notions of information structure. In *The Notions of Information Structure* [Interdisciplinary Studies on Information Structure 6], Caroline Féry, Gisbert Fanselow & Manfred Krifka (eds), 13–55. Potsdam: Universitätsverlag Potsdam.

Laka, Miren Itziar. 1990. Negation in Syntax: On the Nature of Functional Categories and Projections. PhD dissertation, MIT.

Lambrecht, Knud. 1994. *Information Structure and Sentence Form: Topic, Focus, and the Mental Representation of Discourse Referents*. Cambridge: CUP. https://doi.org/10.1017/CBO9780511620607

Leonetti, Manuel & Escandell-Vidal, Victoria. 2009. Fronting and verum focus in Spanish. In *Focus and Background in Romance Languages*, Andreas Dufter & Daniel Jacob (eds), 155–204. Amsterdam: John Benjamins. https://doi.org/10.1075/slcs.112.07leo

Lohnstein, Horst. 2016. Verum focus. In *Oxford Handbook of Information Structure*, Caroline Féry & Shinichiro Ishihara (eds), 290–313. Oxford: OUP.

Quer, Josep. 2002. Edging quantifiers. On QP fronting in western Romance. In *Romance Languages and Linguistic Theory 2000* [Current Issues in Linguistic Theory 232], Claire Beyssade, Reineke Bok-Bennema, Frank Drijkoningen & Paola Monachesi (eds), 253–270. Amsterdam: John Benjamins. https://doi.org/10.1075/cilt.232.14que

Rizzi, Luigi. 1996. Residual verb second and the wh-criterion. In *Parameters and Functional Heads*, Adriana Belletti & Luigi Rizzi (eds), 63–90. Oxford: OUP.

Rizzi, Luigi. 1997. The fine structure of the left periphery. In *Elements of Grammar: A Handbook of Generative Syntax*, Liliane Haegeman (ed.), 281–337. Dordrecht: Kluwer. https://doi.org/10.1007/978-94-011-5420-8_7

Rizzi, Luigi. 2004. Locality and left periphery. In *Structures and Beyond. The Cartography of Syntactic Structures*, Vol. 3, Adriana Belletti (ed.), 223–251. Oxford: OUP.

Rizzi, Luigi. 2006. On the form of chains: Criterial positions and ECP effects. In *Wh-Movement: Moving On*, Lisa Lai-Shen Cheng & Norbert Corver (eds), 97–113. Cambridge MA: The MIT Press.

Rochemont, Michael S. 1978. A Theory of Stylistic Rules in English. PhD dissertation. University of Massachusetts at Amherst.

Rochemont, Michael S. 1986. *Focus in Generative Grammar* [Studies in Generative Linguistic Analysis 4]. Amsterdam: John Benjamins. https://doi.org/10.1075/sigla.4

Romero, Maribel & Han, Chung-Hye. 2004. On negative yes/no questions. *Linguistics and Philosophy* 27: 609–658. https://doi.org/10.1023/B:LING.0000033850.15705.94

Rudanko, Juhani. 1982. Towards a description of negatively conditioned subject operator inversion in English. *English Studies* 63: 348–59. https://doi.org/10.1080/00138388208598192

Veselovská, Ludmila. 2011. Inversion and fronting in English: A cartography of discourse in a generative framework. *Czech and Slovac Linguistic Review* 1: 53–72.

Zanuttini, Raffaella & Portner, Paul. 2003. Exclamative clauses: At the syntax-semantics interface. *Language* 79: 39–81. https://doi.org/10.1353/lan.2003.0105

Zubizarreta, María L. 1998. *Prosody, Focus, and Word Order*. Cambridge MA: The MIT Press.

CHAPTER 4

Invariant *die* and adverbial resumption in the Ghent dialect

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This chapter focusses on the apparent V3 pattern in (1), which is salient with some speakers of the Ghent dialect: an initial adverbial constituent in the root clause, *vroeger* ('formerly'), is separated from the finite verb by an optional 'pleonastic' (Vanacker 1980) element, *die*. The element *die* has no impact on the truth value of the proposition it introduces.

(1) Vroeger, (die) bakten wij vier soorten brood
*Formerly (**die**) baked we four sorts bread*
'We used to bake four kinds of bread.' (Gijzenzele 0.28) (Vanacker 1980: 76)

The chapter focusses on the distribution of resumptive constituents in Standard Dutch and in the Ghent dialect, comparing Ghent resumptive *die* with alternative adverbial resumptives in the Ghent dialect and with the corresponding StD resumptives. A first analysis is based on the Poletto/Wolfe V2 typology, which proposes that the Germanic languages are characterised by a Force-V2 requirement, meaning that the finite verb moves to Force, via Fin. We argue – in line with the literature – that the resumptive adverbial *dan* in StD and the Ghent dialect is phrasal, it merges TP-internally, moves via SpecFinP to SpecForceP and satisfies the Force V2-constraint. A constituent preceding resumptive *dan* is clause-external. In contrast, resumptive *die* in the Ghent dialect is a head which spells out Force. Because Force is spelt out by *die,* the finite verb halts in Fin. The final part of the chapter speculates on an alternative analysis in terms of a fully articulated left periphery in which *die* is a variant of Force that is specifically involved in the indirect satisfaction of LP criteria on Top and Foc.

Keywords: Ghent dialect, adverbial resumptive *die*, V2 typology, force, left periphery, LP criteria

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1. Scope and goals of the chapter

1.1 The V2 constraint

It is generally accepted that Standard Dutch (StD) and its dialects are *bona fide* Verb Second (V2) languages, meaning that in root clauses the finite verb is preceded by exactly one constituent. The V2 pattern is illustrated in (1): in the grammatical (1a), the finite auxiliary *heeft* ('has') is preceded by the direct object *zijn wagen* ('his car'). (1b) and (1c) are ungrammatical because the finite verb is preceded by two constituents. At first sight, (1d) might also seem to be a violation of the V2 constraint because the finite verb *heeft* ('has') is preceded by two constituents: the participle *verkocht* ('sold') and the object *zijn wagen* ('his car'), but the example is in line with the V2 constraint because the string *zijn wagen verkocht* can be analysed as one constituent, a (possibly extended) projection of V.

(1) a. [Zijn wagen] heeft Jan gisteren verkocht.
his car has Jan yesterday sold
'His car, Jan sold yesterday.'
b. *[Zijn wagen] [Jan] heeft gisteren verkocht.
his car Jan has yesterday sold
c. *[Zijn wagen] [gisteren] heeft Jan verkocht.
his car yesterday has Jan sold
d. [Zijn wagen verkocht] heeft Jan niet.
his car sold has Jan not
'Sell his car, John did not.'

In (2), the initial constituent in the V2 configuration is an adjunct:

(2) a. Gisteren heeft Jan zijn wagen verkocht.
yesterday has Jan his car sold
'Yesterday Jan sold his car.'
b. Misschien heeft Jan zijn wagen verkocht.
maybe has Jan his car sold
'Perhaps Jan sold his car.'
c. Toen hij in Gent was, heeft Jan zijn wagen verkocht.
when-3sg-he in Ghent was has Jan his car sold
'When he was in Ghent, Jan sold his car.'

However, in spite of being a V2 language, StD and the dialects display V2 'transgressions' (Catasso 2015), i.e. patterns that seem to fall short of the V2 condition. In this chapter, we focus on one such pattern, labelled 'resumptive V3'.[1]

1. For additional illustrations of non-resumptive patterns that violate the V2 pattern, see among many others, Haegeman & Greco (2018a,b) on West Flemish and Meinunger (2004) on German.

1.2 Resumptive V3

In resumptive V3 patterns, the finite verb is preceded by two elements: a 'dislocated' phrasal constituent which is itself followed by a resumptive element, a demonstrative that is anaphorically dependent on the left-adjacent constituent. The initial constituent may be an argument (1.2.1) of the predicate, a pattern which we refer to as argument resumption, or an adverbial element (1.2.2).

1.2.1 *Argument resumption*

Argument resumption is illustrated in the StD (3). In these examples, the finite verb in a linearly third position is preceded by a 'dislocated' phrasal constituent which is followed by a resumptive element, a demonstrative which is anaphorically dependent on the left adjacent constituent. For instance, in (3a) the dislocated non-neuter direct object DP, *Jan*, is followed by *die,* which corresponds to the StD demonstrative pronoun and looks at first sight as if it is also a resumptive element. In (3b), an initial neuter argument *dat boek* ('that book') is resumed by the neuter resumptive demonstrative *dat.* In (3c), the initial constituent is the PP *over taalkunde* ('about linguistics'); it is resumed by the R-pronoun *daar* ('there') (Van Riemsdijk 1978; Koopman 2000, 2010; Noonan 2017), the complement of a stranded preposition, *over* ('about'). In (3d), finally, the initial embedded clause is resumed by the neuter demonstrative *dat* ('that').

(3) a. Jan die kende ik niet.
Jan that knew I not
b. Dat boek dat kende ik niet.
that book that knew I not
c. Over taalkunde, daar kan ik niet over praten.
about linguistics, there can I not about talk
d. Dat hij in Gent woont, dat wist ik niet.
that he in Ghent lives, that knew I not

In the literature, the pattern in (3) is usually labelled Contrastive Left Dislocation (abbreviated as CLD), though a contrastive interpretation is not necessarily present for all speakers (cf. Broekhuis & Corver 2016; De Vries 2009 for insightful recent discussion). There is a considerable literature on the derivation of resumptive V3 patterns in the Germanic languages (Broekhuis & Corver 2016 for Dutch; Holmberg 2015, for Scandinavian, and the references cited in these works), which we cannot hope to summarize or evaluate here. The debate concerns a.o. the status of the resumptive constituent and how it is related to the initial constituent, the first merge position of the resumptive constituent, that of the first constituent *etc*. Most discussions also take into consideration the alternative resumptive patterns illustrated in (4), in which a matching pronominal resumptive element occupies a

TP-internal position. In the literature, the latter pattern is sometimes referred to as Hanging Topic Left Dislocation (Cinque 1977, 1990, for Scandinavian Holmberg (2020), for Dutch specifically: De Vries 2009, and Broekhuis & Corver 2016: 1691).

(4) a. Jan ik ken hem niet.
Jan I know him not
b. Dat boek ik kende dat niet.
that book I knew that not
c. Taalkunde, ik kan daar /er niet over meepraten.
linguistics, I can there not about with-talk

Predicates can also be associated with resumptive elements, (5) provides some examples. As can be seen by these examples, the appropriate resumptive demonstrative for predicative elements is always the neuter demonstrative *dat*, whether this be with an AP (5a), a DP (5b) or a VP (5c) predicative element. Note in particular that the resumptive in (5b) does not match the gender of the initial constituent, *een knappe dame* ('a smart lady') being a feminine noun phrase. For early discussion of the use of *dat* see Rullman & Zwart (1996).

(5) a. Slim dat is ze wel.
clever that is she part
b. Een knappe dame, dat is ze wel.
A smart lady, that is she well
c. Hard werken, dat doen ze niet.
hard work, that do they not

We will set aside resumptive patterns with initial predicates for future study as these introduce a number of complications that would lead us too far.

1.2.2 *Adverbial resumption*

In the resumptive V3 patterns in (3), the resumed constituent corresponds to an argument of the predicate in the associated clause: in (3a) and in (3b), for instance, the initial constituent corresponds to the direct object of the lexical verb *kennen* ('know').

The resumptive pattern in (6) also linearly violates the V2 constraint. In these examples, the constituent left-adjacent to the resumptive constituent, here an adverb, does not correspond to an argument of the associated clause but rather to an adjunct. In (6a) the initial constituent is a place adjunct *in Gent* ('In Ghent'), in (6b) it is the temporal adjunct *volgende vrijdag* ('next Friday'), in (6c) it is the temporal adjunct *vorige week* ('last week'). As can be seen, the choice of the resumptive adverb (*daar* ('there'), *dan* ('then'), *toen* ('then')) co-varies with the dislocated adjunct.

(6) a. In Gent, daar kan je lekker eten.
in Ghent, there can you well eat
'You eat well in Ghent.'
b. Volgende vrijdag dan komt ze terug.
next Friday then comes she back
'Next Friday she'll be back.'
c. Vorige week toen was ze er niet.
last week then was she there not
'Last week she wasn't there.'

For StD, Zwart (1997); Hoekstra (1999) and Broekhuis & Corver (2016: 1134) analyse the patterns with a dislocated adjunct in (6) as the adverbial variant of CLD in (3). Linearly, the resumptive patterns in (6) again constitute V2-transgressions. Nevertheless, it has been noted in the literature that the availability of precisely this adverbial resumptive pattern seems to have a remarkable correlation with the V2 property. Meklenborg (2020) observes, for instance, that in the older stages of Romance languages with a V2 grammar such as Old French (Vance 1997; van Reenen & Schøsler 2000; Ferraresi & Goldbach 2003; Salvesen 2013; Wolfe 2015a), Old Florentine (Poletto 2014), Old Neapolitan (Ledgeway 2008), Old Perugian (Ledgeway 2008), and Old Sicilian (Wolfe 2015a), the use of a resumptive particle *si/sì* was attested (see a.o. Vanelli et al. (1985); Salvi (2004); Benincà (2006); Ledgeway (2012); Wolfe (2015a)). (7) illustrates Old French.

(7) Quant Erec l' ot, si l' an mercie.
when Erec it.Cl heard si him.CL of-it thanks
'When Eric heard that, he thanked him.'
OFr, ErecKu, p.5f, v.1286 (Meklenborg 2020: 104)

By and large, adverbial resumption or adverbial V3 is absent from non V2 languages.

1.3 Resumption in the Ghent dialect

This chapter focusses on a specific instantiation of adverbial resumption in the Ghent dialect in which an adverbial adjunct is reprised by what looks like an invariant demonstrative pronominal die.

Our research is based on two transcribed recordings dating from the 1960s (Leemans 1966; Van Hoe 1981), supplemented with anecdotal data collected by the authors, as well as on consultation of native speakers and on elicitation by means of a questionnaire survey of native speakers.

The pattern will be illustrated in full in Section 1.3.2 but before doing so we briefly set a wider perspective by introducing the Ghent varieties of CLD.

1.3.1 *Nominal CLD*

By the term 'nominal CLD' we refer to resumptive strategies mainly involving nominal arguments. The label is an approximation and has no theoretical content. The Ghent dialect displays two varieties of nominal CLD, which we provisionally label CLD1 and CLD2. Both patterns are root phenomena. We will not explore argument CLD in detail, and there are several aspects of the patterns which at the moment we do not understand. We also will not consider resumption of predicate elements, as in (5).

In CLD1, illustrated in (8a), the resumptive *den dienen* (lit: 'the that') is a referential demonstrative: it consists of a combination of the masculine singular form of the definite determiner *den* ('the') and the masculine singular form of the demonstrative *dienen* ('that'). This combination corresponds to the referentially independent use of the demonstrative (8b). The resumptive constituent in (8a) matches the left-adjacent dislocated constituent for gender and number: masculine singular *den dienen* ('the that') alternates with feminine singular and plural *de die*; it also alternates with neuter singular *dat* ('that') (8c).

(8) a. Maar Potter, den dienen is al wa te(g)engekomen ze,
but Potter the ***die****-INFL is already something across come* PART
'but things have already happened to Potter, you know'.
(Van Hoe, Melle, II: 59)

b. Maar den dienen is al wa te(g)engekomen ze,
but the ***die****-INFL is already something across come* PART
'Things have already happened to him, you know'.

c. en da(t) schoolken, da(t) was een beetsen te klein geworden
and that school.dim dat was a little too small become
'And that little school had become a little too small.'
(Van Hoe, Melle, I: 11)

Though we have not done a statistical corpus analysis, it is our impression that CLD2, illustrated in (9), represents the majority of CLD instances in our corpus. This pattern features a 'short' form of the demonstrative, *die*; there is no gender or number matching with the left-adjacent nominal constituent: even with a neuter initial constituent, the formative *die,* rather than *dat*, is used (9b, c). In this respect, the Ghent dialect differs from many other Dutch varieties, which maintain gender matching.[2]

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2. Our informant graded (9c) with a score 6/7 on a 7-point Likert scale and signaled that *die* could be replaced by *dat.* (i), in which the initial constituent is picked up by neuter *dat,* should probably be taken as an instantiation of CLD1, i.e. with *dat* as the neuter variant of *den dienen* (cf. (8c)).

(i) Speltbrood dat koop ik enkel in het weekend.
spelt bread ***dat*** *buy I only at the weekend* (CM, 14.09.2015)

(9) a. E, mijnheer van de bureau die had naar de bank geweest
*e, sir of the office **die** had to the bank been*
'And the boss had been to the bank.' (Leemans, Ghent, I, p. 3)

b. dat geld die gingd' in een dink,
*that money **die** went into a thing*
'the money went into a thing' (Leemans, Ghent, II: p 8)

c. Speltbrood die koop ik enkel in het weekend.
*spelt bread **die** buy I only at the weekend* (CM, 14.9.2015)

1.3.2 *Adverbial resumption*

The Ghent dialect also displays the 'adverbial' resumption illustrated for StD in Section 1.2.2. In the attested (10), a sentence-initial dislocated adjunct is resumed by a left-adjacent adverbial *(tons* 'then', *daar* 'there') (cf. Hoekstra 1999; Broekhuis & Corver 2016: 1134). The resumptive element matches the dislocated constituent: *tons* ('then') and *dan* ('then') are temporal/conditional adverbs and in the corpus example (10a) and the attested (10b) they resume a conditional/temporal adverbial clause; *daar* ('there') is a locative adverb, in the corpus example (10c) it matches a locative dislocated PP *in ding in Oedelem* ('in thingy in Oedelem').

(10) a. Os ge moet beginnen / u(w) stokken za(ge)n, en beginnen rond
if you must start your sticks saw and begin round
maken/ en u(w) (h)oor(n)s beginnen za(ge)n/ tons + en
make and your horns begin saw tons en can=you
kunder nie(t) komen.
-there not come (Van Hoe, Melle Corpus : III 98)

b. Als de zon zo begint binnen te zitten dan wordt het
when the sun so begins inside to sit dan becomes it
echt warm.
really hot (Peggy, Ghent female, 1968, 07.05.2018)

c. In ding in Oedelem, daar zate(n) m(e) in de slag.
in thingy in Oedelem, daar sat we in the battle
'In Oedelem we were caught in the fighting'
(Van Hoe Melle Corpus III: 76)

The Ghent variety displays an additional pattern of adverbial resumption which sets it apart from the other Flemish and Dutch varieties and which is illustrated in (11a). In this example, an adverbial adjunct *volgende vrijdag* ('next Friday') is left-adjacent to what looks like a demonstrative pronoun *die* and the finite verb. At first sight, *die* seems to have the same function as the resumptive adverb *tons* ('then') in the resumption pattern in (10a) or as the resumptive adverb *dan* ('then')

in the StD adverbial resumption pattern in (6b), repeated here for convenience in (11b). In (11b), StD *dan* cannot be replaced by *die*.

(11) a. Volgende vrijdag die komt ze terug. Ghent
next Friday ***die*** *comes she back*
b. Volgende vrijdag dan/*die komt ze terug. StD
next Friday ***dan/die*** *comes she back*

The resumptive pattern with *die* is a root phenomenon.[3] In this use *die* is invariant, it does not alternate with *dat* (see (67) in Section 4.4.1 for discussion). We label this use of *die* as 'invariant *die*'. Invariant *die* does not only appear right-adjacent to a temporal adjunct (as in (11a)): it can follow a range of other dislocated adjuncts. (12) provides some examples: in (12a), the constituent left-adjacent to invariant *die* is a temporal adjunct, in (12b), it is a conditional adjunct, in (12c), it is a locative adjunct, in (12d), it is a goal adjunct, in (12e), it is a causal adjunct, in (12f) the constituent left-adjacent to *die* is a result adjunct:

(12) a. Vroeger, die bakten wij vier soorten brood.
before ***die*** *baked we four kinds bread*
'We used to bake four kinds of bread.'
(Gijzenzele 0.28) (Vanacker 1980: 76)
b. Os 't nodig is, die kunder u nog bij zetten.
if it necessary is ***die*** *can you still with sit*
'If it's necessary, you can still come and sit with us.'
(Evergem: I. 200) (Vanacker 1980: 76)
c. Bij Arsène die hebben ze zo niet vele waar.
with Arsène ***die*** *have they so not much* PART
'At Arsène's, they don't have so many of these, is it?
(Leemans Ghent Corpus I, 30, 23)
d. Voor ulder hout te klieven die (h))adde(n) ze (h)ulder kliefmes.
for their wood to cleave ***die*** *had they their cleave.knife*
'To cleave the wood they used their cleaving knive.'
(Oostakker.I.202; Vanacker 1980: 76)

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3. (i) is attested in other informal spoken varieties of Flemish. Our Ghent recordings contain no embedded occurrences of *die* resumption and our informant CM explicitly pointed out that she rejects *die dat* sequences:

(i) Ik vind die da zaterdag te laat is
I find *die* that Saturday too late is
'I think Saturday is too late.' (Vet, AS, 22.11.2000 telephone conversation)

We will therefore not examine these examples here.

e. Doordat er iets verkeerd gelopen is die is die
because there something wrong went ***die*** *is that*
beschrijving verloren gegaan.
description lost gone
'Because something went wrong, the description has been lost.'
(FM, 09.12.2009)

f. Bijgevolg die moet da zu rap meu(ge)lijk dervan
consequently ***die*** *must that so quick possible there.of*
verwijderd wor(d)en
removed be
'Consequently, that has to be removed as quickly as possible.'
(St. Martens-Latem I.239; Vanacker 1980: 76)

The analogues of (12) in which *die* is used as a resumptive element for the initial adjunct would be strongly ungrammatical in other varieties of Dutch, including StD.

1.4 Goals

This chapter focusses on adverbial *die* resumption in the Ghent dialect illustrated in (11a)–(12) and compares the pattern with StD adverbial CLD in (6) and in (11b) and with Ghent adverbial resumption in (10). Where relevant to the discussion, we will also occasionally refer to argument resumption in StD (3) and in the Ghent dialect (8) and (9), though this will not be the core focus of our chapter.

The first part of the chapter inventorizes the empirical facts. In the second part, we elaborate a formal syntactic analysis.

Section 2 first introduces Meklenborg's distinction between specialized resumptives and generalized resumptives. The distinction refers to the matching restrictions, i.e. the restrictions imposed on the choice of resumptive element by the left-adjacent constituent. At first sight, on the basis of the criteria developed there, invariant *die* in the Ghent dialect functions as a generalized resumptive.

Section 3 inventorizes the properties of adverbial *die* resumption in the Ghent dialect, i.e. configurations in which *die* is found right-adjacent to an adverbial constituent, though we will also occasionally touch upon patterns in which invariant *die* is right-adjacent to an argument constituent. We will systematically compare the properties of invariant *die,* by hypothesis a generalized resumptive, with those of the specialized adverbial resumptives in StD and in the Ghent dialect. Exploring these properties, we will formulate some initial hypotheses of how the observed contrasts between the two types of resumption correlate with their syntactic representation.

Section 4 develops the cartographic analysis of *die* resumption. The proposed analysis further explores the concept of indirect satisfaction of the criteria associated

with left-peripheral heads as first proposed in Rizzi & Shlonsky (2006, 2007) and developed in Haegeman & Danckaert (2017). Crucially, it relies on the idea that a left-peripheral head may be featurally enriched and that the enrichment allows the satisfaction of a lower head.

2. Adverbial resumption: Specialized resumption vs. generalized resumption

2.1 Specialized resumptives

The patterns of adverbial resumption in the Ghent variety which we introduced in Section 1.3.2 reflect the distinction between specialized resumptives and generalized resumptives (Meklenborg 2020). This contrast has also been discussed in work by a.o. Eide & Sollid (2007), Sollid & Eide (2007), Nordström (2010), Eide (2011, Holmberg (2015, to appear) and Meklenborg (2020). StD (6) and Ghent (10) illustrate specialized resumptives and Ghent (11a) and (12) illustrate generalized resumptives.

With specialized resumptives, i.e. StD (6) and Ghent (10), the constituent functioning as the resumptive is a regular adverb which has retained its full original adverbial meaning (and – we speculate – function), i.e. it has the semantics of its non-resumptive adverbial use, and interpretively the resumptive adverbial matches the initial constituent. The specialized nature of the resumptive is clear from the StD data: the choice of the resumptive element co-varies with the semantics of the initial constituent. StD deploys the locative adverb *daar* ('there'), the manner adverb *zo* ('so'), the temporal adverbs, *dan* ('then') and *toen* ('then'). Temporal resumptive adverbs ((6b) and (6c)) show additional specialization: *dan* ('then') is used for future/conditional contexts, *toen* ('then') is reserved for past time contexts; this difference is replicated in the resumptive use. Specialization is also illustrated in the Ghent examples in (10): temporal *tons* ('then') matches a dislocated temporal adjunct and locative *daar* ('there') matches a dislocated locative adjunct.

The specialized resumptives right-adjacent to adverbial constituents are adverbs which can be used independently without overt left peripheral antecedent: for instance, StD *dan* ('then'), *toen* ('then'), *daar* ('there') and *zo* ('so') can be used in a regular V2 clause, either in initial position (13) or in mid-position (14). Given their demonstrative/deictic meaning they are anaphoric with an accessible antecedent in the discourse.

(13) a. Daar kan je lekker eten.
daar *can you well eat*
'You eat well there.'
b. Dan kan je ze bezoeken.
dan *can you them visit*
'You can visit them then.'
c. Toen merkte ik dat ik mijn laptop vergeten was.
toen *noticed I that I my laptop forgotten was*

(14) a. Je kan daar lekker eten.
you can ***daar*** *well eat*
'You eat well there.'
b. Je kan ze dan bezoeken.
you can them ***dan*** *visit*
'You can visit them then.'
c. Ik merkte toen dat ik mijn laptop vergeten was.
I noticed ***toen*** *that I my laptop forgotten was*

Specialized resumption is widely attested. (15), based on Meklenborg (2020: 96), illustrates the pattern in a sample of Germanic languages which all can deploy a specialized adverb, the equivalent of English *then,* to resume an initial temporal adverbial clause.

(15) a. Hvis du er sein i morgen, da kommer du til å angre.
if you are late tomorrow, ***da*** *come you to regret it* Norwegian
b. Om du är sen imorgon, då kommer du att ångra dig.
if you are late tomorrow, ***da*** *come you to regret it* Swedish
c. Hvis du kommer for sent i morgen, ʔda vil du komme til at fortryde det.
if you are late tomorrow, ***da*** *will you come to regret it* Danish
d. Wenn du morgen zu spät kommst, dann wird dir das Leid tun.
if you tomorrow too late come, ***dann*** *will to you that regret* German
d. As jy more laat is, dan sal jy jammer wees.
if you tomorrow late is, ***dan*** *will you sorry be* Afrikaans

While Meklenborg (2020) only discusses adverbial resumption, we can extend her notion of specialized resumption to the StD CLD patterns in (3) and to the Ghent CLD1 data in (8) because in such patterns too, the dislocated constituent is resumed by a right-adjacent matching resumptive: for instance, in Ghent CLD1 the 'strong' demonstrative resumptive *den dienen* matches the dislocated constituent for gender and number.

2.2 Generalized resumptives

Generalized resumptives differ from the specialized resumptives illustrated in Section 2.1.1 in that, possibly as a result of semantic bleaching, they have become compatible with a wider range of initial constituents. One example that has received a lot of attention is the Mainland Scandinavian resumptive *så* ('so') in (16), cf. Nordström (2010); Eide (2011); (16) should be compared with the specialized resumptive pattern in (15a–c) (cf. Nordström (2010: 48, her (10)) and Meklenborg (2020: 96)).

(16) a. Hvis du er sein i morgen, så kommer du til å angre.
if you are late tomorrow, ***så*** *come you to regret it* Norwegian
b. Om du är sen imorgon, så kommer du att ångra dig.
if you are late tomorrow, ***så*** *come you to regret it* Swedish
c. Hvis du kommer for sent i morgen, så vil du komme til at fortryde det.
if you are late tomorrow, ***så*** *will you come to regret it* Danish

As illustrated in (12), the Ghent dialect can deploy an invariant form, *die,* to resume a wide range of dislocated adjuncts: a temporal adjunct (12a), a conditional adjunct (12b), a locative adjunct (12c), a goal adjunct (12d), a causal adjunct (12e), a result adjunct (12f). Our tentative hypothesis at this point is that Ghent invariant *die* is also a generalized resumptive. Pursuing this line of thinking, CLD2 in the Ghent dialect could also be categorized as an instance of 'generalized' resumption because, differently from CLD1, there is, for instance, no gender or number matching between the element *die* preceding the finite verb and the left adjacent constituent (see also Section 3.3.3 for additional discussion).

2.3 Specialized vs. generalized resumptives

Our discussion of the distinction between specialized and generalized resumptives is perhaps slightly misleading because it might be taken to imply that specialized resumptives and generalized resumptives are syntactically equivalent and that they constitute interchangeable alternatives merely differing in terms of their degree of semantic specification and the corresponding range of constituents they can resume, as schematized in (17a):

(17) a.

Da	jeg	kom	hjem,	{ **da** / **så** }	var	jeg	sliten.
when	*I*	*came*	*home*		*was*	*I*	*tired*

While this would be a theoretical possibility, it remains an empirical question to what extent the generalized resumptive and the specialized resumptive are syntactically equivalent. It is also possible that the differentiation in semantics and in the matching restriction with respect to the constituent left-adjacent to the resumptive correlates with underlying syntactic differences. One diagnostic for the full equivalence of the generalized resumptive and the specialized resumptive as depicted in (17a) is to assess whether they are in complementary distribution. For the Norwegian pattern in (16a) the answer is negative: the specialized resumptive may co-occur with the generalized resumptive, and their relative order is fixed, as shown in (17b) and (17c).[4] The same holds for Swedish *så* (16b), as demonstrated in Nordström (2010: 48, her (10)).

(17) b. Da jeg kom hjem, da så var jeg sliten.
when I came home ***da*** *temporal* ***så*** *general was I tired*
c. *Da jeg kom hjem, så da var jeg sliten.[5]
when I came home ***så*** *general* ***da*** *temporal was I tired*

Ghent invariant *die* can also be immediately preceded by a specialized resumptive, as shown in the attested (18). Again, the order is fixed, the invariant *die* follows the specialized resumptive.

(18) a. Als ge spreekt dan die kunde da.
when you speak ***dan die*** *can you that*
'If you speak, then you can do that.' (attested example, BV, August 2017)
b. Maar e wel ja in Sint Kruis /, daar die … die (h)e(bben)
but PART PART PART *in Sint Kruis/* ***there die*** ***die*** *have*
me d(e) ee(r)ste Duitse tons+ gezien.
we the first Germans ***tons*** *seen*
'but, well, in Sint Kruis we saw the first Germans' (Van Hoe III: page 7)

That a generalized resumptive can co-occur with a specialized resumptive is clear evidence that the two items, though to some extent functionally similar, must be differentiated in the syntax.

We will investigate the use of invariant *die* in the Ghent dialect and compare it with that of specialized adverbial resumptives. Using a series of distributional and interpretive diagnostics, we first aim to present a survey of the similarities and differences between the specialized and the generalized resumptive. The diagnostics

4. Thanks to Terje Lohndal for judgements.

5. But see Sollid & Eide (2007: 17) for Finland Swedish.

will shed light on to the nature of the resumptive constituent, and its relationship with the left-adjacent constituent. In particular, the evidence is expected to point to the constituent left-adjacent to the resumptive being either clause-external (in the sense of Astruc-Aguilera 2005; Broekhuis & Corver 2016: 1133–1134; Haegeman & Greco 2018a, b) or being part of the root V2 clause and it may reveal whether the resumptive has phrasal or head status. These findings obviously have ramifications for the derivation of the adverbial resumptive patterns.

While concentrating on adverbial resumption, we will also return at some places to the argument CLD2 pattern because a comparison with this pattern sheds additional light on the nature of generalized resumption. Based on the diagnostics in Section 3, we elaborate a cartographic analysis of Ghent invariant *die* in Section 4.

3. Invariant *die* in the Ghent dialect

3.1 The initial adverbial constituent

3.1.1 *Categorial features*

As shown in the Ghent examples in (11a) and (12), the adverbial constituent left-adjacent to invariant *die* may instantiate a range of syntactic categories: it can be a nominal phrase (11a), an adverbial phrase (12a,f), a prepositional phrase (12c), a finite clause (12b,e), a non-finite clause (12d) *etc*. In this respect, the pattern is no different from that found with the specialized – i.e. semantically matched – resumptive: in the latter pattern too, semantic matching of the adverbial resumptive does not entail categorial matching. For instance, the StD temporal resumptive *toen* ('then') can resume a left-adjacent adverbial clause as in (19a), it can resume a PP, as in (19b), it can resume a nominal constituent (19c), or a temporal adverb (19d).

(19) a. Toen ik thuiskwam, toen merkte ik dat ik mijn laptop vergeten was.
toen I home-came ***toen*** *noticed I that I my laptop forgotten was*

b. Bij zijn aankomst, toen merkte hij dat hij zijn laptop
upon his arrival ***toen*** *noticed he that he his laptop*
vergeten was.
forgotten was

c. Vorige week, toen merkte hij dat hij zijn laptop vergeten was.
last week ***toen*** noticed he *that he his laptop forgotten was*

d. Even later, toen merkte hij dat hij zijn laptop vergeten was.
sometime later ***toen*** *noticed he that he his laptop forgotten was*

3.1.2 *Optionality*

In all examples of adverbial resumption illustrated so far, those with a specialized resumptive as well as those with invariant *die*, the initial adverbial constituent is not related to a thematic role assigned by the predicate and as such it is 'optional' in relation to the clause, as is the corresponding resumptive. Optionality entails that the relevant constituents can be omitted, possibly entailing some further modifications. Three scenarios are briefly looked at here: (i) omission of the resumptive as well as the left-adjacent adjunct, (ii) retention of the resumptive and omission of the left-adjacent adjunct, (iii) omission of the resumptive element and retention of the left-adjacent adjunct.

i. Omission of both the resumptive and the left-adjacent adjunct
Because of the V2 constraint, the simultaneous omission of the resumptive and the left-adjacent adjunct would lead to a change of word order. (20a) and (20b) rephrase the StD examples in (19) leaving out the initial constituent and its specialized resumptive. (20c) rephrases the Ghent example (11a), leaving out invariant *die* and the left-adjacent adjunct. In each case, to satisfy the V2 constraint, the finite verb is now preceded by another constituent, here the subject.

(20) a. Ik merkte dat ik mijn laptop vergeten was.
I noticed that I my laptop forgotten was
b. Hij merkte dat hij zijn laptop vergeten was.
he noticed that he his laptop forgotten was
c. Ze komt terug.
she comes back

ii. Omission of the initial adverbial constituent with retention of the resumptive
As the specialized resumptive is itself a contentful adverb, the presence of an immediately preceding matching constituent is not required. The examples in (21) will be licit as long as there is an accessible contextual antecedent for the demonstrative adverbs *daar* ('there'), *dan* ('then') and *toen* ('then'). Specialized resumptives in the Ghent dialect can thus appear as independent sentence-initial adverbial adjuncts. Incidentally, in (21) these adverbs also satisfy the V2 constraint.

(21) a. **Daar** kan je lekker eten.
there can you well eat
'You eat well there.'
b. **Dan** komt ze terug.
then comes she back
c. **Toen** was ze er niet.
then was she there not

However, in the Ghent dialect, omission of the constituent left-adjacent to invariant *die* is not possible. This restriction was identified in Vanacker (1980: 77) and is labelled an 'antecedent requirement' in De Clercq & Haegeman (2018). The requirement is confirmed both by our corpora, in which all occurrences of invariant *die* are immediately preceded by an adverbial constituent, and by our informants who consider the exchange in (22) unacceptable. In spite of the fact that utterance (22A) would supply a plausible contextual antecedent ('because Myriam takes care of the cats tomorrow'), the continuation in (22B) is not acceptable.

(22) A: Myriam komt morgen voor de katten zorgen.
Myriam comes tomorrow for the cats care
'Myriam will take care of the cats tomorrow.'
B: *Die kunnen we met een gerust hart naar de cinema gaan.
***Die** can we with a peaceful heart to the movies go*
$(1^9\ 2^2\ 3^0\ 4^0\ 5^1)$[6]

The difference between the specialized resumptive pattern and the generalized resumptive pattern uncovered here is a first indication that the contrast between specialized resumptive and generalized resumptive correlates with additional differences and it implies that Zwart's (1997) assimilation of the two patterns, to be further discussed in Section 3.2, is untenable. In later sections, additional differences will come to light.

iii. Omission of the resumptive
Finally, the specialized resumptive or the generalized resumptive itself can be freely omitted without change in word order and without loss of grammaticality: (23a) illustrates omission of the StD specialized resumptive *toen* ('then'), (23b) illustrates omission of the Ghent specialized resumptive *tons* ('then') and (23c) illustrates omission of invariant *die*:

(23) a. Toen ik thuiskwam, (toen) merkte ik dat ik mijn laptop
toen I home-came, (***toen***) *noticed I that I my laptop*
vergeten was.
forgotten was

---

6. 12 informants from Ghent, who confirmed that they were users of the *die* pattern, have participated in our survey. Each informant rated 52 sentences containing *die* on a 5-point Likert scale, with 1 being unacceptable and 5 being fully acceptable. For every test sentence that we use we report how many of our informants gave a particular score: 1^9 means that 9 informants considered the sentence unacceptable and gave it score 1. If informants gave 3, 4 or 5, we considered the sentence acceptable.

Some sentences were only judged by one or two speakers. In that case, the same 5-point Likert scale was used and the score per informant is indicated as for instance 3/5, if a 3 was given for a particular sentence.

b. Os ge moet beginnen / u(w) stokken za(ge)n, en beginnen
if you must start your sticks saw and begin
rond maken/ en u(w) (h)oor(n)s beginnen za(ge)n/ (tons) + en
round make and your horns begin saw (**tons**) ***en***
kunder nie(t) komen.
can=you there not come (Van Hoe, Melle Corpus : III 98)

c. Vroeger, (die) bakten wij vier soorten brood.
before ***(die)*** *baked we four kinds bread*
'We used to bake four kinds of bread.'
(Gijzenzele 0.28) (Vanacker 1980: 76)

Omission of the resumptive results in a regular root V2 configuration with an adverbial constituent as the first constituent left-adjacent to the finite verb. Indeed, as we will see (Section 4.4.2), the initial constituent in the resumptive V3 pattern can invariably function as the initial constituent in a V2 configuration.

3.2 Discourse function of the resumptive patterns

In the literature, it has often been proposed that the dislocated constituent in the StD CLD pattern illustrated in (3) is topical (see Zwart 1997: 249–50; Hoekstra 1999). Regrouping argument and adverbial resumption, Hoekstra (1999: 60), for instance, refers to the StD doubling demonstrative pronouns *die* and *dat* and the doubling demonstrative adverbs *dan, daar, toen etc.* as topic pronouns.[7] Because the relevant pronouns mostly begin with *d-*, he labels them D-pronouns (see also *d-words* in Zwart (1997) and Koster 1978). In this chapter, we examine among other things whether and to what extent the invariant *die* pattern in the Ghent variety of Dutch can be analyzed in terms of topicalization along the lines of the StD instantiations mentioned above and of their analogues in the Ghent dialect.

Our main focus will be on adverbial resumption patterns which feature invariant *die* in the Ghent dialect, but we will first briefly go over the properties of what we could informally refer to as 'nominal CLD', i.e. the pattern in which the dislocated constituent is a nominal, because this will reveal an interesting discrepancy between nominal CLD2 in the Ghent dialect on the one hand and StD nominal CLD and nominal CLD1 in the Ghent dialect on the other.

3.2.1 *Nominal CLD*

With respect to the analysis of StD nominal CLD, in which the constituent left-adjacent to the resumptive constituent corresponds to a clausal argument, one fairly common assumption in the literature is that the initial constituent is topical

7. For a comparison of the binding behavior of D-pronouns and personal pronouns, see among others Hoekstra (1999: 61–3) and the works cited.

(Zwart 1997: 249–50). In addition, according to some analyses, the initial constituent occupies a clause-external position (cf. Koster 1978; Broekhuis & Corver 2016: 1133–1134).

Both topicality and clause-external position conspire to lead to the prediction that neither negative constituents nor *wh*-constituents are good candidates to function as first constituents in StD nominal CLD: on the one hand, quantificational constituents are not good candidates for topic status (see Rizzi 1997); on the other, if the relevant dislocated constituent in the CLD pattern were indeed clause-external, its very position would prevent it from taking clausal scope. (24) presents judgments on StD nominal CLD drawn from the literature.

(24) a. *Niemand die heeft ze gekust.
no one ***die*** *has she kissed*
(Hoekstra (1999: 66), cf. Broekhuis & Corver (2016: 733, (260b), 1458, 1697, (49b)).

b. *Wie die ga je dan uitnodigen?
who ***die*** *go you then invite* (Broekhuis & Corver 2016: 1699, (54b))

In this respect, the StD resumptive CLD pattern contrasts with the regular root V2 pattern in which negative or quantificational constituents are suitable first constituents, as shown in (25). In these examples, the initial constituent can be construed as being focal; it can take clausal scope from a designated clause-internal position in the left periphery (e.g. SpecFocP). This entails that in (25), the initial constituents *niemand* ('no one') and *wie* ('who') are not clause-external.

(25) a. Niemand heeft ze gekust.
no one has she kissed

b. Wie ga je dan uitnodigen?
who go you then invite

Recall from Section 1.3.1 that the Ghent dialect displays two root patterns in which an initial nominal constituent is separated from the finite verb by what looks like a resumptive element. We label these CLD1 and CLD2, though we hasten to add that using this label, we are not committed to the view that the second pattern is a case of contrastive left dislocation.

In CLD1, a dislocated argument is resumed by a referential demonstrative consisting of the definite article and the demonstrative pronoun. Because it matches the dislocated constituent in terms of gender and number features, we proposed that the resumptive constituent in CLD1 qualifies as 'specialized'. Like StD CLD, Ghent CLD1 is incompatible with a bare quantified nominal (26a) or with a *wh*-phrase (26b):

(26) a. *Niemand den dienen komt daar naartoe
no one ***de*** ***dienen*** *comes there to*
'No one goes to the other animals [in the zoo]' (CM, 26.05.2009)
b. *Wie de die wilt ge dan allemaal inviteren?
who ***de*** ***de die*** *want you then all invite*

In CLD2, what looks like a resumptive constituent is an invariant form, *die*. Though further research is needed, this use of *die* may be tentatively viewed as that of a generalized resumptive because there is no matching with the initial constituent: regardless of the gender or number of the initial constituent. CLD2 with invariant *die* is compatible with a bare quantified nominal (27a,b), as well as a *wh*-phrase (27c,d) as the initial constituent.

(27) a. Niemand die was tervoren bereid om direkt da(t) groensel te
no one ***die*** *was before prepared to directly that vegetable to*
kweken voor de vijand.
grow for the enemy
'and before no one was immediately willing to grow vegetables for the enemy' (Van Hoe, Corpus Melle, I, p. 5)
b. Niemand die komt daar naartoe.
no one ***die*** *comes there to*
'No one goes to the other animals [in the zoo]' (CM, 26.05.2009)
c. A: Hier zijn de bloemen voor de boeketjes.
these are the flowers for the bouquets
B: Hoeveel die moet ik er gebruiken per boeket?
how many ***die*** *must I there use per bouquet?*
d. A: 't is mijn verjaardag. Ik wil een feestje geven.
it's my birthday. I want a party give
B: Wie die wilt ge dan allemaal inviteren?[8]
who ***die*** want you then all invite (1^0, 2^1, 3^4, 4^4, 5^3)

These data bring to the fore a clear contrast between nominal CLD1 and CLD2 in the Ghent dialect on the one hand, and also between StD CLD and the Ghent nominal CLD2.

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8. Invariant *die* is not equally accepted with all *wh*-constituents: (i) in comparison with (27d) is of interest. It looks as if the presence of *dan* ('then') in (27d) facilitates the presence of *die*. Given that *dan* ('then') anchors the sentence to the discourse, this might suggest there is a D-linking effect. See also Section 4.5.2.2 for additional discussion.

(i) A: t Is mijn verjaardag. Ik wil een feest geven.
'it's my birthday. I want to give a party.'
B: (*)Wie die wilt ge allemaal inviteren?
who ***die*** want you all invite? (1^6, 2^2, 3^1, 4^0, 5^2)

The compatibility of Ghent CLD2 with a quantified initial constituent has two ramifications: (i) the constituent left-adjacent to *die* in this configuration is not necessarily topical, quantifiers being incompatible with topic status. (ii) The constituent left-adjacent to *die*, can, at least in these patterns, not be main clause-external in the sense of Broekhuis & Corver (2016: 1133–1134) and Haegeman & Greco (2018a,b): a clause-external position would prevent the initial constituent from taking clausal scope (see Haegeman & Greco 2018a,b on scope restrictions with clause-external constituents).

3.2.2 *Adverbial CLD*

As is the case for StD 'nominal' CLD (24a), StD adverbial CLD, in which an adjunct is left-adjacent to a specialized resumptive, is incompatible with a bare negative adverbial (28a,b), or with a *wh*-antecedent (28c,d). The same restriction holds for the Ghent pattern with a specialized resumptive adverb.

(28) a. *Nergens daar verkopen ze nog kleine notebroodjes.[9]
nowhere ***daar*** *sell they part small nut rolls*
b. *Nooit dan kunt ge kleine notebroodjes krijgen.
never ***dan*** *can you small nut rolls obtain*
c. *In welke periode toen woonde zij in Geneve?
in which period ***toen*** *lived she in Geneva*
d. *In welke van die twee winkels daar verkopen ze biofruit?[10]
in which of those two shops ***daar*** *sell they biological fruit*

The incompatibility of the StD adverbial CLD pattern with such quantified initial constituents will follow both from the topical nature of the initial constituent and from the hypothesis that this constituent is clause-external and hence unable to take scope within the domain of the clause.

Again, the adverbial resumptive pattern with the specialized resumptive contrasts with regular V2 pattern in which both negative and *wh*-constituents qualify as first constituents as shown in StD (29). Provided that the initial constituents in (29) are clause-internal, they will be able to take clausal scope and can be associated with left peripheral focus.

(29) a. Nergens verkopen ze nog kleine notebroodjes.
nowhere sell they PART *small nut rolls*

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9. This example is grammatical in an alternative parse in which *nergens daar* ('nowhere there') is one constituent meaning 'nowhere in that place'. This is not directly relevant for the issue at hand.

10. Again, this example is grammatical with the alternative parse in which *daar* is part of one initial constituent, modifying *winkels* ('shops'): 'in which of those two shops over there'.

b. Nooit kunt ge kleine notebroodjes krijgen
never can you small nut rolls obtain
c. In welke periode woonde zij in Geneve?
in which period lived she in Geneva
d. In welke van die twee winkels verkopen ze biofruit?
in which of those two shops sell they biological fruit

In contrast with both the StD and the Ghent dialectal specialized adverbial resumptive, however, invariant *die* in the Ghent dialect is compatible with a left-adjacent negative adjunct, as in (30):

(30) a. Nergens die verkopen ze nog kleine notenbroodjes.
nowhere ***die*** *sell they* PART *small nut rolls*
b. Nooit die vindt ge kleine notenbroodjes.
never ***die*** *find you small nut rolls*

In addition, for some speakers, the constituent left-adjacent to invariant *die* can be a *wh*-constituent, (31):

(31) Wanneer die komt ze terug?
when ***die*** *comes she back* (1^1, 2^4, 3^1, 4^3, 5^3)

These two patterns again show that invariant *die* must not be viewed as semantically and syntactically equivalent to the specialized resumptive (*pace* Zwart 1997: 249–50) and confirms our conclusion in Section 2.3 that the two patterns diverge (cf. also Section 3.2.1 where that conclusion is also partly confirmed in relation to StD nominal CLD and Ghent CLD1).

Because quantifiers are not likely candidates for topic status, the data suggest that the constituent left-adjacent to invariant *die* is not necessarily interpreted as a topic. The next section offers some additional evidence against assigning general topic status to the constituent left-adjacent to invariant *die*.

In addition, the availability of negative and *wh*-adjuncts left-adjacent to invariant *die* leads to the conclusion that the relevant constituents cannot be clause-external in the sense of Broekhuis & Corver (2016: 1133–1134), because in a clause-external position they would be unable to scope over the clause and ensure clause typing. Following standard views, the data in (30) and (31) thus lead us to the conclusion that the constituent left-adjacent to invariant *die* occupies a clause-internal specifier position in the left periphery.

Additional evidence that the constituent left-adjacent to invariant *die* is clause-internal comes from the scope effects in (32). In these examples, the continuations force a reading in which the initial quantificational constituent is within the scope of the clausal negation, i.e. it is interpreted in its TP-internal reconstruction site below sentential negation. One speaker rejects (32c) while accepting (32a) and (32b).

(32) a. Dikwijls die gaat hij niet naar de kerk op zondag, eigenlijk
often ***die*** *goes he not to the church on Sunday, actually*
bijna nooit.
almost never
'He doesn't OFTEN go to church on Sunday, in fact he hardly ever goes.'
(Luc 4/5, CM: 3/5)

b. Alle weken die koop ik geen groenten op de boerenmarkt, maar
all weeks ***die*** *buy I no vegetables at the farmers'market but*
toch zeker twee keer per maand.
PART definitely two times a month
'I don't buy vegetables at the farmers'market every WEEK, but I do certainly twice a month.' (Luc 4/5, CM: 3/5)

c. Alle weken die staat hij niet op de markt met zijn kraam, maar
all weeks ***die*** *stands he not on the market with his stall but*
toch zeker twee keer per maand.
PART definitely two times a month
'He doesn't have a weekly stall on the market, but he's definitely there twice a month.' (Luc 4/5, CM 2/5)

Reconstruction is also available for a regular V2 root clause with the quantified constituent in first position but without invariant *die*. One speaker finds the two patterns near-equivalent, the second speaker prefers the reconstruction patterns without *die*.[11]

(33) a. Dikwijls gaat hij niet naar de kerk op zondag, eigenlijk
often goes he not to the church on Sunday, actually
bijna nooit.
almost never
'He doesn't OFTEN go to church on Sunday, in fact he hardly ever goes.'
(Luc 5/5, CM: 4/5)

b. Alle weken koop ik geen groenten op de boerenmarkt, maar toch
all weeks buy I no vegetables at the farmers'market but PART
zeker twee keer per maand.
definitely two times a month
'I don't buy vegetables at the farmers'market every WEEK, but I do certainly twice a month.' (Luc 5/5, CM: 5/5)

11. The difference in judgements for CM, the second speaker, are of interest but we are not in a position to assess the cause here. The score 3/5 in (32a–b) points to the fact that these examples are acceptable for the informant. The degradation in these examples compared to the fully acceptable (33a–b) might, for instance, be due to the fact that the context implies contrastive focus on the constituent left-adjacent to *die*. In the absence of more general data on the choice between sentences with and without invariant *die,* we do not speculate further.

c. Alle weken staat hij niet op de markt met zijn kraam, maar
all weeks stands he not on the market with his stall but
toch zeker twee keer per maand.
PART definitely two times a month
'He doesn't have a weekly stall on the market, but he's definitely there twice a month.' (Luc 5/5, CM: 5/5)

The reconstruction data thus further confirm that the constituent left-adjacent to *die* is not clause- external. We assume that like the initial constituent in the regular V2 pattern, it originates TP-internally and moves to the left-peripheral position. We generalize this conclusion to instances in which the initial constituent is not quantificational.

3.2.3 *Arguments against the generalized topic analysis*

Example (34) shows that the constituent left-adjacent to invariant *die* may provide an answer to a *wh*-question. This would be unexpected if this constituent is a topic, i.e. represents old or discourse given information, because the answer to a *wh*-question typically constitutes new information.

(34) Q: Wanneer komt ze terug?
when comes she back
'When is she returning?'
A: Volgende vrijdag die komt ze terug
next Friday ***die*** *comes she back*
'She's coming back next Friday.' (1^1 2^0 3^5 4^1 5^5)

In addition, some adverbials which do not obviously constitute topics can precede invariant *die*. The epistemic modal *waarschijnlijk* ('probably') in (35) is a case in point (cf. also Broekhuis & Corver (2016: 1707) on *waarschijnlijk* in StD).

(35) Waarschijnlijk die is hij weeral ziek.
probably ***die*** *is he again sick*
'He is probably ill again.' (1^2 2^1 3^2 4^5 5^2)

3.2.4 *An additional contrast between specialized resumptives and invariant* die

(36) and (37) provide additional evidence that invariant *die* differs from the StD specialized resumptives such as temporal *dan* or locative *daar*. StD proximal adjuncts such as *nu* ('now') or *vandaag* ('today') cannot function as the left-adjacent constituents for resumptive *dan* or *daar* (see (36)).[12] The corresponding proximal adjuncts can licitly function as left-adjacent constituents for *die* in the Ghent dialect (37).

12. Thanks to Petra Sleeman for pointing out the relevance of these data.

(36) a. *Nu **dan** ga ik naar Gent.
now then go I to Ghent
b. *Vandaag **dan** heeft hij nog een vergadering.
today then has he another meeting
c. ??/*Hier daar zeggen we dat niet.
here there say we that not

(37) a. Nu die ga ik bij haar.
*now **die** go I to her* (Arlette Berreman, 23.03.2017, 17.45 phone)
b. Vandaag die heeft hij nog een vergadering.
*today **die** has he another meeting* (1^{O}, 2^{1}, 3^{4}, 4^{4},5^{3})
c. Hier die zeggen we dat niet.
here die say we that not (CM p.c. February 2019)

3.3 The resumptive constituent

3.3.1 *Focusing*

In StD CLD, the resumptive constituent itself is a full-fledged demonstrative which can be modified by focusing elements such as *net* ('precisely'), *zelfs* ('even') or *alleen* ('only'): (38a–c) illustrate examples with a nominal antecedent, (38d–f) illustrate the case of a PP antecedent with resumptive *daar* ('there').

(38) a. De eerste aflevering, net **die** vond ik niet goed.
the first episode, precisely that found I not good
b. De eerste aflevering, zelfs **die** vond ik niet goed.
the first episode, even that found I not good
c. De eerste aflevering, alleen **die** vond ik niet goed.
the first episode, only that found I not good
d. Over zijn ziekte, net **daar** kunnen we niet over praten.
about his illness, precisely there can we not about talk
e. Over zijn ziekte, zelfs **daar** kunnen we niet over praten.
about his illness, even there can we not about talk
f. Over zijn ziekte, alleen **daar** kunnen we niet over praten.
about his illness, only there can we not about talk

Such focusing constituents can also modify the resumptive in adverbial specialized resumption, both in StD (39) and in the Ghent dialect (40):

(39) a. Als het regent, juist **dan** ga ik te voet naar het werk.
if it rains, precisely then go I on foot to the work
'When it rains, precisely then I walk to work.'

b. Als het regent, zelfs **dan** ga ik te voet naar het werk.
if it rains, even then go I on foot to the work
'When it rains, even then I walk to work.'
c. Als het regent, alleen **dan** ga ik te voet naar het werk.
if it rains, only then go I on foot to the work
'When it rains, even then I walk to work.'
d. In Ledeberg, juist **daar** kan je nu lekker eten.
in Ledeberg, exactly there can you now nicely eat
e. In Ledeberg, zelfs **daar** kan je nu lekker eten.
in Ledeberg, even there can you now nicely eat
f. In Ledeberg, alleen **daar** kan je nu lekker eten.
in Ledeberg, only there can you now nicely eat

(40) Als 't regent, zelfs toens ga 'k te voete…
if it rains even then go I on foot
'If it rains, even then I'll go on foot.'

The compatibility of the specialized resumptives with focusing entails that these resumptives – at least in those configurations – have phrasal status.

On the other hand, the Ghent invariant *die* cannot be modified by focusing devices, (41). To capture the contrast with the specialized resumptive, De Clercq & Haegeman (2018) propose that invariant *die* spells out a functional head in the left periphery. Alternatively, one might argue that *die* is a weak pronominal element, possibly an expletive, whose semantics are incompatible with focusing (see also Section 4.3).[13]

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13. Marcel den Dikken (p.c) points out that the phrasal status of specialized resumptives in StD is confirmed by their availability for coordination as shown in (i):

(i) In mei in Gent, daar en **dan** wil ik een lezing geven
*In May in Ghent, **daar** and then want I a lecture give*
'In May in Ghent, there and then want I a lecture give'.

The Ghent data are, however, inconclusive. While indeed invariant *die* cannot be coordinated with a specialized resumptive (iia,b), our informants both rejected the coordination of two specialized resumptives in (iic):

(ii) a. In mei in Gent, die en daar wil ik een lezing doen.
*In May in Ghent, **die** and **daar** want I a talk do*
(Luc 1/5, Claudine 1/5)
b. In mei in Gent, dan en die wil ik een lezing doen.
*In May in Ghent, **dan** and **die** want I a talk do*
(Luc 1/5, Claudine 1/5)
c. In mei in Gent, dan en daar wil ik een lezing doen.
*In May in Ghent, **dan** and **daar** want I a talk do*
(Luc 1/5, Claudine 1/5)

(41) a. *Als het regent, zelfs **die** ga ik te voet naar het werk.
if it rains, even die go I on foot to the work
(1^8, 2^3, 3^1, 4^0, 5^0)

b. *Toen de bel ging, juist **die** ging ik vertrekken. (1^8, 2^3, 3^1, 4^0, 5^0)
when the bell went, just die went I leave

3.3.2 *Mid-position of the resumptive*

In StD argument V3 resumption with a nominal constituent in initial position, the resumptive demonstrative (*die* or *dat*) is not necessarily moved to a left peripheral position: whenever the left peripheral (henceforth LP) slot of the root clause which combines with the topical constituent is itself unavailable because another LP feature is independently activated, the resumptive demonstrative is located in a middle field position. This is illustrated in (42). We start from StD CLD (42a), in which the resumptive demonstrative *die* occupies the LP position. Let us assume that the initial constituent *je laptop* ('your laptop') is clause-external (in the sense of Broekhuis & Corver 2016: 1133–1134). The StD resumptive demonstrative *die* itself is then the leftmost constituent of the V2 root clause and immediately precedes the finite verb. In (42b), the *wh*-phrase *waar* ('where') occupies the first slot in the root V2 pattern; in this case, the LP slot is already occupied and hence the resumptive demonstrative *die* must remain in a middle field position (cf. Mikkelsen 2015). (42c) and (42d), in which both *waar* and *die* would occupy an LP slot, are ungrammatical. Even on the assumption that the initial constituent *je laptop* ('your laptop') is clause-external in (42c) and (42d), the examples would violate the V2 constraint, because the finite verb is preceded by two constituents. [14]

(42) a. Je laptop, die mag je meebrengen.
*your laptop, **die** may you with bring*
'Your laptop, you can bring it along.'

b. Je laptop, waar heb je die gekocht?
*your laptop, where have you **die** bought*
'Your laptop, where did you buy it?'

c. *Je laptop, die waar heb je gekocht?
*your laptop, **die** where have you bought*
'Your laptop, where did you buy it?'

d. *Je laptop, waar die heb je gekocht?
*your laptop, where **die** have you bought*
'Your laptop, where did you buy it?'

14. For relevant discussion of Danish anaphora see also Mikkelsen (2015).

In imperatives too, the demonstrative resumptive occupies a middle field position (43a). This is compatible with the assumption that the LP of the imperative is activated, for instance by a non-overt operator, as represented in (43b). Again, the resumptive demonstrative cannot precede the imperative: (43c) and (43d) would violate the V2 constraint on the assumption that in addition to the fronted *die* the imperative also has an LP operator.

(43) a. Je laptop, laat die maar thuis.
your laptop leave ***die*** PART *home*
'Just leave your laptop at home.' (StD)

b. Je laptop, OP laat die maar thuis.
your laptop OP leave ***die*** PART *home*
'Just leave your laptop at home.' (StD)

c. *Je laptop, die OP laat maar thuis.
your laptop ***die*** *OP leave* PART *home*

d. *Je laptop, OP die laat maar thuis.
your laptop OP ***die*** *leave* PART *home*

The distributional patterns displayed in the argument resumption carry over to specialized adverbial resumption: (44) shows that the presence of a *wh*-constituent in the LP forces mid-position for the resumptive temporal-conditional ('then'); (45) illustrates the same pattern in an imperative.

(44) a. Als het regent, wat gaan we dan doen?
if it rains, what go we ***dan*** *do*

b. *Als het regent, dan wat gaan we doen?
if it rains, ***dan*** *what go we do*

c. *Als het regent, wat dan gaan we doen?
if it rains, what ***dan*** *go we do*

(45) a. Als het regent blijf dan maar thuis.
if it rains stay ***dan*** PART *home*

b. *Als het regent dan blijf maar thuis.
if it rains ***dan*** *stay* PART *home*

From the distributional restrictions above, we draw the conclusion that the specialized resumptive, whether 'nominal', i.e. realised by the demonstratives *die* or *dat*, or 'adverbial', i.e. realised by the adverbs *dan* ('then'), *toen* ('then'), *daar* ('there') etc., is merged in the middle field and that, probably by virtue of a discourse related feature, it must shift to the LP whenever it can (see Hoekstra 1999: 63–5 for some

arguments from StD).[15] When movement to the LP is unavailable due to the independent activation of another LP feature, the resumptive can remain in the middle field. A precise analysis of this distribution could be worked out along the lines of Mikkelsen (2015)'s proposal for the distribution of *det* in Danish.

With respect to the distributional properties outlined above, invariant *die* in the Ghent dialect again patterns differently: as shown in (46), mid-position is not available even in those contexts in which the LP is activated:

(46) a. *Als het regent wat gaan we die doen. (1^{11}, 2^{1}, 3^{0}, 4^{0}, 5^{0})
*if it rains, what go we **die** do*
b. *Als het regent blijf die maar thuis. (1^{8}, 2^{3}, 3^{1}, 4^{0}, 5^{0})
*if it rains, stay **die** PART home*
c. *Als de zon schijnt, dan gaan we die wandelen. (1^{10}, 2^{2}, 3^{0}, 4^{0}, 5^{0})
*when the sun shines, then go we **die** walk*

In line with the reasoning deployed above, we postulate that while specialized resumptives are merged TP-internally and move to the LP, invariant *die* is not merged TP-internally but instead, it is merged directly as an LP constituent.

Though we only focus on the use of invariant *die* with initial adverbial constituents, note that the conclusions carry over to *die* as used with nominal constituents too. (47) illustrates a case of CLD2 in which *die* follows a neuter nominal *speltbrood met noten* ('spelt bread with nuts'). As discussed in Section 1.3.1, in the CLD1 pattern the resumptive demonstrative matches the left-adjacent nominal argument antecedent in gender and number (*den dienen, de die, dat*), but in the CLD2 pattern

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15. Observe that the data are complex. Hoekstra (1999: 64) discusses (i), his (15b) as evidence that the initial constituent has not been moved from a mid-position. This is so because (ib) (his 15a) is ungrammatical.

(i) a. Boeken lezen, **dat** doe ik niet.
books read, that do I not
'I don't read books.'
b. *Ik doe niet boeken lezen.
I do not books read

What is puzzling and problematic about this proposal, though, is that binding into the initial constituent is possible in (ia) (Hoekstra 1999: (19a)):

(i) c. Elkaars boeken lezen, **dat** doen ze niet.
each other's books read, that do they not

If the initial constituent is merged in a peripheral position and does not reconstruct to a mid-position then the binding option is hard to account for. Hoekstra (1999: 66) offers additional evidence in which the 'assumption that binding requires reconstruction to a simple c-command configuration might be mistaken'. We refer to his work for discussion.

with a nominal argument antecedent, right-adjacent invariant *die* does not display any matching effects. For an initial neuter nominal, the resumptive demonstrative expected in the CLD1 pattern would be *dat*; invariant *die* appears in the CLD2 pattern. In patterns in which the initial slot becomes unavailable to *dat* or to *die* because of the presence of a competing operator, *die* cannot and *dat* can be located TP-internally. Again the contrast between the acceptability judgements on *die* and those on *dat* suggests that while *dat* is merged as a complement and shifted to the left periphery, *die* is merged directly in the left periphery.[16]

(47) a. Speltbrood met noten die koop ik enkel in het weekend.
spelt bread with nuts ***die*** *buy I only at the weekend*
(LdG, 2.6.2020 4/5, CM 3/5, 5.6.2020)

b. *Speltbrood met noten, waar zoudt ge die kunnen kopen?
spelt bread with nuts where would you ***die*** *can buy*
(LdG, 2.6.2020 1/5, CM 5.6.2020, 2/5)

c. Speltbrood met noten, waar zoudt ge dat kunnen kopen?
spelt bread with nuts, where would you ***dat*** *can buy*
(LdG, 2.6.2020 4/5, CM 5.6.2020 5/5)

d. *Speltbrood met noten, leg die nooit in de frigo.
spelt bread with nuts put ***die*** *never in the fridge*
(LdG, 2.6.2020 1/5, CM 5.6.2020 2/5)

e. Speltbrood met noten, leg dat nooit in de frigo.
spelt bread with nuts put ***dat*** *never in the fridge*
(LdG, 2.6.2020 4/5, CM 5.6.2020 5/5)

(48a) is attested in our corpus, again it is an instance of CLD2 with invariant *die* right adjacent to a neuter subject nominal. The patterns in (48) are slightly different from those in (47). Our informants LdG and CM both gave the CLD2 example with left-peripheral *die,* (48a), a lower score (2/5) than that in (47a) above, while fully accepting the corresponding CLD1 pattern with *dat*, (48b). (48c) with *die* in the mid-position of an imperative clause receives 2/5 from one informant (CM) and

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16. For completeness' sake, we add that one of our speakers does seem to allow some examples with non-matching *die* in mid position in the CLD2 pattern and accepted (ib) and (ic). The matching demonstrative in the CLD1 pattern would have been *den dienen* ('the that').

(i) a. Uwen laptop, die moogt ge niet gebruiken in het examen.
your laptop, ***die*** *may you not use in the exam*
b. Oei: mijnen laptop, waar heb ik die nu gelaten?
PART: my laptop, where have I ***die*** *now left*
c. Uwen laptop, laat die maar thuis!
your laptop, leave ***die*** *PART home* (Ghent, CM, p.c. 30.09.2017)

receives 1/5 from the other informant. (48e) with a *wh*-constituent in initial position and *in situ die* is rated lower (LdG: 1/5, CM 1/5) than *in situ dat* (48f). Further investigation of the CLD2 pattern is needed: it is not clear what would account for the divergency in the judgements.

(48) a. ?da geld, **die** ging in een zakske (Leemans II: 8, 24)
that money that went in a pocket
(LdG, 2.6.2020, 2/5, CM 5.6.2020 2/5)

b. Da geld, **dat** ging in een zakske.
that money that went in a pocket
(LdG, 2.6.2020, 5/5, CM 5.6.2020 5/5)

c. *?'t geld dat ge ontvangt, steek **die** in een zakske.
the money that you receive put that in a pocket
(LdG, 2.6.2020, 1/5, CM 5.6.2020 2/5)

d. 't geld dat ge ontvangt, steek **dat** in een zakske.
the money that you receive put that in a pocket
(LdG, 2.6.2020, 5/5, CM 5.6.2020 5/5)

e. *?en 't geld, waar werd **die** bewaard?
and the money where was that kept?
(LdG, 2.6.2020, 1/5, CM 5.6.2020 2/5)

f. en 't geld, waar werd **dat** bewaard?
and the money where was that kept?
(LdG, 2.6.2020, 5/5, CM 5.6.2020 5/5)

3.3.3 *P-stranding and resumptive V3 patterns*

In StD CLD (49a), the initial constituent is a prepositional phrase (*over examens* 'about exams'). Informally speaking, it corresponds to the complement of the lexical predicate, the verb *spreken* ('talk'). The initial PP is resumed by the specialized resumptive R-adverbial *daarover* ('there about'), which we assume is the complement of the verb *spreken*. The R-adverbial consists of the demonstrative *daar* and the preposition *over*. Schematically, for (49a) we postulate derivation (49b): the dislocated PP *over examens* ('about exams') is clause-external, the R-resumptive *daarover* originates as the complement of the verb and moves to the LP. Observe that *daarover* ('thereabout') can be argued to be a specialized resumptive in that it matches the initial PP.

(49) a. Over examens, **daar** over spreken wij niet in de les.
about exams, there about talk we not in the class

b. [Over examens], [$_{CP}$ daarover spreken wij niet ~~daarover~~ …].

StD (50) is a variant of (49) which displays CLD with P-stranding. In (50a), the dislocated PP (*over examens* 'about exams') again corresponds to the complement of the lexical predicate, the verb *spreken* ('talk'). In this variant, the specialized resumptive is the bare R-word *daar* ('there'), which is the complement of the TP-internal stranded preposition *over* ('about'). For (50a) we postulate the partial derivation (50b): the PP *over examens* is clause-external, the R-resumptive *daar* originates as the complement of the preposition *over* ('about') and moves to the LP, stranding the preposition. The stranded preposition constitutes evidence for the movement analysis of the specialized resumptive *daar*.

(50) a. Over examens, **daar** spreken wij niet over in de les.
about exams, there talk we not about in the class

b. [Over examens], [$_{CP}$ daar spreken wij niet over ~~daar~~____ in de les].

The parallel P-stranding facts in the Ghent dialect reveal two further contrasts between the specialized resumptive *daar* ('there'), which patterns with its StD analogue, and its invariant counterpart *die*.

i. like its StD analogue, the specialized resumptive *daar* in the Ghent dialect can strand a preposition; on the other hand, invariant *die* cannot strand a preposition.
ii. The specialized resumptive *daar* can be preceded either by a dislocated PP or by a dislocated DP; invariant *die* can only be preceded by a PP.

We discuss each contrast in turn, drawing relevant conclusions for the syntactic analysis.

The Ghent examples in (51) illustrate a V3 pattern in which a dislocated argument PP is resumed: *daar* ('there') functions as the specialized resumptive, it is an R-adverb which has stranded the preposition *van* ('of'). The examples are analogous to StD (50) and can be analysed in the same way: the dislocated PP occupies a clause-external position; the specialized resumptive is merged in the middle field as the complement of the preposition and subsequently moves to the LP slot. Observe that our informant (LdG) signals a clear prosodic break after the initial constituent, this is in line with our hypothesis that this constituent is clause-external.[17]

17. (i) is an example produced by our informant LdG in an email:

(i) en van die eeuwige 'cookies' /*die*/ krijg ik wat !
and of those eternal 'cookies' ***die*** *get I something*
'And those cookies, the give me the creeps.' (LdG, pc, email 5.6.2020)

(51) a. Van exåmes, daar spreke wij nie van in de lesse.
*of exams, **daar** talk we not of in the class*
b. Op (h)eur pensioeŋ, daar peist ze-zij nog nie op.
*on her pension, **daar** thinks she not yet on*

In the P-stranding pattern, the specialized resumptive *daar* in (52) cannot be replaced by invariant *die*:

(52) a. *Van exåmes, die spreke wij nie van in de lesse.
*of exams, **die** talk we not of in the class*
b. *Op (h)eur pensioeŋ, die peist ze-zij nog nie op.
*on her pension, **die** thinks she not yet on*

The ungrammaticality of (52) is in line with our hypothesis: on the basis of the unavailability of mid-position for invariant *die*, we postulated in Section 3.3.2 that invariant *die* does not originate in the middle field. If this line of reasoning is correct, then invariant *die* can also not originate as the complement of the preposition entailing that in (52) the 'stranded' prepositions would lack a complement.

In (53), the dislocated constituent is a DP, the specialized resumptive *daar* ('there') is the complement of the stranded preposition.[18] These examples can be viewed as cases of HTLD (Cinque 1990), with a dislocated 'hanging topic' in a clause-external position (plausibly SpecFrameP in the sense of Haegeman & Greco 2018, see also Eide (2011: 198) for a similar proposal). Again, we can then assume that the specialized resumptive *daar* is first merged clause-internally as the complement of the preposition (*van* ('of') in (53a), *op* ('on') in (53b)), and is attracted to the LP, where it will function as the initial constituent of the root clause, hence it satisfies the V2 condition. Also here our informant (LdG) signals a clear prosodic break after the initial constituent, which is in line with our hypothesis that it occupies a clause-external position.

(53) a. Exåmes, daar spreke wij nie van in de lesse.
*exams, **daar** talk we not of in the class*
b. (H)eur pensioeŋ, daar peist ze-zij nog nie op.
*her pension, **daar** thinks she not yet on*

18. The StD analogues of (53) are also grammatical (Marcel den Dikken, p.c):

(i) a. Examens, daar spreken wij niet over in de les.
*exams **daar** speak we not about in the class*
b. Haar pensioen, daar denkt ze-zij nog niet aan.
*her pension, **daar** thinks she-she PART not of*

Again, the specialized resumptive *daar* cannot be replaced by invariant *die* in the P-stranding context (54). In the absence of the stranded preposition, *die* remains unavailable with an initial nominal constituent: (54c) and (54d) are ungrammatical because there is no P complement for the relevant verbs. However, a slight modification to the verb *spreken* 'talk' in (54c) by means of prefixation with *be-* gives rise to a transitive verb with the same meaning without the need for a P-complement, thus allowing for the presence of *die*, as illustrated in (54e).[19]

(54) a. *Exåmes, die spreke wij nie van in de lesse.
*exams, **die** talk we not of in the class*
b. *(H)eur pensioeŋ, die peist ze-zij nog nie op.
*her pension, **die** thinks she not yet on*
c. *Exåmes, die spreke wij nie in de lesse.
*exams, **die** talk we not of in the class*
d. *(h)eur pensioeŋ, die peist ze-zij nog nie.
her pension, there thinks she not yet
e. Exåmes, die be.spreke wij nie in de lesse.
*exams, **die** on.talk we not in the class*

The ungrammaticality of the examples in (54a–b) is in line with our hypothesis (but see note 19 for a complication). Because *die* does not originate in the middle field, it cannot constitute the complement of the preposition or of the lexical verb.

Recall, though, that invariant *die* is compatible with a left-adjacent PP. This PP can also be argument. Relevant examples are given in (55): (55a) and (55b) were spontaneously constructed by our informant LdG, (55c–d–e) are attested, (55f) is scored 7/7 by our informant.

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19. In relation to the judgements in (i), our informant LdG confirms that in line with the judgements for (54a) and (54b), he would not use (ib), hence our *. However he points out that he can imagine it being used by younger speakers, which led to his scoring (ib) as 4/5. However, he also commented that speakers using (ib) would be less assured dialect speakers ("dialectonvast"), so the status of this example is unclear. For the present discussion, we continue to assume that (ib) is out, as is (ic). Incidentally, (ic) shows that a fronted nominal P-complement cannot strand the associated preposition, which is also the case for most speakers of Dutch.

(i) a. Examens daar spreken we niet over in de les. (LdG 09.06.2020, 5/5)
*Exams **daar** talk we not of in the class*
b. *Examens die spreken we niet over in de les. (LdG 09.06.2020, 4/5)
*exams **die** talk we not about in the class*
c. *Examens spreken we niet over in de les. (LdG 09.06.2020, 5/5)
exams talk we not about in the class

(55) a. Van exåmes, die spreke wij nie in de lesse.
*of exams, **die** speak we not in the class*
b. Op (h)eur pensioeŋ, die peist ze-zij nog nie.
*of her pension, **die** thinks she not yet*
c. midden daarop die stond de vuurpot
*middle there.on **die** stood the fire.pot*
'In the middle on top of it stood the pot with fire' (Vanacker 1980)
d. In ding in Assene(de) /die e… (h)e(d) kik (e)ne kam .. (e)ne
*in thingy in Assenede **die** e… had I a friend … a*
kameraad wonen
friend live
'I had a friend living in Assenede' (Van Hoe Melle Corpus III: page 7)
e. Aan Cecile die vaart het hij ook natuurlijk ewaar.
*to Cecile **die** fares it he also of course PART*
'Cecile is also affected, of course.' (Leemans Ghent Corpus I: page 21)
f. In de Sint Pieterskathedraal die ben ik al geweest.
*in the Saint Peter's cathedral **die** am I already been*
'I've already been in St Peter's cathedral.' (CM, p.c. 12.09.2015)

The initial PPs in (55) are selected by the lexical verbs: they cannot be omitted without change of meaning or loss of grammaticality. Though (56), for instance, would as such be grammatical, it has a different interpretation: (56) means 'we are silent in class'.

(56) Wij spreke niet in de lesse.
we talk not in the class

We therefore assume that the initial PP in (55) originates as the complement of the predicate. It is merged as a *v*P-internal constituent and moved to a clause-internal LP position. In our earlier discussion (see Section 3.3.2), we formulated the hypothesis that invariant *die* is NOT first merged TP-internally. Rather, it is first merged in the LP.

The fact that invariant *die* does not block the movement of the PP to a position to its left can be accounted for in a number of ways. One option, pursued in De Clercq & Haegeman (2018) and discussed in Section 4.4, is that invariant *die* is first merged as an LP head; an alternative option would be to propose that invariant *die* is phrasal but that its feature composition is sufficiently distinct from that of the moved PP to ensure that there is no intervention effect. In particular, one might propose that *die* is a C-expletive element. We briefly explore and discard this option in Section 4.3.

3.4 Summary and outline of a derivation

Table 1 inventorizes the various points of comparison between the specialized adverbial resumptives (*dan, daar, zo*) in StD and in the Ghent variety on the one hand, and the invariant *die* with a left-adjacent adverbial constituent in the Ghent dialect on the other.

Table 1. Specialized resumptive (*dan/tons*/demonstrative pronoun) vs. invariant *die*

		Section	Specialized resumptive	Invariant *die*
	StD		Yes	No
	Ghent dialect		Yes	Yes
	Patterns			
i.	Dislocated adjunct obligatory	3.1.2	No	Yes
ii.	Negative quantifier antecedent	3.2.1, 3.2.2	No	Yes
iii.	*Wh*-antecedent	3.2.1, 3.2.2	No	Yes
iv.	Modal adverbial antecedent	3.2.3	No	Yes
v.	Proximal antecedent	3.2.4	No	Yes
vi.	Focal modifier on resumptive	3.3.1	Yes	No
vii.	Middle field position (*wh*/imperative)	3.3.2	Yes	No
viii.	P stranding	3.3.3	Yes	No

On the basis of these properties, we tentatively formulate the following conclusions and hypotheses:

i. Invariant *die* resumption in the Ghent dialect cannot be assimilated to specialized adverbial resumption in StD or in the Ghent dialect (*pace* Zwart 1997: 249–50).
ii. The specialized adverbial resumptive is a phrasal constituent which is first merged in a TP-internal position and is moved to the LP because of some specific feature, a plausible candidate being a topic feature. The movement also satisfies the V2 constraint. The dislocated constituent left-adjacent to the specialized resumptive is clause-external.
iii. Invariant *die* is first merged in the LP. The left-adjacent constituent is merged TP-internally and is moved to an LP position. This movement is triggered by a topical feature or a focal/*wh*-feature and satisfies the V2 constraint.

The attested (57) shows that in the Ghent dialect the temporal adverb *dan* can be used without a matching temporal or conditional adverbial to its left, in which pattern it can be followed by invariant *die*. We assume that in (57a) the specialized

resumptive originates TP-internally and moves to the LP. In this case too, invariant *die* follows the adverbial element and not the other way around, (57b).

(57) a. En dan die moeten we gaan kijken
and then ***die*** *must we go watch*
'and then we have to look' (FM, 09.12.2009)
b. *En die dan moeten we gaan kijken

(57) and (58) show that the specialized resumptives and invariant *die* are not in complementary distribution. In (58a) an initial adverbial clause is left-adjacent to the specialized resumptive *dan* ('then'), which is itself left-adjacent to invariant *die*. In (58b), the initial conditional clause is left-adjacent to specialized *toens* which is in turn left-adjacent to invariant *die*. In (18b), repeated as (58c), the locative PP *in Sint Kruis* is left-adjacent to the specialized adverbial resumptive *daar* ('there'), which in turn is left-adjacent to invariant *die*. (58d) shows that the specialized resumptive *toens* ('then') can be modified by a focussing adverb, a pattern not available with invariant *die*, as shown in Section 3.3.1.

(58) a. als ge spreekt dan die kunde da
when you speak ***dan die*** *can you that*
'If you speak, then you can do that.' (attested example, BV, August 2017)
b. moar ois 't regent toens die gomme nie
but when it rains ***toens die*** *go-we not*
'but if it rains, then we won't go' (Luc De Grauwe, pc. 16.08.2017)
c. Maar e wel ja in Sint Kruis /, daar die … die (h)e(bben)
but PART PART PART *in Sint Kruis/* ***daar die*** ***die*** *have*
me d(e) ee(r)ste Duitse tons+ gezien
we the first Germans then seen
'but, well, in Sint Kruis we saw the first Germans' (Van Hoe III: page 7)
d. Als 't regent, zelfs toens die ga 'k te voete…
if it rains even ***toens die*** *go I on foot*
'If it rains, even then I'll go on foot.' (Luc De Grauwe, p.c. 16.08.2017)

A more precise analysis will be elaborated in Section 4, but we already point out that the data in (58) are in line with our proposal that the constituent left-adjacent to invariant *die* has undergone movement from a TP-internal position. For these examples, we again assume that the constituent undergoing the movement is the specialized resumptive and that the constituent left-adjacent to the specialized resumptive is clause-external.

In Section 4, we explore the cartographic analysis of invariant *die* resumption.

4. The cartography of invariant *die* resumption

In this section we will first summarize the analysis developed in De Clercq & Haegeman (2018), which follows Poletto (2013) and Wolfe's (2015a; b, 2016)'s typology of V2. This particular proposal deploys a fairly reduced left periphery for V2 languages and does not attempt to capture the discourse function of the constituent left-adjacent to invariant *die*. In Section 4.5, maintaining te core ingredients of the earlier analysis, we elaborate an account in terms of an articulated left periphery in which the discourse function of the initial constituent is encoded.

4.1 The ingredients

Our analysis of invariant *die* resumption in the Ghent dialect explores the two hypotheses which we have elaborated so far on the basis of the empirical evidence and which are repeated here for the reader's convenience.

i. invariant *die* is first merged in the LP;
ii. the constituent left-adjacent to invariant *die* is first merged TP-internally and is moved to an LP position.

First let us try to informally plot the position of the various left peripheral (LP) components associated with invariant *die*. Consider (11a), repeated in (59a). The subject of the clause *ze* ('she') is preceded by the inflected verb *komt* ('comes'). Subject-verb inversion entails that the finite verb must occupy an LP head position. In addition, two constituents precede the finite verb, the initial adjunct *volgende vrijdag* ('next Friday') and *die*. The adjunct is phrasal; in Section 3.2.2 we concluded that the constituent left-adjacent to *die* occupies an LP specifier position and that it has been moved to this position.

One way of analysing these data in line with the V2 constraint would be to propose that the constituent left-adjacent to *die* forms a constituent with *die*. (59b) summarizes this proposal in templatic form.

(59) a. Volgende vrijdag die komt ze terug.
next Friday ***die*** *comes she back*
b. **Specifier** **Head** **SpecTP** …
Volgende vrijdag die komt ze terug

One might then propose that the initial position of the constituent *volgende vrijdag die* is the result of movement from a TP-internal position driven precisely by the presence of *die*, which would carry a LP feature.

While this analysis is fully compatible with our traditional understanding of the syntax of V2, it leads to an incorrect prediction. If *die* and the adjunct preceding it form one constituent, coordination of two such constituents would be expected to be possible, contrary to fact, (60a). Rather, a coordination of two adjuncts precedes a unique occurrence of *die*, as illustrated in (60b).

(60) a. *Gisteren die en eergisteren die heea ze thuisgewerkt.
yesterday ***die*** *and the day before* ***die*** *has she home-worked*
(LdG: 28.11.18: 0/5)

b. Gisteren en eergisteren die heea ze thuisgewerkt.
yesterday and the day before yesterday ***die*** *has she home-worked*
(LdG: 28.11.18: 5/5)

If we discard hypothesis (59b), examples with *die* pose a challenge for the account of V2 in which the LP of a V2 root clause contains just two positions: the specifier hosting the initial constituent and the associated head hosting the finite verb. Assuming one specifier per head, the LP of (59a), repeated as (61a), must harbour at least two head positions: the head position whose specifier hosts the adjunct and a second head position hosting the finite verb. Invariant *die* is sandwiched between the phrasal specifier *volgende vrijdag* ('next Friday') and the head hosting the finite verb *komt* ('comes'), leading to the hypothesis of an articulated LP. (61b) summarizes these findings in templatic format.

(61) a. Volgende vrijdag die komt ze terug.
next Friday ***die*** *comes she back*

b. **Specifier ? Head SpecTP …**
Volgende vrijdag die komt ze terug

4.2 The options

In the light of the preceding discussion, a number of options can be envisaged for the analysis of invariant *die* resumption; they will be listed below and (62) provides a simplified representation for each. The provisional labels FP and F represent LP projections and heads. Obviously, in line with proposals for the articulated CP, the nature of these can be defined more precisely, a point addressed in Section 4.4.

- invariant *die* is a phrasal constituent in a LP spec position (62a);
- invariant *die* occupies a LP head position (62b) (in which it is either merged directly or to which it has been moved from a lower head position);
- combining the preceding options: invariant *die* is a phrasal constituent which moves from a LP spec position to a LP head position (62c);

(62) a. [$_{F1P}$ Volgende vrijdag [$_{F1}$] [$_{F2P}$ die [$_{F2}$ komt] [$_{TP}$ hij ~~volgende vrijdag~~ terug ~~komt~~]]]
b. [$_{F1P}$ Volgende vrijdag [$_{F1}$ die] [$_{F2P}$ [$_{F2}$ komt] [$_{TP}$ hij ~~volgende vrijdag~~ terug ~~komt~~]]]
c. [$_{F1P}$ Volgende vrijdag [$_{F1}$ die] [$_{F2P}$ ~~die~~ [$_{F2}$ komt] [$_{TP}$ hij ~~volgende vrijdag~~ terug ~~komt~~]]]

Below, we examine options (62a) and (62b). Option (62c) will not be explored: being a combination of (62a) and (62b) it suffers from the drawbacks to be presently identified for (62a).

4.3 Invariant *die* as a left peripheral expletive

Let us start with (62a). The proposal has various implementations, which for reasons of space we cannot all envisage here, but we show the main advantages and disadvantages of the proposal. The hypotheses are (i) that *die* is first merged in the LP, and (ii) that the initial left-adjacent adjunct is main clause-internal, it is first merged TP-internally and moves to its LP position.

A first problem for (62a) is why merging the (by hypothesis) phrasal constituent *die* in de LP does not block the movement of the initial constituent (*volgende vrijdag* 'next Friday'). Recall in particular that invariant *die* can be immediately preceded by *wh*-constituents and by negative constituents with sentential scope. To account for absence of a blocking effect by phrasal *die* for a constituent targeting a higher LP landing site, one might propose that its feature content is minimal, and that the constituent to its left can cross *die* by virtue of feature-based relativized minimality (Starke 2001; Rizzi 2004). Concretely, we could analyze *die* as a pure LP expletive whose only role is to satisfy the V2 condition on F2. Being 'contentless', the incompatibility of *die* with focusing modifiers (property (vii) in Table 1) would follow.

If invariant *die* is a V2 phrasal expletive, the question arises, however, why it does not in itself allow the termination of the projection of the root clause (Section 3.1.2, (22)). Put differently, why is an additional constituent, the left-adjacent adjunct, mandatory?

The observed strict antecedent requirement would set invariant *die* apart from the specialized V2 expletive t ('it') in Flemish varieties of Dutch. In West Flemish, for instance, a specialized C-resumptive *t* occurs in the first position of existential root V2 clauses; its function seems to be that of satisfying the V2 requirement. Crucially, it is found in the initial position of root clauses only, as illustrated in (63a). In embedded clauses (63b), and in the inverted position to the right of the finite verb in root clauses (63c), the subject related expletive function is realized by *er* ('there'), which we take to be the canonical TP-internal subject position.

(63) a. 't stonden vanuchtend a drie mensen.
it-stood this morning already three people
'There were already three people.'
b. dan-der vanuchtend a drie mensen stonden
that-3PL- there this morning already three people stood
'that there were already three people
c. Vanuchtend stonden-der a drie mensen.
this morning stood – there already three people
'This morning, there were already three people.' (West Flemish)

The West Flemish C-expletive *t* in initial position does not require the presence of an additional initial constituent; what is more, it is incompatible with LP fronting of a constituent, as shown in (64). To illustrate this constraint, we use a fronted *wh*-phrase (64a) and a fronted negative adverb (64b), because WF independently allows non-inverted V3 patterns with non-quantificational adverbials (see Haegeman and Greco 2018a,b).

(64) a. *Wanneer *'t* stonden vanuchtend a drie mensen.
when it-stood this morning already three people
b. *Nooit *'t* stonden meer dan drie mensen.
never it-stood more than three people

If invariant *die* is an expletive satisfying the V2 constraint, the presence of an additional left adjacent constituent remains unexplained. For this reason, we discard this hypothesis.[20]

4.4 Invariant *die* as a left peripheral head

4.4.1 Invariant *die* as a root complementizer

Let us now explore hypothesis (62b), according to which *die* spells out a LP head. For a similar proposal for Scandinavian *så* ('so') see Eide (2011)). Before elaborating our analysis, we sketch our assumptions for the derivation of regular V2, based on the Poletto/Wolfe typology (Wolfe 2015a, 2015b, 2016; under review, see also Haegeman & Greco 2018a,b). For reasons of space, we do not go into the motivation or the details of this typology.

Adopting an articulated LP along the lines of Rizzi (1997), and following Poletto & Wolfe, we assume that the V2 constraint is either operative at the level of

20. Observe in passing that the Ghent particle *die* is here seen to differ from the Welsh declarative particles *fe* and *mi* (Borsley, Tallerman & Willis 2007: 35; Roberts 2005) or the Breton particle *e* (Jouitteau 2005, 2008), which can themselves satisfy the V2 requirement (see Holmberg 2020).

the ForceP layer or at that of the FinP layer. In so called Force-V2 languages, which include the Germanic V2 languages, the finite verb moves via Fin to Force and the initial constituent in the V2 configuration moves through SpecFinP to SpecForceP. See also De Clercq & Haegeman (2018) and Haegeman & Greco (2018a,b) for discussion.

We assume that in the Ghent dialect, the regular V2 pattern is derived by V movement to Force (via Fin), and by movement of a constituent to SpecForceP (via SpecFinP), (65a) is derived as in (65b). The restriction to one constituent appearing to the left of the finite verb follows from the so called bottleneck effect (Haegeman 1996; Roberts 2004; Holmberg 2020).

(65) a. Volgende vrijdag komt hij terug.
next Friday comes he back
b. [$_{\text{ForceP}}$ Volgende vrijdag [$_{\text{Force}}$ komt]
[$_{\text{FinP}}$ ~~volgende vrijdag~~ [$_{\text{Fin}}$ ~~komt~~] [$_{\text{TP}}$ hij terug ~~komt~~]]]

(66a) with invariant *die* is derived as in (66b): the finite verb halts in Fin and invariant *die* occupies the head Force. We outline the steps of the derivation in some more detail below.

(66) a. Volgende vrijdag die komt hij terug.
*next Friday **die** comes he back*
b. [$_{\text{ForceP}}$ Volgende vrijdag [$_{\text{Force}}$ die]
[$_{\text{FinP}}$ ~~volgende vrijdag~~ [$_{\text{Fin}}$ komt] [$_{\text{TP}}$ hij ~~volgende vrijdag~~ terug ~~komt~~]]]

The core ingredients of derivation (66b) are as follows:

- Fin is occupied by the finite verb (which will be left-adjacent to the canonical subject position).
- Force is occupied by invariant *die*.
- The constituent left-adjacent to invariant *die* is first merged TP-internally. It moves via SpecFinP (cf. Haegeman 1996) to SpecForce.
- The obligatory presence of a constituent left-adjacent to invariant *die* in Force, i.e. a "*die* second" constraint, is a variant of a spell out requirement on Force.
- Like the finite verb in regular V2 sentences, invariant *die* is not selective in terms of the left-adjacent constituent, it is compatible both with topical constituents as well as with foci.

The derivation according to which invariant *die* fills a root C position comes down to saying that it is a root complementizer. The question arises why, if invariant *die* is in a complementizer position, it is not – and indeed cannot be – realized as *dat*, the regular complementizer in the Ghent dialect (67):

(67) a. *Vroeger, dat bakten wij vier soorten brood.
before ***dat*** *baked we four kinds bread*
b. *Os 't nodig is, dat kunder u nog bij zetten.
if it necessary is ***dat*** *can-you you still with sit*
c. [$_{\text{ForceP}}$ [$_{\text{Force}}$ *dat/√die-] [$_{\text{FinP}}$ [$_{\text{Fin}}$ Vfin phi] [$_{\text{TP}}$ …]

De Clercq & Haegeman (2018) view the alternative spell out of the Force head as *die* as a by-product of derivation (66b). (68a) would be the same derivation as (66b), but with the Force head realised as *dat* instead of *die*. In (68b), the movement of the constituent from SpecFinP to SpecForceP across the complementizer *dat* yields a representation superficially containing a *that*-trace violation (Chomsky & Lasnik 1977), i.e. the pattern in which the complementizer *dat* is left-adjacent to a trace. One could view the replacement of *dat* by *die* as a rescue strategy in which invariant *die* spells out a variant of the complementizer enriched with the features to allow the trace to survive, (68c).

(68) a. *[$_{\text{ForceP}}$ Volgende vrijdag [$_{\text{Force}}$ dat]
[$_{\text{FinP}}$ ~~volgende vrijdag~~ [$_{\text{Fin}}$ komt] [$_{\text{TP}}$ hij ~~volgende vrijdag~~ terug ~~komt~~]]]
b. *[$_{\text{ForceP}}$ Volgende vrijdag [$_{\text{Force}}$ dat] [$_{\text{FinP}}$ t [$_{\text{Fin}}$ komt] [$_{\text{TP}}$ hij t terug t]]]
c. [$_{\text{ForceP}}$ Volgende vrijdag [$_{\text{Force}}$ dat =>die] [$_{\text{FinP}}$ t [$_{\text{Fin}}$ komt] [$_{\text{TP}}$ hij t terug t]]]

The *dat-die* alternation is also found in the case of subject extraction in the Ghent dialect, as shown by (69), in which the relativizer *die* displays complementizer agreement. See also Section 4.4.2.

(69) en ge hebt daar die cafes **dien** ton zo inspringe
*and you have there those pubs that.*AGR *then so set.back*
'and there are those pubs that are slightly set back' (Leemans I: p. 3)

Haegeman (1984) views the *dat/die* alternation in West Flemish as the West Flemish counterpart of the French *que/qui* alternation, illustrated in French (70). In (70a), subject extraction across *que* ('that') is ungrammatical, while object extraction is licit. Subject extraction is made possible by replacing the complementizer *que* ('that') by the alternative form *qui* in (70c). See also the discussion in Section 4.5.2.

(70) a. *Qui$_i$ crois-tu que [$_{\text{SubjP}}$ ___$_i$ va partir]?
who think-you that will leave
b. Que$_i$ crois-tu que [$_{\text{SubjP}}$ Jean a fait ___$_i$]?
what think-you that Jean has done
'What do you think (that) John did?'
c. Qui crois-tu qui va partir?
who think-you ***qui*** *will leave*
'Who do you think will leave?'

However, while (68b) does present a linear *dat*-trace sequence, the nature of the data is quite different from that associated with the *dat*/*die* alternation. In the latter case, replicating the French *que*/*qui* effect, replacing *dat* by *die* is a rescue strategy to facilitate a subject trace in SpecTP, and in all the analyses of the alternation the subjecthood of the trace plays an important part. Indeed, the relevance of subjecthood has become a core property in recent work in the cartographic tradition (Rizzi & Shlonsky 2006, 2007). In (68b), though, the constituent trace is not obviously associated with subjecthood, but rather it occupies SpecFinP and is basically the result of the transiting of the initial constituent in the V2 pattern. At this point there seem to be no restrictions on the nature of what would be the offending trace and the analysis in De Clercq & Haegeman (2018) also does not make any suggestions as to the properties or features of *die* that would be at stake in the alleviation of the alleged *dat*-trace violation.[21]

For completeness 'sake we acknowledge that the hypothesis that *die* is a LP head does not as such preclude a movement analysis whereby *die* or some component originates TP-internally and moves to the LP in the spirit of a *d*- complementizer in Germanic (Leu 2015) or the analysis of emphatic topicalization in Bavarian (Lutz 2014) in Samo (2019: 172). However, as far as we can see, the Ghent data do not provide any specific empirical evidence in favour of any of these approaches.

4.4.2 *Some predictions of the analysis*

The analysis proposed in De Clercq & Haegeman (2018) leads to a number of predictions, some of which we elaborate on in this and the following sections.

- Like regular V2 (=V movement to the LP) in the Ghent dialect, *die* resumption, whose derivation implies that the finite verb moves to Fin, is correctly predicted to be a root phenomenon (see Section 1.3.2).
- (71a) shows that *die* resumption can co-occur with a (fronted) specialized resumptive (Section 2.3, Examples (17)/(58)), which we assume to be phrasal. (71a) is derived as in (71b). Our hypothesis is that the specialized resumptive, *daar* ('there'), is merged TP-internally and moves to the LP. The constituent left-adjacent to the specialized resumptive is merged in a clause-external position (Broekhuis & Corver 2016). Concretely, following Haegeman & Greco (2018a,b), we propose that it occupies the specifier of the clause-external projection FrameP.

21. We thank Marcel den Dikken for pointing out this shortcoming.

(71) a. In Sint Kruis, daar die hebben we …
in Sint Kruis there ***die*** *have we*
b. [$_{\text{FrameP}}$ in Sint Kruis [$_{\text{ForceP}}$ daar [$_{\text{Force}}$ die] [$_{\text{FinP}}$ [$_{\text{Fin}}$ hebben [$_{\text{TP}}$ we ~~daar~~ …]]]]

– While in the Ghent dialect the regular complementizer (*dat* (72a)) may display complementizer agreement, invariant *die* is incompatible with complementizer agreement (72b).

(72) a. A ze zegge dan de autobuase der kome•…
*they say that-*PL *the coaches there come*
'they say that there will be coaches' (Leemans, Ghent Corpus I: 3)
b. Een jaar nadien die/*dien waren ze al gescheiden.
*one year after die/*die* AGR were they already divorced
'One year later they were already divorced.'
(judgement: CM, 24.2.2015)

The absence of complementizer agreement is predicted. In terms of the Wolfe/Poletto V2 typology, C-agreement is most plausibly located in Fin (73a). In *die* resumption, the finite verb has moved to Fin and will spell out the phi features (73b).

(73) a. [$_{\text{ForceP}}$ [$_{\text{Force}}$ *da-/die-*] [$_{\text{FinP}}$ [$_{\text{Fin}}$ phi] [$_{\text{TP}}$ …]]]
b. [$_{\text{ForceP}}$ [$_{\text{Force}}$ *die*] [$_{\text{FinP}}$ [$_{\text{Fin}}$ Vfin phi] [$_{\text{TP}}$ …]]]

– According to the analysis, the constituent left-adjacent to invariant *die* satisfies the V2 condition associated with Force. This leads to two predictions:
i. constituents that fail to qualify as the first constituent in a V2 pattern will not qualify as initial constituents for invariant *die*;
ii. constituents that qualify as the first constituent in a V2 pattern are predicted to be licit first constituents for invariant *die*.

Below we discuss one correct prediction not discussed in De Clercq & Haegeman (2018). See De Clercq & Haegeman (2018) for additional predictions.

There is considerable literature on the external syntax of adverbial clauses which we cannot go into. We focus on those adverbial clauses that, following Frey's (2016) classification, are taken to be syntactically unintegrated, abbreviated as NiC. NiCs modify some aspect of the speech act (e.g. its relevance, its timing etc.), rather than the content of the proposition contained in it. Typically, NiCs cannot constitute the first constituent in a V2 configuration; rather, they combine with a regular V2 clause. Among NiCs we cite, for instance, relevance conditionals (74) and speech act modifiers (75) (see also d'Avis 2004). These systematically give rise to linear V3 patterns.

NiCs are correctly predicted not to be able to immediately precede invariant *die*. In (74a) a relevance conditional combines with a regular V2 clause; (74b) shows that when interpreted as a relevance conditional, the conditional clause *als je honger hebt* ('if you are hungry') does not itself constitute the first constituent in the V2 configuration. As predicted, a conditional clause with a relevance reading cannot appear left-adjacent to invariant *die*. The pattern is illustrated for an adverbial clause bearing on the timing of the speech event in (75).

(74) a. Als g'honger hebt - der ['daar, er'] ligt nog brood in de kast.
if you hunger have there lies PART *bread in the cupboard*
(LdG, 28/11/2018, score 5/5)

b. (*)Als je honger hebt, ligt er nog brood in de kast.[22]
if you hunger have lies there PART *bread in the cupboard*

c. *Als je honger hebt, die ligt er nog brood in de kast.
if you hunger have ***die*** *lies there* PART *bread in the cupboard*
(LdG, 28/11/2018, score 1/5)

(75) a. Voor we met de les beginnen, ik geef volgende week geen les.
before we with the lesson start I give next week no class
'Before we start, I am not teaching next week.'
(LdG, 28/11/2018, score 5/5)

b. *Voor we met de les beginnen, geef ik volgende week geen les.
before we with the lesson start give I next week no class

c. *Voor we met de les beginnen, die geef ik volgende week geen les.
before we with the lesson start ***die*** *give I next week no class*
(LdG, 28/11/2018, score 0/5)

4.4.3 Verb first, null operators and invariant *die*

By De Clercq & Haegeman's (2018) account summarized above, constituents qualifying as the first constituent in a V2 pattern should invariably be able to appear left-adjacent to the invariant *die*. As is well known, among root sentences in V2 languages, *yes/no* questions (76a) and imperatives (76b) depart from the linear V2 order and display a linear Verb first order. One hypothesis is that such patterns conform to the V2 constraint because a null operator satisfies the V2 condition on Force (76c, d) (cf. Holmberg 2016, for relevant discussion).

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22. In its acceptable form, the conditional clause in (53b) does not have the intended relevance reading.

(76) a. Komt Jan vanmiddag naar de vergadering?
comes Jan this afternoon to the meeting
b. Kom vanmiddag maar naar de vergadering!
come this afternoon PART *to the meeting*
c. [$_{\text{ForceP}}$ OP [$_{\text{Force}}$ Komt] [$_{\text{FinP}}$ ~~OP~~ [$_{\text{Fin}}$ ~~komt~~]
[$_{\text{TP}}$ Jan vanmiddag naar de vergadering ~~komt~~]]]?
d. [$_{\text{ForceP}}$ OP [$_{\text{Force}}$ Kom] [$_{\text{FinP}}$ ~~OP~~ [$_{\text{Fin}}$ ~~kom~~] [$_{\text{TP}}$ Ø vanmiddag naar de vergadering ~~kom~~]]]]!

All things being equal, the De Clercq & Haegeman's (2018) analysis would lead to the prediction that *die* resumption is available with *yes/no* questions and with imperatives, effectively leading to a pattern without an overt antecedent.[23] However, such patterns are not attested in the corpus. On the contrary, *yes/no* questions and imperatives are judged incompatible with *die* resumption (77), also in those cases in which what would be a suitable initial constituent is supplied (78):

(77) a. *Die zou hij volgende week komen?
die *would he next week come*
b. *Die bel Stef misschien eerst in verband met de onderzoeksdag.
die *call Stef perhaps first in connection with the research day*

(78) a. *In de supermarkt die hebben ze (daar) shampoo?
in the supermarket ***die*** *have they (there) shampoo*
b. *In Geneve die heb je (daar) ook aan de Universiteit gewerkt?
in Geneva ***die*** *have you (there) also at the University worked*
c. *Vroeger die verkochten ze (tons) shampoo in de supermarkt?
before ***die*** *sold they (then) shampoo in the supermarket*
d. *In de oorlog die hadden de mensen (dan/tons) nog groenten?
in the war ***die*** *had the people (then/then) still vegetables*
e. *Als de les gedaan is die kom (dan) maar langs!
when the lesson finished is ***die*** *come (then)* PART *along*

To account for the incompatibility of invariant *die* with the null operator in imperatives and in *yes/no* questions, De Clercq & Haegeman (2018) propose that *die* spells out a declarative Force head, i.e. it is a declarative root complementizer.[24] This revised hypothesis obviously leads to at least one empirical problem because we have seen that *die* resumption is compatible with *wh*-questions as in (31), repeated in (79).

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23. Thanks to Giuseppe Samo (p.c.) for bringing up this point.

24. Thanks to Luc de Grauwe for very helpful discussion of these examples.

(79) Wanneer die komt ze terug?
when ***die*** *comes she back* (1^1, 2^4, 3^1, 4^3, 5^3)

De Clercq & Haegeman (2018) speculate that (79) is licit because the complement of *wanneer* ('when') is in fact presupposed. For this proposal to go through, the concept 'declarative' should not be defined in terms of 'assertion' but rather it should be negatively defined as the default value of clause typing for clauses that are neither *yes/no* questions nor imperatives (cf. Roberts & Roussou (2002: 141)). Observe that this definition would be in line with the observation that, for instance, clausal complements of factive verbs or finite adverbial clauses though presuppositional, are also 'declarative' (Haegeman & Ürogdi (2010a; b) and references cited there). However, this solution is only partial since the complementizer *dat* is also present in the Ghent dialect in embedded *yes/no* questions, as shown in (80). While one may, of course, be tempted to associate the restriction to 'declarative' mood to just *die*, it remains the case that if – as is also proposed – *die* is a reflex of *da*, the data in (80) are at least puzzling.

(80) 'k weet nie' of da'k 'em nog zou kennen.
I know not if that-I him still would know
'I don't know if I would recognize him.' (Dialect recording, Ghent University, Afsnee, 22 September 1966, page 6, line 6)

In the next section, we reconsider the cartographic analysis of invariant *die* in terms of a more richly articulated left periphery.

4.5 Enriching the Wolfe/Poletto hypothesis: An articulated left periphery

De Clercq & Haegeman (2018) opt for the Wolfe/Poletto derivational typology of V2 which conceives of an impoverished LP featuring only ForceP and FinP. They leave out of consideration any specialized projections that encode discourse properties such as TopP and FocP (cf. Rizzi 1997), which means that no specific discourse properties are associated with the constituent left-adjacent to invariant *die*.

However, the constituent left-adjacent to invariant *die,* which is assumed to occupy SpecForceP, is often associated with a specific discourse function (topic, wh, new information focus, etc) which, as it stands, is not formally encoded. In this section, we will elaborate an alternative derivation for invariant *die* resumption which remedies this shortcoming and aims at encoding the discourse function of the initial constituent.

4.5.1 *The articulated left periphery and indirect satisfaction of the criteria*

In line with 'classical' cartographic approaches, let us assume that discourse functions associated with the initial constituent in the invariant *die* resumption patterns are encoded in a LP functional projection. We will combine this hypothesis with the Poletto/Wolfe Force-Fin typology of V2 languages. From the account above we maintain the following ingredients:

i. following Wolfe (2015a; b, 2016) the Ghent variety of Dutch is a Force-V2 language, thus requiring the Force head to be spelt out,
ii. in *die* resumption, the finite verb halts in Fin,
iii. invariant *die* ultimately spells out the topmost head, i.e. Force.
iv. the appearance of invariant *die* rather than *dat* as a Force head is an effect of a *dat/die* alternation.

While the constituent left-adjacent to invariant *die* could be argued to occupy SpecForceP, its discourse property is more naturally represented in association with a specialized LP projection, say Top or Foc. A first partial LP representation of *die* resumption with a topical constituent left-adjacent to invariant *die*, would be as in (81a).

(81) a. $[_{\text{ForceP}}\ [_{\text{Force}}\ \text{die}]\ [_{\text{TopP}}\ [\text{Top}]\ [_{\text{FinP}}\ [_{\text{Fin}}\ \text{V}_{\text{fin}}]\ [_{\text{TP}}\ \ldots]]]]$

If, in line with De Clercq & Haegeman (2018), the V2 requirement in Germanic is associated with both the heads Fin and Force. This means that the topical constituent matching the criterial topic feature of Top will first move to SpecFinP, it should then target the projection TopP and it should ultimately end up in SpecForceP as shown in derivation (81b), in which XP_{top} stands for the relevant topic constituent. However, (81b) is not licit: the feature [topic] being criterial, SpecTopP is a halting position and once XP_{top} has attained SpecTopP, it will be frozen there (cf. Rizzi 2006) (see Hsu 2017: 13 for a similar argument).

(81) b. $^{*}[_{\text{ForceP}}\ \text{XP}_{\text{top}}\ [_{\text{Force}}\ \text{die}]\ [_{\text{TopP}}\ \sout{\text{XP}_{\text{top}}}\ [\text{Top}]\ [_{\text{FinP}}\ \sout{\text{XP}_{\text{top}}}\ [_{\text{Fin}}\ \text{Vfin}]\ [_{\text{TP}}\ \ldots]]]]$

The same problem will arise if the constituent left-adjacent to *die* is focal, of course. The next section explores how this derivational paradox can be overcome.

4.5.2 *Satisfying the LP criteria by enriched Force*

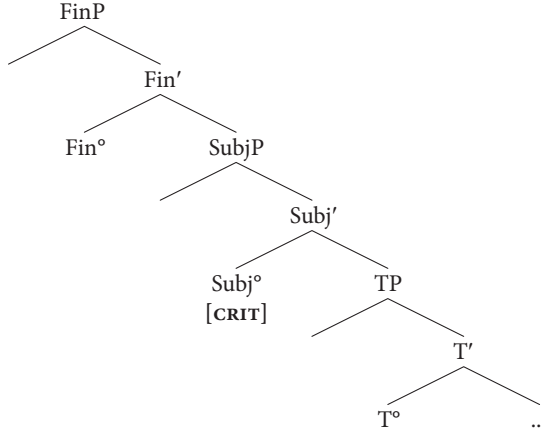
In an attempt to tie the V3 pattern with *die* to the satisfaction of LP criterial features as well as with the Force/Fin V2 hypothesis, we explore an alternative implementation inspired by Rizzi & Shlonsky's (2006, 2007) work on modes of satisfaction of the Subject criterion, which we briefly introduce before presenting our analysis.

Rizzi & Shlonsky's (2006, 2007) proposal concerning criterial satisfaction shows how the one-feature-one-head maxim inherent in the cartographic enterprise can be circumvented by virtue of a bypassing strategy and featural enrichment. For another application of the same idea see also Haegeman & Danckaert (2017).

4.5.2.1 *SubjP, the Subject Criterion and subject extraction*

In one cartographic implementation, the layer of the clause containing the canonical subject position has been decomposed into three structural layers: TP, SubjP and the LP FinP, (82). In Rizzi & Shlonsky's (from now on R&S) approach to subject extraction, SubjP is a criterial projection, that is a projection whose head comes with a criterial requirement, defined as in (82b) (R&S 2006: 138, their (53)):

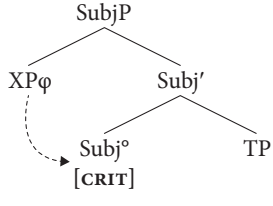
(82) a.



b. For [+F] a criterial feature, X+*F* is in a Spec-head configuration with A+*F*.

Criterial features comprise among others, [*wh*], [Top], [Foc], [Rel] and [Subj]. Criterial projections are halting positions: a constituent which has satisfied the Subject criterion by moving to SpecSubjP is frozen in place, (82c).

(82) c.



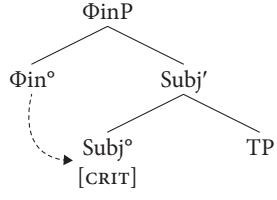
In principle the Subject criterion requires that SpecSubjP cannot be skipped. In other words, the Subj criterion would block all extraction of subjects because once a subject nominal has landed in SpecSubjP, it will be halted there. R&S (2006, 2007) propose that the replacement of *que* by *qui* in French (70) is a reflex of a special

mechanism for the satisfaction of the Subject criterion which allows the subject to skip SpecSubjP. (83) repeats the relevant patterns:

(83) a. *Qui$_i$ crois-tu que [$_{SubjP}$ ___$_i$ va partir]?
who think-you that will leave
b. Qui crois-tu qui va partir?
*who think-you **qui** will leave*
'Who do you think will leave?'

For R&S (2007), *qui* in French (83b) is a manifestation of the functional head Fin enriched with φ-features. Haegeman and Danckaert (2017) represent the enriched Fin as 'Φin'. By locally c-commanding the head Subj, the φ-features on Φin satisfy the Subject criterion, as shown in (84a):

(84) a.

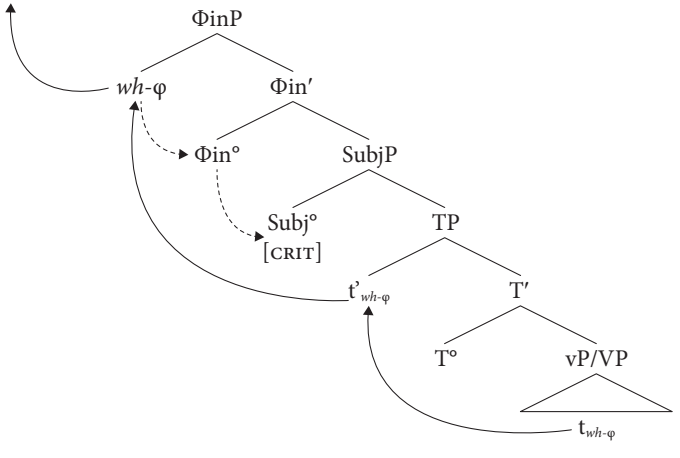


The relation of SpecSubjP with Subj in (82c) is geometrically identical to that between Φin and Subj in (84a). R&S (2007: 138–139) restate the criterial condition as in (84b).

(84) b. For [+F] a criterial feature, X+F is locally c-commanded by A+F.

For R&S, the φ-features on enriched Φin have to be independently licensed. The licencing is achieved by the *wh*-moved subject; on its way to its ultimate LP landing site, the *wh*-subject moves through SpecΦin and licenses the φ-features of Φin.

(84) c.



4.5.2.2 *Enriching Force*

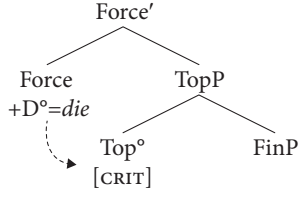
We now review the invariant *die* pattern in the light of the preceding discussion and recast our analysis according to whether the spell out of the LP head by *die* is a reflex of the *dat/die* alternation (cf. Section 4.4.1).

Consider (85a), with the adjunct *morgen* ('tomorrow') left-adjacent to invariant *die*. Let us assume that *morgen* ('tomorrow') carries a criterial topic feature which has to be associated with a LP criterial TopP. Let us also continue to follow Wolfe's proposal (2015a; b, 2016) that the V2 property of Force-V2 languages requires that Force be overtly spelt out and that it must have a specifier. (85b) is not a licit derivation because once *morgen* has satisfied the Top criterion SpecTopP, it should be frozen for movement.

(85) a. Morgen die komt hij terug.
tomorrow ***die*** *comes he back*
b. *[$_{\text{ForceP}}$ Morgen [$_{\text{Force}}$ dat/die] [$_{\text{TopP}}$ morgen [$_{\text{FinP}}$ morgen [$_{\text{Fin}}$ komt] [$_{\text{TP}}$ hij terug t]]]]

The licit derivation for (85a) leads to an apparently paradoxical situation because it should allow satisfaction of the Topic criterion while at the same time moving *morgen* directly to SpecForceP, without transiting through SpecTopP. We propose that this is achieved through insertion of *die* in Force, i.e. the appearance of *die* is a reflex of R&S's alternative bypassing mechanism now deployed to satisfy the Topic criterion. Specifically, assume that *die* differs from the complementizer *dat* in that it has a deictic D-feature which encodes discourse relatedness and that the D-feature on Force suffices to satisfy the Topic criterion in the projection TopP which it selects. Put differently, adding the feature 'D' to Force 'enriches' Force in the way that adding nominal features enriches Fin in order to allow for indirect satisfaction of the Subject criterion. The enriched Force spells out as *die*:

(86) a. [$_{\text{ForceP}}$ Morgen [$_{\text{Force}}$ die] [$_{\text{TopP}}$ [Top][$_{\text{FinP}}$ morgen [$_{\text{Fin}}$ komt] [$_{\text{TP}}$ hij terug t]]]]
b.



In line with Rizzi and Shlonsky, the enriched Force head must be licensed independently, and this is achieved by the movement of the constituent *morgen* to its specifier. On its way to SpecForce *morgen* skips TopP, but it indirectly contributes to the satisfaction of the Topic criterion because it licenses the enriched head Force by virtue of its D-feature.

The grammars of speakers allowing for both topical constituents and focal constituents left adjacent to *die* might be taken to allow Force to be enriched either with a D-feature and with a Q-feature. The contrast between the judgements for (87a) and (87b) already pointed out in footnote 8 suggest that the presence of *die* entails a D-linking effect. It appears that the presence of *dan* ('then') in (87a) facilitates the presence of *die*. Given that *dan* ('then') anchors the sentence to the discourse, this might suggest there is a D-linking effect, i.e. that *die* is compatible with D-linked *wh*-constituents. In (87b), the hypothesis would be that the D-linked interpretation of *wie* is facilitated by the presence of *dan.* This needs further study.

(87) A: 't is mijn verjaardag. Ik wil een feestje geven.
it's my birthday. I want a party give

a. B: Wie die wilt ge dan allemaal inviteren?
*who **die** want you then all invite* (1^0, 2^1, 3^4, 4^4, 5^3)

b. B: (*) Wie die wilt ge allemaal inviteren?
*who **die** want you all invite* (1^6, 2^2, 3^1, 4^0, 5^2)

For speakers rejecting *wh*-specifiers in *die* patterns, we might narrow down the possible featural make up of Force/*die* to, for instance, being just D.

If D-linking is crucial in licensing *die,* the incompatibility between invariant *die* and imperatives and *yes/no* questions as discussed in Section 4.4.3 could then be related to the hypothesis that the relevant null operators in such cases are not D-linked.

That the featural enrichment of Force, spelt out as *die*, is licensed by the specifier of Force reintroduces a closer relation between the initial constituent and Force than that which we proposed in the analysis developed in Section 4.4.

As it stands, there unfortunately remains an undesirable redundancy in the system developed here. SpecForceP has to be filled for two distinct reasons: (i) on the one hand, SpecForceP has to be filled because the Ghent dialect is a Force-V2 language in Wolfe's typology, (ii) on the other, SpecForceP has to be filled because Force is featurally enriched and the added feature has to be licensed. We need to examine in future work how this redundancy can be eliminated.

We briefly look at the ramifications for the derivation of V2 in general in the next section.

4.5.2.3 *The derivation of Force-V2*

In De Clercq & Haegeman's (2018) analysis outlined in Section 4.4.1 and summarized in (88a), with an impoverished LP, the discourse property of the constituent left-adjacent to invariant *die* was not syntactically encoded. In the alternative analysis developed in the present section and illustrated in (88b), the discourse status of

the initial constituent is encoded via a LP projection. The initial constituent *morgen* ('tomorrow') bypasses TopP in (88b) but it indirectly contributes to the satisfaction of the Topic criterion because it licenses the enriched head Force.

(88) a. [$_{\text{ForceP}}$ Morgen [$_{\text{Force}}$ die] [$_{\text{FinP}}$ ~~morgen~~ [$_{\text{Fin}}$ komt] [$_{\text{TP}}$ hij ~~morgen~~ terug]]]
b. [$_{\text{ForceP}}$ Morgen$_{\text{+D}}$ [$_{\text{Force+D}}$ die] [$_{\text{TopP}}$ [Top]
[$_{\text{FinP}}$ ~~morgen~~ [$_{\text{Fin}}$ komt] [$_{\text{TP}}$ hij ~~morgen~~ terug ~~komt~~]]]]

In the light of (88b), we need to return to the derivation of regular V2 sentences. As a first proposal, we might adopt derivation (89), according to which a byproduct of V movement to Force is the formation of a complex head which recruits the discourse feature resident in the LP and which allows the satisfaction of the LP criterion at the level of ForceP: (89) exemplifies the derivation with a LP topic feature.

(89) [$_{\text{ForceP}}$ XP$_{\text{top}}$ [$_{\text{Force+Top+Fin}}$ V$_{\text{fin}}$] [$_{\text{TopP}}$ [$_{\text{Top}}$ ~~V$_{\text{fin}}$~~] [$_{\text{FinP}}$ ~~XP$_{\text{top}}$~~ [$_{\text{Fin}}$ V$_{\text{fin}}$] [$_{\text{TP}}$ …]]]]

(88b) and (89) differ subtly in terms of the way the Topic criterion is satisfied. In (88b), the Force head, enriched with a discourse feature, satisfies the Topic criterion. In (89) the initial constituent satisfies the Topic criterion in a specifier head relation with the complex head Force.

5. Summary

In this chapter, we analyze resumptive strategies in the Ghent dialect, focussing on patterns in which an initial adverbial constituent in a V2 clause is separated from the finite verb (which would be expected to be in second position) by what at first seems to be a resumptive demonstrative element. We examine the distribution of specialized and generalized resumptive constituents, focussing the discussion on the syntax and semantics of the Ghent invariant *die*, which we compare with the specialized resumptive adverbs *dan, toens, daar* 'then, then, there' and with the corresponding specialized resumptives for adverbial material in StD.

We show that given the distributional differences between the specialized resumptives in StD and in the Ghent dialect on the one hand and invariant *die* in the Ghent dialect on the other, the two patterns should not be analysed in the same way. A first analysis of the material which is summarized here was couched within the Poletto/Wolfe typology of V2, according to which the Germanic languages, and hence also in the Ghent dialect, are characterised by a Force-V2 requirement, which means that the finite verb must move to Force. The finite verb moves to Force via Fin.

We continue to endorse the main ingredients of that analysis. For the syntax of specialized resumptives like *dan* it is proposed – in line with the literature – that they are phrasal, they are merged TP-internally, they move from within TP to SpecForceP via SpecFinP and they satisfy the V2-constraint in Force. Any constituent preceding a specialized resumptive is assumed to be clause-external. We propose that invariant *die* in the Ghent dialect is a head directly merged in Force. Because Force is spelt out by *die* the finite verb halts in Fin. The invariant *die* pattern thus represents a variant on the Wolfe's Force-V2 patterns. This initial analysis of the data used a representation of the LP in the V2 languages which was devoid of any encoding of discourse functions of the initial constituent.

The final part of the chapter develops a fully cartographic analysis of the Ghent *die* resumption pattern deploying an articulated left periphery with two novel ingredients. First the analysis explores the D-linking function of *die* as a prime ingredient, and in addition it is proposed that *die* spells out an enriched Force head which is responsible for the indirect satisfaction of LP criteria on Top and Foc. The analysis attempts to reconcile the one-feature-one-head maxim underlying the cartographic approach with the empirical observation that in V2 languages the root CP layer seems to be impoverished, which might suggest that the left peripheral discourse functions are not encoded in terms of featurally specialized functional heads.

In theoretical terms, our proposal extends the implementation of the concept of indirect satisfaction of the LP criteria first proposed in Rizzi & Shlonsky (2006, 2007) and also developed in Haegeman & Danckaert (2017) to a new empirical domain.

References

Astruc-Aguilera, Lluisa. 2005. The form and function of extra-sentential elements. *Cambridge Occasional Papers in Linguistics* 2: 1–25.

Benincà, Paola. 2006. A detailed map of the left periphery of medieval Romance. In *Crosslinguistic Research in Syntax and Semantics: Negation, Tense and Clausal Architecture*, Raffaella Zanuttini (ed.), 53–86. Washington DC: Georgetown University Press.

Borsley, Robert, Tallerman, Maggie & Willis, David. 2007. *The Syntax of Welsh*. Cambridge: CUP. https://doi.org/10.1017/CBO9780511486227

Broekhuis, Hans & Corver, Norbert. 2016. *Syntax of Dutch. Verbs and Verb Phrases*, Vol. 3, Chapter 14: Main clause-external elements. Amsterdam: AUP. https://doi.org/10.26530/OAPEN_614910

Catasso, Nicholas. (2015) On Postinitial Aber and Other Syntactic Transgressions: Some Considerations on the Nature of V2 in German. *Journal of Germanic Linguistics*, 27(4): 317–365. https://doi.org/10.1017/S1470542715000124

Chomsky, Noam & Lasnik, Howard. 1977. Filters and control. *Linguistic Inquiry* 8: 425–504.

Cinque, Guglielmo. 1977. The movement nature of left dislocation. *Linguistic Inquiry* 8: 397–412

Cinque, Guglielmo. 1990. *Types of A' Dependencies*. Cambridge MA: The MIT Press.
D'Avis, Franz Josef. 2004. *In front of the prefield – inside or outside the clause? In he syntax and semantics of the left periphery*, Horst Lohnstein & Susanne Trissler (eds), 139–177. Berlin: Mouton de Gruyter.
De Clercq, Karen & Haegeman, Liliane. 2018. The typology of V2 and the distribution of pleonastic DIE in the Ghent dialect. *Front. Psychol*. 9: 1342. https://doi.org/10.3389/fpsyg.2018.01342
Eide, Kristin Melum. 2011. Norwegian (non-V2) declaratives, resumptive elements, and the Wackernagel position. *Nordic Journal of Linguistics* 34(2): 179–213. https://doi.org/10.1017/S0332586511000163
Eide, Kristin Melum & Sollid, Hilde. 2007. Om verbplassering og så-konstruksjonen i to språkmøter. *NOA. Norsk som andrespråk* 23: 5–32
Ferraresi, Gisella & Goldbach, Maria. 2003. Particles and sentence structure: A historical perspective. In *Syntactic Structures and Morphological Information*, Uwe Junghanns & Luka Szucsich (eds). Berlin: Mouton de Gruyter. https://doi.org/10.1515/9783110904758.101
Frey, Werner. 2016. On some correlations between formal and interpretative properties of causal clauses. In Reich, Ingo & Augustin Speyer (eds.). *Co- and subordination in German and other languages. Special issue of Linguistische Berichte* 21, 153–179. Hamburg: Buske.
Haegeman, Liliane. 1984. *Die* and *dat* in West Flemish relative clauses. In *Linguistics in the Netherlands*, Hans Bennis & Wus Van Lessen Kloeke (eds), 83–91. Dordrecht: Foris.
Haegeman, Liliane. 1996. Verb second, the split CP and null subjects in early Dutch finite clauses. *GenGenP*. <http://ling.auf.net/lingBuzz/001059>
Haegeman, Liliane & Danckaert, Lieven. 2017. Variation in English subject extraction: The case of hyperactive subjects. In *Studies on Syntactic Cartography*, Fuzhen Si (ed.), 303–335. Beijing: China Social Sciences Press.
Haegeman, Liliane & Greco, Ciro. 2018. West Flemish V3 and the interaction of syntax and discourse. *Journal of Comparative Germanic Linguistics* 21: 1–56. https://doi.org/10.1007/s10828-018-9093-9
Haegeman, Liliane and Ciro Greco. 2018. West Flemish V3 and the interaction of syntax and discourse. *Journal of comparative Germanic Linguistics*: 49–81.
Haegeman, Liliane & Ürögdi, Barbara. 2010a. Referential CPs and DPs: An operator movement account. *Theoretical Linguistics* 36: 111–152. https://doi.org/10.1515/thli.2010.008
Haegeman, Liliane & Ürögdi, Barbara. 2010b. Operator movement, referentiality and intervention. *Theoretical Linguistics* 36: 233–246. https://doi.org/10.1515/thli.2010.017
van Hoe, Lieven. 1981. Enkele syntactische kenmerken van het dialect van Melle. Licentiate dissertation, Ghent University.
Hoekstra, Eric. 1999. On D-pronouns and the movement of Topic features. *Folia Linguistica* XXXIII: 59–74. https://doi.org/10.1515/flin.1999.33.1-2.59
Holmberg, Anders. 2015. Verb second. In *Syntax. An International Handbook of Contemporary Syntactic Research*, 2nd edn, Tibor Kiss & Artemis Alexiadou (eds), 343–384. Berlin: Walter de Gruyter.
Holmberg, Anders. 2016. *The Syntax of Yes and No*. Oxford: OUP.
Holmberg, Anders. 2020. On the Bottleneck Hypothesis of V2 in Swedish. In *Rethinking Verb Second*, Rebecca Woods & Sam Wolfe (eds). Oxford: OUP. https://doi.org/10.1093/oso/9780198844303.003.0003
Hsu, Brian. 2017. Verb second and its deviations: An argument for feature scattering in the left periphery. *Glossa* 2: 1–33. https://doi.org/10.5334/gjgl.132
Jouitteau, Mélanie. 2005. La syntaxe comparée du Breton. PhD dissertation, University of Nantes.

Jouitteau, Mélanie. 2008. The Brythonic reconciliation. *Linguistic Variation Yearbook* 7: 163–200. https://doi.org/10.1075/livy.7.06jou

Koopman, Hilda J. 2000. Prepositions, postpositions, circumpositions, and particles. In *The Syntax of Specifiers and Heads. Collected Essays of Hilda J. Koopman*, 204–260. London: Routledge.

Koopman, Hilda J. 2010. The Dutch PP. In *Mapping Spatial PPs: The Cartography of Syntactic Structures*, Vol. 6, Guglielmo Cinque & Luigi Rizzi (eds), 26–74. Oxford: OUP. https://doi.org/10.1093/acprof:oso/9780195393675.003.0002

Koster, Jan. 1978. Why subject sentences don't exist. In *Recent Transformational Studies in European Languages*, Samuel Jay Keyser (ed.), 53–64. Cambridge MA: The MIT Press.

Ledgeway, Adam. 2008. Satisfying V2 in early Romance: Merge vs. Move. *Journal of Linguistics* 44: 437–470. https://doi.org/10.1017/S0022226708005173

Ledgeway, Adam. 2012. *From Latin to Romance: Morphosyntactic Typology and Change*. Oxford: OUP. https://doi.org/10.1093/acprof:oso/9780199584376.001.0001

Leemans, Emilienne. 1966. Syntactische kenmerken van het Gents dialect. Licentiate dissertation, Ghent University.

Leu, Thomas. 2015. Generalized x-to-C in Germanic. *Studia Linguistica* 69: 272–303. https://doi.org/10.1111/stul.12035

Lutz, U. 2014. Structures of "emphatic topicalization" in Bavarian. In *Bavarian Syntax: Contributions to the Theory of Syntax* [Linguistik Aktuell/Linguistics Today 220], Günther Grewendorf & Helmut Weiss (eds), 113–144. Amsterdam: John Benjamins. https://doi.org/10.1075/la.220.05lut

Meinunger, André. 2004. Verb position, verbal mood and the anchoring (potential) of sentences. In *The Syntax and Semantics of the Left Periphery*, Horst Lohnstein & Susanne Trissler (eds), 313–341. Berlin: Mouton de Gruyter. https://doi.org/10.1515/9783110912111.313

Meklenborg, Christine. 2020. Adverbial resumptive particles and Verb second. In *Rethinking Verb Second*, Rebecca Woods & Sam Wolfe (eds), 90–125. Oxford: OUP. https://doi.org/10.1093/oso/9780198844303.003.0005

Mikkelsen, Line. 2015. VP anaphora and verb-second order in Danish. *Journal of Linguistics* 51: 595–643. https://doi.org/10.1017/S0022226715000055

Noonan, Máire. 2017. Dutch and German R-pronouns and P-stranding. In *The Structure of Words at the Interfaces*, Heather Newell, Máire Noonan, Glyne Piggott & Lisa deMena Travis (eds). Oxford: OUP.

Nordström, Jackie. 2010. The Swedish *så*-construction, a new point of departure. *Working Papers in Scandinavian Syntax* 8: 37–63.

Poletto, Cecilia. 2013. On V2 types. In *The Bloomsbury Companion to Syntax*, Sylvia Luraghi & Claudia Parodi (eds), 154–164. London: Bloomsbury.

Poletto, Cecilia. 2014. *Word Order in Old Italian*. Oxford: OUP. https://doi.org/10.1093/acprof:oso/9780199660247.001.0001

van Reenen, Pieter & Schøsler, Lene. 2000. The pragmatic functions of the Old French particles AINZ, APRES, DONC, LORS, OR, PUIS, and SI. In *Textual Parameters in Older Languages* [Current Issues in Linguistic Theory 195], Susan C. Herring, Pieter van Reenen & Lene Schøsler (eds), 59–106. Amsterdam: John Benjamins. https://doi.org/10.1075/cilt.195.05ree

Rizzi, Luigi. 1997. The fine structure of the left periphery. In *Elements of Grammar*, Liliane Haegeman (eds), 281–337. Dordrecht: Kluwer. https://doi.org/10.1007/978-94-011-5420-8_7

Rizzi, Luigi. 2004. Locality and the left periphery. In *Structures and Beyond: The Cartography of Syntactic Structures*, Vol. 3, Adriana Belletti (ed.), 223–251. Oxford: OUP.

Rizzi, Luigi. 2006. On the form of chains: Criterial positions and ECP effects. In *Wh-movement: Moving On*, Lisa Cheng & Norbert Corver (eds), 97–133. Cambridge MA: The MIT Press.

Rizzi, Luigi & Shlonsky, Ur. 2006. Satisfying the subject criterion by a non subject: English locative inversion and heavy NP shift. In *Phases of Interpretation*, Mara Frascarelli (ed.), 341–361. Berlin: Mouton de Gruyter. https://doi.org/10.1515/9783110197723.5.341

Rizzi, Luigi & Shlonsky, Ur. 2007. Strategies of subject extraction. In *Interfaces + Recursion = Language? Chomsky's Minimalism and the View from Syntax-semantics*, Uli Sauerland & Hans-Martin Gärtner (eds), 115–160. Berlin: Mouton de Gruyter.

Roberts, Ian. 2004. The C-system in Brythonic Celtic languages, V2, and the EPP. In *The Cartography of Syntactic Structures*, Vol. 3, Luigi Rizzi (ed.), 297–327. Oxford: OUP.

Roberts, Ian. 2005. *Principles and Parameters in a VSO Language: A Case Study in Welsh*. Oxford: OUP. https://doi.org/10.1093/acprof:oso/9780195168211.001.0001

Roberts, Ian & Roussou, Anna. 2002. The extended projection principle as a condition on the tense dependency. In *Subjects, Expletives and the EPP*, Peter Svenonius (ed.), 125–155. Oxford: OUP.

Rullman, Hotze & Zwart, C. Jan-Wouter. 1996. On saying *dat*. In *Progress in Linguistics*, Roel Jonkes, Edith Kaan & Anko Wiegel (eds), 249–259. The Hague: Mouton.

Salvesen, Christine Meklenborg. 2013. Topics and the left periphery: A comparison of Old French and Modern Germanic. In *In Search of Universal Grammar: From Old Norse to Zoque*, Terje Lohndal (ed.), 131–172. Amsterdam: John Benjamins. https://doi.org/10.1075/la.202.10sal

Salvi, Giampaolo. 2004. *La formazione della struttura di frase romanza. Ordine delle parole e clitici dal latino alle lingue romanze antiche*, Tübingen: Niemeyer, 2004, pp. VIII+228 (Beihefte zur Zeitschrift für romanische Philologie, Band 323).

Samo, Guiseppe. 2019. *A Criterial Approach to the Cartography of V2* [Linguistik Aktuell/Linguistics Today 257]. Amsterdam: John Benjamins. https://doi.org/10.1075/la.257

Starke, Michal. 2001. Move Dissolved into Merge. A Theory of Locality. PhD dissertation, University of Genea.

Sollid, Hilde & Eide, Kristin Melum. 2007. On verb second and the så-construction in two Mainland Scandinavian contact situations. *Nordlyd* 34(3). https://doi.org/10.7557/12.121

Vanacker, Valère F. 1980. Een Vlaams adverbiaal steuntje. In *Liber Amicorum Weijnen, Een bundel opstellen aan Prof. dr. A. Weijnen bij zijn zeventigste verjaardag*, Joep Kruijsen (eds), 73–78. Assen: Van Gorcum.

Vance, Barbara S. 1997. *Syntactic Change in Medieval French: Verb-Second and Null Subjects* [Studies in Natural Language and Linguistic Theory 41]. Dordrecht: Kluwer. https://doi.org/10.1007/978-94-015-8843-0

Vanelli, Laura, Renzi, Lorenzo & Benincà, Paola. 1985. Typologie des pronoms sujets dans les langues romanes. In *Linguistique descriptive: Phonétique, morphologie et lexique. Actes du XVIIe Congrès International de Linguistique et Philologie Romanes, Aix-en-Provence, 29 août-3 septembre 1983*. Aix-en-Provence: Université de Provence.

de Vries, Mark. 2009. The left and right periphery in Dutch. *The Linguistic Review* 26: 291–327. https://doi.org/10.1515/tlir.2009.011

Williams, Edwin. 1977. Discourse and logical form. *Linguistic Inquiry* 8: 101–139.

Wolfe, Sam. 2015a. Microvariation in Medieval Romance Syntax, A Comparative Study. PhD dissertation, University of Cambridge.

Wolfe, Sam. 2015b. The nature of Old Spanish verb second reconsidered. *Lingua* 164: 132–155. https://doi.org/10.1016/j.lingua.2015.06.007

Wolfe, Sam. 2016. On the left periphery of V2 languages. *Selected papers from the 41st Incontro di Grammatica Generativa. Rivista di Grammatica Generativa* 38: 287–310.
Wolfe, Sam. Under review. Probing the syntax of a problematic particle: Old French 'SI' revisited.
Zwart, Jan-Wouter. 1997. *Morphosyntax of Verb Movement. A Minimalist Approach to the Syntax of Dutch*. Dordrecht: Kluwer. https://doi.org/10.1007/978-94-011-5880-0

CHAPTER 5

Uncovering the left periphery of Etruscan

Some theoretical insights

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In this paper, we attempt to address a *Restprache* like Etruscan by means of theoretical tools. This work approaches the syntax of Etruscan and proposes a number of descriptive generalizations on its clausal structure. Despite the intrinsic difficulty represented by the fragmentary data, we provide some theory-driven insights to detect pragmatic/semantic effects based on syntax. After having presented the theoretical insights related to word order reorderings and syntacticization, we shall discuss qualitative data from Etruscan. We observe that modifications of the "canonical" word order might be related to interpretative properties. Following the criterial approach of scope-discourse semantics, we propose that the movement of the verb in Etruscan adjacent to the fronted XP is the strategy to realize the activated criterial position in the left periphery. In the last part, we also discuss attested complementizers and their mapping within the syntactic architecture.

Keywords: left periphery, Etruscan, syntacticization, criterial approach, scope-discourse semantics, complementizers

1. Introduction

One of the most important contributions of cartographic studies is that they have provided a powerful tool for comparative syntax. The interaction of fine-grained maps of syntactic configurations and basic computational operations leads to detailed descriptions of syntactic architectures and language variation. Beyond their heuristic capacity, the derived syntactic maps offer transparent configurations to which interpretive routines can be applied, ultimately resulting in the syntacticisation of semantic, pragmatic and prosodic properties. The program of syntacticisation (Cinque & Rizzi 2010; Si 2011, Rizzi & Cinque 2016) represents a formal tool to be implemented to investigate layers of information structures relying only on syntactic clues.

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This paper investigates the power of such analytical tool to shed light on the scope-discourse semantics properties derived from basic syntactic evidence. In this work, we focus on Etruscan (Rix 2005; Wallace 2008; Canuti 2008) an ancient non-Indo-European SOV language spoken in Central Italy. Following a theory-driven approach provided by Ledgeway (2012) on qualitative Early Romance textual data, the syntactic cartographic tools adopted for synchronic comparative linguistics help in uncovering further dimensions of interpretations concerning ancient languages.[1] The aim of this work is thus to propose an analysis of the cartography of reordering of the canonical word order in Etruscan, discussing syntactic properties and further challenges. We claim that, adopting a strong point of view coming from the theory of grammar, we might be able to infer further dimensions of the information structure investigating the linguistic (arti)facts of Etruscan, shedding further light on the properties of Etruscan grammar. In other words, can the insights provided by comparative syntax provide further insights on the semantico-pragmatics properties of Etruscan?

In particular, we investigate the syntax of a specific subset of artifacts and relative inscriptions labelled as "speaking objects". These archaeological findings are inscribed with phrases expressing "ownership or change of ownership" (in terms of gifts, Wachter 2010: 250) as it is the object itself speaking in 1st person singular (see Agostiniani 1982 for an overview). Following Wallace (2008: 11–12), the inscriptions on these artifacts were mainly DP structures as given in (1), retrieved from *Etruskische Texte* (henceforth, ET2; Meiser (ed.) 2014). Typically, the inscriptions contained a pronoun in nominative case (*mi* 'I'), the name of the object also in nominative case (*qutum* 'jar'), and the possessor's name bearing genitive case (*'karkana-s'* 'of Karkana').

(1) *Etruscan* (ET[2] Cr 2.18), ca. 675 BCE
mi qutum karkanas
I.NOM jar karkanas.GEN
"I, Karkana's jar"

"Speaking objects" inscriptions were not exclusive to the Etruscan population within the Italian peninsula, since similar textual material has been found in other languages of ancient Italy (Poccetti 2008). Example (2) provides two similar structures ($Pron_{NOM}$, $Noun_{NOM}$, $ProperNoun_{GEN}$) from Faliscan (an ancient language akin to Latin spoken in Latium/Southern Etruria; Giacomelli 1963) and Latin (Agostiniani 1982; Hartmann 2006).

1. Ledgeway (2012: 213) provides a list of mutual benefits derived from a conversation between linguistics (syntactic theory) and philology.

(2) a. *Faliscan* (Giacomelli 1963; 2), 600 BCE
eqo quton{e} uo<l>tenosio
I jar Volteno.GEN
'I, Jar of Volteno'
b. *Latin* (Hartmann 2006; 2.1.11), 600 BCE
eco urna tita<s> vendias
I urn Tita Vendia.GEN
'I, urn of Tita Vendia'

Beyond their archaeological value, these types of inscriptions provide interesting insights from a semantic and pragmatic level. As for Etruscan, "speaking objects" are of interest to syntacticians when a verb, such as *mulvanice* 'to give as a gift' or *turce* 'dedicated', appears in the inscription, since the presence of a verbal elements tends to correlate with a non-canonical word order, as will be observed in Section 3.

We introduce the definition of canonical/non-canonical word orders and the benefits of a notion of syntacticisation of semantics and pragmatics in Section 2. In Subsection 2.2., we present the different theory-driven strategies to describe the richness of language variability which is adopted here as a formal tool. The core part of the paper is Section 3, in which we introduce the syntax of Etruscan in detail and provide a discussion on qualitative data concerning word orders parsing cartographic representations. Section 4 presents some theoretical insights on how we can account for other layers of the syntactic architecture. Finally, Section 5 summarizes and concludes.

2. Cartography and syntacticisation as formal tools

2.1 Cartography and reordering

Results from typological studies have led to the assumption that natural languages adopt one of the combinations of the verb (V) with its core syntactic dependencies, subject (S) and object (O), as a "canonical" word order[2] (Greenberg 1975 inter alia; Dryer & Haspelmath 2013).

The term "canonical" is here intended as the standard ordering of constituents in which informational (semantico-pragmatics) properties are clause related/about the subject (Rizzi 2015; Belletti & Rizzi 2017). For instance, Italian is categorized as

2. We will not discuss the notion of *unfixed word order* in Dryer (2005) since we here adopt a notion of word order based on Kayne (1994).

an SVO language:[3] therefore, an Italian "canonical" sentence shows an SVO order, as given by the example in (3).

(3) **SVO**
Un archeologo scoprì il labirinto.
An archaeologist discovered the labyrinth
'An archaeologist found the labyrinth.'

Phenomena related to scope-discourse semantics such as topicalization and focalization (cf. Rizzi 1997 *inter alia*) might modify canonical word orders, triggering the displacement of syntactic constituents in dedicated functional projections. According to the criterial approach to scope-discourse semantics, a syntactic element merges in at least two positions dedicated to two kinds of interpretative properties: (i) a position where the element is generated and where the verb assigns its thematic role, and (ii) a landing site where the element moves so that its properties of scope-discourse semantics can be interpreted at the interfaces with the systems of sound and meaning (Bocci 2013; Rizzi 2015). Dedicated layers within the syntactic architecture, such as the left periphery (Rizzi 1997, Rizzi & Bocci 2017) and the periphery within the Low IP area (Belletti 2004), host the relevant sets of functional projections expressing "articulations relevant for the structuring of discourse" (Rizzi & Cinque 2016: 145). The ultimate result is that the displacement of syntactic constituents produces reorderings of the canonical word order.

As a matter of fact, strategies of focalization involve reorderings in natural languages. For example, the reordering of constituents is a possible option in Italian in those contexts in which an addressee (e.g. speaker B in (4)) aims to correct a previous assumption on the object (e.g. speaker A in (4)), and realize what in the literature has been depicted as a "corrective focus" (Bianchi et al. 2015 and following works; *Contrastive* in earlier descriptions such as in Rizzi 1997). If this strategy is adopted, the canonical word order changes, resulting in a superficial OSV structure:[4] the object, bearing a particular type of feature (+focus) could be

3. The values for the canonical word orders of the set of languages discussed here are extracted from the database of the World Atlas of Language Structures (WALS, Dryer & Haspelmath 2013): <https://wals.info/feature/81A#2/18.0/153.1> (17 July 2020).

4. An anonmymous reviewer observed that certain varieties of Italian (northern/central) permit corrective focus "in final position" with the relevant intonational contour (e.g. *un archeologo scoprì il labirinto (,non le catacombe)!* 'An archaeologist discovered the labirynth (,not the catacombs!). As suggested by the reviewer, the analytical question arises of whether the focussed constituent "is *in situ*, in a low focus position (e.g. Low IP area, Belletti 2004), or in a LP position (with possibly a further remnant movement of the rest of the clause to a higher topic-like position)". Furthermore, in the case of fronting of the correctively focalized element, Italian allows the subject to undergo movement to a Topic position in the low IP area, resulting in an OVS order (e.g. *il labirinto scoprì un archeologo* 'the labyrinth discovered an archaelogist').

displaced in the LP of the clause leaving a gap in its generation site, indicated with angle brackets in Example (4). The relevant intonational contour, together with the prosody assigned to the rest of the clause (see Bocci 2013), conveys the corrective focus interpretation.

(4) **OSV**

A: Ho sentito dire che, cadendo da un pozzo sulla piazza,
Have.1sg heard say.INF that falling from a well on.the square
un archeologo scoprì le catacombe.
an archaeologist discovered the catacombs.
'I heard that an archaeologist found the catacombs falling from a well in the square'

B: No! IL LABIRINTO $_{+FOCUS}$ un archeologo scoprì <il labirinto>!
No! *The labyirinth an archaeologist discovered*
'No, it was the labyrinth that an archaeologist discovered, (not the catacombs)'

Similar reorderings can be observed for cases of topicalization (Rizzi 1997; Frascarelli & Hinterhölzl 2007) and relativization (Cinque 1982) involving respectively resumptive (clitic) pronouns (Cinque 1990) or complementizer, if an element bears the relevant feature (e.g. +Topic, +Rel, etc.).

Crucially, here we assume that every change to the canonical order stipulated for the typology of languages should be representative of a modification conveying pragmatic dimensions. Reorderings therefore represent an important element to investigate beyond the mere syntactic patterns, implying that "uncanonical" patterns[5] hide further layers of information properties.

2.2 Linguistic variability in activating criterial positions

The real status of discourse related properties could be unclear in case of the lack of phonological evidence and reduced size corpora as is the case for *dead* languages (Fischer et al. 2000, Chapter 1; Roberts 2007 inter alia). Results in comparative syntax might provide an analytical tool: as is shown in (4), we observed that focalization (e.g. in a language like Italian) can be signalled by the movement of the constituent to the left periphery. Such functional projections are described as criterial positions providing the right instructions to the systems of sound and meaning. The criterial approach contributes to the "syntacticization" (Cinque & Rizzi 2010; Rizzi 2013) of semantics, pragmatics and prosodic properties which may help us

5. In this work we possibly exclude fully free word order patterns. Indeed, a cartographic approach to the discourse-configurationality of a "free word order" languages like Latin can be found in Danckaert (2012: 18–28). Furthermore, Gulordava & Merlo (2015) have quantitatively shown with computational models that Ancient Greek and Latin lack of a fully "free" word order, since they display specific diachronic trends in the direction to their daughter languages.

in investigating the deviation from "canonical" word orders. Criterial heads start the application of interpretative routines at the interface with the system of sound, through the assignment of the appropriate intonational contour (Bocci 2013), and at the interface with the system of meaning, by interpreting the dependent of the criterial head in terms of the appropriate notions (e.g. *Topic – Comment, Focus – Presupposition, Subj – Predication*, cf. Rizzi 2006, Rizzi 2015). In other words, different interpretations associated with distinct prosodic properties are determined by active features in the syntactic computation providing specific instructions to the interfaces. In (4), the object *il labirinto* 'the labyrinth' is first generated in its thematic position as a dependent of the verb in the vP layer (for a cartography of vP elements, cf. Si 2018) and then moved to the specifier of the activated criterial position Focus (SpecFocusP) in the LP, as given in (5).

(5) **OSV**
[$_{CP}$ [$_{SpecFocusP}$ *IL* *LABIRINTO* [$_{FOCUS°}$ – [$_{IP}$ *un archeologo*
THE LABYRINTH an archaeologist
scoprì <*il labirinto*>]]]]
discovered
'It was the labyrinth that an archaeologist discovered'

Natural languages vary concerning the activation of position such as FocusP and comparative syntax is able to crosslinguistically map the relevant strategies. As given in (5), the Italian strategy instructs the triggering of the movement of the relevant XP bearing +Focus features, but the Focus head (Focus°) remains phonetically null. Other natural languages employ a focus marker to phonetically realize the criterial head, such as Gungbe (Aboh 2004; canonical order SVO) given in (6). As in Italian, we observe a reordering of the canonical order also in Gungbe from SVO to OSV, enriched by a marker between the fronted object and the subject.

(6) **O(marker)SV**
Gungbe (Aboh 2007: 85, 9c)
[$_{SpecFoc}$ Kòfí [$_{Foc°}$ **wè**[ùn yró]]]!
Kofi *Foc 1sg call*
'I called KOFI'

An additional strategy is to dislocate an already merged head to activate Focus°. A plausible candidate head able to undergo such movement is the inflected verbal head, creating a Spec-Head configuration between the inflected verb and the fronted XP: Modern Greek[6] given in (7a). This approach has also been proposed

6. This strategy is often referred to as *focus adjacency* and it has been discussed for different language and language families, such as Hindi-Urdu (Kidwai 2000), Malagasy (Keenan 1976), Georgian (Skopeteas & Fanselow 2010), Standard Arabic (Shlonksy 2000), Hungarian (Puskás 2000).

for both Focus and Topic (and other heads within in the LP) for Verb Second languages, such as German, under a criterial approach (Samo 2019), given in (7b). In these cases, the superficial word order results in an OVS.

(7) **OVS**

a. Focus, Modern Greek (Tsimpli 1995: 177; 2b)
[$_{\text{SpecFoc}}$ To vivlio [$_{\text{Foc}°}$ edhose [I Maria sto Yani]]]
The book gave the.NOM Mary to John

b. Topic, German
[$_{\text{SpecTop}}$ Dieses Fresko [$_{\text{Top}°}$ malte [der Künstler]]]
This fresco painted the artist

The linguistic variability in activating functional projections at the interfaces with pragmatics and semantics is therefore given by the different syntactic strategies leading to reordering: focalizing the object creates an O(S)V(S) order in Italian, O(marker)SV in Gungbe, OVS in Greek. Such *marked* superficial word orders suggest that a reordering of "canonical" order is due to information structure requirements. In Section 3, we consider the evidence coming from Etruscan and examine if it is possible to detect informational properties only analysing syntax and the elements occurring in the LP.

3. Reorderings in Etruscan

3.1 Some notes on the syntax of Etruscan

In this section, we propose an analysis of Etruscan adopting cartographic tools, discussing syntactic properties and further challenges.

The evidence from which we draw our data belongs approximately to the period from 8th century bce to the 1st century ce (Pallottino 2002; Rix 2005; Wallace 2008: 2; Agostiniani 2013 inter alia). Etruscan is not an Indo-European language, even though it has been undoubtedly influenced by surrounding languages in all domains of grammar (Canuti 2008), and plausibly related to Retic (see Rix 1998) and Lemnian (Agostiniani 1986). It is not easy to apply a fully generative model to Etruscan because of the lack of accessibility to the grammar in an exhaustive way (Rix 1973: 46). The already existing linguistic analyses rely mainly on roughly 11.000 texts in Etruscan (Agostiniani 2013: 457), which for the most part are short funerary inscriptions, composed principally of anthroponyms. Nevertheless, our major difficulties in a fine-grained description of the syntactic phenomena (Canuti 2008: 141) are due mostly to our limited knowledge of Etruscan vocabulary, since longer texts are rare and often semantically/lexically opaque. The domain of syntax seems relatively clear on a specific subset of elements. As for the morphosyntax,

Etruscan was mainly an agglutinative language bearing case. Nominative is unmarked and accusative could be observed by the presence of a nasal element in pronouns (*mi* 'I' vs. *mini* 'me', *ca* 'this' vs. *cn* 'this.ACC), whereas evidence suggests that DPs show two types of genitive, *-l* and *-s*; two forms of ablative *-is* and – *al(a)s*, two pertinetives in *-si* and *-ale* and a locative in *-i*.

As for verbal inflections in Etruscan, what we know is related to the attested inscriptions. Following Wallace (2008: 67–69), tense has been detected as having two categories, past and non-past. Evidence shows (lack of/and) inflection for a set of moods such as imperative (presence of the verbal stem), non-past indicative active *-e*, past indicative active *-ce*, past-passive *-che*, subjunctive (-a), necessitative (*-ri*), present participle *-as(a)*, past participle *-nas(a)* and *-u* past perfective participle. Finally, Rix (1981: 87) describes the morpheme *-n* that is representative of a causative[7] inflection (reflexive/impersonal in Wylin 2000: 197). The lack of inflection signals an imperative function. No inflection for person, number or gender.

Despite similar challenges, generative approaches to ancient languages have been developed, such as a syntactic account on South Picene inscriptions (Benucci 1997). Moreover, generative accounts have been provided for proto-languages such Indo-European (Kiparsky 1995) and Proto-Germanic (Walkden 2014), but, contrary to Etruscan, they have/had related daughter languages.

We need to computationally associate a frequent order as a "canonical" order.[8] According to the description of Rix (2005), Etruscan was an SOV language, as exemplified in (8).

(8) **SOV**
Laris Avle… cn σuθi ceriχunce
Laris Aule this grave set.up.PAST
'Laris [and] Aule…set up this grave' (Rix 2005: 961; 23a)

We adopt the point of view that every occurrence of a non "canonical" word order should be the result of reordering for discourse-based reasons. Indeed, Rix (2005: 961) claims that "not infrequently" we do find OVS and SVO in Etruscan, which will be investigated in Section 3.2.

7. A manual investigation on the ET[2] (Meiser 2014) shows lack of co-occurrence of the causative and passive form. This seems to confirm the analysis provided by Belletti (2017) on the interaction between causative, passives and the labelling algorithm.

8. We adopt the general view that frequency might be signalling underlying grammatical properties, in the spirit of Merlo (2016) and Samo & Merlo (2019).

3.2 "Speaking objects" and reorderings: A criterial approach

Particularly interesting from our point of view are the OVS patterns. Following Rix (2005: 962), "objects which consist of or contain a deictic pronoun regularly appear at the beginning of the sentence (topicalization) and draw the verb after them creating the order Object-Verb-Subject". The sentence given in (9) can be observed in "speaking objects", archaeological findings with inscriptions referring to themselves, as if it is the object itself speaking in 1st person singular (see Agostiniani 1982 for an overview) when the verb is overt.

(9) **OVS**
mini **mulvanice** Mamarce Quθaniies
me.ACC gave.PAST Mamarce Kuthaniie
'Mamarce Kutanie gave me (as a present)' (Rix 2005: 962; 25)

Rix (2005: 962) discusses these reorderings as forms of "topicalization". In cartographic terms, we might expect the object to be dislocated to the LP of the clause. Evidence from other inscriptions seems to suggest that it is not the case of a generalized case of object shift (cf. Holmberg 1986), since pronominal forms of 1st person singular may also appear in "canonical" SOV sentences,[9] as given in (10, questions marks indicating uncertain lexical meaning)

(10) **SOV**
ạna alike apu mini kara
Ana give; Apu me realize??
'Ana gave me like a present; Apu should bring out the best in me'
(ET^2, Fa 3.3)

Since Rix's notion of topicalization is unclear in detailed cartographic terms without any other clear diagnostics to discern topic from focus (in the spirit of Rizzi 1997), we refer here to both functional projections. We propose that the pronominal object moves to the specifier of the activated criterial position (SpecTop or SpecFoc) triggered by the movement of the inflected verb to the activated criterial head, as given in (11).

(11) $[_{\text{SpecFoc/SpecTop}}$ object $[_{\text{Foc°/Top°}}$ **verb** $[_{\text{IP/vP}}$ subject <verb> <object>]

On the basis of the discussion presented here, we might also consider SVO orders as a reordering triggered by discourse reasons. SVO orders might indeed be another case of topicalization/focalization of the subject triggering the movement of the

9. The dot under *ạna* means that *ạ* is a reconstructed letter from a readable character.

verb. In other words, a topicalized/focused subject creates a Spec-Head configuration with the verb in a LP position. Different to object fronting, from the knowledge we can draw from the (arti)facts, the Spec-Head configuration can also be built with full DPs, as given in (12).

(12) **SVO**
Vipia **turce** Verσenas cana
Vibia dedicate.PAST Versana.GEN statue
'Vibia dedicated the statue to Versena' (Etruscan, Rix 2005: 961; 24)

How can we account for such an asymmetry? A tentative solution (due to the limited set of evidence we draw our data from) might be defined in terms of locality. The theory of locality in syntax (Belletti 2018) in terms of (featural) Relativized Minimality (Rizzi 1990, 2004; Starke 2001) has played an important role in the interaction between cartographic maps and basic operations of grammar such as (criterial) movement. In a nutshell, the landing position becomes (less) accessible for an element to move to if a similar element hierarchically intervenes (intervener) between the generation site and the landing position. Crucially, the property triggering intervention is not the amount of material that can be considered as intervener, but rather its quality. If the syntactic constituent that has to be displaced and the intervener share feature sets relevant for locality, ungrammatical or marginal structures arise (Rizzi 1990, 2013). Concerning A'-movement, intervention effects also show clear asymmetries in the comprehension and production of structures in typical development (Friedmann et al., 2009), atypical development (Durrleman et al., 2015; Stanford & Delage 2019) and in language pathology (Grillo 2008; Martini et al. 2019). Similar asymmetries are found in studies in quantitative studies: Samo & Merlo (2019) show that mismatch configuration (disjunction of features) of sets of morphosyntactic features in A'-movement are preferred than matching configurations (similarity in features) in large-scale corpora. Due to the nature of the evidence discussed here, we only focus on a feature *type* having as values Pronoun (pron) and full DP (DP). In A'-movement of the object, the subject acts as an intervener (similarity or disjunction, cf. Friedmann et al. 2009; Villata et al. 2016), while if the subject is focalized/topicalized no element intervenes, as in (13).

(13)

Structure	*Configuration*	*Focus/Topic*	*Subj*	*Obj*
S_{DP} O_{DP}	*No intervention*	DP	<DP>	DP
S_{DP} O_{PRON}	*No intervention*	DP	<DP>	PRON
O_{PRON} S_{DP}	*Disjunction*	PRON	DP	<PRON>
O_{DP} S_{DP}	*Similarity*	DP	DP	<DP>

However, typically A'-movement involving an object crossing a subject does not trigger ungrammatical structures in adult grammar (e.g. object relatives, questions

on the object, etc.). This suggest that in OVS structures as presented in (9), the subject can also target a criterial position. Due to the uniqueness of focus (Rizzi 1997), we presume that (i) either the object and the subject may move to one focus and one topic position or (ii) both elements undergo movement towards two topic position, as presented in (14). The subject might target either a position in the LP after the inflected verb (cf. Samo 2019) or a Topic/Focus position in the Low IP area (Belletti 2004).

(14) [$_{\text{SpecFocusP/SpecTopicP}}$ object [$_{\text{Focus°/Top°}}$ **verb** [… [$_{\text{TopicP/FocusP}}$ subject [$_{\text{vP}}$ <subject> <verb> <object>]]]]]

The reordering triggered by the object fronting in "speaking" artifact displays to some degree the activation of peripheral positions of the syntactic structures. As it has been observed in contemporary languages, locality principles might play a role in activating criterial positions and their interpretation. In Section 4, we aim to determine whether it is possible to detect other layers of activated functional projections for phrasal movement and verb movement.

4. Uncovering further portions of the left periphery: Relatives and imperatives

Etruscan data do not show questions or embedded questions, but we do find occurrences of relative clauses.[10] Such clauses were introduced by a typology of relative pronouns. Following Agostiniani (2013), the subordinators *ipa, an*(c), *in*(c) vary according to the animacy of the relativized head as given in (15). In reduced relatives (Rix 2008: 161), only *in* occurs as shown in (15b).

(15) a. Animate:
Vel… **an** cn σuθi ceriχunce
*Vel… who this grave set up.*PAST
'Vel, who set up this grave' (Rix 2008: 162; 26a)

b. Inanimate:
Tins **in** [ś]arle
*Jupiter.*GEN *what śarle*
'Of Jupiter what [is] in *śarle*' (Meiser ET^2, LL VI-14: 162; 26c)

10. Building from Rix (2005: 694), we can also map a description of subordinations in cartographic terms. However, not every type of subordinate clause is attested in Etruscan artifacts. For example, we have no records of hypothetical clauses or embedded interrogatives.

We here propose that these elements are the realization of left peripheral head, possibly a Relative head. As suggested by an anonymous reviewer that fact that these relativizers display animacy distinctions, it is plausible that the element may be a relative pronoun, since similar asymmetries concerning the status of animacy and relativizer are observed in languages like English (*who* vs. *what*/*which*).[11] We here suggest the evidence here discussed could be representative of the activation of the LP in Etruscan. Due to the availability of the findings, the status of animacy and the asymmetry concerning reduced relatives needs further investigation.

Finally, we would like to briefly discuss the movement of the verb to the LP. We do find a reduced set of imperative clauses. The inflected verb moves very high in the structure, giving rise to a so-called verb first (V1) order. These orders are found only in longer texts, such as *Liber Linteus* (as the example given in (15)). We add question marks where the lexical meanings remaining opaque. However, the lack of lexical meaning does not hinder the analysis on the position of the verb.

(15) *Imperative clauses* (*Liber Linteus* XII- 3–4 from Facchetti 2002: 61)
muθ hilarθune etertic caθre χim enaχ unχva
collect (*among).owners?? people?? in-assembly?? All? every* your-thing

The superficial order, even though the interpretation of lexical entries are of difficult nature (*Liber Linteus*) shows the uninflected stem of the verb *muθ* 'to collect' in the very beginning of the clause. This element marking imperative, might suggest that the verb moves to the CP domain (cf. Henry 2002), plausibly to Force° (see Samo 2019 for a discussion on Germanic), typing then the utterance as imperative.

5. Conclusions

We aim to insert this work into an interdisciplinary exchange between Etruscan philology and linguistic theory: despite the intrinsic difficulty represented by the fragmentary data, we provided some theory-driven insights to detect interpretative effects. Indeed, we have observed that theoretical assumptions concerning the architecture of the LP adopted as investigative tools may help us shed light on the interpretation and strategies of textual data coming from Etruscan.

Starting from theory-internal considerations, we observed some phenomena concerning the LP of Etruscan. Following the criterial approach of scope-discourse semantics, we propose that the movement of the verb in Etruscan adjacent to the fronted XP is the strategy to realize the activated criterial position in the left periphery. Locality may be involved, since only pronominal objects seem to be attested to

11. We are grateful to an anonymous reviewer for this remark.

the left of subjects. In the same spirit, it is possible to observe other left peripheral elements, such as verb movement and types of relativizers. The specific inanimate relative operator *in(c)* occurring in reduced relatives could represent a further contribution concerning the cartography of relative clauses and the status of animacy.

We focused on qualitative data to show the importance of cartographic results in detecting further layers of information. These tools have been useful for addressing understudied languages like Etruscan in generative terms: further research will be backed up by the application of the current methods of data collection and annotation in (generative) historical linguistics.

References

Aboh, Enoch O. 2004. *The Morphosyntax of Complement-head Sequences: Clause Structure and Word Order Patterns in Kwa*. Oxford: OUP. https://doi.org/10.1093/acprof:oso/9780195159905.001.0001

Aboh, Enoch O. 2007. Leftward focus versus rightward focus: The Kwa-Bantu conspiracy. *SOAS Working Papers Linguistics* 15: 81–104.

Agostiniani, Luciano. 1982. Le "iscrizioni parlanti" dell'Italia antica. In *Lingue e iscrizioni dell'Italia antica*, Aldo Prosdocimi (ed.). Florence: Leo S. Olschki editore.

Agostiniani, Luciano. 1986. Sull'etrusco della stele di Lemno e su alcuni aspetti del consonantismo etrusco. *Archivio Glottologico Italiano* LXXI: 15–46.

Agostiniani, Luciano. 2013. The Etruscan language. In *The Etruscan World*, Jean MacIntosh Turfa (ed.). London: Routledge.

Belletti, Adriana. 2004. Aspects of the low IP area. In *The Structure of CP and IP, the Cartography of Syntactic Structures*, Vol. 2, Luigi Rizzi (ed.), 16–51. Oxford: OUP.

Belletti, Adriana. 2017. Labeling (Romance) causatives. In *Elements of Comparative Syntax: Theory and Description*, Enoch O. Aboh, Eric Haeberli, Genoveva Puskás & Manuela Schönenberger (eds), 13–46. Berlin: De Gruyter Mouton. https://doi.org/10.1515/9781501504037-002

Belletti, Adriana. 2018. *Locality in Syntax*. Oxford: OUP.

Belletti, Adriana & Rizzi, Luigi. 2017. On the syntax and pragmatics of some clause-peripheral positions. In *Formal Models in the Study of Language*, Joanna Blochowiak, Cristina Grisot, Stephanie Durrleman & Christopher Laenzlinger (eds), 33–48. Cham: Springer. https://doi.org/10.1007/978-3-319-48832-5_3

Benucci, Franco. 1997. Sintassi del verbo e deittici clitici nelle iscrizioni sudpicene. *Rivista di Grammatica Generativa* 22: 37–92.

Bianchi, Valentina, Bocci, Giuliano & Cruschina, Silvio. 2015. Focus fronting and its implicatures. In *Romance Languages and Linguistic Theory 2013: Selected papers from 'Going Romance' Amsterdam 2013* [Romance Languages and Linguistic Theory 8], Enoch O. Aboh, Jeannette Schaeffer & Petra Sleeman (eds), 1–20. Amsterdam: John Benjamins. https://doi.org/10.1075/rllt.8.01bia

Bocci, Giuliano. 2013. *The Syntax–Prosody Interface. A Cartographic Perspective with Evidence from Italian* [Linguistik Aktuell/Linguistics Today 204]. Amsterdam: John Benjamins. https://doi.org/10.1075/la.204

Canuti, Massimiliano. 2008. *Basco ed Etrusco, due lingue sottoposte all'influsso indoeuropeo*. Pisa: Fabrizio Serra Editore.

Cinque, G. 1982. On the theory of relative clauses and markedness. *The Linguistic Review* 1(3): 247–296. https://doi.org/10.1515/tlir.1982.1.3.247

Cinque, Guglielmo. 1990. *Types of A' Dependencies*. Cambridge MA: The MIT Press.

Cinque, Guglielmo & Rizzi, Luigi. 2010. The cartography of syntactic structures. In *Oxford Handbook of Linguistic Analysis*, Bernd Heine & Heiko Narrog (eds). Oxford: OUP.

Danckaert, Lieven. 2012. *Latin Embedded Clauses: The Left Periphery* [Linguistik Aktuell/Linguistics Today 184]. Amsterdam: John Benjamins. https://doi.org/10.1075/la.184

Dryer, Matthew S. 2005. Order of subject, object and verb. In *The World Atlas of Language Structures*, M. Haspelmath, Matthew S. Dryer, David Gil & Bernard Comrie (eds), 330–333. Oxford: OUP.

Dryer, Matthew S. & Hapelmath, Martin. 2013. *The World Atlas of Language Structures Online*. Leipzig: Max Planck Institute for Evolutionary Anthropology. <https://wals.info/>

Durrleman, Stephanie, Hippolyte, Loyse, Zufferey, Sandrine, Iglesias, Katia & Hadjikhani, Nouchine. 2015. Complex syntax in autism spectrum disorders: A study of relative clauses. *International Journal of Language & Communication Disorders* 50(2): 260–267. https://doi.org/10.1111/1460-6984.12130

Facchetti, Giulio M. 2002. *Appunti di morfologia etrusca, con un'appendice sulla questione delle affiinità genetiche dell'etrusco*, Florence: Leo S. Olschki editore.

Fischer, Olga, van Kemenade, Ans, Koopman, Willem & van der Wurff, Wim. 2000. *The Syntax of Early English* [Cambridge Syntax Guides]. Cambridge: CUP.

Frascarelli, Mara & Hinterhölzl, Roland. 2007. Types of topics in German and Italian. In *On Information Structure, Meaning and Form* [Linguistik Aktuell/Linguistics Today 100] Kerstin Schwabe & Susanne Winkler (eds), 87–116. Amsterdam: John Benjamins. https://doi.org/10.1075/la.100.07fra

Friedmann, Naama, Belletti, Adriana & Rizzi, Luigi. 2009. Relativised relatives: Types of intervention in the acquisition of A-bar dependencies. *Lingua* 119: 67–88. https://doi.org/10.1016/j.lingua.2008.09.002

Giacomelli, Gabriella. 1963. *La lingua fallisca*, Florence: L.S. Olschki.

Greenberg, Joseph H. 1975. Research on language universals. *Annual Review of Anthropology* 4(1): 75–94. https://doi.org/10.1146/annurev.an.04.100175.000451

Grillo, Nino. 2008. Generalized Minimality. PhD dissertation, University of Utrecht.

Gulordava, Kristina & Merlo, Paola. 2015. Diachronic trends in word order freedom and dependency length in dependency-annotated corpora of Latin and Ancient Greek. In *Proceedings of the Third International Conference on Dependency Linguistics (Depling 2015)*, Joakim Nivre & Eva Hajičová (eds), 121–130. Uppsala: Uppsala University.

Hartmann, Markus. 2006. *Die frühlateinischen Inschriften und ihre Datierung: Eine linguisticsh-archäologisch-paläographische Untersuchung*. Bremen: Hempen.

Henry, Alison. 2002. Variation and syntactic theory. In *Handbook of Language Variation and Change*, Jack T. Chambers & Natalie Schilling-Estes (eds), 267–282. Oxford: Blackwell.

Holmberg, Anders. 1986. Word Order and Syntactic Features in the Scandinavian Languages and English. PhD dissertation, University of Stockholm.

Kayne, Richard. 1994. *The Antisymmetry of Syntax*. Cambridge MA: The MIT Press.

Keenan, Edward. 1976. Remarkable subjects in Malagasy. In *Subject and Topic*, Charles N. Li (ed.), 247–301. New York NY: Academic Press.

Kidwai, Ayesha. 2000. *XP-adjunction in Universal Grammar: Scrambling and binding in Hindi-Urdu*. Oxford: OUP.

Kiparsky, Paul. 1995. Indo-European origins of Germanic syntax. In *Clause Structure and Language Change*, Adrian Battaye & Ian Roberts (eds), 140–167. Oxford: OUP.

Ledgeway, Adam. 2012. When data meet theory: The case of the placiti cassinesi. In *Linguistics and Philology in the Twenty-first Century* [Special Issue of the Transactions of the Philological Society 109], Sylvia Adamson & Wendy Bennett (eds), 213–219. Oxford: Blackwell.

Martini, Karen, Belletti, Adriana, Centorrino, Santi & Maria Garaffa. 2019. Syntactic complexity in the presence of an intervener: The case of an Italian speaker with anomia. *Aphasiology* 34(8): 1016–1042. https://doi.org/10.1080/02687038.2019.1686744

Meiser, Gerhardt (ed.). 2014. *Etruskische Texte, Editio Minor*, 2 Vols. Hamburg: Baar.

Merlo, Paola. 2016. Quantitative computational syntax: Some initial results. *Italian Journal of Computational Linguistics* 2(1): 11–30. https://doi.org/10.4000/ijcol.347

Pallottino, Massimo. 2002. *Etruscologia*, 7th edn. Milan: Urlico Hoepli.

Poccetti, Paolo. 2008. Identità ed identificazione del latino. Orale e scritto. In *Una storia della lingua latina*, Paolo Poccetti, Diego Poli & Carlo Santini (eds). Roma: Carocci.

Puskás, Genoveva. 2000. *Word Order in Hungarian: The Syntax of A'-Positions* [Linguistik Aktuell/Linguistics Today 33]. Amsterdam: John Benjamins. https://doi.org/10.1075/la.33

Rix, Helmut. 1973. La struttura della lingua. In *Le ricerche epigrafiche e linguistiche sull'etrusco, problemi prospettive programmi. Atti del colloquio sul Tema, Florence, 28–30 settembre 1969*, Mauro Christofani (ed.), 46–49, 54, 56. Florence: Leo S. Olschki.

Rix, Helmut. 1981. Pyrgi Texte uns etrskische Grammatik. In *Akten des Kolloquiums zum Thema Die Gottin von Pyrgi. Archeologische, linguistische und religionsgeschichtliche Aspekte. Tuebingen, 16–17 gennaio 1979* [Biblioteca di Studi Etruschi 1], Aldo Neppi Modona & Friedhelm Prayon (eds), 83–98. Florence: Leo S. Olschki.

Rix, Helmut. 1998. Rätisch und Etruskisch. In *Innsbrucker Beiträge zur Sprachwissenschaft, Vorträge und Kleiner Schriften 68*, Wolfgang Meid (ed.). Innsbruck: Institut für Sprachwissenschaft der Universität Innsbruck.

Rix, Helmut. 2005. Etruscan. In *The Cambridge Encyclopedia of the World's Ancient Languages*, Roger D. Woodard (ed.), 943–966. Cambridge: CUP.

Rix, Helmut. 2008. Etruscan (Chapter 7). In *The Ancient Languages of Europe*, Roger D. Woodard (ed.), 141–64. Cambridge: CUP. https://doi.org/10.1017/CBO9780511486814.010

Rizzi, Luigi. 1990. *Relativized Minimality*. Cambridge MA: The MIT Press.

Rizzi, Luigi. 1997. The fine structure of the left periphery. In *Elements of Grammar*, Liliane Haegeman (ed.), 281–337. Dordrecht: Kluwer. https://doi.org/10.1007/978-94-011-5420-8_7

Rizzi, Luigi. 2004. Locality and left periphery. In *Structures and Beyond* [The Cartography of Syntactic Structures 3], Adriana Belletti (ed.), 223–251. Oxford: OUP.

Rizzi, Luigi. 2006. On the form of chains: Criterial positions and ECP effects. In *Wh-Movement: Moving On*, Lisa L. S. Cheng & Norbert Corver (eds), 97–133. Cambridge MA: The MIT Press.

Rizzi, Luigi. 2013. Notes on cartography and further explanation. *Probus* 25(1): 197–226. https://doi.org/10.1515/probus-2013-0010

Rizzi, Luigi. 2015. Cartography, criteria, and labeling. In *Beyond Functional Sequence* [The Cartography of Syntactic Structures 10], Ur Shlonsky (ed.), 314–338. Oxford: OUP. https://doi.org/10.1093/acprof:oso/9780190210588.003.0017

Rizzi, Luigi & Bocci, Giuliano. 2017. The left periphery of the clause: Primarily illustrated for Italian. In *The Blackwell Companion to Syntax*, Martin Everaert & Henk van Riemsdijk (eds) 1–30. Malden MA: Wiley-Blackwell.

Rizzi, Luigi & Cinque, Guglielmo. 2016. Functional categories and syntactic theory. *Annual Review of Linguistics* 2: 139–163. https://doi.org/10.1146/annurev-linguistics-011415-040827

Roberts, Ian. 2007. *Diachronic Syntax*. Cambridge: CUP.

Samo, Giuseppe. 2019. *A Criterial Approach to the Cartography of V2* [Linguistik Aktuell/Linguistics Today 257]. Amsterdam: John Benjamins. https://doi.org/10.1075/la.257

Samo, Giuseppe & Merlo, Paola. 2019. Intervention effects in object relatives in English and Italian: a study in quantitative computational syntax. In *Proceedings of the first workshop on quantitative syntax (Quasy, Syntaxfest 2019)*, Xinying Chen & Ramon Ferrer-i-Cancho (eds), 46–56. Stroudsburg PA: ACL. https://doi.org/10.18653/v1/W19-7906

Shlonsky, Ur. 2000. Remarks on the complementizer layer of standard Arabic. In *Research in Afroasiatic Grammar: Papers from the Third conference on Afroasiatic Languages, Sophia Antipolis, 1996* [Current Issues in Linguistic Theory 202], Jacqueline Lecarme, Jean Lowenstamm & Ur Shlonsky (eds), 325–343. Amsterdam: John Benjamins. https://doi.org/10.1075/cilt.202.15shl

Si, Fuzhen. 2011. Syntacticization of pragmatic information at sentential and noun phrase levels (语用信息在句子和名词短语层面的句法化), *Journal of Yili Normal University (Social Science Edition)* – 伊犁师范学院学报（社会科学版）2: 92–95.

Si, Fuzhen. 2018. A cartographic study of light verb constructions. Yuwen Xuexi (Linguistic Research) 1: 11–17.

Skopeteas, Stavros & Fanselow, Gisbert. 2010. Focus in Georgian and the expression of contrast. *Lingua* 120: 1370–1391. https://doi.org/10.1016/j.lingua.2008.10.012

Stanford, Emily & Delage, Hélène. 2019. Complex syntax and working memory in children with specific learning difficulties. *First Language* 40(4). https://doi.org/10.1177/0142723719889240

Starke, Michal. 2001. *Move* Dissolves into Merge: A Theory of Locality. PhD dissertation, University of Geneva.

Tsimpli, Ianthi M. 1995. Focusing in Modern Greek. In *Discourse Configurational Languages*, Katalin É. Kiss (ed.). Oxford: OUP.

Villata, Sandra, Rizzi, Luigi & Franck, Julie. 2016. Intervention effects and relativized minimality: New experimental evidence from graded judgments. *Lingua* 179: 76–96. https://doi.org/10.1016/j.lingua.2016.03.004

Wachter, Rudolf. 2010. The origin of epigrams on 'speaking objects'. In *Archaic and Classical Greek Epigram*, Manuel Baumbach, Andrej Petrović & Ivana Petrovic (eds), 250–260. Cambridge: CUP.

Wallace, Rex E. 2008. *Zikh Rasna: A Manual of the Etruscan Language and Inscriptions*. Ann Arbor MI: Beech Stave Press.

Walkden, George. 2014. *Syntactic Reconstruction and Proto-Germanic*. Oxford: OUP. https://doi.org/10.1093/acprof:oso/9780198712299.001.0001

Wylin, Koem. 2000. *Il verbo etrusco. Ricerca morfosintattica delle forme usate in funzione verbale* [Studia Philologica 20]. Roma: L'erma di Bretschneider.

CHAPTER 6

Subject drop in *how come* questions in English

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In this paper, I will discuss a novel phenomenon which has not previously been discussed in the literature on *how come* questions – namely the fact that they can exhibit subject drop in diary-style English. I will first introduce Haegeman's (1990) analysis of diary English with special attention to subject drop. I will next show some facts that *how come* questions can exhibit subject drop in diary-style English and suggest a mechanism responsible for subject drop in diary English. It will be shown that the same mechanism is used to license the null subject in Old English. I will further deal with a related but distinct question about the mechanism licensing an argumental element in the lower topic position in Old English, as opposed to Late Middle English. I will finally show that the same mechanism responsible for subject drop is used in licensing null Case in Japanese.

Keywords: subject drop, *how come* questions, diary-style English, Old English, Late Middle English, Japanese

1. Introduction

In this paper, I will discuss the nature of subjectless sentences in diary English. To be more specific, I will first introduce Haegeman's (1990) idea that use of a null subject in diary English is not compatible with a root *wh*-question. I will next ask how the idea would deal with the fact that use of a null subject in diary English is compatible with a root *how come* questions, where I will suggest two approaches: the licensing approach and the truncation approach. To further our understanding of these approaches, I will compare and examine the nature of the licensing approach and the truncation approach by looking at similar but distinct null subject Case particles in Japanese. Finally, I will summarize the whole discussion.

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2. Subject drop in *how come* questions in diary English

Haegeman (1990) discusses various properties of diary English, including the use of a null subject in sentences such as (1) (represented by <ec>):[1]

(1) A very sensible day yesterday. <ec> Saw no one. <ec> Took the bus to Southwark Bridge. <ec> Walked along Thames Street.
(Virginia Woolf, Diary, vol.5, 1936–41, pp. 203–4)

Haegeman claims that use of a null subject in diary English is not compatible with a root *wh*-question, as we see in (2) below:

(2) *When will <ec> be able to meet him? (Haegeman 1990: 163–164)

However, Andrew Radford (personal communication) tells me that, following a query from Liliane Haegeman about whether *how come* allows subject drop, he googled numerous subjectless *how come* questions including those in (3):[2]

(3) a. How come can't use iPhoto anymore? (discussions.apple.com)
b. How come am listening to a part of the book? (goodreads.com)
c. How come haven't got recon yet? (halowaypoint.com)
d. How come wasn't stopped on the outward journey? (whatdotheyknow.com)

How can these cases be dealt with? One of the possibilities is to adopt Rizzi's (1997, 2001, 2004) idea of articulated CP structure in (4) and Rizzi's (2014) Fin recursion system in (5):

(4) Force Top* Int Top* Focus Mod* Top* Fin IP (Rizzi 2004)

(5) a. In the presence of an intervening adverbial element, Fin recursion creates a split Fin structure (=Fin[−N] and Fin[+N]);
b. Fin [−N] may host the complementizer *that*;
c. Fin [+N] does not host the complementizer *that*, but instead licenses the subject position.[3]

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1. See also Haegeman (2013, 2017) for the discussion of subject drop in diary English. I will come back to these works later on.

2. I am grateful to Andrew Radford (personal communication) for providing me with these facts. See Radford (2018: 257–258) for the discussion of subject drop in *how come* questions, where he uses *how come* questions different from those in (3). In what follows, I will mainly use *how come* questions that he suggested to me but does not appear in Radford (2018). See Endo (2015) for various properties of *how come* questions and Endo (2017, 2018) for interspeaker variation of *how come* questions.

3. With the mechanism in (5), Rizzi (2014) explains *that*-trace effects, where it is shown that in the presence of an intervening adverbial element Fin[+N] is created to license the local empty subject position.

With this idea of Fin recursion in mind, I suggest that *how come* directly selects Fin[+N], which in turn licenses the subject head DSubj in *how come* sentences.[4]

(6) [$_{\text{INTP}}$ *how come* [$_{\text{INT}}$ ø] [$_{\text{FINP}}$ [$_{\text{FIN[+N]}}$ φ] [$_{\text{DP}}$ [$_{\text{D-SUBJ}}$ ø]…]]]

With this representation in mind, let us consider the *how come* questions in (3). Here, a null subject in diary style may be licensed by an immediately adjacent nominal Fin head, i.e. Fin[+N]. Recall that Fin[–N], as opposed to Fin[+N], hosts the complementizer *that*. This predicts that we will not find null subjects with *how come that*. This is because *how come* directly selects Fin[+N] that does not spell out the complementier *that*. It is Fin[+N] that licenses null subjects in diary style English. This prediction is borne out by the observation that all the informants who I consulted said that sentences like (3') below are ungrammatical, where *how come that* is followed by a null subject.

(3') a. *How come that <ec> can't use iPhoto anymore?
b. *How come that <ec> am listening to a part of the book?
c. *How come that <ec> haven't got recon yet?
d. *How come that <ec> wasn't stopped on the outward journey?

Why is different from *how come* in requiring subject-auxiliary inversion, where an inverted auxiliary moves into a non-nominal Fin which is verbal, i.e. Fin[+V] (cf. Rizzi and Shlonsky (2007)). Andrew Radford (personal communication) notes that if we replace *how come* in (3) by *why*, ungrammaticality arises as in (7), where *why* is followed by an inverted auxiliary verb found in the head of Fin[+V]. He also suggests that the ungrammaticality follows if a null subject can only be licensed by an immediately adjacent Fin[+N], not by a Fin[+V] (e.g. Fin hosting an inverted auxiliary).[5]

(7) a. *Why can't <ec> use iPhoto anymore?
b. *Why am <ec> listening to a part of the book?
c. *Why haven't <ec> got recon yet?
d. *Why wasn't <ec> stopped on the outward journey?[6]

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4. This proposal was originally suggested to me by Andrew Radford (personal communication) in our discussion on *how come* questions.

5. He also reports that he managed to google only one example of *how come that am…*, but notes that it contained errors suggesting it was produced by a non-native speaker.

6. A reviewer reports that one informant (s)he consulted accepted the following *how come* questions with a second person subject drop in the presence of auxiliary verbs, for which I have no analysis.

i. How come did not talk to her when you were there?
ii. How come did not bring your laptop?
iii. How come did not mention the problem to the police?

See Haegeman and Starke (2021) for the person restriction seen in subject omission.

As Andrew Radford (personal communication) points out, the real problem is why only a nominal Fin (not Fin-*that* or Fin[−N]) can license subject drop. He conjectures that the answer may lie in a nominal Fin carrying agreement properties that can license (and be valued by) a null subject in Spec, DP_{SUBJ}. I will discuss this point later.

As Luigi Rizzi (personal communication) pointed out to me, there is an alternative approach to the null subject in *how come* questions that exploits the mechanism of truncation. Haegeman (2013, 2017) argues that subject drop in root clauses involve truncation, where the relevant clauses are truncated or projects up only as far as SUBJP.[7] If we adopt this analysis to *how come* questions with the null subject at issue, we could suppose that the sentence have the structure in (8) below. If SUBJP is the root phase, the constituent in the specifier of SUBJP, the subject, and the head SUBJP, cannot be spelt out. The complement of the phasal head Subj, TP, on the other hand, will be spelt out fully.

(8) [INTP *how come* [$_{INT}$ ø] [$_{SUBJP}$ ɨ [$_{TP}$ …

A consequence of our Fin-based approach to *how come* questions can be seen in the absence of subject-auxiliary inversion, where an inverted auxiliary moves into a non-nominal Fin which is verbal, i.e. Fin[+V]. Because the Fin-based approach assumes that *how come* selects Fin [+N], it is predicted that Auxiliary Inversion is not possible, because an auxiliary verb may not target Fin[+N]. How would the truncation approach deal with the absence of Auxiliary Inversion in *how come* questions? The truncation approach assumes that Fin is truncated or not projected, and thus the absence of Auxiliary Inversion can be attributed to the lack of landing site of an auxiliary verb.[8]

Up to here, we have seen two approaches to the null subject in *how come* questions: the licensing approach and the truncation approach. To further our understanding of these two approaches, the next section will compare and examine the licensing approach and the truncation approach by looking at similar but distinct null subject Case particles in Japanese.

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7. Haegeman (2017: 240) adopts Rizzi's (2006) hypothesis of the variable root phase and proposes that in the relevant registers, the derivation may terminate at SubjP, by which the root SubjP acquires phasal status.

8. Radford (2018) emphasizes the factive status of *how come* questions and attributes the absence of the subject-auxiliary inversion to the fact that subject-auxiliary inversion cannot take place in factive environment. See Fitzpatrick (2005) for factive nature of *how come* questions.

3. Null Case particle in Japanese

In this section, I will compare and examine the licensing approach and the truncation approach we saw in the previous section by looking at null subject Case particles in Japanese.

Masunaga (1988: 148) observes that the Case particle *ga* suffixed to the subject can drop when the verb is followed by a sentence final particle (SFP) like *yo*, as illustrated below.

(9) Blond-no otokonoko-(ga) Taro-o nagutta *(yo).
Blond-gen boy-(Nom) Taro-Acc hit SFP
'A blond boy hit Taro.'

One way to deal with this fact is the licensing approach discussed in the previous section, where Miyagawa's (2010, 2017) idea of Strong Uniformity is exploited. Strong Uniformity is formulated below:

(10) Strong Uniformity (Miyagawa (2010, 2017))
Every language shares the same set of grammatical features, and every language overtly manifests these features.

The "grammatical features" in Strong Uniformity include both φ-features and δ-features, what Kiss (1995) calls "discourse-configurational" features.

(11) φ-features
δ-features: topic, focus

The idea is that these two types of grammatical features are computationally equivalent, both serving to trigger operations within narrow syntax across languages.[9] Furthermore, all grammatical features are assumed to originate at a phase head – C. Based on this idea, I suggest that the licensor of a null Case particle in Japanese is a discourse feature carried by the SFP *yo* found in the CP zone, as depicted in (12). (See Endo (2007, 2012) for the evidence that SFP is found in the CP zone.)

(12) $[_{CP}$ $[_{IP}$ DP-φ …] *yo* (discourse feature)]
license

9. The subject-drop phenomenon in diary English has its root in discourse/text construals, which seems to be connected to Case particle drop in terms of the Strong Uniformity. I am grateful to a reviewer for reminding me of this point.

Thus, the same mechanism responsible for subject drop in diary English (i.e. the agreement properties of φ-features) can be used in licensing the null subject Case in Japanese *ga* (i.e. the discourse features of discourse particle).

As Luigi Rizzi (personal communication) pointed out to me, there is an alternative truncation approach available to the null Case particle in Japanese by using the idea of Endo (2007, 2012). Endo shows that a SFP like *yo* has dual properties, one of which is a modal property of expressing various moods like epistemic mood, evidential mood, etc., which are arranged according to Cinque's (1999) hierarchy in the IP zone and (ii) a discourse-related property of expressing various types of speech-acts like confirmation, speaker's judgment, etc. in the CP zone.[10] Endo proposes to capture the dual nature of SFPs by movement of SFPs from the IP

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10. As a reviewer points out, a principled distinction between modal adverbs and speech act adverbs should be made. This distinction is very clearly seen in speech-act particles, not modal adverbs, in German and Japanese in (i) and (ii). In (i), speech-act modal particles (MPs) modify illocutionary force where the sentences express directives in the sense of Searle (1985). I borrowed the examples from Coniglio & Zegrean (2012: 233, see also Coniglio 2014 for the discussion of MPs in German.)

(i) Ruf die Polizei!
call the police
'Call the police!'
a. Ruf **halt** die Polizei!
b. Ruf **mal** die Polizei!
c. Ruf **doch** die Polizei!
d. Ruf **JA** die Polizei!
bloss, nur, etc.

Here, the clause type is imperative in all cases, but the pragmatic strength of the order is modified and ordered according to the meaning of MPs. In parallel to this, illocutionary force in Japanese (modified by SFPs) and pragmatic strength are ordered as in the German case above, as shown by Dohi (2020).

(ii) Keisatu-o yobi-nasai.
police-ACC call-imp
'Call police!'
Keisatu-o yobi-nasai-**na**.
police-ACC call-imp-sfp
Keisatu-o yobi-nasai-**ne**
police-ACC call-imp-sfp
Keisatu-o yobi-nasai-**yo**.
police-ACC call-imp-sfp
Keisatu-o yobi-nasai-**tteba**
police-ACC call-imp-sfp

See Endo (2020) on this point. See also Krifka (2017) on the distinction between modal adverbs and speech act adverbs. I am grateful to a reviewer for reminding me of Krifka's work.

zone into the CP zone. That is, various types of SFPs originate in the head positions dedicated to mood in the IP zone, which in turn moves into the head position of Speech-actP to fix its speech-act, as schematically shown below.[11] (See Endo (2012) for motivation of the movement of a SFP.)

(13) [Speech-actP….[IP [MoodP…SFP

Because Japanese is a strictly head final language, the whole IP is displaced to the specifier position of Speech-actP, as shown in (14).

(14) [Speech-actP….[Speech-act SFP….[IP……..]

Here, the displaced IP is located in the highest part of the main clause, where truncation may take place. In this privileged position to undergo truncation, the Case layer of the subject noun phrase, i.e. CaseP, may be truncated or not projected.[12] For this reason, the sentence in (9) with the SFP *yo* may have a subject without a Case particle. Note that this point about Case particle is compatible with diachronic facts in Japanese. In Old Japanese, there was no Case particle at all, where the Case particles in Modern Japanese were used as focus particles. In the course of diachronic changes, the focus interpretation attached to DP was lost, but is sometimes found in some restricted environments in Modern Japanese as in (9). Here, in the presence of the Case particle *ga*, the subject DP is necessarily interpreted as focus and the non-focus interpretation can be attained in the absence of the Case particle. This

11. To be more precise, a SFP transits through Fin head. In case a SFP like *yo* is used, it may satisfy the EPP because it is [+N] as shown by the compatibility with the nominal Fin *no*, making it possible for particle-nominal Fin pair licenses the subject requirement and the quantified subject remain in VP and is interpreted to be in the scope of negation. In contrast, in case a SFP like *wa* is used, it may not satisfy the EPP because it is [−N] as shown by the incompatibility with the nominal Fin *no*, making it impossible for particle-nominal Fin pair licenses the subject requirement and the quantified subject moves to the spec, SubjP to be interpreted to be outside the scope of negation. See Endo (2012) for discussion on this point. See also Endo and Haegeman (2014, 2019) for Speech-actP.

12. To be more precise, the subject noun phrase and the associated IP are originally created in two distinct workspaces. In one workspace, the head of the highest layer of the subject noun phrase, i.e. CaseP, is truncated and not spelled out, while the complement of CaseP is spelt out fully. Thus, the head of CaseP, i.e. the nominative Case particle *ga*, is not pronounced and this subject DP without a Case particle is merged with the associated IP. Here, the subject DP without a Case particle can only be merged in Spec, IP that is located in the highest part of the main clause. More study is required for the exact mechanism of merging the subject DP without a Case particle with the highest IP.

situation of the subject without a Case particle can be created by the truncation of the Case layer without projecting a Case particle layer at all. But what happens to the case where a SFP is absent? As Luigi Rizzi (personal communication) points out, in the absence of a SFP, the entire IP does not move into the CP zone. On the assumption that that there is C projection in the main clause even in the absence of CP-related elements, the subject is embedded by C projection and is not found in the highest projection to undergo truncation, where CaseP cannot be truncated in such an environment.[13]

4. Summary

To summarize the overall contents of the paper, I discussed *how come* questions that are followed by a null subject in diary English. First, I introduced Haegeman's (1990) idea that use of a null subject in diary English would not be compatible with a root *wh*-question. Next, I discussed how this idea would deal with the fact that use of a null subject in diary English would be compatible with a root *how come* questions. To account for this asymmetry between *how come* questions and other *wh*-questions, I suggested two approaches: the licensing approach and the truncation approach. Finally, to have a better understanding of the licensing approach and the truncation approach, I compared and examined these two approaches by looking at similar but distinct null subject Case particles in Japanese.

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13. See also Endo (2020) for the properties of null Case particles in Japanese from the perspective of the Theory of Mind.

References

Belletti, Adriana. 2001. "Inversion" as focalization. In *Subject Inversion in Romance and the Theory of Universal Grammar*, Aafke C. J. Hulk & Jean-Yves Pollock (eds), 60–90, Oxford: OUP.

Belletti, Adriana. 2004. Aspects of the low IP area. In *The Structure of IP and CP: The Cartography of Syntactic Structures*, Vol. 2, Luigi Rizzi (ed.), 16–51. Oxford: OUP.

Cinque, Guglielmo. 1999. *Adverbs and Functional Heads: A Cross-Linguistic Perspective*. Oxford: OUP.

Coniglio, Marco. 2014. The fine structure of force: On the interaction of modal particles with illocutionary force and clause type. In *On Peripheries: Exploring Clause Initial and Clause Final Positions*, Anna Cardinaletti, Guglielmo Cinque & Yoshio Endo (eds), 103–140. Tokyo: Hituzi.

Coniglio, Marco & Zegrean, Iulia. 2012. Splitting up force. Evidence from discourse particles. In *Main Clause Phenomena: New Horizons* [Linguistik Aktuell/Linguistics Today 190], Lobke Aelbrecht, Liliane Haegeman & Rachael Nye (eds), 229–255. Amsterdam: John Benjamins. https://doi.org/10.1075/la.190.10con

Culicover, Peter. 1991. Topicalization, inversion and complementizers in English. In *Going Romance and Beyond*, Denis Delfitto, Martin Everaert, Arnold Evers & Frits Stuurman (eds), 1–45. Utrecht: University of Utrecht.

Dohi, Atsushi. 2020. CP-internal discourse particles and the split ForceP hypothesis. *Lingua* 233. 68–87.

Endo, Yoshio. 2007. *Locality and Information Structure. A Cartographic Approach to Japanese* [Linguistik Aktuell/Linguistics Today 116]. Amsterdam: John Benjamins. https://doi.org/10.1075/la.116

Endo, Yoshio. 2012. Illocutionary force and modal particles in the syntax of Japanese. In *Theory of Mind Elements across Languages*, Werner Abraham & Elisabeth Leiss (eds), 405–424. Berlin: Mouton de Gruyter. https://doi.org/10.1515/9783110271072.405

Endo, Yoshio. 2015. Two ReasonPs. In *Beyond Functional Sequence*, Ur Shlonsky (ed.), 220–231. Oxford: OUP. https://doi.org/10.1093/acprof:oso/9780190210588.003.0012

Endo, Yoshio. 2017. Inter-speaker variation and subject drop in *how come* questions in English. *The Syntax-Morphology Interface in Generative Grammar: Proceedings of the 19th Seoul International Conference on Generative Grammar*, 99–114. Seoul: The Korean Generative Grammar Circle.

Endo, Yoshio. 2018. Variation in wh-expressions asking for a reason. *Special issue on Complementizers: Lexical vs. Functional Variation of* Linguistic Variation 18(2): 299–314.

Endo, Yoshio. 2020. Information structure, null case particle and sentence final discourse particle. In *Discourse Particles and Information Structure* [Studies in Language Companion Series 213], Olivier Duplâtre & Pierre-Yves Modicom (eds), 224–250. Amsterdam: John Benjamins. https://doi.org/10.1075/slcs.213.09end

Endo, Yoshio & Haegeman, Liliane. 2014. Adverbial concord merging adverbial clauses. In *Proceedings of FAJL 7: Formal Approaches to Japanese Linguistics* [MIT Working Papers in Linguistics 73], Shigeto Kawahara & Mika Igarashi (eds), 25–44. Cambridge MA: MITWPL.

Endo, Yoshio & Haegeman, Liliane. 2019. Adverbial clauses and adverbial concord. In *special collection on the Syntax of Adverbial Clauses of* Glossa 4(1): 48, 1–32. https://doi.org/10.5334/gjgl.589

Fitzpatrick, Justin. 2005. The whys and how comes of presupposition and NPI licensing in questions. In John Alderete, Chung-hye Han & Alexei Kochetov (eds), *Proceedings of the 24th West Coast Conference on Formal Linguistics*, 138–145. Somerville MA: Cascadilla Press.

Frey, Werner. 2004. A medial topic position for German. *Linguistische Berichte* 198: 153–190.

Haegeman, Liliane. 1990. Understood subjects in English diaries: On the relevance of theoretical syntax for the study of register variation. *Multilingua* 9: 157–199. https://doi.org/10.1515/mult.1990.9.2.157

Haegeman, Liliane. 2012. *Adverbial Clauses, Main Clause Phenomena and the Left Periphery*. Oxford: OUP. https://doi.org/10.1093/acprof:oso/9780199858774.001.0001

Haegeman, Liliane. 2013. The syntax of registers: Diary subject omission and the privilege of the root. *Lingua* 130: 88–110. https://doi.org/10.1016/j.lingua.2013.01.005

Haegeman, Liliane. 2017. Unspeakable sentences. Subject omission in written registers: A cartographic analysis. *Special issue on Register Variation and Syntactic Theory*, Diane Massam & Tim Stowell (eds), *of Linguistic Variation* 17(2): 229–250. https://doi.org/10.1075/lv.14019.hae

Haegeman, Liliane & Stark, Elisabeth. 2021. Register-specific subject omission in English and French and the syntax of coordination. In *Germanic and Romance: Continuity and Variation*, Sam Wolfe & Christine Mecklenborg Salvesen (eds). Oxford: OUP.

van Kemenade, Ans. 1987. *Syntactic Case and Morphological Case in the History of English*. Foris, Dordrecht. https://doi.org/10.1515/9783110882308

Kiss, Katalin É. 1995. Introduction. In *Discourse Configurational Languages*, Katalin É. Kiss (ed.), 3–27. Oxford: OUP.

Krifka, Manfed. 2017. Assertions and judgements, epistemics and evidentials. Paper presented at the Workshop Speech Acts: Meanings, Uses, Syntactic and Prosodic Realizations, Leibniz-ZAS Berlin, 29–31 May. <https://amor.cms.hu-berlin.de/~h2816i3x/Talks/CommitmentEpistemicsHandout.pdf> (26 January 2021).

Masunaga, Kiyoko. 1988. Case deletion and discourse context. In *Papers from the Second International Workshop on Japanese Syntax*, William Poser (ed.), 145–156. Stanford CA: CSLI.

Miyagawa, Shigeru. 2010. *Why Agree? Why Move? Unifying Agreement-Based and Discourse Configurational Languages*, Cambridge MA: The MIT Press.

Miyagawa, Shigeru. 2017. *Agreement Beyond Phi*. Cambridge MA: The MIT Press. https://doi.org/10.7551/mitpress/10958.001.0001

Nawata, Hiroyuki. 2009. Clausal architecture and inflectional paradigm: The case of V2 in the history of English. *English Linguistics* 26: 247–283. https://doi.org/10.9793/elsj.26.1_247

Radford, Andrew. 2018. *Colloquial English*. Cambridge: CUP. https://doi.org/10.1017/9781108552202

Rizzi, Luigi. 1997. The fine structure of the left periphery. In *Elements of Grammar: Handbook of Generative Syntax*, Liliane Haegeman (ed.), 281–337. Dordrecht: Kluwer. https://doi.org/10.1007/978-94-011-5420-8_7

Rizzi, Luigi. 2001. On the position of 'int(errogative)' in the left periphery of the clause. In *Current Studies in Italian Syntax*, Guglielmo Cinque & Giampaolo Salvi (eds), 267–296. Amsterdam: Elsevier.

Rizzi, Luigi. 2004. Locality and left periphery. In *Structures and Beyond*, Adriana Belletti (ed.), 223–251. Oxford: OUP.

Rizzi, Luigi. 2006. On the form of chains: Criterial positions and ECP effects. In *Wh-Movement. Moving On*, Lisa Cheng & Norbert Corver (eds), 97–133. Cambridge MA: The MIT Press.

Rizzi, Luigi. 2014. Some consequences of criterial freezing: Asymmetries, anti-adjacency and extraction from cleft sentences. In *Functional Structure from Top to Toe*, Peter Svenonius (ed.), 19–54. Oxford: OUP. https://doi.org/10.1093/acprof:oso/9780199740390.003.0002

Rizzi, Luigi & Shlonsky, Ur. 2007. Strategies of subject extraction. In *Interfaces + Recursion = Language? Chomsky's Minimalism and the View from Syntax-Semantics*, Uli Sauerland & Hans-Martin Gärtner (eds), 115–160. Berlin: Mouton de Gruyter.

Searle, John R. 1985. *Expression and Meaning*. Cambridge: CUP.

Tanaka, Tomoyuki. 2017. Eigosi-niokeru Kinoohantyuu-no Syutugen to Syoositu (The emergence and loss of functional categories in the history of English). Paper presented at the symposium of the English Literary Society of Japan held at Shizuoka University, Japan.

Appendix. Lower topic: Agreement properties in the CP zone

Here, I will discuss implications of the licensing approach discussed in Sections 1 and 2. In Section 1, we asked why a nominal Fin can license subject drop in *how come* questions, where it was suggested that a nominal Fin carries agreement properties that can license (and be valued by) a null subject in Spec, DP_{SUBJ}. I will examine this idea of the licensing approach by exploring agreement properties in the CP zone in Old English.

Let me start with topic and focus elements in the CP zone in Modern English. Haegeman (2012) notes that the sequence 'topic–focus' in the CP zone is acceptable in English, as in (1a), while the sequence 'focus–topic' is unacceptable, as in (1b). In addition, Haegeman notes that *wh*-operators may be followed by an adjunct, but not by an argument, as in (1c–d). Based on the fact that *wh*-constituents represent new information, she suggests that the *wh*- operators in (1c–d) occupy the specifier of FocP. Given this idea and the facts above, it is suggested that the lower topic position, which is followed by FocP, is not available for an argumental element in Modern English.

(1) a. This book to ROBIN I gave. (Culicover 1991: 36, Example (117a))
b. *To ROBIN this book I gave. (Haegeman (2009: 11)
c. Lee forgot which dishes, under normal circumstances, you would put on the table. (Culicover 1991: 9, (17d))[14]
d. *Robin knows where, the birdseed, you are going to put. (Culicover (1991: 5))

The situation seems to be different in Old English. Kemenade (1987: 114) observes that when a focus element appears in the clause-initial position, a preposed direct object follows the finite verb (=V2) and precedes the subject, as in (2).[15] On the assumption that a preposed direct object

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14. The sequence 'focus-topic' is not universally ruled out. For instance, Rizzi (1997) notes that such a sequence is generally attested in Italian. Even in English, the judgment of the sequence 'focus-topic' vary from speaker to speaker, as noted by Haegeman (2012), i.e. some speakers accept the sequence 'focus-topic' in (1b). I am grateful to Andrew Radford (personal communication) for reminding me of this point.

15. As for the subject, when a topic element appears in the clause-initial position (i.e. in the higher Top position), the word order of the subject is sensitive to whether the subject is a noun phrase or a pronoun in Old English. If it is a noun phrase, it is preceded by the finite verb, as in (i); on the other hand, if the subject is a pronoun, it is followed by the finite verb, as in (ii).

(i) Topic-V-Subject NP (=[TopP Topic [FinP V [SubjP NP (=subject)…]]]
On twam þingum hæfde God þæs mannes sawle gegodod
in two things had God the man's soul endowed
'With two things God had endowed man's soul' (*ÆCHom I*, 1.20.1)

is found in the CP zone, I suggest that the preposed direct object in (2) appears in the lower TopP, and that the lower topic projection is available for an argumental element in Old English.[16]

(2) Foc-V-NP-Subject (=[FocP not [Foc V [TopP NP [SubjP NP (=subject)…]]]
Ne geseah hine nan man nates-hwon yyrre (ASL, XXXI, 306)
not saw him no man so little angry
'No one ever saw him so little angry'

Tanaka (2017) observes that in Late Middle English, a preposed direct object is no longer found in such an environment, along with the loss of V2. To capture this pattern, I suggest that a nominal element carrying rich agreement properties on the verb in the CP zone, perhaps in FocP, can license a local argumental element in the lower TopP in Old English, as represented in (3). In Late Middle English, the rich agreement properties on the verb are lost along with the loss of V2, and consequently, a local licensor of an argumental element in the lower TopP (=preposed verb) is not available.

(3) [FocP V [TopP preposed direct object [SubjP....

In contrast to an argumental element, an adjunct element can appear in the lower Top in Modern English, as we saw in (1c). I suggest that this is because adjuncts, having no agreement properties, do not require a local licensor in the form of a nominal element carrying rich agreement properties spelled out on the verb. Thus, an adjunct may appear in argumental element in Old English, unlike Modern English.

To summarize, I have examined some properties of the licensing approach, where it was suggested that a verb with rich agreement properties in the CP zone may license a local argumental element in the lower topic position, and thus the lower topic position would be available for an argumental element in Old English, unlike Modern English.

(ii) Topic-Subject Pronoun-V (=[TopP Topic [TopP Topic (=subject) [FinP V…]]
Be ðæm we magon suiðe swutule oncnawan ðæt…
by that we may very clearly perceive that
'By that, we may perceive very clearly that …' (CP 26.181.16)

Nawata (2009) proposes that the pronominal subject in (ii) appears in the lower topic position. I suggest that the pronominal subject in (ii) is not found in the lower TopP, but is cliticized on V, in keeping with a V2 format.

16. As a reviewer points out, Old English was an OV language with typical variation in word order in the middle field due to scrambling and to the movement of clitic nominals or weak nominals to higher positions. Then, an element preceding the subject might be found in the middle field rather than in the CP zone in (2). It is well known that in the middle field of OV languages there is a topic position within the middle field as in German, which might correspond with our lower topic. More research is required in this area. See Frey (2004) for an analysis of topic elements in the middle field in German. See also Belletti (2001, 2004) for topic elements in the middle field in Italian.

CHAPTER 7

Causativity alternation in the lower field

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We will argue in this paper that the lower field of the sentence, little *v*P, is endowed with a new functional category cause phrase (causP). We will severet anticausativity from voice. We will propose that anticausative morphology in standard Arabic (SA) is projected in syntax closer to the root, between the root and v°. Our proposition has two important consequences. The first one, it denies the existence of the strict locality between a root and its categorizer. The second one, it confirms that agentive and causer subjects will occupy different hierarchical positions inside of the sentence (IP). We will see that transcategorial derivations of derived nominals from the verb conserves anticausative morphology, but it cannot do so with passive morphology. This is a strong fact confirming the different syntactic status of the two kinds of morphology. Moreover, the distribution of agentive and causer subjects with subject oriented adverbs (SOA) and manner adverbs (MA) shows an asymmetry between the two in linking SOA and MA. We will explain this asymmetry between agent and causer subjects by their different syntactic positions into the structure of IP. Thereafter, we will extend our analysis to nominal events too.

Keywords: causativity, lower field, anticausativity, Standard Arabic, agent subject, causer subject, subject oriented adverbs (SOA), manner adverbs (MA)

1. Introduction

The new constructionist approaches to syntax assume that roots are generated without any argument structure, and that part of the semantic interpretation is formed at the syntactic component. In this sense, Borer (2013) proposes that roots are null elements and that their categorical definition is made in the syntactic component, by the affixes. Also Marantz (2007) assumes that roots are adjuncts to little v. In these approaches roots are not heads and they do not project in the syntax.

In the same vein, De Belder & Craenenbrock (2015) argue for an approach in which roots are empty elements and they bear no grammatical or semantic

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specification. If we adhere to this point of view, roots will play no role in determining the causative alternation.[1]

Besides, Doron (2003) assumes that anticausative morphology in Hebrew, and most probably in Semitics, is generated within the root in the lexicon.

In this paper, we will review the question of the status of anticausative morphology: is it generated within the roots or in the syntactic component? We will argue that anticausative morphology is merged in syntax and not in the lexicon, in a position locally closed to roots. This position is mediated between roots and little v. Thereby, there is no strict locality between the categorizer head, little v, and the root as it is commonly admitted in Borer (2013) and Marantz (2007, 2013a, b & c).

The paper is organized as follows: Section 2 lays out a description of the morpho-syntactic properties of anticausative and voice morphology. It shows that there is a fundamental difference between the two. In Section 3, we will review the nature of anticausative morphology as derivational morphology, and we will rise the question of its status: is it a part of the root, or is it a part of functional morphology? We will propose that anticausative morphology is merged in syntax as an independent head Caus°, and we develop a decompositional syntactic structure in which Caus° is close to the root, mediating between a root and little v. The rest of the paper is dedicated to some arguments that strengthen our central claim about the existence of a causative head category in the syntactic structure of anticausative verbs. Essentially, we show in Section (4) that anticausative and voice morphology behave differently with respect to trans-categorial derivations. Section (5) shows that the distribution of some adverbs with causer and agent subjects gives more support to our analysis. More specifically, we show that there is an asymmetrical behavior of causer and agent external arguments in linking subject oriented adverbs (SOA) and manner adverbs (MA). We will see that our analysis in terms of decompositional syntactic structure, according to which the agent and the causer subject occupy different structural positions, explains this asymmetry syntactically in an elegant way. Section (6) exhibits the same asymmetry effects between the agent and the causer in linking SOA and MA in nominal event domains and additionally extends our analysis to event nominals too (for more studies on nominals, please also see Chomsky (1965 & 1970)). In Section (7), we conclude the paper by pointing out some important theoretical and empirical consequences of our analysis on the morpho-syntax and semantics of causativity and anticausativity.

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1. There is another recent opposite approach to Roots that considers roots as meaningful head elements (Cf. Boecks (2008), Levinson Lisa (2008), Beavers & Koontz-Garboden (2013) and also Koontz-Garboden & John, Beavers (2017) for this kind of approach). Also, Maaera Al kaabi (2015) assumes, following Doron (2003), that roots project in Modern Standard Arabic (MSA) and Emirati Arabic (EA).

2. The morpho-syntactic nature of non-active morphology

The most recent analyses of anticausatives support the idea that anticausative morphology is located in voice (Cf. Alexiadou, Anagnostopoulou & Everaert (2004), Alexiadou, Anagnostopoulou, & Schäffer. (2006), Alexiadou (2009, 2010, 2013), Beavers & A. Koontz-Garboden (2013), Horvarth (2013) etc.). English has a syntactic anticausative in which the verb doesn't show any functional morphology, as illustrated in the next sentences:

(1) John broke the vase.

(2) The vase broke.

Standard Arabic (SA) presents some evidence that is not compatible with the idea of locating anticausatives in Voice.

2.1 The multiples ways of anticausatives realization in SA

Anticausatives can be realized syntactically in SA as is the case in English:

(3) da-**ww**-aba zayd-un l-jalid-a.
melt-caus-PERF.ACT-3.SG.M zayd-NOM DET-ice-ACC
'Zayd melted the ice.'

(4) daba l-jalid-u.
melt.PERF.ACT-3.SG.M DET-ice-NOM
'The ice melted.'

The structure in (4) illustrates a case of syntactic anticausativity. The intransitive verb is active, and it bears no anticausative morphology, with the derived subject bearing a nominative case.

2.2 Non-active morphology in SA

Even if anticausativity can be realized syntactically in SA, the structures with syntactic anticausativity are very limited. The unmarked cases of anticausative structures are morpho-syntactic. Anticausative verbs in SA are formed by the realization of the anticausative morphemes on the verb as shown in the examples (6a–b) below:

(5) kasara zaydu-n n-nafidat-a
*break.**ACT**.PERF.-3.SG.M zayd-NOM DET-window-ACC*
'Zayd broke the window.'

(6) a. **ta**-kassara-ti n-nafidat-u.
***ANTICAUS**-break.PERF-3.SG.F DET-window-NOM*
'The window broke.'

b. **in**-kassara-ti n-nafidat-u
ANTICAUS-break.PERF-3.SG.M DET-window-NOM
'The window broke.'

Anticausative morphology is borne on the verb by the consonant /t/ as a prefix in (6a), and by the consonantal element /n/ in (6b).[2]

2.2.1 *On the difference between voice and anticausative morphology*

If anticausative morphology is implemented on the verb via the consonantal elements,[3]voice morphology, by contrast, is marked on the verb by a vocalic melody known by the template, as the verbal passive in (7b) below shows:

(7) a. Kasara zayd-un l-kaʔs-a.
break.ACT.PERF-3.SG.M zayd-NOM DET-glass-ACC
'Zayd broke the glass.'
b. K**u**s**i**ra l-kaʔs-u.
*break.**PASS**.PERF-3.SG.M DET-glass-NOM*
'The glass was broken.'

As we can observe in the structures (6a), (6b) and (7b) anticausative morphology is different from passive morphology. First, the phonological core of anticausative morphology is consonantal, akin to the root's consonants. The second point, concerns the morpho-syntactic realization of this morphology as prefixes merged at the left of the verb. By contrast, passive morphology is templatic. It is phonologically different from the root, it is formed from vowels intercalated within the root consonants.

2.2.2 *The homonymy of voice morphology*

Unlike in SA, where voice and anticausativity are realized by different morphology, in Greek, Latin and Albanian languages voice and anticausative morphology are realized by the same non-active morphology.[4] The example in (8) from Alexiadou

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2. /in/ has the same morpho-semantic and syntactic function as the anticausative /ni/ in Hebrew. Doron (2003) calls it the middle morphology. For instance, we can derive from a three consonantique root in Hebrew such as [š][b][r] the transitive verb šabar (break) and the middle ni-šbar (cf. Doron 2003). We think that the anticausative morpheme /in/in Arabic and its counterpart /ni/ in Hebrew were related in some interior stages of the Semitic diachronic evolution deriving from the same morpho-syntactic prefix realized phonologically as the nasal monoconsonat /n/.

3. The two prefixed morphemes are the indication of anticausativity. The difference between them relates to the fact that /t/ denotes a durative event, but /n/ does not.

4. Moroccan Arabic (MA) too is similar to these Romance languages concerning the realization of the non-active morphology. For instance in MA, anticausative, passive and middle are

(2010) shows that the same morpheme denotes anticausativity and passive at the same time:

(8) To hirografo katastrafike.
the manuscript-nom destroyed-Nact
i. 'the manuscript destroyed.'
ii. 'the manuscript was destroyed.'

In (8) the sentence can be interpreted as an anticausative in (8i) or as a passive in (8ii).

In the following, we will show that this difference in the realization of anticausative and voice morphology between SA and these Roman languages is not accidental. Instead, it reflects a deep difference in the categories bearing these two types of morphemes.

3. Anticausative morphology is not a part of the root

Based on the facts outlined in the previous section, we distinguish between voice and anticausativity. Voice is always realized on the stem by a vocalic melody intercalated between the root consonants. It can never be spelled out through consonants. Only the core structure of the word in Arabic and in Semitics in general is formed by consonants (cf. McCarthy (1979); Aronoff (2013)). Doron (2003) claims that anticausative morphology is part of the root.[5] This seems natural, as the anticausative morphology is consonantal and different from the vocal melody of the template. In the next section we will review this question. More specifically, our analysis has to answer the question of the status of the consonantal anticausative morphology: is it a part of the root, or it is a part of the functional morphology?

If it is a part of the root, we have to admit that it is generated within the root, in the lexicon. If it is not, our analysis has to clarify where and how the anticausative morphology is merged in the syntax.

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realized by the same morpheme. Hence, the structure bearing the non-active exponent /t / in (i) is ambiguous between anticausative, passive and middle interpretations:

d-daw ka-y-t-qta3 darya
DET-electricity HAB-IMPERF-3.SG.M-NON.ACTIV-cut quickly
'Electricity cuts off quickly.'

5. Doron (2003) proposes that the templatic morphology is projected in syntax as functional heads representing agentivity and voice. She gives some semantic and syntactic arguments for the existence of these two functional heads.

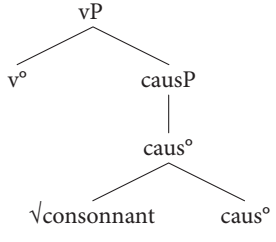
We can qualify the consonantal anticausative morphology as an Inner Morphology in the terms of Wasow (1977). Wasow (1977) distinguishes between the inner morphemes which are internal or closer to root and outer morphemes which are external and correspond to functional morphology (cf. also Marantz (2000) and Dubinsky & Simango (1996)). Inner morphemes always occur closer to roots and can never occur outside functional morphology.

Clearly, we assume that anticausative morphology is not an integral part of the root. We propose, indeed, that it is projected in syntax as an independent category close to the root than to voice. This category is projected as a caus(ation)P phrase directly below the categorizing head little v°. Henceforth, we assume that roots are not directly merged as complements of their categorizer, little v. Instead, they are inserted as adjuncts to caus°. Marantz (2007, 2013a, b & c) admits that roots are adjuncts modifying little v, the head representing the event. Adapting this idea here, we assume that roots are not directly adjunts to v°, but rather adjuncts to caus°. This head contains a lexically realized morphology in SA, but it can be a null head in languages that have ambiguous non-active morphology as Modern Greek, Latin, Albanian and Moroccan Arabic. This fact explains the homonymy of the non-active morphology in these languages.

3.1 Locality between roots and little v

According to our central hypothesis, that of splitting voice and causativity, roots are closer to caus° and are not in structural locality to v°, as in (9):

(9)



In (9) above the root is merged as an adjunct to the anticausative morphology in caus°, in a first step. In a second step, caus° is merged within v°.

Marantz (2007), (2013a) considers v° as a flavour of the event or eventuality. We admit that in the structure (10) below not only is the eventuality represented in the structure by v°, but the causation is also represented by the head caus° containing the anticausative morphology [t]/[n]:

(10) [v° [caus° root [caus° t/n]]]

Once caus° with its root modifier is merged with v°, the vP is sent to spell out in PF to receive a phonological interpretation, as a consequence of v° being a cyclic phase head in the sense of Chomsky (1995, 2001 & 2008).[6]

In what follows, we provide some arguments to support the existence of this new head category, caus°, representing anticausative morphology. In the next section, we will see that trans-categorial derivation of event nominals from the root does not preserve passive morphology, but it preserves anticausative morphology.[7] This is a clear indication that the derivation of the word from the root target caus°, before the categorical identification by the categorizer head, little v° or little n° for event nominals, is made. We will argue in Section (5) that the syntax and the distribution of SOA and MA within verbal anticausative domains further confirm our analysis. In Section (6), we extend our analysis to the distribution of SOA and MA to the event nominals, we will show that the same interaction between SOA and MA and causativity upholds too in the event nominal domains.

4. Anticausative morphology and transcategorial derivation

More strikingly, the behavior of event nominals further supports our claim about the autonomy of anticausativity as an independent category and its independence from voice. Indeed, the derivation of event nominals from the root elements preserve the anticausative morphology, but it can never do so with passive morphology. This fact is borne out by the following examples:

(11) a. **ta**-ksir-u l-ka?s-i axafa-ni.
ANTICAUS-break-NOM DET-glass-GENI frighten.PERF-3.SG.M-ME
'The glass's breaking frightened me.'

b. **in**-kisar-u l-ka?s-i axafa-ni.
ANTICAUS-break-NOM DET-glass-GENI frighten.PERF-3.SG.M-ME
'The glass's breaking frightened me.'

---

6. If roots are adjuncts to caus° and do not project, we should expect that they do not select their arguments, and more specifically the internal argument, as the external argument is selected by little vP, or voice (Cf. Kratzer (1996); Davidson (2002) & Embick & Marantz (2008)). Following some recent propositions, we consider that roots do not select their complements too (Cf. Arad (2003 & 2005); Anagnostopoulou (2014); Anagnostopoulou & Samioti (2014); Lohndal (2014); Borer (2014); van Craenenbroeck (2014); Bayrou (2016); Jason (2016); Danbolt Ajer (2017) for some proposals in this way.)

7. The term trans-categorial here is only notational. It does not mean that the categorical label change from one category to another happens in syntax, as it was assumed in certain works in the literature. But we mean by the trans-categorial derivation the merging of the root in the categorizer category.

(12) (*kusir-u) l-ka?s-i axafa-ni.
*break.*PASS-NOM DET-*glass-GENI *frighten.*PERF-3.SG.M-ME*
'The glass's breaking frightened me.'

In (11a–b) the anticausative morphemes resist the trans-categorical derivation from roots to the event nominal. These morphemes reappear with the event nominal that determines the head of the construct state. The whole construct state is the subject of the sentence. This means that the nominal head's root of the construct state has merged within caus° and picked up the anticausative morphology, before moving to the categorizer head n°. The complex [caus° √consonants [caus° t/n]] merged with little n, and all this complex is spelled out at PF. This is due to the the cyclic nature of nP.

Nevertheless, this is not the case with passive morphology. The ungrammaticality of derived nominals with passive morphology shows that passive morphology cannot resist trans-categorical derivation from the root. The ungrammaticality of word formation in (12), due to the inability of the event nominal head to keep the passive morphology, can be explained syntactically by different ways. One of them is to suppose that voice is higher in the functional structure than the categorizer head little n. In this case, the root cannot move higher to check the voice morphology in voice°, after the categorial identification is made by n°. This is because all the string should go to spell out for interpretation in PF interface, as nP is a cyclic phase.

The following sections show that the syntax and the distribution of adverbs and their interaction with subjects give further support to the existence of causP mediating between the root and the categorizer.

5. Adverb distribution within anticausatives

The syntactic distribution of adverbs in SA gives additional evidence for the existence of a causative functional head in the lower area of IP structure. More specifically the distribution of SOA and MA with agentive and causer subjects shows that the agentive external argument can co-occur with SOA and MA. But a non-agentive external argument can co-occur only with MA, and not with SOA. These observations are borne out by the following data:

(13) a. ʔahraq-a l-mujrim-u l-rabat-a
*burn.*PERF-3.SG.M DET-*criminal-NOM DET-*forest-ACC*
bi-suhulat-in/bi-xubt-in
WITH-easiness-OBLI/WITH-maliciouness-OBLI
'The criminal burned the forest easily/maliciously.'

b. ʔahraqat-i n-nar-u l-rabat-a
burn.PERF-3.SG.F DET-fire-NOM DET-forest-ACC
bi-suhulat-in/* bi-xubt-in
WITH-easiness-OBLI/WITH-maliciousness-OBLI
'Fire burned the forest easily/*maliciously.'

c. ʔih-**ta**-raq-at l-rabat-u
*burn-**ANTICAUS**.PERF-3.SG.F DET-forest-NOM*
bi-suhulat-in/* bi-xubt-in
WITH-easiness-OBLI/ WITH-maliciousness-OBLI
'The forest burned easily/*maliciously.'

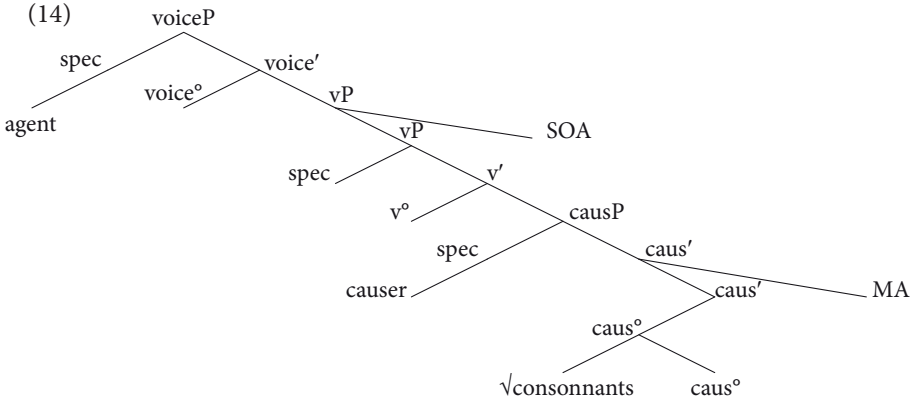
Both the SOA and MA are linked by the agentive external argument in (13a). But in (13b), (13c) where the external argument is a causer or a cause, it cannot link SOA, but it links only MA.

These facts can be easily explained if we consider that the agentive subject in (13a) and the causer subject in (13b), or the cause in (13c), which is the anticausative derived subject, are not in the same structural position.

It is admitted in the literature that SOA and MA occupied different positions in the phrase structure representation (Cf. Cinque (1999); Alexiadou (1997)). In addition to that, we suppose following Moltmann (1997) that SOA are external to the event and they take the whole VP as its argument. By contrast, MA are internals to the event. They occur internal to VP. If we adopt this analysis about the semantics of SOA and MA, SOA should be represented above VP, in contrast to MA which should be represented inside the VP.

We consider, following Ernst (2000), (2001) among many other theories of right adjunction, that the adjunction of adverbs to X′ is possible. We propose according to this claim that SOA are right adjuncts outside vP, differently from MA which are adjunts lower to the right of caus′ in the following structure:

(14)



If our analysis is on the right track, the agentive subject in (14) is in Spec VoiceP. This position allows it to c-command and link both the SOA adjunct to vP and MA adjunct to caus′. However, the causer subject is structurally lower in the vP. It is in Spec causP. It fails to c-command SOA s from that position. This is why the causer and also the cause cannot link SOA in (13b), (13c). Nevertheless, this position allows them to c-command and link MA s which are adjuncts to caus′.

5.1 Repetitive and restitutive adverbs

Unlike in English where the adverb ***again*** can have a restitutive and a repetitive reading (cf. Von Stechow (2007)), Arabic denotes repetitivity and restitutivity by two different kinds of adverbs, for instance the two adverbs in the structures of (15), can have both the repetitive and the restitutive reading:

(15) a. ʔahraq-a zayd-un l-rabat-a marat-an
burn.PERF-3.SG.M DET-zayd –NOM DET-forest-ACC once-ACC
ʔuxr-a/ min jadid-in
another-ACC/ prep new-OBLI
'Zayd burned the forest again/newly'

b. ʔahraq-ti n-nar-u l-rabat-a mart-an ʔuxr-a/
burn.PERF-3.SG.F DET-fire-NOM DET-forest-ACC once-ACC another-ACC/
min jadid-in
prep new-OBLI
'Fire burned the forest again/ newly.'

c. ʔihtaraqa-ti l-rabat-u marata-an ʔuxr-a/
*burn-**ANTICAUS**.PERF-3SG.F DET-forest-NOM once-ACC another-ACC/*
min jadid-in
prep new-OBLI
'The forest burned again/newly.'

In all the structures (15a–c), the two adverbial PPs are ambiguous between a repetitive and restitutive reading, without any difference between the agentive subject in (15a) and the causer subject in (15b), or the cause in (15c).[8] In order to denote a pure repetitive reading, Arabic uses a verb referring to a repetition of the event as is the case of the following structures:

(16) a. ʔa3ad-a zayd-un harq-a l-rabat-i
restart.PERF-3.SG.M zayd-NOM burn-ACC DET-forest-GENI
'Zayd restarted the burning of the forest.'

8. Each one of the two adverbs can have a wide and narrow scope in all the sentences of (15).

b. *?a3ada-ti n-nar-u harq-a l-rabat-I
restart.PERF-3.SG.M DET-fire-NOM burn-ACC DET-forest-GENI
*'Fire restarted the burning of the forest.'
c. *?a3ada-ti l-rabat-u l-?ihtiraq-a
restart.PERF-3.SG.M DET-forest-nom
*'The forest restarted the burning.'

The contrast in the grammaticality between (16a) on one side, and (16b), (16c) on the other side, shows that pure repetitive events need agentivity. This can be explained by the fact that the agentive argument in (16a) is in Spec VoiceP and it can bear the [+,– agentive] feature present in the head of VoiceP through the Agree mechanism between the specifier and the Voice head.[9] Inversely, the causer and cause subjects in (16b), (16c) are below in causP. Hence, they cannot bear the [+, – agentive] features present in Voice°.

5.2 PP instruments and goals

Similar facts can be observed with PP instruments and PP goals. Suppose that PP instruments and PP goals are also syntactically right adjoined to vP, in the same way as SOA in the structure (14). This means that only the external agent argument can c-command and link a PP instrument or a PP goal, from Spec VoiceP. However, the causer argument will not be able to link PP instruments and purpose adverbs. This is because the causer is merged in Spec causP, a position structurally below vP. These observations are confirmed by the following data:

(17) a. fa-yy-ad-a zayd-un l-halib-a bi-n-nar-i
boil-caus-PERF-3.SG.F Zayd-NOM DET-milk-ACC with-DET-fire-OBLI
'Zayd has boiled milk with fire.'
b. *fa-yy-ada-ti n-nar-u l-halib-a
boil-caus-PERF-3.SG.F DET-fire-NOM DET-milk-ACC
bi-l-hatab-i/bi-l-raz-i
with-DET-wood-OBLI/with-DET-gaz-OBLI
* 'Fire has boiled milk with wood/with gaz.'
c. *fad-a l-halib-u bi-l-hatab-i /bi-l-raz-i
boil.PERF-3SG.M DET-milk-NOM with-det-wood-obli/with-det-gaz-obli
* 'Milk boiled with wood/with gaz.'

The PP instrument is compatible with the agentive subject in (17a) above. Nevertheless, in (17b) the PP instrument is, however, not compatible with a causer

9. Cf. Kalluli (2006) for the presence of [+,– agentivity] features in voice.

external argument. The same adverb is also not compatible with the cause argument in (17c), with a lexical anticausative verb. These facts can be explained by the failure of the causer argument to link a PP adverb adjunct to the right of vP from Spec CausP. This latter position is more embedded in the syntactic structure. It does not allow the Causer or the Cause to c-command the adverb which is an adjunct to vP.[10]

The same effect can be noted with the PP goals. The structures in (18) below show a clear asymmetry between agentive subjects and causer subjects concerning the linking of PP goals. While the agentive subject easily links the PP goal in (18a), the causer subject and the cause cannot link the PP goal in (18b–c):

(18) a. jam-m-ad-a zayd-un s-sa?il-a li-sti3mal-i-hi fi
freeze-CAUS-PERF-3.SG.M zayd-NOM DET-liquid-ACC for-use-OBLI-it in
l- muxtabar-i
DET -laboratory-OBLI
'Zayd has frozen the liquid in order to use it in the laboratory.'

b. * jam-m-ad-a l-mujamid-u s-sa?il-a
freeze-CAUS-PERF-3SG.M DET-freezer-NOM DET-liquid-ACC
li-sti3mal-i-hi fi-l-muxtabar-i
for-use-OBLI-it *in DET-laboratory-OBL*
* 'The freezer has frozen the liquid to use it in the laboratory.'

c. *jamud-a s-sa?il-u li-sti3mal-i-hi fi-l-muxtabar-i
freeze.PERF-3SG.M DET-liquid-NOM for-use-OBLI-it in DET-laboratory-OBLI
* 'The liquid has frozen to be used in the laboratory.'

The contrast in grammaticality between (18a) and (18b–c) cannot be explained on the basis of a semantic ground. It is due to a structural difference in hierarchy between the agentive external argument and the causer /cause ones. While the agentive argument can link the PP goals from Spec VoiceP, the causer/cause position in Spec causP is too low in the structure to c-command the PP goal at the right vP edge.

10. We consider that structural c-command is a necessary condition for a DP argument to be construed with these adverbs and also to determine their scope relations in LF (Cf. Ernst (2000) for more details about this point.).

6. Causativity and agentivity in event nominals

At this point, we should reconsider the concept of voice, which is not clear enough theoretically. Borer (2005) assumes that there is no Voice in nominals. This seems true, as there is no passive morphology in Arabic event nominals (cf. Fassi Fehri, 1988; Ayyat, Sultan & Yasin, 2013). Moreover, the complement of a nominal head can have more than one interpretation. The following data show that referential construct state in Arabic is ambiguous due to the failure of Voice.

(19) surat-u r-rajul-i
picture-NOM DET-man-GENI
'The picture of the man.'

The DP complement of the referential nominal head in (19) is ambiguous between a possessor and a theme interpretation. In the first interpretation, this complement has a possessor reading, but in the second one, it is interpreted as a theme. This double interpretation is also instantiated in event nominals as shown in (20) below:

(20) qasf-u l-3aduw-i
shooting-NOM DET-enemy-GENI
'The ennemy's shooting.'

In the structure (20) the DP complement of the event nominal head can be interpreted as an agent external argument, or as a theme argument. Nevertheless, we can see that when the nominal head takes an accusative DP object, as its complement, the genitive DP argument is obligatorily interpreted as an agent external argument. In this instance, the accusative object forces the agentive interpretation of the genitive argument, even if there is no voice morphology on the nominal head of the construct state.

(21) qasf-u l-3aduw-i l-madint-a
shooting-NOM DET-enemy-GENI DET-city-ACC
'The ennemy's shooting of the city.'

This situation shows that the presence of the agentive external argument is independent from the existence of voice, at least in event nominals.

Marantz (2013a) assumes that the absence of voice morphology indicates the absence of Voice in languages that mark their passive verbs morphologically. In addition to that, Harley (2017) based on some data from Hiaki, considers that the function of Voice projection is to introduce the external argument and also to mark the DP object with the accusative case. Nonetheless, the coexistence of the agentive external argument and the DP accusative with the absence of voice morphology

from the nominal head in (21) invalidates Harley's assumption, at least for Arabic and most probably for other natural languages.

As this is the case with the verbal predicates, event nominals can also have a causer as an external argument, and not only agentive ones:

(22) a. ʔihraq-u zayd-in l-rabat-a
burning-NOM zayd-GENI DET-forest-ACC
'Zayd's burning of the forest.'
b. ʔihraq-u n-nar-i l-rabat-a
burning-NOM DET-fire-GENI DET-forest-ACC
'Fire's burning of the forest.'
c. ʔih-ti-raq-u l-rabat-i
burning-ANTICAUS-NOM DET-forest-GENI
'the forest's burning.'

In (22a) the event nominal takes an agent external argument as a subject of the sentence. But, in (22b) the subject is realized as a causer argument. In (22c) the event nominal bears the anticausative morphology, with a cause argument as a derived subject.

We can draw three generalizations from the structures in (22a–c):

1. The agent argument can appear with an event nominal in the absence of Voice.
2. The causer external argument can exist in event nominal domains independently from Voice.
3. Unlike passive morphology, anticausative morphology can occur with event nominals.

6.1 Adverbs distribution in nominal domains

As we have done with verbal predicates, we would like, now, to use SOA and MA and their interaction with agent and causer arguments as a diagnostic test for the existence of these two kinds of subject position in the functional structure of DP.

It is very surprising to find that the distribution of SOA and MA in event nominal domains is the same as the one observed in the verbal domains, and with the same interpretations. Take the following examples:

(23) a. tahtim-u l-3aduw-i l-madinat-a
destruction-NOM DET-ennemy-GENI DET-city-ACC
bi-suhulat-in/bi-xubt-in/3amdan
with-easiness-OBLI/with-maliciousness-OBLI/deliberately
'The destruction of the city by the enemy easily/maliciously/deliberately.'

b. tahtim-u l-3asifat-i l-madinat-a
destruction-NOM DET-storm-GENI DET-city-ACC
bi-suhulat-in/*bi-xubt-in/*3amdan
with-easiness-OBLI/ with-maliciousness-OBLI/deliberately
'The destruction of the city by the storm easily/*maliciously/*deliberately'

c. **ta**-hatum-u t-ta?irat-i
ANTICAUS-destruct –NOM DET-plane-GENI
bi-suhulat-in/*bi-xubt-in/*3amdan
with-easiness-OBLI/with-maliciousness-OBLI/deliberately
'The destruction of the plane easily/*maliciously/*deliberately.'

In a similar way to the verbal domains, the agentive external argument is compatible with SOA and MA in (23a). However, the causer and also the cause arguments cannot co-occur with SOA. They are compatible only with MA, as the structures of (23b–c) above show.

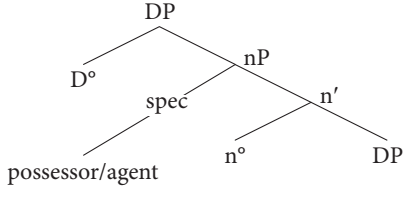
If our claim about the existence of a causative head below the categorizer head v° and also below the nominal head n° is on the right direction, the causer in (23b) and the cause in (23c) cannot c-command, nor can they link SOA, which is higher in the structure's hierarchy.

6.2 Agentivity in event nominals

If the agent subject is located in Spec Voice in IP domain, what should the position of agentive argument be in the nominal event domains, given that they are taken to lack a Voice projection?

If we adopt the standard approaches to the structure of construct states, the agentive external argument will occupy the same specifier position as the possessive DP's, this is because there is no other potential position for agentive subjects in the structure of DP in this case:

(24)



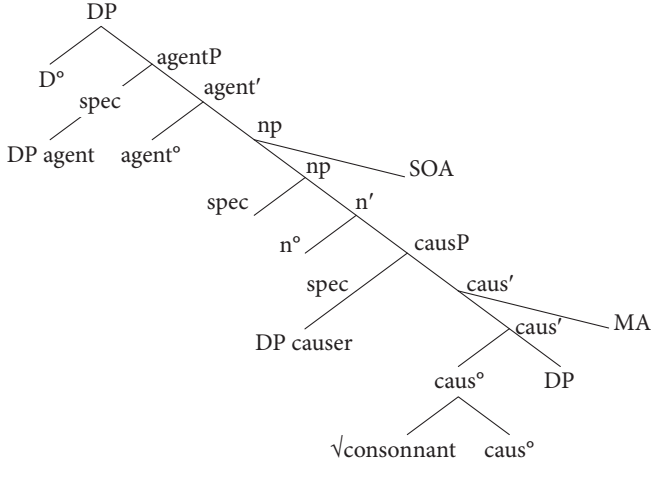
The structure in (24) is compatible with the aforementioned properties of possessive DP's. More particularly, it is compatible with the absence of the active passive morphology alternation, which is a strong indication of the absence of voice in nominals. It is also compatible with the ambiguity of the external argument between the possessive/agent and the theme interpretation.

We have seen, however, that one of these two properties at least disappears with event nominals. Specifically, when the event nominal has a DP internal argument, this forces the agentive interpretation of the external argument and there is no ambiguity interpretation of the subject theta-role. This situation requires a representation of construct states that can take the properties of event nominal structures and more particularly the agentivity of the external argument into consideration.

Harley (2013) considers that the unique function of Voice is to introduce the external argument (See also Folli & Harley (2005, 2007 & 2008), Kratzer (1996) for more discussions on argument structures and related issues). If we consider this assumption, there will be no way to introduce the agentive external argument in the case of event nominals; this will be due to the absence of Voice morphology into these nominals as was reported before.

Even if event nominals have no voice morphology alternation, the syntactic properties of the agentive external argument suggest the existence of a prominent structural position in which the genitive subject appears. We propose that this position is the specifier of agentP(hrase). Indeed, the structure of event nominals is endowed with a functional head agent° that contains the genitive agent in its specifier. This structure is represented as in (25) below where the genitive agent is located in spec agentP:

(25)



The agentive external argument can c-command and link both the SOA adjoined to the right of nP and MA adjoined to the right of caus#x2032; in a structure like (25). Contrary to that the causer subject and the cause cannot c-command SOA adjoined to nP from Spec causP, so they fail to link it. They can only c-command and be construed with an MA, which is adjoined to caus′.

The structure (25) successfully explains the grammaticality judgments due to the distribution of SOA and MA with agentive and causer subjects within the event nominal domains in (23).

7. Conclusion

In this paper, we have examined the nature of anticausative verbs. A strong explicit hypothesis in much recent literature has it that anticausatives are located in Voice. We have shown here that anticausativity and Voice have different natures. The two behave morpho-syntactically in different ways. Voice morphology is a pure functional category, while anticausative morphology is a part of derivational morphology.

We have assumed that anticausative morphology can be represented in syntax, and not in the lexicon, as a derivational morphology. This proposition meets the attempt of Marantz (2007, 2013a) to represent derivational morphology in syntax. Based on this idea, we have proposed that the anticausative morphology is merged as an independent head, caus°, in syntax. Afterward, we have elaborated a decomposed structure for anticausatives where the head caus° is closer to the root; it is mediating between the root and the categorizer head, little v. This implies that there is no syntactic locality between the root and its categorizer head.

The separation of causativity from Voice semantically implies that the domain of intentional subjects is different from the domain of causativity. More particularly, the domain of agentivity, VoiceP, is more prominent. It is structurally and hierarchically higher than the domain of causativity, causP. The existence of causation as an independent head in syntax goes hand in hand with the generative semanticists'claim that causation is a principal constituent of the event.

Furthermore, our analysis supposes two different positions for the subject inside IP, the subject argument can appear in the specifier of VoiceP, or in the specifier of causP, depending on the nature of its theta-role as agent or as causer/cause.

This analysis equally explains the well-known asymmetry between agent and causer subjects in linking subject oriented adverbs and manner adverbs. The asymmetry is due to a difference in the structural hierarchical positions of the agent and the causer arguments inside IP: it derives from the fact that the agent c-commands both subject oriented and manner adverbs, while the causer, and cause, c-commands only the latter. Our analysis thus provides a syntactic explication of this asymmetry, as opposed to a semantically based one.

References

Alexiadou, Artemis & Lohndal, Terje. 2017. On the division of labor between roots and functional structure. In *The Verbal Domain*, Roberta D'Alexandro, Irene Franco & Àngel J. Gallego (eds), 85–104. Oxford: OUP.

Alexiadou, Artemis, Anagnostopoulou, Elena, Spathas, Giorgos & Lechner, Winfried. 2015. On deriving the typology of repetition and restitution. Paper presented at Glow 2015, Paris 8 and CNRS. Paris.

Alexiadou, Artemis. 2014. Roots don't take complements. *Theoretical Linguistics* 40: 287–298. https://doi.org/10.1515/tl-2014-0012

Alexiadou, Artemis. 2013. Where is non-active morphology? In *Proceedings of the 20th Conference on Head-driven Phrase Structure Grammar*, Stefan Müller (ed.), 244–262. Stanford CA: CSLI.

Alexiadou, Artemis. 2010. On the morpho-syntax of (anti-) causative verbs. In *Syntax Lexical Semantics and Event Structure*, Malka Rappaport Hovav, Edith Doron & Ivy Sichel (eds), 177–203. Oxford: OUP. https://doi.org/10.1093/acprof:oso/9780199544325.003.0009

Alexiadou, Artemis. 2009. On the role of syntactic locality in morphological processus: The case of (Greek) derived nominals. In *Quantification, Definitness and Nominalization*, Anastasia Giannakidou & Monika Rathert (eds), 253–280. Oxford: OUP.

Alexiadou, Artemis, Anagnostopoulou, Elena & Schäffer, Florian. 2006. The properties of anticausatives cross-linguistically. In *Phases of Interpretation*, Mara Frascarelli (eds), 187–212. Berlin: Mouton de Gruyter. https://doi.org/10.1515/9783110197723.4.187

Alexiadou, Artemis, Anagnostopoulou, Elena & Everaert, Martin. 2004. *The Unaccusativity Puzzle: Studies on the Syntax-Lexicon Interface*, 1–21. Oxford: OUP. https://doi.org/10.1093/acprof:oso/9780199257652.001.0001

Alexiadou, Artemis. 1997. *Adverb Placement. A Case Study in Antisymmetric Syntax* [Linguistik Aktuell/Linguistics Today 18]. Amsterdam: John Benjamins. https://doi.org/10.1075/la.18

Alkaabi, Maera. 2015. The Anatomy of Arabic Words: The Role of the Root in Representation and Processing. PhD dissertation, New York University.

Ayyat, Amjed Ahmed, Sultan, Fazal Mohamed & Yasin, Mohamed Subakir Mohd. 2013. A minimalist approach to short passive in Standard Arabic. *Australian Journal of Basic and Applied Sciences* 7 (9): 375–382.

Anagnostopoulou, Elena. 2014. Roots and domains, some remarks "On the Identity of Roots". *Theoretical Linguistics* 40: 299–310.

Anagnostopoulou, Elena & Samioti, Yota. 2014. Domaine within words and their meanings: A case study. In *The Syntax of Roots and the Roots of Syntax*, Artemis Alexiadou, Hagit Borer & Florian Schäfer (eds). Oxford: OUP. https://doi.org/10.1093/acprof:oso/9780199665266.003.0005

Arad, Maya. 2005. *Roots and Patterns: Hebrew morphosyntax*. Dordrecht: Springer.

Arad, Maya. 2003. Locality constraints on the interpretation: The case of Hebrew denominal verbs. *Natural Language and Linguistic Theory* 21: 737–778. https://doi.org/10.1023/A:1025533719905

Aronoff, Mark. 2013. The roots of language. In *The Boundaries of Pure Morphology*, Silvio Cruschina, Martin Maiden & John Charles Smith (eds). Oxford: OUP. https://doi.org/10.1093/acprof:oso/9780199678860.003.0009

Bayrou, Ahn. 2016. Severing internal arguments from their predicates: An English case study. Paper presented at Swarthmore College, 8 January 2016.

Beavers, John & Koontz-Garboden, Andrew. 2013. In defense of the reflexivization analysis of anti-causatives. *Lingua* 131: 199–216. https://doi.org/10.1016/j.lingua.2012.10.009
Boecks, Cederic. 2008. *Bare syntax*. Oxford: OUP.
Borer, Hagit. 2014. Wherefore roots? *Theoretical Linguistics* 40: 343–359. https://doi.org/10.1515/tl-2014-0016
Borer, Hagit. 2013. *Taking Form, Structuring Sense*, Vol. III. Oxford: OUP. https://doi.org/10.1093/acprof:oso/9780199263936.001.0001
Borer, Hagit. 2005. *In Name Only, Structuring Sense*, Vol. I. Oxford: OUP. https://doi.org/10.1093/acprof:oso/9780199263905.001.0001
Cinque, Guglielmo. 1999. *Adverbs and Functional Heads: A Cross-Linguistic Perspective*. Oxford: OUP.
Chomsky, Noam. 2008. On phases. In *Foundational Issues in Linguistic Theory: Essays in Honor of Jean-Roger Vergnaud*, Robert Freiden, Carlos P. Otero & Maria Luisa Zubizarreta (eds). Cambridge MA: The MIT Press. https://doi.org/10.7551/mitpress/9780262062787.003.0007
Chomsky, Noam. 2001. Derivation by phase. In *Ken Hale. A Life in Language*, Michael Kenstowics (ed.). Cambridge MA: The MIT Press.
Chomsky, Noam. 1995. *The Minimalist Program*. Cambridge MA: The MIT Press.
Chomsky, Noam. 1970. Remarks on nominalization. In *Readings in English Transformational Grammar*, Roderick A. Jacobs & Peter S. Rosenbaum (eds), 184–221. Walthan MA: Ginn.
Chomsky, Noam. 1965. *Aspects of the Theory of Syntax*. Cambridge MA: The MIT Press.
van Craenenbroeck, Jeroen. 2014. On diagnosing complement-taking roots. *Theoretical Linguistics* 40: 361–373. https://doi.org/10.1515/tl-2014-0017
Danbolt Ajer, Hanna. 2017. The middle voice, valency and Aktionsart in the Arabic verb. *Cambridge Occasional Papers in Linguistics* 10: 1–21.
Davidson, Donald. 2002. *Essays on Actions and Events*. Oxford: Clarendon Press.
De Belder, Marijke & van Craenenbroeck, Jeroen. 2015. How to merge a root. *Linguistic Inquiry* 46(4): 625–655. https://doi.org/10.1162/LING_a_00196
Doron, Edith. 2003. Agency and voice: The semantics of the semitic templates. *Natural Language Semantics* 11: 1–67. https://doi.org/10.1023/A:1023021423453
Dubinsky, Stanley & Simango, Sylvester Ron. 1996. Passive and stative in Chichewa: Evidence for modular distinctions in grammar. *Language* 72: 497–781. https://doi.org/10.2307/416101
Embick, David & Marantz, Alec. 2008. Architecture and blocking. *Linguistic Inquiry* 39(1): 1–53. https://doi.org/10.1162/ling.2008.39.1.1
Ernst, Thomas. 2001. *The Syntax of Adjuncts*. Cambridge: CUP. https://doi.org/10.1017/CBO9780511486258
Ernst, Thomas. 2000. Semantic features and the distribution of adverbs. *ZAS Papers in Linguistics* 17: 79–97. https://doi.org/10.21248/zaspil.17.2000.41
Fassi Fehri, Abdelkader. 1988. *Arabic passive affixes as aspectual predicates*. Ms, MIT & Faculty of Letters, University of Rabat.
Folli, Raffaella & Harley, Heidi. 2008. Teleology and animacy in external arguments. *Lingua* 118(2): 190–202. https://doi.org/10.1016/j.lingua.2007.02.004
Folli, Raffaella & Harley, Heidi. 2007. Causation, obligation, and argument structure: On the nature of little v. *Linguistic Inquiry* 38(2): 197–238. https://doi.org/10.1162/ling.2007.38.2.197
Folli, Raffaella & Harley, Heidi. 2005. Flavours of v: Consuming results in Italian & English. In *Aspectual Inquiries*, Paula Kempchinsky & Roumyana Slabakova (eds). Dordrecht: Springer.

Harley, Heidi. 2017. The "bundling" hypothesis and the disparate functions of little v. In *The Verbal Domain*, Roberta D'Alessandro, Irene Franco & Angél J. Gallego (eds). Oxford: OUP.

Harley, Heidi. 2013. External arguments and the mirror principal: On the distinctness of voice and v. *Lingua* 125(1): 34–57. https://doi.org/10.1016/j.lingua.2012.09.010

Harley, Heidi. 2005. How do verbs take their names? Denominal verbs, manner incorporation and the ontology of roots in English? In Nomi Erteschik-Shir and Tova Rapoport (eds.), *The Syntax of Aspect*. Oxford: OUP. https://doi.org/10.1093/acprof:oso/9780199280445.003.0003

Horvarth, Julua & Siloni, Tal. 2013. Anticausatives have no causer: Arejoindre to Beavers and Koontz-Garboden. *Lingua* 131: 217–230. https://doi.org/10.1016/j.lingua.2013.02.013

Jason, Merchant. 2016. Roots don't select: A novel argument from category-dependent I-selection. Paper presented at 42nd meeting of the Berkeley Linguistics Society, February 2016.

Kalluli, Dalina. 2006. A unifed analysis of passives, anticausatives and reflexives. In *Emperical Issues in Syntax and Semantics* 6, Olivier Bonami & Patricia Cabredo Hofher (eds), 201–225. <http://www.cssp.cnrs.fr/eiss6/kallulli-eiss6.pdf> (28 January 2021).

Koontz-Garboden, Andrew & Beavers, John. 2017. Change of state verbs and the semantics of roots. In *the Proceedings of 34th West Coast Conference on Formal Linguistics*, Aaron Kaplan, Miranda K. McCarvel & Edward J. Rubin (eds), 347–354. Somerville MA: The Cascadilla Proceedings Project.

Kratzer, Angelika. 1996. Severing the external argument from its verb. In *Phrase Structure and Lexicon*, Johan Rooryck & Laurie Zaring (eds). Dordrecht: Kluwer. https://doi.org/10.1007/978-94-015-8617-7_5

Levinson, Lisa. 2008. *Deriving verb classes: Where roots semantics meets syntax*. Okland University, The Linguistics Department Colloquium Series.

Lohndal, Terje. 2014. *Phrase Structure and Argument Structure*. Oxford: OUP. https://doi.org/10.1093/acprof:oso/9780199677115.001.0001

Marantz, Alec. 2013a. Locality domains for contextual allomorphy across the interfaces. In *Distributed Morphology Today: Morphemes for Morris Halle*, Ora Matushansky & Alec Marantz (eds), 95–116. Cambridge MA: The MIT Press. https://doi.org/10.7551/mitpress/9780262019675.003.0006

Marantz, Alec. 2013b. Verbal argument structure: Events and participants. *Lingua* 130: 152–168. https://doi.org/10.1016/j.lingua.2012.10.012

Marantz, Alec. 2013c. Locating the verbal roots. Talk given at the 25th Scandinavian Conference of Linguistics. Reykjavik, 13 May.

Marantz, Alec. 2007. Phases and words. In *Phases in the Theory of Grammar*, Sook-Hee Choe (ed.), 191–222. Seoul: Dong-In Publishing.

Marantz, Alec. 2000. Words. Paper presented at the 20th West Coast Conference of Formal Linguistics, University of Southern California, 23–25 February.

McCarthy, John. 1979. Formal Problems in Semitic Phonology and Morphology. PhD dissertation, MIT.

McCawley, James. D. 1968. The role of semantics in grammar. In *Universals of Linguistic Theory*, Emmon Bach & Robert T. Harms (eds). New York NY: Holt Rinehart and Winston.

Moltmann, Friederike. 1997. *Parts and Wholes in Semantics*. Oxford: OUP.

Naji, Mohamed. 2016. On the ontology of roots and their complements. In *the Proceedings of The Japanese Society of Language Sciences (JSLS), Conference Handbook*. Tokyo: University of Tokyo.

Naji, Mohamed. 2010. Categorization and semantic function: The case of the Arabic verb. Paper presented at the III Conference on The Representation of Event, Paris. Maison de la Recherche, Université de la Nouvelle Sorbonne, Paris III.

Oseki, Yohei. 2017. *Voice morphology in Japanese argument structures*. Ms, New York University.

Piñón, Christopher. 2010. What to do with agent-oriented adverbs. The 7th Workshop on Inferential Mechanisms and their Linguistic Manifestation, Göttingen. Göttingen 4–5 June.

Pylkkänen, Liina. 2008. *Introducing Arguments* [Linguistics Inquiry Monograph 49]. Cambridge MA: The MIT Press. https://doi.org/10.7551/mitpress/9780262162548.001.0001

Ramchand, Gillian. 2008. *Verb Meaning and the Lexicon: A First Phase Syntax*. Cambridge: CUP. https://doi.org/10.1017/CBO9780511486319

von Stechow, Armin. 2007. *Syntactic and Lexical Causativization: Become and Cause Again*. Ms., University of Tübingen.

Versteegh, Kees. 1997. *Landmarks in Linguistic Thought, III: The Arabic Linguistic Tradition*. London: Routledge. https://doi.org/10.4324/9780203444153

Wasow, Thomas. 1977. Transformations and the Lexicon. In Culicover, P., T. Wasow & A. Akmajian (eds.), *Formal Syntax*. New York: Academic Press.

CHAPTER 8

Another argument for the differences among *wa*-marked phrases

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The aim of this paper is to argue that the focal stress and structural position determine the interpretation of *wa*-marked phrases in a Japanese sentence. Namely, our argument is, based on, and extended out of Nakamura (2017: 356–359), that in sentence initial position, *wa*-marked phrases denote Thematic Topic (TT) or Contrastive Topic (CT). Besides, our claim is that within *v*P domain, focally-stressed *wa*-marked phrase, denoted here as WA-marked phrase, signals Contrastive Focus (CF). In (1a), WA-marked phrase denotes exhaustivity. On the other hand, WA-marked phrase in (1b), which occurs below the VP adverb *majimeni* (=seriously), signals contrast.

(1) a. Iya, demo ano-ronbun-WA Taro-ga yon-da (yo).
no, but that paper-EI Focus T-Nom read-Past Par
'Not, but Taro read that paper, and he read nothing more.'

b. Majimeni Taro-wa hon-4-satu-WA yon-da
seriously T-TT book-4-CL-CF read-Past
'Taro seriously read the four books (, opposed to four papers).

Through the examples of the scopal interactions between negation, verbs and focus particles and WA-marked phrases, we demonstrate that the WA-marked phrase in *v*P domain denotes contrastive focus (CF). We go on to propose the following elaborated left peripheries for both CP and *v*P territories.

(2) a. [$_{\text{TopP}}$ [$_{\text{FocP}}$ [$_{\text{TopP}}$ [$_{\text{TP}}$ [$_{v}$P [$_{\text{VP}}$ ….]]]]]: CP periphery
b. [$_{\text{TopP}}$ [$_{\text{FocP}}$ [$_{\text{TopP}}$ [$_{v}$P [$_{\text{VP}}$ ….]]]]: *v*P periphery

Keywords: *wa*-marked sentences, contrastive focus (CF), left periphery, CP periphery, *v*P periphery, Japanese

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1. Introduction

It has been argued in cartographic investigations in Japanese that wa-marked phrases at the sentence initial position can mark Contrastive Topic (CT) in the sense of Tomioka (2010). This paper argues that the focal stress and structural position determine the interpretation of *wa*-marked phrases. Namely, our argument is, based on and extended out of Nakamura (2017: 356–359), that in sentence initial position, *wa*-marked phrases denote Thematic Topic (TT) or CT. Besides, our claim is that within *v*P domain, focally-stressed *wa*-marked phrase, denoted here as WA-marked phrase, signals Contrastive Focus (CF).

The organization of the paper is as follows. In Section 2, we briefly reviewed the previous analyses on the Japanese particle *wa*. In Section 3, we put forward examples that show the differences among *wa*-marked phrases. Our emphasis is on the behavior of *wa*-marked phrases within *v*P domain. In Section 4, we turn our eyes into Hungarian and German. Section 5 elucidates the elaborated Japanese phrase structure. Section 6 takes up some apparent problems for our analysis and concludes the paper.

2. Previous analyses on the Japanese particle *wa*

Since Kuroda (1965) and Kuno (1973), various analyses have been made on the Japanese particle *wa*. The common idea among these is that *wa* can denote contrast. Let us first overview Tomioka (2010). Tomioka (2010) suggests that mostly pitch peak is preferred to be put on particles, not the whole DP. This is indicated below.

(1) a. Who passed?
b. Ken-WA ukat-ta
K-TOP *pass-Past*
'(At least)Ken passed.' (Tomioka (2010: 119))

To the question in (1a) we can answer in (1b). Tomioka (2010) gives the translation for (1b) as "At least Ken passed." Besides, he states that this focally stressed *wa* denotes contrastive topic (CT).

Next, let us examine Hara (2006), who extensively investigated the behavior of the particle *wa*.

(2) a. Who passed the exam?
b. Mary-WA ukat-ta
M-CT *pass-Past*
'At least Mary passed, but I don't know whether the other(s) passed.'

c. Mary-ga ukat-ta
M-Nom pass-Past
'It is (only) Mary who passed.' (Hara (2006: 7))

Hara (2006), in line with Tomoika (2010), argues that in (2b), *wa* with focal stress denotes CT. In addition, Hara (2006) points out that the particle *ga* specifies the exhaustive identification, which is shown in (2c). In a similar vein, let us cite examples from Nakamura (2020).

(3) a. Among Taro, Ken, Hanako, and Mari, who passed?
b. Mari-wa ukari-mashita.
M-Top pass-Hon-Past
'At least Mari passed.'
c. Mari-WA ukari-mashita.
M-Top pass-Hon-Past
'Mari, but not others, passed.' (Nakamura (2020: 163–164))

My point here is that when *wa* is given focal stress, as in (3c), the particle provokes exhaustive identificational focus (EI-Focus) effect. Most, if not all, of my informants agree with my judgment.

Next, let us take a look at how *wa*-phrases in embedded sentences have been investigated. As have been discussed by Kuroda (2005) and Heycock (2008), among many others, *wa* can occur in certain embedded sentences. Kuroda (2005) indicates *wa* phrases can appear only in statement-making contexts. Heycock (2008) generally supports his idea. On the other hand, Tomioka (2015) offers a detailed investigation of the embedded *wa* phrases and puts forward many contexts in which *wa*-phrases can occur in embedded sentences. Tomioka (2015) argues that what Kuroda calls "statement-making contexts" means complements of propositional attitude verbs. Let us cite some of his examples.

(4) a. Mari-wa [Ken-wa moo kaet-ta to] omotte-iru
M-Top [K-Top already go home-Past-C_{DECL}*] think-Prog*
'Mary thinks that Ken has gone home already.'
b. Yoko-wa [Naoya-wa doko-no syussin-ka] oboete-iru
Y-Top [N-Top where-Gen birth place C_{QUEST}*] remember-Prog*
'Yoko remembers where Naoya is from.' (Tomioka (2015: 270))

Wa can be used in the complements of the verbs such as *omou* (=think) and *oboet-eiru* (=remember). Besides, Tomioka (2015) points out the exhaustive identificatonal focus effect the particle *ga* has, which is shown below. Tomoika shows *wa* and *ga* not in capital letters, but he mentions the focus effect. This indicates the particles are supposed to be given focal stress.

(5) a. Neutral Statement
Mari-WA tensai-da
Mari-Top genius-be
'Mari is a genius.'
b. Exhaustive statement with *ga*
Mari-GA tensai-da
M-Nom genius-be
'[Mari]F is a genius." Or It is Mari who is a genius.'
(Tomioka (2015: 299))

In addition, Tomioka (2015: 299) mentions that the exhaustive effect is possible but not obligatory in embedded sentences.

(6) a. Ken-wa [Mari- WA/GA tensai da to] omotte-iru
Ken-Top [Mary- Top/Nom genius-be-C] think-be
'Ken thinks that Mari is a genius.'

However, if we consider a different situation, Contrastive Focus (CF) effect emerges. If we are asked a question like (7a), we can answer it as in (7b).

(7) a. Ken-wa [Taroo-wa tensai da to] omotte-iru n da-yo-ne?
Ken-Top Taro-Top genius-be-C thinks-be Dec-PRT-Q
Does Ken think Mari is a genius, doesn't he?
b. Iya, Ken-wa [Mari-WA tensai da to] omotte-iru yo
No, Ken-Top [Mari-CF genius be-C] think-be PRT
No, Ken thinks Mari, not Taro, is a genius.'

This indicates focally marked *wa* gives rise to the contrastive focus effect in embedded sentences. This effect is what I would like to advocate in this paper.

3. Japanese data

3.1 Types of adverbs and their structural positions

First, we have to touch upon the differences among adverb types and their structural positions. Noda (1984) makes a distinction among adverb types in the following way.

(8) a. adverbs of mood: *tabun* (=perhaps), *ainiku* (=unfortunately), *yoosuruni* (=in short)
b. adverbs of tense: *rainen* (=next year), *mukasi* (=formerly), *ni-san-nichi mae* (=several days ago)

c. adverbs of aspect: *tokidori* (=sometimes), *sankagetu* (=for three months), *dandan* (=gradually)
d. adverbs of voice: *wazato* (=intentionally), *tanosisooni* (=joyfully), *oogoede* (=loudly)
e. adverbs referring to objects: *gatagata* (=shaky), *kireini* (=neatly), *maru-maruto* (=fully)]

Noda (1984: 81) further distinguishes modal adverbs into four types as follows.

(9) a. pragmatic adverbs: *yoosuruni* (=in short), *kantann-ni ieba* (=simply put)
b. evaluative adverbs: *ainiku* (=unfortunately), *zannen-nagara* (=regretfully)
c. modal adverbs: *tabun* (=perhaps), *osoraku* (=probably)
d. domain adverbs: *kihon-teki-ni-wa* (fundamentally), *omote-muki-wa* (= officially)

Endo (2007: 204–208) divides Japanese adverbs into three types, according as the particles attached to: High adverb, middle adverb, and low adverb. The particle *koto-ni* attaches to high adverbs, while the particle *mo* attaches to middle adverbs. On the other hand, the particle *ni* attaches to low adverbs. These are presented below.

(10) a. odoroita-koto-ni zan'nenna-koto-ni koounna-koto-ni
surprising-fact-Prt unfortunate-fact-Prt lucky-fact-Prt
'surprisingly' 'unfortunately' 'luckily'
b. mazime-ni-mo kenage-ni-mo syooziki-ni-mo
serious-Prt-Prt admirable-Prt-Prt honest-Prt-Prt
'seriously' 'admirably' 'honestly'
c. mazime-ni kenage-ni syooziki-ni
serious-Prt admirable-Prt honest-Prt
'seriously' 'admirably' 'honestly'

Fujimaki (2009), inspired by Noda's (1984) hierarchy and Endo's (2007) distinction, puts forward a more precise hierarchy of Japanese adverbs, as shown below.

(11) a. domain
b. speech act
c. evaluative
d. modal -CP
e. subject oriented -TP negation
f. manner adverb -vP

Next, let us again cite Endo's (2007) investigation on how well types of Japanese adverbs predict the distributions of elements. As shown above, Endo (2007) divides Japanese adverbs into three types: high adverb, middle adverb, and low adverb.

(12) a. *Natsuyasumi-ni Taroo-wa mazime-ni-mo odoroita-koto-ni
summer vacation-in T-Top diligently surprisingly
(middle) (high)
benkyoosita
study-Past
'In summer vacation, surprisingly, Taro diligently studied.'

b. Natsuyasumi-ni Taroo-wa odoroita-koto-ni mazime-ni benkyoosita
summer vacation-in T-Top surprisingly diligently study-Past
(high) (low)
'Surprisingly, in summer vacation, Taro studied diligently.'

c. *Natsuyasumi-ni Taroo-wa mazime-ni odoroita-koto-ni benkyoosita
summer vacation-in T-Top diligently surprisingly study-Past
(low) (high)
'In summer vacation, surprisingly, Taro studied diligently.'
(Endo (2007: 209))

Examples shown here clearly indicate the hierarchical order of adverbs. (12a) suggests that the middle adverb cannot occur above the high adverb. Besides, (12c) implies that the low adverb cannot occur above the high adverb.

Next, let us take a look at the interactions between adverbs and negation.

(13) a. Taroo-wa mazime-ni-mo asoba-na-katta
T-Top seriously play-Neg-Past
'Taro seriously didn't play.' (*Neg>Adv, Adv>Neg)

b. Taroo-wa mazime-ni asoba-na-katta (Neg>Adv, Adv>Neg)
T-Top seriously play-Neg-Past (Endo (2007: 207))

Here, (13a) shows that the middle(subject-oriented) adverb *mazime-ni-mo* scopes over negation. On the other hand, the low adverb *mazimeni* can be in the scope of negation. Based on the various types of data, Endo (2007: 208) puts forward the following hierarchy of adverb types and negation.

(14) subject oriented (middle) adverbial> negation>manner (low) adverbial

Furthermore, Endo (2007: 210) states that high, speaker-oriented adverbs occur in the $Mod_{epistemic}$ head, which is in the fourth position in the Cinque's (1999) hierarchy. Based on Endo's hierarchy, we can detect the clause boundary: Namely, as the following examples demonstrate, scope of quantifiers are easily depicted when we reflect on the adverb types and the positions of quantifiers.

(15) a. Dono- gakusei-mo odoroita-koto-ni mazime-ni hon-4-satu-o
every student surprisingly seriously book-4-CL-Acc
yomi-oe-ta
read-finish-Past
'Surprisingly, every student seriously finished reading four books.'
every>four books

b. Hon-4-satu-o odoroita-koto-ni dono-gakusei-mo mazime-ni
book-4-CL-Acc surprisingly every student seriously
yomi-oe-ta
read-finish-Past
'Surprisingly, there are four books that every student seriously finished reading.' four books>every: dominant reading

In (15a), the subject is above the high adverb *odoroita-koto-ni* and scopes over the object. On the other hand, in (15b), where the object scrambles into the sentence initial position over the subject and the high adverb, the moved object easily takes wider scope.

We can provide another set of examples to illustrate the point.

(16) a. Dono-gakusei-mo zan'nen-na koto-ni kossori hon-4-satu-o
every student unfortunately secretly book-4-CL-Acc
kat-te-ita
buy-State-Past
'Unfortunately, every student has secretly bought four books.'
every>four books

b. Hon-4-satu-o zan'nen-na-koto-ni kossori dono- gakusei-mo
book-4-CL-Acc unfortunately secretly every student
kat-te-ita
buy-State-Past
'Unfortunately, there are four books that every student has bought secretly.'
four books>every: dominant reading

In (16a), the universal quantifier in the subject position is above the high adverb *zann'nen-na koto-ni* and scopes over the object. In contrast, in (16b), the object scrambles over the subject and the high adverb. The dominant reading is the one in which the moved object takes wider scope.

Next, let us take a look at Tomioka (2010) again, who points out the scopal interaction between negation and *wa*-marked phrase.

(17) a. Minna-ga ko-nak-atta
All-Nom come-Neg-Past
'All the people were such that they didn't come.' all>Negation

b. Minna-WA ko nak-atta
all-Top come-Neg-Past
'Not all people came.' Negation>all
(Tomioka (2010: 118–119))

In (17a), the quantified subject scopes over negation. On the other hand, WA-marked subject takes narrower scope than negation. This indicates the necessity of postulating a slot for *wa*-marked elements below both negation and the low adverb. In addition, we can use Endo's (2007: 208) observation to strengthen our idea.

(18) Taroo-wa kasiko-ku syukudai-o si-na-katta
T-Top cleverly homework-Acc do-Neg-Past
'Taro didn't do his homework cleverly.'
cleverly>Negation & Negation>cleverly

In (18), the adverb *kasiko-ku* can scope over negation when it is interpreted as the middle adverb. When interpreted as the low adverb, it is in the scope of negation. This means that the low adverb is hierarchically below the negation, which is another indication of the validity of the hierarchy proposed in (14).

The facts indicated here have demonstrated that adverbs can be used for testing a clause boundary. Besides, the structural positions of the low adverbs like *mazimeni* (=seriously) and *kossori* (=secretly) demonstrate that the elements below them sit in the domain below negation. With these facts in mind, let us move onto the next section.

3.2 WA-marked phrases and their structural positions

Let us begin with the following paradigms.

(19) a. Taroo-wa ano-hon-o yon-da no?
T-Top that-book-Acc read-Past Q
'As for Taro, Did he read that book?
b. Iya, demo ano-ronbun-wa Taroo-ga yon-da (yo).
no, but that book-CT T-Non read-Past Par
'No, but as for that paper, Taro read it.'
c. Iya, demo ano-ronbun-WA Taroo-ga yon-da (yo).
no, but that paper-EI Focus T-Nom read-Past Par
'No, but Taro read that paper, and he read nothing more.'
d. Iya, demo ano-ronbun-dake-WA Taroo-ga yon-da (yo)
no but that paper-only-EI Focus T-Nom read-Past Par
'No, but it is the only that paper Taro read.'

e. Iya, demo ano-ronbun-WA odoroita-koto-ni Taroo-ga yon-da
no but that paper-EI-Focus surprisingly T-Nom read-Past
'No, but surprisingly, Taro read only that paper.'

Here in (19b), *wa*-marked DP that moves into sentence initial position denotes CT, and signifies uncertainty in the sense of Tomioka (2010). The sentence indicates the speaker tells that at least as for that paper, he/she knows that *Taro* has read it. In contrast, the DP marked by focally marked WA in (19c) gives rise to exhaustive identificational focus (EI-Focus) effect. The sentence indicates what (19d), which uses the focus particle *dake* (=only), specifies. When we put into the high-adverb *odoroita-koto-ni*, as in (19e), the EI-Focus reading is much more easily detected.

Let us present another set of paradigms, cited from Nakamura (2020).

(20) a. Gakusei-tachi-wa (riidingu -risuto-no) hon-yon-satu-wa
student-PL-TT (reading list-Gen) book-four-CL-CT
yomi-oe-ta
read-finish-Past
'As for the students, they finished reading (at least) four books from the reading list.'

b. Gakussei-tachi-wa (riidingu-risuto-no) hon-yon-satu-WA
student-PL-TT (reading list-Gen) book-four-CL-EI-Focus
yomi-oe-ta
read-finish-Past
'It is *four books*(, not four papers, for example) that the students finished reading from the reading list.'

c. (Riidingu -risuto-no) hon-yon-satu-wa gakusei-tachi-wa
(Reading list-Gen) book-four-CL-TT students-PL-CT
yomi-oe-ta
read-finish-Past
'As for the four books from the reading list, the students finished reading.'

d. (Riidingu -risuto-no) hon-yon-satu-WA gakusei-tachi-wa
(Reading list-Gen) book-four-CL-EI-Focus students-PL-CT
yomi-oe-ta
read-finish-Pas
'There are four books (from the reading list) such that the students finished reading.' (Nakamura (2020: 165))

In (20a–d), the sentence initial *wa*-marked phrases signal Thematic Topic (TT) in the sense of Tomioka (2016), among many others. The second *wa*-marked phrases in (20a&d) denote CT. On the other hand, WA-marked phrases in (20b&d) mark Exhaustive Identificational Focus (EI-Focus). When we add the high adverbs such

as *koounna-koto-ni* (fortunately) here, the EI-Focus interpretation is much more easily obtained. This is shown below.

(21) hon-yon-satu-WA koounna-koto-ni gakusei-tachi-wa yomi-oe-ta
book-four-CL-EI-Focus fortunately students-PL-CT read-finish-Past
'Fortunately, there are four books such that the students have finished reading.'

The facts shown above indicate the sentence initial *wa*-marked DP designates TT or CT, whereas the scrambled WA-marked DP specifies EI-Focus. Adapting Cinque's (1999) universal hierarchy of clausal functional projection, we argue that the adverb *koounna-koto-ni* sits in $\text{Mood}_{\text{evaluative}}$, which is the second highest projection. Also, with Endo (2007) and Fujimaki (2009), we suggest this slot is in the CP territory.

Let us next examine the examples below, where *wa*-marked phrases are assumed to sit within *v*P domain. Before moving on to Japanese data, however, let us review Belletti and Shlonsky (1995) and Belletti (2001, 2004). This is because, as an anonymous reviewer points out, they put forward the left periphery below TP: that is, the focus and topic slots in *v*P territory. Let us begin with the following examples.

(22) a. ?Capirà completamente Maria
will understand completely Maria
'Maria will understand it completely.'
b. *Capirà Maria completamente
will understand Maria completely (Belletti (2001: 61))

The judgments shown in (22a&b), together with the fact that the adverb *completamente* sits in $\text{Asp}_{\text{completive}}$, which is assumed to be the lowest in Cinque's (1999) hierarchy, suggest that the subject occurs low in the structure. In addition, we can add more examples to reinforce the view that we should postulate the left periphery in *v*P territory.

(23) a. Chi è partito/ha parlato?
who has left/has spoken?
b. E' partito/ha parlato Gianni
has left/has spoken Gianni (Belletti (2004: 21))

In (23b), the postverbal subject denotes new information focus. In addition, the post verbal subject in (24b) can be interpreted as a topic.

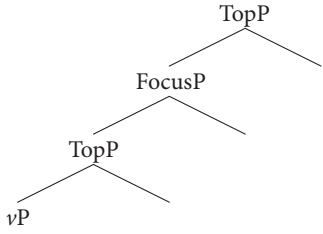
(24) a. Che cosa ha poi fatto Gianni?
'What has Gianni finally done?'
b. Ha parlato, Gianni
'He has spoken, Gianni' (Belletti (2004: 22))

Moreover, Belletti and Shlonsky (1995) put forward the following example.

(25) a. ha mangiato Gianni
has eaten Gianni
b. ha mangiato GIANNI
has eaten GIANNI (Belletti & Shlonsky (1995: 502))

They argue that the subject in (25b) is contrastively stressed. By scrutinizing various Italian data, Belletti (2004) proposes the following *v*P peripheral structure.

(26)



(Belletti (2004: 25))

This structure is what we would like to utilize and extend to Japanese.

Now, let us present Japanese examples.

(27) a. kanzenni Taroo-wa hon-4-satu-wa yomi-oe-a
completely T-TT *book-4-*CL-CT *read-finish-Past*
'Taro completely finished reading (at least) four books, but I don't know whether he read anything more.'
b. kanzenni Taroo-wa hon-4-satu-WA yomi-oe-ta
completely T-TT *book-4-*CL-CF *read – finish-Past*
'Taro completely finished reading the four books (, opposed to four papers).
c. Soo-ie-ba Taroo-wa syohyoo-mo yomi-oe-ta
come to think of it T-TT *review-also read-finish-Past*
'Come to think of it, Taro finished reading a review, too.'

(28) Hon-4-satu-WA odoroita-koto-ni Taroo-ga yomi-oe-ta
*book-4-*CL-EI-*Focus surprisingly T-Nom read – finish-Past*
'Surprisingly, there are four books such that Taro finished reading.'

Here in (27a), the second *wa*-marked phrase denotes CT, whereas WA-marked phrase in (27b) signals CF. This marks the sharp contrast with the one in (28), which evidently shows EI-Focus effect. We can easily continue (27c) to (27b), which indicates that WA-marked DP in (27b) does not exhibit exhaustivity. The fact that we cannot easily continue (27c) to (28) constitutes another evidence that the structural positions make clear distinction between WA-marked phrases. Moreover, the low adverb *kanzenni* (=completely) comes at the top of the sentence. Assuming Cinque's (1999) hierarchy, the adverb shows up in the $ASP_{completive}$, which sits in the lowest. This indicates the whole sentence is in *v*P domain.

3.3 Scopal interactions between negation and wa-marked phrases

We can provide another set of paradigms to strengthen our point that *wa*-marked phrases can sit in *v*P domain: scopal interactions between negation and *wa*-marked phrases.

(29) a. Taroo-wa riidingu-risuto-no hon-4-satu-wa yoma-nakat-ta
T-TT (reading list-Gen) book-4-CL-CT read-Neg-Past
'As for Taro, he didn't read four books among the reading list. I don't know whether he read anything else.' Negation>four books

b. Mazimeni Taroo-wa riidingu-risuto-no hon-4-satu-WA yoma-nakat-ta
seriously T-TT (reading list-Gen) book-4-CL-CF read-Neg-Past
'It is not the case that Taro seriously read four books among the reading list.' Negation>four books

In (29a–b), both *wa*-marked object and WA-marked object are under the scope of negation. This indicates that the *wa*-marked phrases are below negation. Moreover, our claim is that the *wa*-marked phrases are in *v*P domain.

(30) Mazimeni gakusei-4-nin-WA gakkai-ni ko-nakat-ta
seriously student-4-CL-CF conference-to come-Neg-Past
'It is not the case that four students seriously came to the conference.'
Negation>four books

Similarly, the WA-marked QP in (30) has narrower scope than negation. We share the judgment suggested in Tomioka (2010). Cinque (1999: 121) analyzes Italian negation *non* sits in the position below C^0. In contrast, Japanese has the sequence *ko-natat-ta*, which is verb-Negation-Tense. This indicates Japanese negation sits below Tense. The facts shown in (29a–30) suggest *wa*-marked phrases are below negation.

3.4 Scopal interactions between verbs and *wa*-marked phrases

In this sub-section, we will argue that intentional verbs and modal auxiliary verbs have scopal interactions with *wa*-marked phrases.

(31) a. Taroo-ga hon-4-satu-wa yomu tumori-da
T-Nom book-4-CL-CT read intend to do-Dec
'Taro intends to read four books.' Intend >four books

b. Taroo-ga hon-4-satu-WA yomu tumori-da
T-Nom book-4-CL-CF read intend to do-Dec
'Taro's intention is to read four books, (not four papers).'
Intend >four books

Here, in (31a&b), *wa*-marked phrase and WA-marked phrase scope under the intentional verb *tumori* (=intend to). Adapting again Cinque's (1999) hierarchy, we argue that the verb *tumori* (=intend to) occurs in $\text{Mod}_{\text{volitonal}}$ slot.

(32) a. Taroo-ga hon-4-satu-wa yomu daroo
T-Nom book-4-CL-CT read will
'Taro will read four books.' Will>four books
b. Taroo-ga hon-4-satu-WA yomu daroo
T-Nom book-4-CL-CF read will
'It is likely that Taro reads four books (, not four papers).' Will>four books

Similarly, WA-marked phrase in (32b) signifies CF, and is under the scope of the modal verb *daroo* (=will). Cinque's (1999) hierarchy predicts that a modal verb in its possibility use sits in $\text{Mod}_{\text{possibility}}$.

(33) a. Taroo-ga hon-4-satu-WA yomu-tumori- naka-tta
T-Nom book-4-CL-CF read-intend to Neg-Tense
'Taro didn't intend to read four books.'
b. Taroo-ga hon-4-satu-WA yoma-nai-tumori da-tta
T-Nom book-4-CL-CF read-Neg intend to-Cop-Past
'Taro's intention was not that he would read four books.'
c. Taroo-ga hon-4-satu-wa yomna-nai-daroo
T-Nom book-4-CL-CF read-Neg-will
'Taro will not read four books.'

As are presented in (33a–c), Japanese allows the sequence of *verb-intend to-Neg-Tense, verb-Neg-intend to-Tense*, and *verb-Neg-will*. (34a–c) are the structure for these possibilities.

(34) a. $[_{\text{Tense}}[_{\text{Neg}}[_{\text{Modvolitional}}[_{\text{V}}$ yomu$]$tumori$]$na$]$katta$]$
b. $[_{\text{Tense}}[_{\text{Modvolitional}}[_{\text{Neg}}[_{\text{v}}$ yoma$]$nai$]$tumori$]$datta$]$
c. $[_{\text{Modpossibility}}[_{\text{Neg}}[_{\text{V}}$ yoma$]$nai$]$daroo$]$

The facts that the *wa*-marked phrases occur below these elements indicate that these are in *v*P domain.

3.5 Scopal interactions between focus particle and *wa*-marked phrases

Still another piece of evidence comes from the scope interaction between focus particle and *wa*-marked phrases.

(35) Taro-ga oya-ni-made soodan-si-nakat-ta
T-Nom parent-Dat-even consult with-do-Neg-Past
'Taro didn't dare to tell his problems even to his parent(s).' Negation>even

As is discussed in Sano (2006), in (35), the DP marked with the focus particle *made* (=even) can have narrower scope than negation. This indicate that the focus elements sit below negation.

3.6 Scopal interactions between DPs in DOC

(36) a. Taro-ga dono-insee-ni-mo hon-2-satu o suisen-si-ta[1]
T-Nom every grad student-Dat book-2-CL-Acc recommend-does-Past
'Taro recommended every grad student two books.' every>two

b. Taro-ga hon-2-satu o dono-insee-ni-mo suisen-si-ta
T-Nom book-2-CL-Acc every grad student-Dat recommend-does-Past
'There are two books such that Taro recommended to every student.'
two>every: preferred reading

In (36a), with the IO-DO order, the IO takes wider scope. In contrast, in (36b), with DO scrambling, the much more preferred reading is that the scrambled DO scopes over the IO. This denotes that DO scrambling should be regarded as a focus movement. Similar sets of data are provided below.

(37) a. Sensei-ga dono-gakusei-ni-mo kadai-hitotu-o atae-ta
teacher-Nom every student-Dat assignment-CL-Acc give-Past
'The teacher gave every student one assignment.' every>one

b. Sensei-ga kadai-hitotu-o dono-gakusei-ni-mo atae-ta
teacher-Nom assignment-CL-Acc every student-Dat give-Past
'The teacher gave one (specific) assignment to every student.'
one>every: preferred reading

In (37a) the assignments vary according as students. In contrast, in (37b), the preferred reading is that the teacher gave one specific assignment to every student. This again demonstrates that the DO scrambling across the IO should be regarded as focus movement.

Up to now, Japanese examples presented in this section have indicated that the operations within *v*P domain should be regarded as topic-focus movement. In the next section, we turn our eyes into Hungarian and German data.

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1. As pointed out by an anonymous reviewer, It has been assumed since Kamio (1977) and Watanabe (2006), among many others, that NP-Case-numeral quantifiers order forces non-specific interpretation, we use the form "hon 4-satu-o" instead of "hon-o-4-satu."

4. Hungarian and German data

4.1 Hungarian data

Kenesei (1998) presents very interesting sets of Hungarian examples and discusses the focus types and their syntactic positions.

(38) a. Mit csinált Edison 1877-ben?
what-Acc did Edison 1877-INE
'What did Edison do in 1877?'
b. **FEL**-TALÁLTA A **FONO**GRÁFOT
PFX-invented-3SG the photograph-Acc
'He invented the photograph.'
c. ?? [A **FONO**GRÁFOT] találta fel
'It is the photograph that he invented.' (Kenesei (1998: 58))

The point here is that we cannot use (38c) as an answer to the question (38a). This is because generally in Hungarian, the preverbal focus position designates exhaustive identification. As is well known, the photograph is not the only invention by Edison. This indicates that there is another focus slot in Hungarian, which denotes non-exhaustive focus. This position is assumed to be in *v*P domain. In the same vein, É. Kiss (1998) demonstrates the examples below.

(39) a. Hol jártál a nyáron?
where went.you the summer.in
'Where did you go in the summer?'
b. Jártam OLASZORSZÁGBAN
went.I Italy.to
'I went to Italy [among many other places.]'
c. **Olaszországban** jártam
'It was **Italy** where I went.' (É. Kiss (1998: 249–250))

(39b) denotes non-exhaustive focus, whereas in (39c) EI-focus is indicated. This clearly signifies that there should be separate slots for focuses in Hungarian.

4.2 German data

(40) a. Er hat ja fast allen mindestens zwei Fragen gestellt
he has PRT almost all at-least two questions put
'He has put almost all (of them) at least two questions.' all>two
b. Er hat ja mindestens zwei Fragen$_i$ fast allen e$_i$ gestellt
'He has put at least two questions to almost all (of them.)'
all>two & two>all
(Haider (2010: 172))

In (40a), the IO scopes over the DO, while in (40b), with the DO scrambling, both the IO and DO can have wider scope. This signifies the focus effect DO scrambling has.

In this section, we have examined Hungarian and German data to strengthen our view that there should be topic and focus slots within *v*P domain.

5. Elaborated left periphery in both CP and vP domains

Following Belletti (2004) and Rizzi (1997&2004), we are now in a position to propose the following elaborated phrase structures both in CP and *v*P domain.

(41) a. [$_{\text{ForceP}}$ [$_{\text{TopP}}$ [$_{\text{FocP}}$ [$_{\text{TopP}}$ [$_{\text{FinP}}$ [$_{\text{IP}}$ ….]]]]]]: CP periphery
b. [$_{\text{TopP}}$ [$_{\text{FocP}}$ [$_{\text{TopP}}$ [$_{v\text{P}}$ [$_{\text{VP}}$ ….]]]]: *v*P periphery

Based on these, we can schematize the structures for (42a&b) as in (43a&b).

(42) a. Iya, demo ano-ronbun-WA Taro-ga yon-da
no, but that book-EI-Focus T-Non read-Past
b. Majimeni Taro-wa hon-4-satu-WA yon-da
seriously T-TT book-4-CL-CF read-Past

(43) a. [$_{\text{TopP}}$ Iya, demo [$_{\text{FopP}}$ ano-ronbun-WA [$_{\text{TopP}}$[$_{\text{TP}}$ Taro-ga [$_{v\text{P}}$ t_{subj} [$_{\text{VP}}$ t_{obj} yon]]da]]]]
b. [$_{\text{TopP}}$ majimeni [$_{\text{TopP}}$ Taro-wa [$_{\text{FocP}}$ hon-4-satu-WA [$_{\text{TopP}}$ [$_{\text{TP}}$ t_{subj} [$_{v\text{P}}$ t_{subj} [$_{\text{VP}}$ t_{obj} yon]]da]]]]]

When negation is involved, we can demonstrate the structure as in the following way.

(44) a. majimeni Taro-wa (riidingu-risuto-no) hon-4-satu-WA yoma-nakat-ta
seriously T-TT (reading list-Gen) book-4-CL-CF read-Neg-Past
b. [$_{\text{TopP}}$ majimeni [$_{\text{TopP}}$ Taro-wa[$_{\text{FocP}}$ riidingu-risuto-no hon-4-satu-WA [$_{\text{TP}}$ t_{subj} [$_{\text{NegP}}$ [$_{v\text{P}}$ t_{subj} [$_{\text{VP}}$ yom]]akat]ta]]]]

The *v*P adverb is assumed to adjoin to TopP, and WA-marked DP is in the FocP slot.

In addition, when negation and a focus particle are involved, we have the following structures.

(45) a. Taro-ga oya-ni-made soodan-si-nakat-ta
T-Nom parent-Dat-even consult with-do-Neg-Past
b. [$_{\text{TP}}$ Taro-ga [$_{\text{NegP}}$ [$_{\text{TopP}}$ [$_{\text{FocP}}$ oya-ni-made[$_{\text{TopP}}$ [$_{v\text{P}}$ t_{subj} [$_{\text{VP}}$ t_{obj} soodan]si]]]] nakat]ta]

6. Conclusion, apparent problems, and theoretical implications

Summing up, throughout this paper, we have argued that there are topic and focus slots both in CP and in *v*P zone. Moreover, we have claimed that focally marked WA-marked phrases are divided into two: the one that marks Exhaustive Identificational Focus (EI-Focus) sits in the FocP in CP territory. On the other hand, the one that marks Contrastive Focus (CF) is in the FocP in *v*P domain.

Here, one may wonder this kind of movement operation violates some kinds of locality conditions. This is because when the DP *hon-4-satu-WA* moves into FocP, as in (44b), it crosses the subject traces in Spec-TP and Spec-*v*P. However, this is not the case, since we assume that the feature triggers the movement. The DP has the only one with CF feature; the elements in Spec-TP nor in Spec-*v*P does not, and hence this movement is licit.

Finally, the theoretical implications are in order. We have demonstrated that the structural positions determine types of *wa*-marked focus phrases. This is in line with É. Kiss (2014), who argues that structural positions determine types of Hungarian focus elements. Finally, we have provided another empirical support for the validity of Belletti's (2004) proposal for postulating topic and focus slots in *v*P domain.

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References

Belletti, Adriana. 2001. 'Inversion' as focalization. In *Inversion in Romance and the Theory of Universal Grammar*, Aafke C. J. Hulk & Jean-Yves Pollock (eds), 60–90. Oxford: OUP.

Belletii, Adriana. 2004. Aspects of the Low IP area. In *The Structure of CP and IP: The Cartography of Syntactic Structures*, Vol. 2, Luigi Rizzi (ed.), 16–51. Oxford: OUP.

Belletti, Adriana & Shlonsky, Ur. 1995. The order of verbal complements: A comparative study. *Natural Language and Linguistic Theory* 13: 489–526. https://doi.org/10.1007/BF00992739

Cinque, Guglielmo. 1999. *Adverbs and Functional Heads*. Oxford: OUP.

Endo, Yoshio. 2007. *Locality and Information Structure. A Cartographic Approach to Japanese*. [Linguistik Aktuell/Linguistics Today 116]. Amsterdam: John Benjamins. https://doi.org/10.1075/la.116

Fujimaki, Kazuma. 2009. On the relative structural position of high adverbs and the interpretation of *Ga*-marked subject. Paper Presented at the 139th Meeting of the Linguistic Society of Japan.

Haider, Hubert. 2010. *The Syntax of German*. Cambridge: CUP. https://doi.org/10.1017/CBO9780511845314

Hara, Yurie. 2006. Grammar of Knowledge Representation. PhD dissertation, University of Delaware.

Heycock, Caroline. 2008. Japanese -*Wa*, -*Ga*, and information structure. In *The Oxford Handbook of Japanese Linguistics*, Shigeru Miyagawa & Mamoru Saito (eds), 54–83. Oxford: OUP.

Kamio, Akio. 1977. Suuryoosi-no sintakkusu (Syntax of numeral quantifiers). *Gengo* 6(8): 83–91.

Kenesei, István. 1998. Adjuncts and arguments in VP-focus in Hungarian. *Acta Linguistica Hungarica* 45: 61–88. https://doi.org/10.1023/A:1009604924685

Kiss, Katalin É. 1998. Identificational focus versus information focus. *Language* 74: 245–273. https://doi.org/10.1353/lan.1998.0211

Kiss, Katalin É. 2014. Identificational focus revisited: The issue of exhaustivity. Paper Presented at CLS 50.

Kuno, Susumu. 1973. *The Structure of the Japanese Language*. Cambridge MA: The MIT Press.

Kuroda, Shigeyuki. 1965. Generative Grammatical Studies in the Japanese Language. PhD dissertation, MIT.

Kuroda, Shigeyuki. 2005. Focusing on the matter of topic: A study of *Wa* and *Ga* in Japanese. *Journal of East Asian Linguistics* 14: 1–58. https://doi.org/10.1007/s10831-004-2701-5

Namura, Koichiro. 2017. Japanese particle *Wa* with a focal stress provokes exhaustive identificational focus. In *Studies on Syntactic Cartography: Proceedings of the International Workshop on Syntactic Cartography 2015*, Fuzhen Si (ed.), 352–370. Beijing: Chinese Social Sciences Press.

Nakamura, Koichiro. 2020. Types and functions of *Wa*-marked DPs and their structural distribution in a Japanese sentence. In *Information Structural Perspectives on Discourse Particles* [Studies in Language Companion Series 213], Pierre-Yves Modicom & Olivier Duplâtre (eds), 161–175. Amsterdam: John Benjamins. https://doi.org/10.1075/slcs.213.06nak

Noda, Hisasi. 1984. Fukusi-no Gozyun. *Nihongo Kyooiku* 52: 79–90.

Rizzi, Luigi. 1997. The fine structure of the left periphery. In *Elements of Grammar*, Liliane Haegeman (ed.), 281–337. Dordrecht: Kluwer. https://doi.org/10.1007/978-94-011-5420-8_7

Rizzi, Luigi. 2004. Locality and left periphery. In *Structures and Beyond*, Adriana Belletti (ed.), 223–251. Oxford: OUP.

Sano, Masaki. 2006. Toritate-si o Meguru Ninka Zyooken to Kara-setu (Licensing conditions on the focus particles and *kara*-clause). *Scientific Approaches to Language* 5: 49–69.

Tomioka, Satoshi. 2010. Contrastive topic operates on speech act. In *Information Structure: Theoretical Typological, and Experimental Perspective*, Malte Zimmermann & Caroline Féry (eds), 115–138. Oxford: OUP.

Tomioka, Satoshi. 2015. Embedded *Wa*-phrases, predication, and judgment theory. *Natural Language and Linguistic Theory* 33: 267–305. https://doi.org/10.1007/s11049-014-9258-4

Tomoioka, Satoshi. 2016. Information structure in Japanese. In *The Oxford Handbook of Information Structure*, Caroline Féry & Shinichiro Ishihara (eds), 753–773, Oxford: OUP.

Watanabe, Akira. 2006. Functional projections of nominals in Japanese: Syntax of classifiers. *Natural Language and Linguistic Theory* 24: 241–306. https://doi.org/10.1007/s11049-005-3042-4

SECTION II

Theoretical and descriptive issues in syntactic cartography

A Chinese linguistic perspective

CHAPTER 9

Quantifictional binding without surface c-command in Mandarin Chinese

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This article discusses quantificational binding without surface c-command in Mandarin Chinese. Jin (1998) pointed out that Chinese quantificational NPs (Q-NPs) headed by *mei* 'every' are capable of binding out of containers such as sentential subjects, relative clauses or adverbial clauses and there is a subject/object asymmetry with respect to such binding. This asymmetry, if correct, is reminiscent of the non-coreference rule on pronominal anaphora which also displays an effect of subject/object asymmetry (cf. Huang 1982 and Teng 1985) and would call for a unifying treatment of the two phenomena. However, contrary to Jin's observation, this article shows that universal Q-NPs in object position may actually bind out of their containers just like universal Q-NP subjects, thus making it infeasible to define a common locality domain to which both quantificational binding and referential pronominal anaphora are sensitive. Instead, this article argues that quantificational binding is an LF phenomenon constrained by LF mechanisms. A minimum requirement for quantificational binding is that the pronoun bound by a given quantifier must be within the scope of that quantifier at LF. Though this minimum requirement in principle enables Q-NPs to have high scope, they are subject to other conditions such as the general Condition on Scope Interpretation, which prevents a Q-NP from taking scope over another one that c-commands it at surface structure. The interaction of the two conditions explains why in some cases Q-NPs may take high scope and bind a pronoun that they do not c-command but not in some other cases. Backward quantificational binding, on the other hand, is a result of the interaction of several independently motivated mechanisms, including the possibility of reconstruction at LF, the Chinese-specific non-coreference rule and Chomsky's Leftness Condition.

Keywords: quantificational binding, c-command, Chinese, *mei*, subject/object asymmetry, LF

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1. Introduction

Studies of pronominal anaphora in generative grammar have long recognized, at least since the early 1970s, a distinction between pronouns with referential antecedents and those construed with quantificational NPs, as illustrated in (1)–(2) respectively:[1]

(1) a. John$_i$ likes his$_i$ teacher.
b. The old lady$_i$ said that she$_i$ won a lottery.

(2) a. Every man$_i$ put a screen in front of him$_i$.
b. No child$_i$ will admit that he$_i$ is sleepy.

In both (1a) and (1b), a pronoun is in co-reference with its antecedent. But in (2) the pronoun corresponds more closely to a logician's use of bound variables. The LF representations of (2a–b) after Quantifier Raising (QR, May 1977) are (3a–b), respectively.

(3) a. LF: Every man$_i$ [$_{IP}$ t$_i$ [$_{VP}$ put a screen in front of him$_i$]]
b. LF: No child$_i$ [t$_i$ will admit that [he$_i$ is sleepy]]

The pronoun in each representation above is construed as a bound variable whose reference co-varies with the value assigned to the trace *t*, itself a variable bound by the raised quantificational NP (Q-NP).

It has been widely assumed, especially since Reinhart (1983a; b), that quantificational binding as illustrated by (2) requires surface c-command (also see Partee (1978/2004) and Evans (1977, 1980). Some supporting examples for this assumption involve examples of the following kind.

(4) a. Every man$_i$ walked out. He$_{*i}$ slammed the door.
b. John loves every woman, and he hopes to date her$_{*i}$ soon.
c. If no student$_i$ cheats on the exam, he$_{*i}$ will pass the course.
d. The secretary who works for him$_{*i}$ despises each$_i$ of the managers.

By contrast, Postal (1971); Wasow (1972), Higginbotham (1980a, 1983), Huang (1982, 1994, 2010), Bresnan (1994, 1998), Barker (2005, 2009), Shan and Barker (2006), among many others, have provided examples showing that quantificational binding does not require surface c-command. One such example is (5) discussed in Huang (1994: 144).

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1. The examples in (2) are taken from Partee (1978/2004). See this and Evans (1980) for a good survey of the distinction between the referential and bound variable uses of pronouns.

(5) The election of no president will please his or her opponents.

Significantly, the pronoun *his/her* in (5) related to 'no president' must be a bound variable pronoun rather than an e-type pronoun, because 'no president' does not refer.

More recently, along the same lines of the above authors, Barker (2012) argues that Q-NPs are actually capable of binding out of containers of essentially any syntactic category, as illustrated by the following examples many of which are earlier observations from the previous literature.

(6) Possessors:
   a. [Everyone$_i$'s mother] thinks he$_i$'s a genius.
   b. [No one$_i$'s mother in law] fully approves of her$_i$.

(7) Inverse Linking:
[Someone from every$_i$ city] hates it$_i$

(8) Binding out of nominal arguments:
This shows that [the fate of every$_i$ individual] is decided by his$_i$ inner ego.

(9) Binding out of PP:
Our staff keeps a watchful eye [on every$_i$ situation] and on it$_i$'s development.

(10) Binding out of VP:
   a. We [will sell no$_i$ wine] before its$_i$ time.
   b. A book [was given to every$_i$ boy] by his$_i$ mother. (Harley 2002: 64)

(11) Binding out of an adjunct
…[after seeing each$_i$ animal] but before categorizing it$_i$ on the computer or recording it$_i$ on their response sheet.

(12) Binding out of a tensed clause: a universal does not take scope outside of a tensed clause as in (12a), but *each* can.
   a. *[That Mary seems to know every$_i$ boy] surprised his$_i$ mother.
   b. The grade [that each$_i$ student receives] is recorded in his$_i$ file.

Given examples like the above, Barker speculates that the impression to the surface c-command requirement may be an illusion of the fact that "in predicate logic, a quantifier takes scope over exactly the proposition it is adjoined to". This scope requirement, however, should be an LF requirement because in natural language the scope of a quantifier can be different from its surface c-command domain, as the ambiguity of (13) shows.

(13) Someone loves everyone.
   a. Some person x is such that x loves everyone. (scope: $\exists > \forall$)
   b. Every person x is such that someone loves x. (scope: $\forall > \exists$)

When (13) is construed as (13b), *everyone* has scope over *someone*, permitting the individual denoted by *someone* to vary with the individual picked for *everyone*. In this construal, the actual scope of *everyone* at LF is different from its surface c-command domain.

Since Q-NPs obtain their scope at LF, in order for a pronoun to be construed as a bound variable, it must be within the scope of the quantifier that binds it at LF (but not necessarily at surface structure). Given this requirement, Barker argues that the contrast between (14a) and (14b) is not an argument for the surface c-command requirement for quantificational binding because the pronoun in (14b) is not within the scope of the quantificational expression '*each woman*' at LF (though he does not explain why).

(14) a. Each woman denied that she met the shah.
b. The man who travelled with each woman_i denied that she_{*i} met the shah.

Unlike English quantificational binding, quantificational binding in Chinese has not received much attention. This article attempts to fill this gap with an eye to investigating constraints on scope-taking of Q-NPs and the interaction between scope taking and quantificational binding. In particular, we will focus on examples where Q-NPs do not c-command the pronouns bound by them at surface structure. We will refer to such quantificational binding as QBWC. This article is organized as follows. Section 2 briefly reviews QBWC in the previous literature. Section 3 is a preliminary attempt to account for the previous observations. Section 4 refutes the preliminary attempt by pointing out some counterexamples which are not compatible with the predictions of the preliminary attempt. Section 5 and 6 establish QBWC as a scope phenomenon and discuss the interaction between scope ambiguity and QBWC. Section 7 is devoted to weak crossover situations, demonstrating how reconstruction, non-coreference and Chomsky's Leftness Condition or Bianchi's reformulation of it as a pure anti-c-command condition to account for a complex set of data. Section 8 concludes the discussion and points out some residual problems.

2. The case of Chinese: Previous literature

There are very few works specifically focusing on bound pronouns in Mandarin Chinese, but Huang's (1982) early example in (15) already shows that quantificational binding in Chinese does not require surface c-command.[2]

(15) Binding out of a relative clause (Huang (1983: 73; 1982: 409))
[$_{DP}$ [$_{CP}$ Mei-ge ren$_i$ shoudao de] xin] shangmian] dou you ta$_i$ taitai
every-CL person receive Rel letter top all have his wife
de mingzi
DE name
'Letters that everyone$_i$ received have his$_i$ wife's name on top of them.'

The most detailed discussion of quantificational binding without c-command in Mandarin Chinese was provided by Jin (1998). She discovered a subject/object asymmetry, claiming that subject universal NPs inside an embedded clause may bind a pronoun in the main clause without c-commanding it, whereas universal object NPs may not do so. This is illustrated by the following examples taken from her.

(16) a. [Mei-ge ren$_i$ baoming hou], Zhangsan dou hui zai shi tian
every-CL person register after Zhangsan all will within ten day
ne zhao ta$_i$ shou qian
within find him collect money
'After everyone$_i$ has registered, Zhangsan will collect the money from him$_i$.'
b. *Zhangsan xunwen mei-ge ren$_i$ hou, Lisi hui yao ta$_i$ zuo
Zhangsan ask every-CL person after Lisi will want him make
ge jueding
Cl decision
'After Zhangsan asked everyone$_i$, Lisi will want him$_i$ to make a decision.'

(17) a. Ruguo mei-ge ren$_i$ ken nuli, ta$_i$ jiu yiding
if every-CL person willing work.hard he then definitely
hui chenggong
will succeed
'If everyone$_i$ is willing to work hard, he$_i$ will definitely succeed.'
b. *Ruguo ni ai mei-ge ren$_i$, ta$_i$ yiding hui hen gaoxing
if you love every-CL person he definitely will very happy
'If you love everyone$_i$, he$_i$ will definitely be very happy.'

2. Aoun and Li (1990) discuss bound pronouns in Mandarin Chinese but their focus is not on quantificational binding without c-command.

(18) a. Mei-ge lüke$_i$ rujing zhiqian, haiguan yiding dou hui jiancha
every-CL traveler enter before customs definitely all will examine
ta$_i$-de xingli
his luggage
'Before every traveler$_i$ enters, the customs will definitely examine his$_i$ luggage.'

b. *Zai laoshi yuetan meige xuesheng$_i$ zhiqian, banzhang dou
at teacher arrange.talk every student before class.leader all
hui yao ta$_i$ zuohao zhunbei gongzuo
will want him do.well preparation work
'Before the teacher talks with every student$_i$, the class leader will ask him$_i$ to prepare well.'

(19) a. Buguan mei-ge ren$_i$ yuan bu yuanyi, you yi tian ta$_i$ dou
no.matter every-CL person willing not willing have one day he all
hui likai renjian
will leave the world
'No matter whether everyone$_i$ is willing, he$_i$ will leave the world one day.'

b. *Buguan ni xi bu xihuan mei-ge ren$_i$, wo dou hui qing
no.matter you like.not.like every-CL person I all will invite
ta$_i$ lai
him come
'No matter whether you like or dislike everyone$_i$, I will invite him$_i$ to come.'

In what follows, we shall refer to the above observed asymmetry as Jin's generalization.

3. A preliminary first attempt to account for QBWC in Chinese

Jin's discussion of QBWC reminds us of Huang's (1982) and Teng's (1985) early discussions of referential pronominal anaphora in Chinese because the subject/object asymmetry for the QBWC discovered by her looks quite similar to the subject/object asymmetry of pronominal anaphora discussed by Huang (1982) and Teng (1985).

In English both forward and backward pronominalization are allowed in a complex sentence, as illustrated by (20).

(20) a. When John visited me, he gave me a gift that I had long wanted to buy.
b. When he visited me, John gave me a gift that I had long wanted to buy.

However, Huang (1982, 1998) observed that though failure of a pronoun to c-command an NP may be sufficient for a pronoun to be coreferential with a NP in English

(Reinhart 1976), this is not the case in Chinese. For example, the pronoun in (21a) is embedded to a sentential subject, hence not c-commanding the proper name *Zhangsan* in the matrix VP, but the former cannot be coreferential with the latter.

(21) a. *[Ta$_i$ neng-bu-neng lai] dui Zhangsan$_i$ mei guanxi
he can-not can come to Zhangsan no matter
'Whether he$_i$ can come or not doesn't matter to Zhangsan$_i$.'
b. [Zhangsan$_i$ neng-bu-neng lai] dui ta$_i$ mei guanxi
Zhangsan can-not-can come to him no matter
'Whether Zhangsan$_i$ can come or not doesn't matter to him$_i$.'

Huang (1982) also observed that when the pronoun *ta* in (21a) is further embedded (with no change in linear relation with the antecedent *Zhangsan*), coreference becomes possible:

(22) [[Ta$_i$ de mama] neng-bu-neng lai] dui Zhangsan$_i$ mei guanxi
he DE *mother can-not-can come to Zhangsan no matter*
'Whether or not his$_i$ mother can come does not matter to Zhangsan$_i$.'

This suggests that the impossibility of coreference between the pronoun and the proper name *Zhangsan* in (21a) is not due to linear precedence. Instead, he proposed a hierarchical condition on Chinese pronominal anaphora in terms of the notion 'cyclic c-command', as defined below.

(23) Condition on Pronominal Anaphora in Chinese (Huang 1998: 280)
A pronoun may not cyclic c-command its antecedent.[3]

(24) Cyclic c-command (Huang 1998: 279)
A cyclic c-commands B if and only if:
a. A c-commands B, or
b. If C is the minimal cyclic node (NP or S') that dominates A but is not immediately dominated by another cyclic node, then C c-commands B.[4]

---

3. 'A pronoun' here means 'an overt pronoun'. With a null pronoun (*pro*), (21a) is quite good:

(i) [*pro* neng-bu-neng canjia biyedianli] dui Zhangsan bu zhongyao.
can-not-can join commencement to Zhangsan not important
'Whether or not he can participate in the commencement is not important to Zhangsan.'

The non-coreference rule regulates the relation of an overt pronoun with its (referential) antecedent in Chinese, in a manner to be distinguished from Principle C.

The basic intuition of (23) is that a pronoun in Chinese obeys a stricter condition than the familiar Condition C: it can neither c-command, nor even 'almost' c-command its antecedent.

4. Intuitively, when one cyclic node immediately dominates another, the higher one counts as the relevant cyclic node; or they together count as one. This idea also runs through the definitions of phase-c-command to be discussed below.

In (21a), the pronoun *ta* does not c-command *Zhangsan*, but its containing sentential subject c-commands it with C (of 24b) = S' (= CP). Therefore, (21a) is ill-formed in violation of (23), with *ta* cyclic-c-commanding its antecedent. On the other hand, in (22), neither *ta* nor the minimal cyclic NP/DP containing it, *ta de mama* 'his mother', c-commands *Zhangsan*. So the pronoun does not cyclic-c-command its antecedent, and coreference is allowed.

Huang's (1982) analysis of pronominal anaphora predicts that an object pronoun in an embedded clause may not be coreferential with a proper name in the matrix clause and he provided (25) as evidence for this prediction, marking it as disallowing coreference:

(25) Wo kanjian ta_i de shihou, $Zhangsan_i$ zai dazi
I see him DE *time Zhangsan Prog type*
'When I saw him_i, $Zhangsan_i$ was typing.'

Huang's judgement of (25), however, was challenged later by Teng (1985) and Zhu (1997). Indeed, we found that many examples of a similar type are acceptable to the native speakers we consulted, for example, (26)–(28) below.

(26) [Wo zheng yao ma ta_i de shihou], $Zhangsan_i$ que xian da
I be.going to want scold him DE *time Zhangsan but first make*
dianhua guolai peizui le
call come apologize Asp
'At the moment when I was about to scold him_i, $Zhangsan_i$ made a phone call to apologize first.'

(27) [Yaoshi dajia dou yuanyi zhu ta_i yibeizhili], $Daniu_i$ meiyou
if everyone all willing help him with.one.arm.effort Daniu not
bu chenggong de daoli
not succeed DE *reason*
'If everyone is willing to help him_i, there is no reason that $Daniu_i$ will not succeed.'

(28) [Renjia yuanyi jia gei ta_i] jiu yijing shi A-niu_i zui da de
she willing marry to him Emp already be A-niu most big DE
fuqi le
blessing Asp
'That she is willing to marry him_i is already A-Niu_i's biggest blessing.'

In other words, there exists a subject/object asymmetry with respect to pronominal anaphora in Chinese.

Given Jin's observations of QBWC and Huang-Teng's observations of referential pronominal anaphora, it seems that restrictions on referential pronominal anaphora and quantificational binding exhibit parallel patterns, as summarized below:

(29) a. A universal Q-NP in subordinate subject position can be linked to a bound pronoun in the matrix clause, but a universal Q-NP in subordinate object position can't.[5]

b. A pronoun in subordinate subject position cannot be referentially linked to a proper name (referential NP) in the matrix clause, but a pronoun in subordinate object position can.

In other words, the positions where quantificational binding is possible seem to be those where overt pronominal coreference is ruled out. The question is to define a proper domain that is relevant to both quantificational binding and pronominal non-coreference.

In a recent article on binding theory, Bruening (2014) argues that not every node in a tree but only phasal nodes are relevant to the binding theory. In his theory, phasal nodes are CP, *v*P and DP. *v*P is the maximal VP projection. Now suppose we define a notion of phase-c-command based on Huang's (1982, 1998) cyclic-c-command as defined in (24). Then the parallel patterns between referential pronominal anaphora and quantificational binding may be accounted for by the two conditions in (31) and (32).

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5. A reviewer observes an interesting contrast between *mei-ge ren* 'everyone' and *henshao ren* 'few people'. According to the reviewer, while *henshao ren* may bind a pronoun in its surface c-command domain, this is not possible when it is in the subject position of an adverbial clause as illustrated below.

(i) Henshao xuesheng$_i$ xihuan wo ba ta$_i$ de chengji gongbu chulai
few student like I BA *his* DE *grade announce out*
'Few 'students$_i$ like me announcing their$_i$ grades.'

(ii) *Ruguo henshao xuesheng$_i$ lai xuexiao, ni hui ba ta$_i$ de chengji gongbu
if few student come school you will BA *he* DE *grade announce*
chulai ma?
out Q
'If few students$_i$ come to school, will you announce his$_i$ grade?'

(iii) *Henshao xuesheng$_i$ lai xuexiao de-shihou, ni hui ba ta$_i$ de chengji
few student come school when you will BA *he* DE *grade*
gongbu chuai ma?
announce out Q
'When few students$_i$ come to school, will you announce his$_i$ grade?'

Note that *henduo ren* 'many people' seems to behave like *henshao ren*, as a replacement of the latter with the former leads to the same grammaticality judgement. Given this asymmetry between *mei-ge ren* 'everyone' and *henshao/henduo ren* 'few/many people', we suspect that it is the lexical property of *mei-ge* that has an inherent distributive feature (akin to *each*) that encourages its ability to take wide scope, while *henshao* and *henduo* do not have such a feature and therefore are weaker in their scope-taking power (cf. Lin 1998). We recognize that different quantificational NPs exhibit different lexical properties that lead to their different strengths in scope taking, but we shall focus on the behavior of *mei-ge* in this article.

(30) α **phase-c-commands** β iff:
  a. α c-commands β, or
  b. If γ is the minimal phasal node (=*v*P, CP, DP) that dominates α but is not immediately dominated by another phasal node, then γ c-commands β.

(31) **Condition on quantificational binding**
A bound-variable pronoun is licit only if it is in the phase-c-command domain of its Q(uantificational)-antecedent (in surface syntax).

(32) **The non-coreference rule** (Principle C′)
A pronoun may not be coindexed with an R-expression in its phase-c-command domain.[6]

In other words, what unifies quantificational binding and referential pronominal anaphora might be the notion of a phase-c-command domain.

To illustrate, reconsider the illicit and licit cases in (21a) and (26), both repeated below for sake of convenience.

(21a) *[Ta$_i$ neng-bu-neng lai] dui Zhangsan$_i$ mei guanxi
he can-not can come to Zhangsan no matter
'Whether he$_i$ can come or not doesn't matter to Zhangsan$_i$.'

(26) [Wo zheng yao ma ta$_i$ de-shihou], Zhangsan$_i$ que xian da
I be.going to want scold him when Zhangsan but first make
dianhua guolai peizui le
call come apologize Asp
'When I was about to scold him$_i$, Zhangsan$_i$ called to apologize first.'

In (21a), the pronoun is the subject of the embedded sentential subject. The minimal phasal node dominating the pronoun is the embedded subject CP. This CP c-commands the proper name *Zhangsan*. So *Zhangsan* is in the phase-c-command domain of the pronoun. Thus by the non-coreference rule in (32), the pronoun may not be coindexed with *Zhangsan*. By contrast, in (26), the minimal phasal node dominating the pronoun but is not immediately dominated by another phasal node

6. As mentioned in footnote 3, the non-coreference rule does not apply to empty pronouns, as all the unacceptable cases in violation of (32) in this article become acceptable when the overt pronoun is replaced with a covert one. A detailed investigation of the contrast between overt and covert pronouns will take us too far afield. One way to resolve this question is to say that the non-coreference rule is a kind of Avoid Pronoun effect that causes a stricter restriction than the original Principle C on overt pronouns. That is, the availability of pro precludes the overt pronoun under co-indexation. The reason why the non-coreference rule does not apply to languages such as English might be because English does not allow a pro as an option. There is also a natural question why (32) is specific to Chinese and is not applicable to other languages such as English. It suffices for the purpose of this article to assume that different languages employ a different command relation to instantiate Principle C. For most languages, Principle C is sensitive to "c-command", but for Chinese, it is "phase-c-command" that matters.

is the vP containing the pronoun. But that vP does not c-command the proper name *Zhangsan*. So co-indexing between the pronoun and the proper name is permitted.

Quantificational binding is reversed to pronominal non-coreference in the sense that we are looking for possible domains of binding rather than non-coreference. As we saw earlier, Jin (1998) claims that when a Q-NP is the object of a transitive verb in a subordinate clause, it is very difficult for a pronoun in the matrix clause to get bound by the Q-NP. The bound variable reading is not permitted because the embedded vP containing the Q-antecedent is a phasal node not immediately dominated by another phasal node and the vP does not c-command the pronoun in the main clause. This explains the ungrammaticality of the (b) examples in (16)–(19). By contrast, when the Q-NP is a subject of an adverbial clause left-adjoined to the matrix clause or a relative clause modifying a subject noun phrase, the minimal phasal node dominating it is the containing subordinate CP or the DP immediately dominating the relative. Since the phasal CP or DP in such configurations c-commands any pronoun to the right in the main clause, quantificational binding is allowed. Jin's generalization is thus captured in a way parallel to constraints on referential pronominal anaphora.

Indeed, this is an attempt that we made to account for QBWC in Huang & Lin (2016) and Lin & Huang (2015, 2018a; b). This attempt is theoretically interesting as it would unify the domains where quantificational binding and referential dependency of pronouns are allowed/disallowed. However, it is a failed attempt, because as we will show in the next section, the subject/object asymmetry that Jin (1998) claims as a generalization has many counterexamples.

4. Problems of the preliminary attempt

One crucial assumption behind this unification is the impossibility for an object universal NP in a subordinate clause to bind a pronoun in the matrix clause. Yet, upon our further investigation, we have encountered many examples that allow quantificational binding in such configurations, contrary to Jin's (1998) original observation. For example, (33)–(39) below all sound acceptable to us and many native speakers we consulted.

(33) Universal NP inside PP and VP of a relative clause
[$_{NP/DP}$[$_{NP/DP}$[$_{CP}$ Laoban [$_{VP}$ xie [$_{PP}$ gei mei-wei yuangong$_i$]] de]
boss write to every-CL employee DE
qinbi xin] limian] dou fushang-le yi-zhang yao jiangli ta$_i$ de zhipiao
personal letter inside all attach-Asp one-CL want reward him DE check
'The personal letters that the boss wrote to every employee$_i$ contains a check that was to reward him$_i$.'

(34) Universal NP inside VP of a *when*-clause
[$_{DP}$ [$_{CP}$ [$_{IP}$ Jianchaguan [$_{AspP}$ zai [$_{VP}$ xunwen mei-wei waiji
prosecutor Prog interrogate every-CL foreign
xianyifan]]]] de shihou], yiding dou hui anpai yi-wei fanyiyuan zai
suspect DE time definitely all will arrange one-CL translator at
ta pangbian zuo fanyi
he beside do translation
'(At the time) when a prosecutor interrogates a foreign suspect, the court will definitely arrange a translator to do the translation beside him.'

(35) Universal NP inside VP of an *after*-clause
[$_{CP}$ [$_{IP}$ Haiguan [$_{VP}$ jiancha wan mei-wei lüke de xingli]] hou], ta
customs examine finish every-CL passenger DE luggage after he
jiu bixu jinsu likai jiancha qu, yimian fangai
then must quickly leave examination area in.order.not hinder
qita lüke
other passengers
'After the customs unit finishes examining every passenger's luggage, he must leave the examination area quickly in order not to hinder other passengers.''

(36) Universal NP inside VP of a *as.long.as*-clause
[$_{CP}$ Zhiyao [$_{IP}$ ni [$_{VP}$ zixi guancha mei-wei chenggong de
as.long.as you carefully observe every-CL successful DE
kexuejia]]], ni hui faxian ta beihou yiding you yi-wei momo zhichi
scientists you will find he back definitely have one-CL silently support
ta de qizi
him DE wife
'As long as you carefully observe every successful scientist, you will find that his back definitely has a wife who silently supports him.'

(37) Universal NP inside VP of a *no.matter*-clause
[$_{CP}$ Buguan [$_{IP}$ ni zenme [$_{VP}$ hengliang [$_{DP}$ mei-ge ren de
No.matter you how evaluate every-CL person DE
jiazhi]]]], ta dou you cunzai de yiyi
value he all have exist DE meaning
'No matter how you evaluate everyone's value, he has his own meaning of existence.'

(38) Universal NP inside VP of an *if*-clause
[$_{CP}$ [$_{IP}$ Ruguo ni [zixi guancha mei-ge ren]]], ni hui faxian ta
if you carefully observe every-CL person you will find he
shenshang yiding you ni zhide xuexi de difang
body definitely have you worth learn DE places
'If you carefully observe everyone, you will find that there must be some places that you can learn from him.'

(39) Universal NP inside a preverbal PP of an embedded clause

a. [$_{CP}$ [$_{IP}$ Wo [$_{VP}$ [$_{PP}$ zai ti mei-wei fayinren] luyin] zhiqian]], wo
I Prog for every-CL informant record before I
dou hui xian yaoqiu ta qian tongyishu
all will first request him sign authorization.agreement
'Before I recorded the speech of every informant, I will request him to sign an authorization agreement.'

b. [$_{CP}$ [$_{IP}$ Wo [$_{AspP}$ zai [$_{VP}$ [$_{PP}$ ti mei-wei bingren] kanbing shi]]]],
I Prog for every-CL patient treat when
(wo) yiding hui wen qingchu ta you-mei-you qita bingshi
I definitely will ask clearly he have-not-have other history.of.illness
'When I see every patient, I will definitely ask if he has any history of other illness.'

We admit that speaker variations exist regarding the judgements of (33)–(39). A few native speakers we consulted do not accept the bound pronoun reading in (33)–(39), but most of our 13 consultants accept such a reading. Despite lack of uniform agreement, we take it that an object universal Q-NP in a subordinate clause, be it an adverbial or relative clause, may bind a pronoun in the main clause without c-commanding it at surface structure. This leads us to explore another alternative to account for quantificational binding in Chinese. Before looking into such a possibility, we first show that quantificational binding is subject to a scope requirement.

5. Scope requirement on quantificational binding

As mentioned in Section 1, Barker (2012) argued that most examples respecting the superficial c-command requirement for quantificational binding can be accounted for by the weaker scope requirement of quantifying expressions. In this section, we will investigate the interaction between scope and quantificational binding in Mandarin Chinese.

It is widely assumed that the scope of a quantifying expression is clause bounded. Thus, in (40) below, the embedded universal quantifier may not take scope over the matrix existential.

(40) Yesterday, [a guide]$_{\exists}$ ensured [$_{CP}$ that [every tour to the Louvre]$_{\forall}$ was fun]
(Fox & Sauerland 1996: 72)

The Chinese counterpart to (40) is similar. (41) does not have a reading according to which the tour guide varies with the tour to Louvre.

(41) Zuotian (you) yi-wei daoyou quebao-le mei-tang dao Louvre de
Yesterday have one-CL guide ensure-Asp every-CL to Louvre DE
lucheng dou shi youqu de
tour all be interesting Emp
'Yesterday, a guide ensured that every tour to Louvre was interesting.'

The narrow scope of the universal in (41) is predicted by the clause-boundedness constraint on quantifiers. But if the scope of a quantifier were always clause-bounded, that would mean that a universal NP embedded to a relative clause or any type of adverbial clause may not bind a pronoun outside the containing relative or adverbial clause regardless of the position of the universal NP in the clause. That in turn predicts that (16a)–(19a) and (33)–(39) should not have a bound pronoun reading, contrary to fact.

It should be emphasized that the universal NPs in those examples do have scope outside their containing clause. Take (34) for example. In (34), the translator may vary with the suspect, though not necessarily, depending upon the nationality of the suspect. Likewise, in (33), the check that a given employee receives varies with the employee and the total number of checks sent by the boss equals to the number of the employees who receive the letters. In other words, *every employee* in the embedded clause of (33) must take scope over *a check* in the matrix clause. The covariation reading clearly shows that the universal NP in the subordinate clause has wide scope over the existential in the matrix clause that is not in the former's surface c-command domain.

It is worth noting that (33) has a past episodic interpretation and can be true in a situation where the boss sent every letter to his employees in one single event. This excludes the possibility that only generic tense gives rise to the wide scope interpretation of the universal NP.[7]

Clearly, universal quantifiers in Chinese are capable of escaping scope islands when they are embedded to an adjunct clause, though their scope is sometimes restricted to a local domain under certain conditions. Below we discuss some such conditions.

It has often been assumed that in Chinese when a quantifier or quantificational expression A c-commands another quantifier or quantificational expression B in

7. Fox and Sauerland (1996) argue that universal quantifiers can bring about scope illusions in environment of generic tense, giving the impression that they escape scope islands, having a scope wider than their actual scope at LF. For example, though (i) is almost identical to (40) in the text except for its generic tense, the embedded universal quantifier seems capable of taking scope over the matrix existential, meaning that for every tour to Louvre, there is a guide who ensures that the tour is fun.

(i) In general, a guide ensures that every tour to the Louvre is fun.

surface syntax, A has scope over B. This has been stated as the following condition by Huang (1982: 220) (also see Aoun & Li (1989) and others for some variants of this condition.).

(42) The General Condition on Scope Interpretation
Suppose A and B are both QPs or both Q-NPs or Q-expressions, then if A-commands B at SS, A also c-commands B at LF.

The above scope condition predicts that (41) does not have a reading according to which the matrix existential varies with the universal in the embedded clause, because the existential c-commands the universal at surface structure. Very importantly, the General Condition on Scope Interpretation as given in (42) actually does not say that a quantificational expression A may not have scope over another quantificational expression B when B does not c-command A or may not have scope outside its containing clause when there is no B at all. Granted that this is correct, a universal quantifier should be able to have high scope unless it is blocked by another c-commanding quantifier.[8] If the above discussion is correct, then bound pronoun readings may be regarded as a pure phenomenon of scope requirement as Barker (2012) suggests. What matters is when a quantifier or quantificational expression may have scope outside its c-command domain and what governs this possibility.

6. Scope ambiguity and quantificational binding

In this section, we provide evidence involving quantifier scope to support the view that bound pronoun readings reflect an LF scope requirement rather than a syntactic c-command requirement at surface structure.

Huang (1982) discussed some NP constructions in which a quantificational expression properly contains another possessive Q-NP with a quantifier of its own, as illustrated below.

(43) Wo mai-le [$_{\text{Q-NP1}}$ [$_{\text{Q-NP2}}$ san-ge ren de] mei-ben shu]]
I buy-Asp three-CL person DE every-CL book
'For three men x, I bought every one of x's book'

(44) Wo mai-le [$_{\text{Q-NP1}}$ [$_{\text{Q-NP2}}$ mei-ge ren de] san-ben shu]]
I buy-Asp every-CL person DE three-CL book
'For every man x, I bought three of x's books.'

8. Crossover situations will be discussed later.

In both (43) and (44), the two quantificational expressions, Q-NP1 and Q-NP2 are not in a relationship of c-command but a relationship of containment. Yet, they exhibit a relationship of relative scope. The less inclusive possessive Q-NP2 is understood to have wider scope than the more inclusive Q-NP1, as the only reading available, being a case of "inversely linked quantification" (see May 1977).

Significantly, when a preceding Q-NP, instead of being a possessive, is contained within a relative clause modifying another Q-NP, the sentence is ambiguous between an external and internal reading on the Q-NP inside the relative clause. This can be illustrated by Huang's (1982: 213) example below:

(45) [$_{DP}$ [$_{CP}$ Ta piping meige ren] de mei-pian wenzhang] dou hen youqu
he criticize every man DE *every-CL article all very interesting*
a. 'For every man x, every article in which he criticized x is very interesting.'
b. 'Every article in which he criticized everybody is very interesting.'

In (45), the relative clause is contained in the DP headed by *meipian wenzhang* 'every article' and the Q-NP 'every man' inside the relative clause has both an external and internal reading with respect to the bracketed complex NP.

Note that in Chinese, the determiner that modifies the head noun may also appear before the relative clause (cf. Chao 1968; Lin 2003/2004, among others). When this is the configuration as in (46), the sentence becomes unambiguous, with the Q-NP inside the relative clause having only internal scope, i.e., scope inside the relative clause (See Huang 1982: 213).

(46) [$_{DP}$ Mei-pian [$_{CP}$ ta piping mei-ge ren de] wenzhang] dou
every-CL he criticize every-CL person DE *article all*
hen youqu
very interesting
'Every article in which he criticized every man is very interesting.'

Huang (1982) argues that the non-ambiguity of (43), (44) and (46), as well as the ambiguity of (45), follows from the General Condition on Scope Interpretation stated in (42).

In (43) and (44), the less inclusive Q-NP2 must have wider scope than the containing Q-NP1 because it is a case of inverse linking (see May 1977). In (46), where the determiner QP *meipian* 'every' that modifies *wenzhang* 'article' is placed before the relative clause, it c-commands the Q-NP *meige ren* 'everyone' embedded in the relative clause. So *meige ren* 'everyone' can only have narrow scope relative to *meipian wenzhang* 'every article'. In contrast, the Q-NP *meige ren* 'everyone' in (45) is not c-commanded by the Q-determiner *meipian* 'every', which follows the former; so it can have either wide or narrow scope.

With Huang's above discussion as background, now consider (47).

(47) [$_{DP}$ [$_{CP}$ Ni piping mei-wei zhengke de] mei-pian wenzhang] bujin
you criticize every-CL politician DE every-CL article not.only
mei dadao mudi, faner shi rang ta/tamen gengwei bianbenjiali
not achieve goal but be make him/them more aggravate
a. For every politician x, every article in which you criticize x not only did not achieve its goal but make **him** get even worse.
b. Every article in which you criticized every politician not only did not achieve its goal but make **them** get even worse.

(47) is a construction akin to Huang's (45) but the matrix VP is now a conjoined VP containing a pronoun. As (45) has two readings, (47) is ambiguous for 'every politician' between the external and the internal reading. However, only the external reading licenses the bound pronoun reading. When *every politician* is understood as having internal scope, only the plural pronoun *tamen* is legitimate but not the singular pronoun *ta*.

When the Q-determiner *meipian* in (47) is placed before the relative clause, hence c-commanding the Q-NP *meiwei zhengke* 'every politician' in the relative clause, only the plural pronoun is allowed to refer back to *every politician*, as is shown by (48).

(48) [$_{DP}$ Mei-pian [$_{CP}$ ni piping mei-wei zhengke de] wenzhang] bujin
every-CL you criticize every-CL politician DE article not.only
mei dadao mudi faner shi rang *ta/tamen genwei bianbenjiali
not achieve goal but BE make him/them more aggravate
a. *For every politician x, every article in which you criticize x not only did not achieve its goal but make **him** get even worse.
b. Every article in which you criticized every politician not only did not achieve its goal but make **them** get even worse.

The contrast between (47) and (48) clearly shows that the possibility of the bound pronoun reading is a result of the scope of the Q-NP inside the relative clause. When it has external scope, the bound pronoun reading is permitted; when it has internal scope, the bound pronoun reading is not allowed.

The following examples point to the same direction. When a universal NP is embedded to a negated *if*-clause with a modal, the universal NP may have scope over the *if*-clause, hence over the negated modal, i.e., the external reading, or have the narrowest scope, i.e., the internal reading, as is shown by (49).[9] Again, the external reading licenses the bound pronoun reading, but the internal one does not.

9. A reviewer wonders whether the scope interpretation in (49b) violates the General Condition on Scope Interpretation stated in (42). The answer is negative if the "Q-expressions" in (42) are understood as quantificational determiners/numerals in noun phrases.

This lends further support to the view that the scope requirement at LF rather than the c-command requirement in surface syntax is the key factor responsible for the bound pronoun reading.

(49) a. Ruguo bu keneng gei mei-ge xiaohai yi-fen da jiangpin, shi bu shi
if not possible to every-CL child one-CL big prize be not be
keyi gei *ta/tamen yi-fen xiao liwu
possible give him/them one-CL small gift
'If it is not possible to give every child a big prize, is it possible to give *him/them a small gift?' (scope: if> not > possible > every)

b. Ruguo bu keneng gei mei-ge xiaohai yi-fen da jiangpin, shi bu
if not possible to every-CL child one-CL big prize be not
hi keyi gei ta/tamen yi-fen xiao liwu[10]
be possible give him/them one-CL small gift
'For every child x, if it's not possible to give x a big prize, is it possible to give him a small gift?' (scope: every > if > not > possible)

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10. A reviewer pointed out that if the scope interpretation in (49b) is allowed, it will mean that the following unembedded sentence should have a similar interpretation.

(i) Ta bu keneng kandao mei-ge ren
he not possible see every-CL person
'He is not likely to have seen everyone.'

We agree that it is difficult for the universal NP in (i) to have scope over negation and the modal, but it is relatively easy for the universal NPs in (ii) and (iii) to have high scope.

(ii) Jin nian bu keneng gei mei-ge ren yi-fen da jiangpin le, zhi neng
this year not possible give every-CL person one-CL big prize Asp only can
fa ge xiao liwu
give Cl small gift
'This year, we are not able to give everyone a big prize. We can only afford a small gift.'

(iii) Jin nian wo kending shi bu neng gen mei-wei lao you jianmian le,
this year I definitely be not possible with every-CL old friend meet Asp
yinwei wo bu hui chuxi huiyi
because I not will attend meeting
'This year I definitely will not be able to meet with every old friend, because I will not attend the meeting.'

We will not discuss the above contrast in this article.

7. Weak crossover and the c-command requirement

In the previous sections, we saw that Q-NPs such as *mei-ge*-N 'every N' may take high scope even out of a relative or adverbial clause. We also saw that the interaction between quantificational expressions is subject to the General Condition on Scope Interpretation. As has been widely discussed in the literature, this condition explains why (50) is not ambiguous with the only reading that the existential scopes over the universal.

(50) (You) yi-ge nanren aishang mei-ge nüren
have one-CL man love every-CL woman
'A man loves every woman.'

When the existential in (50) is replaced with a pronoun as in such examples as (51b), the pronoun may not be construed as being bound by the universal, parallel to its English counterpart (51a).

(51) a. *He$_i$ loves everyone$_i$.
b. *Ta$_i$ aishang mei-ge ren
he love every-CL person
'*He$_i$ loves everyone$_i$'

Examples such as (51a, b) are known as cases of strong crossover because the subject pronoun c-commands the universal. When the pronoun is embedded as in (52), the bound pronoun reading is still not possible, though the pronoun no longer c-commands the universal. Again, this applies to both English and Chinese and such a configuration is referred to as the weak crossover configuration.

(52) a. *His$_i$ mother loves everyone$_i$.
b. *Ta$_i$ de mama ai meigeren$_i$
he DE mother love everyone
'*His$_i$ mother loves everyone$_i$.'

Chomsky (1976) invoked the Leftness Condition (LC) to account for the impossibility of variable binding under weak crossover.

(53) Leftness Condition (Chomsky 1976: 342)
A variable cannot be the antecedent of a pronoun to its left.

According to Leftness Condition, both (51) and (52) are ruled out because after the Q-NP has undergone quantifier raising at LF, the pronoun is co-indexed with a variable, i.e., the trace of the Q-NP, to its right.

Some linguists such as Higginbotham (1980b) and Bianchi (2001), however, argued that reference to linear order is not necessary and propose a pure configurational account for crossover situations. Take Bianchi (2001) for example. She proposed to employ the notion of asymmetric c-command to account for crossover examples. Briefly, her idea is that "neither the bound pronoun nor any category containing it can asymmetrically c-command the variable" that it depends on. According to her, a bound pronoun inherits the value of the real variable left by the Q-NP via QR. Denotationally, the bound pronoun is said to *directly* depend on the variable to which the pronoun is linked. Since the value of the pronoun is not fixed, the denotation of a larger constituent containing the pronoun also varies with the denotation of the pronoun. The larger constituent is said to *indirectly* depend on the variable for its denotation. With these assumptions, Bianchi restated Leftness Condition as something like the following Anti-c-command Condition at LF:

(54) Anti-c-command Condition (Bianchi 2001: 10)
If a constituent X asymmetrically c-commands a constituent Y, then X does not (directly or indirectly) depend on Y.

Though (54) is not Bianchi's final version of Anti-c-command Condition, this version of the pure configurational account for the Leftness Condition is sufficient for the purpose of this article.

Returning to (51) and (52), the subject pronoun in (51b) and the possessor pronoun in (52b) are not quantificational expressions. So *meige ren* 'everyone' in these examples are not c-commanded by any quantifier or Q-NP. According to the General Condition on Scope Interpretation in (42) and our above discussion, *meige ren* 'everyone' in (51b) and (52b) should in principle be able to take sentential scope and bind the pronoun, which is contrary to fact. Barker (2012) says (for English) that such crossover situations are the only cases that he is aware of in which the scope requirement alone is not able to explain why quantificational binding fails, but a c-command requirement correctly predicts the failure of quantificational binding. It is therefore worth investigating crossover situations more deeply.

Note that crossover situations are not restricted to sentences such as (51) and (52). A pronoun can also be embedded to a relative or adverbial clause which in turn precedes a quantificational expression. For example, in (55) and (56), the pronoun is inside a relative clause and precedes the universal which is part of the matrix VP. The pronoun in this configuration can by no means obtain the bound pronoun reading, be it in the subject position such as (55) or object position such as (56).

(55) *[$_{DP}$ [$_{CP}$ Ta$_i$ shoudao de] xin shangmian] dou you mei-ge ren$_i$ de
he received DE letter top all have every-CL person DE
taitai de mingzi[11]
wife DE name
'*The letters that he$_i$ received have everyone$_i$'s wife's name on it.'

(56) *Laoban ji gei ta de qinbixin dou fushang-le yi-zhang jiangli
boss send to him DE personal.letter all attach-Asp one-CL reward
mei-wei yuangong de zhipiao
every-CL employee DE cheque
'*The personal letters that the boss sent to him$_i$ contain a cheque to reward everyone$_i$.'

When a pronoun is embedded in the subject position of an adverbial clause, binding of the pronoun also seems to be unacceptable or difficult to get. For example, in (57)–(59), the subject pronoun of an adverbial clause is co-indexed with a Q-NP subject of the main clause and this is not acceptable, respecting Leftness Condition.

(57) *Ruguo ta$_i$ haohao xuexi, mei-ge haizi$_i$ dou keyi fahui zui da
if he properly learn every-CL child all can show most big
de qianneng
DE potential
'For every child x, if x properly learns, x can show the biggest potential.'

(58) *Ta$_i$ fayan zhiqian, mei-wei tingzhong$_i$ dou bixu xian ju shou
he speak before every-CL audience all must first raise hand
'For every audience x, before x speaks, x must raise his hand.'

(59) *Ta$_i$ jinru haiguan de-shihou, mei-wei lüke$_i$ dou bixu jieshou
he enter customs when every-CL passenger all must receive
shaomiao jiancha
scanning examination
'For every passenger x, when x enters the custom, x must receive the examination of scanning.'

Significantly, however, when a pronoun is embedded to an object position in an adverbial clause, more than half of our fifteen consultants (11, 9 or 8 people) accept the bound pronoun reading of this configuration relatively easily, surprisingly not in consonance with the Leftness Condition. This is in contrast to (56) we discussed

11. (55) is adapted from Huang (1982) by reversing the position of the pronoun and the universal. If the universal is in the relative clause and the pronoun in the matrix VP, the bound pronoun reading is permitted.

above, where an object pronoun appears in a relative clause and is correctly predicted to be ill-formed by Leftness Condition. Compare (60)–(62) with (57)–(59).

(60) Ruguo ni haohao yindao ta, mei-ge haizi yiding dou keyi fahui
if you properly lead him every-CL child definitely all can show
zui da de qianneng
most big DE potential
'For every child x, if you lead x properly, x definitely can show the biggest potential.'

(61) Zhiyao ni ken yong xin jiao ta, (wo xiangxin) mei-wei
As.long.as you willing with heart teach him I believe every-CL
xuesheng dou hui ganji ni
student all will appreciate you
'For every student x, as long as you are willing to teach x with heart, (I believe that) x will appreciate you (for your kindness).'

(62) Zai shangji zudang ta de fayan zhiqian, mei-ge ren dou keyi ziyou
at superior block he DE speech before every-CL person all can freely
fabiao yanlun
make speech
'For everyone x, before the superior blocks x from speaking, x has the freedom to make speeches.'

So, there seems to be a subject/object asymmetry with respect to backward quantificational binding of a pronoun in an adverbial clause.[12]

The asymmetry in question seems very similar to the subject/object asymmetry for pronominal anaphora in Chinese we discussed in Section 3. There we saw that a pronoun in the subject position of an adverbial clause may not be co-referential with a proper name or definite description in the main clause, but an object pronoun may. The contrast between (57)–(59) and (60)–(62) reflects a similar pattern.

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12. An anonymous reviewer pointed out that he does not find a contrast between (ia) and (ib), contrary to our discussion of the contrast between (56) and (60)–(62). Though the anonymous reviewer is aware of speaker variations, he says that (ia) and (ib) might both be bad or good for him. Although the judgement is subject to the speaker variation, (ia) sounds to us better than (ib).

(i) a. Ruguo ni gei ta_i hao chengji, mei-ge $xuesheng_i$ dou hui hen gaoxing
if you give him good grades every-CL student all will very happy
'If you give him_i good grades, every $student_i$ will be happy.'

b. Ni gei ta_i de hao chengji rang mei-ge $xuesheng_i$ dou hen gaoxing
you give him DE good grade let every-CL student all very happy
'The good grade that you gave him_i made every $student_i$ happy.'

The similarity is not identical, however. Recall that as we saw in (56), a pronoun in a relative clause may not be backward-bound by a universal NP following it even when the pronoun occupies an object position. When the universal NP is replaced by a proper name, however, co-reference is permitted. Compare (63) with (56).

(63) Laoban ji gei ta de qinbixin limian hai fushang-le yi-zhang
boss send to him DE *personal.letter inside also attach-Asp one-*CL
jiangli Zhangsan de zhipiao
reward Zhangsan DE *cheque*
'The letter that the boss sent to him$_i$ contains a check to reward Zhangsan$_i$.'

We conclude that there is a contrast between object pronouns in relative clauses and those in adverbial clauses with respect to backward quantificational binding. This certainly calls for an explanation, as one construction respects Leftness Condition, whereas the other one does not.

Another interesting observation to note is that in (57) through (62), the Q-NPs occupy the subject position of the main clause. When the Q-NPs appear in an object position or belong to part of the VP in the main clause as in (64)–(66), the percentage of people who accept the bound pronoun construal decreases. Our investigation shows that at most around 30 percent of our 16 informants accept the bound pronoun construal for such constructions, depending upon individual sentences. Again, though this is not a unanimous agreement among the native speakers we consulted, the contrast seems clear and real for many people.

(64) #Ruguo ni haohao jiao ta$_i$, ni yiding neng tisheng meige
if you well teach him you definitely can improve every
xuesheng$_i$ de chengji
student De grade
'If you guide him well, you will definitely improve every student's grade.'

(65) #Zai shangji yunxu ta fayan yiqian, wo bu zhun meige ren
at superior allow him speak before I not allow every person
fabiao yijian
express opinion
'Before the superior allows him to speak, I do not allow everyone to express his opinion.'

(66) #Wo jiandao ta de-shihou, wo dou (hui) gen mei-ge ren da
*I see him when I all will to every-*CL *person do*
ge zhaohu
Cl greeting
'When I see/saw him, I will/would greet to everyone.'

To sum up, the weak crossover patterns of quantificational binding in Chinese can be summarized as follows.

(67)

Main clause / Subordinate clause	Subject Q-NP	Object Q-NP
I. relative clause subject pronoun	NA[13]	X
II. relative clause object pronoun	NA	X
III. adverbial clause subject pronoun	X	X
IV. adverbial clause object pronoun	√	X

Recall that Q-NPs in Chinese may in principle take wide scope unless there is some rule which otherwise prevents them from doing so, such as the General Condition on Scope Interpretation in (42). We would like to propose that in addition to this condition, quantificational binding is subject to the same non-coreference rule in (32) as coreferential pronouns do. That is, this rule applies not only to the relation between a pronoun and an R-expression but also to the relation between a pronoun and a Q-NP as well. This assumption seems entirely justified in view of the general view that environments in which quantificational binding is possible are a proper subset of the environments in which definite pronominal co-reference is allowed. (See Higginbotham (1980a, 1980b) for an explicit statement to this effect.) Recall that our non-coreference rule is formulated as the Chinese version of Principle C of the theory of A-Binding. It is then entirely natural that in Chinese, a pronoun under consideration for quantificational binding must also first obey this non-coreference rule. (A quantificational NP is an R-expression in the sense of Binding Theory, including rule (32).) Given this extension, (67-I) and (67-III) simply fall under this rule: in each case a pronoun phase-c-commands its intended antecedent and coindexing is ruled out by (32). What remains to be explained is the contrast between pattern (67-II) and pattern (67-IV).

It is important to emphasize that quantificational binding is an LF phenomenon. This must be so because for a Q-NP inside a subordinate clause to bind a pronoun not in its surface c-command domain, the Q-NP must occupy a position different from its surface position at LF in order to obtain the right scope configuration. It is also well-accepted that at LF some phrases need to reconstruct in order to obtain a certain reading. For example, *someone* in the English sentence *someone is likely to lose* is ambiguous between the wide and narrow scope reading with respect to the modality word *likely*. When *someone* takes narrow scope, it is often

13. In order for a pronoun inside a relative clause to precede a Q-NP in the main clause, the relative clause must modify a subject NP. Consequently, the Q-NP may not occupy the subject position of the main clause.

assumed that it reconstructs back to the lower subject position. This reconstruction idea inspires us to think that perhaps the pattern in (67-IV) can be accounted for by reconstruction.

Adverbial clauses in Chinese often have two surface positions, either before the subject or after the subject. For example, all the adverbial clauses in (60)–(62) can be placed after the subject position, too, as shown below.

(68) [Mei-ge haizi] [ruguo ni haohao yindao ta] yiding dou keyi fahui
every-CL child if you properly lead him definitely all can exert
zui da de qianneng
most big DE potential
'For every child x, if you lead x properly, x definitely can unleash x's biggest potentials.'

(69) [Mei-wei xuesheng] [zhiyao ni ken yong xin jiao ta, (wo
every-CL student as.long.as you willing use heart teach him I
xiangxin) dou hui ganji ni
believe all will appreciate you
'For every student x, as long as you are willing to teach x with heart, (I believe that) x will feel grateful to you.'

(70) [Mei-ge ren] [zai shangji zudang ta de fayan zhiqian] dou keyi
every-CL person at superior block he DE speech before all can
ziyou fabiao yanlun
freely make speech
'For everyone x, before the superior blocks x from speaking, x has the freedom to make speeches.'

In (68)–(70), since the Q-NPs are in subject position, they c-command constituents following them, including the adverbial clauses.[14] Therefore, those Q-NPs can bind the pronouns contained in the adverbial clauses.

Now let us assume that the adverbial clauses in (60)–(62) are preposed clauses and can be reconstructed back to the position after the subject NP at LF. Then, at LF, the structures of (60)–(62) should look the same as the structure in (68)–(70), where the pronoun is not to the left of the variable after quantifier raising of the Q-NP but to its right. Therefore, there is no violation of the Leftness Condition or Bianchi's configurational anti-c-command condition.

14. A reviewer says that the QPs in (68)–(70) can also be analyzed as topics and the adverbial clauses are base-generated. This is indeed possible, but the point is that the phrase structure rules in Mandarin Chinese also allow the QPs in (68)–(70) to be generated at the subject position followed by an adverbial clause adjoined to some projection of VP or higher than VP.

The proposed reconstruction account is also compatible with the fact that when the Q-NP is an object in the main clause, that Q-NP may not bind an object pronoun in an adverbial clause as in Examples (64)–(66). This is the case because even if reconstruction occurred in these constructions, the pronoun would still be to the left of the variable left by QR-ing the Q-NP in violation of the Leftness Condition or the Anti-c-command condition. We therefore correctly predict that the pattern (67-IV) is not acceptable.

A clarification about the reconstruction account is now in order. If the reconstruction account is to succeed, the non-coreference rule must apply to surface structure representations (or S-Structure) in contrast to the Leftness Condition or the Anti-c-command Condition, which applies to LF representations. As noted, a pronoun embedded in a subordinate subject position cannot be co-referential with a proper name in the main clause. Therefore, (71) is ungrammatical.

(71) *Dang ta jinlai de-shihou, Zhangsan haoxiang hen lei de-yangzi
When he enter when Zhangsan seem very tired as.if
'When he entered, Zhangsan seemed to be very tired.'

If we are to reconstruct the adverbial clause and put it below the subject, coreference becomes acceptable:

(72) Zhangsan, dang ta jinlai de-shihou, haoxiang hen lei de-yangzi
Zhangsan when he enter de-time seem very tired as.if
'Zhangsan seemed to be very tired when he entered.'

The contrast between (71) and (72) illustrates what has been known in the literature as the anti-reconstruction effects on adjuncts, famously represented by examples like (73):

(73) Which picture that $John_i$ took does he_i like t?

(73) shows an anti-reconstruction effect in the sense that reconstruction would wrongly render co-reference impossible, as predicted by Principle C. The contrast between (71) and (72) also shows an anti-reconstruction effect because reconstruction of (71) would render it well-formed with coindexing, contrary to fact. The classical solution in GB (Chomsky 1981) was that Principle C applies to S-Structure, after overt movement but before LF. This view does not preclude reconstruction of an adjunct, but simply predicts that reconstruction will have no effects on co-reference possibilities governed by Binding Principle C.

Another well-known proposed solution, due to Lebeaux (1988, 2009) and inherited by others, is the idea that adjuncts are 'late-merged' – they are merged in their surface position, never originating from a lower position, from which they

would or might violate the relevant conditions. This view assumes that there is no reconstruction for adjuncts in LF.

Note that our account of Pattern (67-IV) crucially assumes that adverbial adjuncts can be reconstructed. When an adverbial clause contains an object pronoun is reconstructed below the main clause subject, a subject Q-NP is able to bind the pronoun (obeying the Leftness Condition), but an object Q-NP cannot (still violating the Leftness Condition). Furthermore, our account of the distinction between Patterns (67-III) and (67-IV) crucially assumes that Rule (32) – the Chinese Principle C′ – applies at S-Structure, and that the ill-formed configurations of Pattern (67-III) cannot be saved by reconstruction. In short, under our assumptions, adjuncts can be reconstructed, but while they do not have effects on principles applied earlier (e.g., after overt movement), they do have effects applied in LF (e.g., the Leftness Condition or Bianchi's Anti-c-command formulation of it). The Pattern (67-III) is dead by Rule (32) and has no chance to become good in LF. The Pattern (67-IV) does not violate (32) and can be reconstructed to a form that meets the LC at LF.

Finally, let us consider the case of relative clauses. As mentioned, pattern (67-I) is explained by the non-coreference rule (32) blocking a subject pronoun in a subordinate clause from being linked to an R-expression in the main clause. However, the non-coreference rule does not apply to pattern (67-II), which involves an object pronoun within a subordinate VP. Note that reconstruction does not rescue Pattern (67-II) because there is no possibility of reconstructing the relative clause. So Pattern (67-II) must involve a configuration where a pronoun is to the left of a Q-NP in violation of Chomsky's Leftness Condition or Bianchi's Anti-c-command Condition.

To sum up this section, whether or not backward quantificational binding in Chinese is legitimate involve several mechanisms or conditions in the theory of Chinese grammar, which are: (i) the language-specific non-coreference rule, (ii) reconstruction possibility, and (iii) Chomsky's LC or Bianchi's reformulation of it as a pure configurational Anti-c-command Condition. All these mechanisms are independently needed and the distribution of backward quantificational binding is a consequence of the interaction between them.

8. *Dou* and the scope of universal NPs

It is often pointed out by Chinese linguists that universal Q-NPs are usually accompanied by the word *dou* 'all', as is shown below.

(74) Mei-ge ren dou likai-le
every-CL person all leave-Asp
'Everyone left.'

As far as we know, linguists haven't come to a consensus as to the semantic function of *dou* (See Lin (1998); Huang (2005); Luo (2011); Giannakidou & Cheng (2006) for example). So in this article, we will not try to settle the semantic contribution of *dou*. What is crucial to our concern here is another observation made in Huang (1982) and later discussed by Jin (1998). Huang pointed out that the position of *dou* may influence the possibility of licit quantificational binding. He observed that for a Q-NP in a relative clause to bind a pronoun in the main clause, *dou* must be placed in the main clause rather than in the relative clause, as is shown by the following contrast between (75a)–(75b).

(75) a. [Mei-ge ren$_i$ shoudao de xin] shangmian **dou** you ta$_i$ taitai
every-CL person receive DE letter top all have he wife
de mingzi
DE name
'For every person x, letters that x received have x's wife's name on them.'

b. *[Mei-ge ren$_i$ **dou** shoudao de xin] shangmian you ta$_i$ taitai
every-CL person all receive DE letter top have he wife
de mingzi
DE name
'Letters that everybody$_i$ received have his$_i$ wife's name on them.'

The following example from Jin (1998: 58) illustrates the same point.

(76) a. Mei-ge kaosheng$_i$ jin kaochang zhiqian, ta$_i$ **dou**
every-CL candidate.student enter examination.room before he all
bixu daishang zhunkaozheng
must wear permission.ID
'Before every candidate student$_i$ enter the examination room, he$_i$ must wear the permission ID.'

b. *Mei-ge kaosheng$_i$ **dou** jin kaochang zhiqian, ta$_i$
every-CL candidate.student all enter examination.room before he
bixu daishang zhunkaozheng
must wear permission.ID
'Before every candidate student$_i$ enter the examination room, he$_i$ must wear the permission ID.'

According to Huang, *dou* is a scope adverb and it indicates the scope of the universal Q-NP. So, in (75a), where *dou* is in the matrix clause, the universal Q-NP may have matrix scope and bind the pronoun. In contrast, in (75b), *dou* is in the relative clause, so the universal Q-NP must have scope internal to the relative clause, where it fails to c-command the pronoun. This account further supports our position that quantificational binding in Mandarin Chinese has to do with scope of quantifiers at LF rather than their surface positions.

9. Conclusions, implications and residues problems

This article discussed quantificational binding without c-command in Mandarin Chinese. We argued that quantificational binding is an LF phenomenon constrained by LF mechanisms. A minimum requirement for quantificational binding is that the pronoun bound by a given quantifier must be within the scope of that quantifier at LF. In principle, Q-NPs can have high scope, scoping even out of their containing clause. That is why they may bind a pronoun in the main clause even when they are embedded to a subordinate clause such as a relative or adverbial clause.

The phenomenon of quantificational binding without c-command in Chinese implies that the traditional assumption of the clause boundedness constraint on Q-NPs is empirically inadequate. Under this assumption, many examples of quantificational binding without surface c-command discussed in this article would be wrongly ruled out by that constraint. However, scope taking of Q-NPs is not without constraints. It is subject to conditions such as the general Condition on Scope Interpretation, which prevents a Q-NP from taking scope over another quantifier or Q-NP that c-commands it at surface structure.

Backward quantificational binding, on the other hand, is a result of the interaction of several independently motivated mechanisms, including the possibility of reconstruction at LF, the Chinese specific non-coreference rule (Principle C′ applied following overt movement), and Chomsky's Leftness Condition or Bianchi's reformulation of it as a pure configurational Anti-c-command Condition (applied at LF). If our analysis is on the right track, another implication is that adjunct reconstruction must be allowed, so as to rescue some Leftness Condition constructions at LF and that the so-called anti-reconstruction effect with respect to Binding Principle C can be accounted for by having the principle apply to the output of overt movement. It will be worthwhile to see how our facts and analysis can be reconciled with the current works exploring the consequences of the Late Merge hypothesis.

Since our account of quantificational binding without c-command involves only rules or assumptions that are needed elsewhere, to the extent that it is successful, this is a much welcome result. However, there is still one curious thing that needs to be explained. Recall that our attempt to find a new alternative explanation

of quantificational binding in Chinese is based on the refutation of Jin's (1998) observation that an embedded Q-NP in the object position of a subordinate clause may not bind a pronoun in the main clause. A question then arises. What happens to Jin's original unacceptable examples? Why are they bad? One possibility is that Jin's examples are due to idiolect variation. As noted in the text, our own investigation of quantificational binding shows that there is no absolute, uniform agreement on the judgements of the bound pronoun reading in many examples. So Jin's judgements may be just one example of such variation. This speculation, however, may be refuted by the fact, pointed out to us by a reviewer, that if Jin's examples are slightly modified by adding some "additional" expressions and phrases as most of the authors' examples in this article do, the judgments vary. Choosing the right words thus seems to be crucial in addition to the structural factors. But what is exactly the nature of the "additional" expressions and what counts as such expressions are unclear to us.

With regard to the judgment variations, another reviewer raises a similar question for Principle C′, applying at S-structure. As discussed, according to our Principle C′, a subject pronoun in an adverbial clause is not allowed to be co-referential with a proper name in the main clause. So, (77) is unacceptable.

(77) *Buguan ta$_i$ xi-bu-xihuan, Zhangsani dou dei lai
regardless he like-not-like Zhangsan all must come
'Regardless of whether he$_i$ likes it or not, Zhangsan$_i$ has to come.'
(Huang 1998: 275)

However, the reviewer pointed to us that (78) seems to be acceptable to him.

(78) Suiran/yaoshi/jishi ta$_i$ yizai shibai, (wo zhidao) Zhangsan$_i$ hai shi
although/if/even.if he repeatedly fail I know Zhangsan still be
hui yizhi nuli xiang qian de
will always strive toward front DE
'Although/(even) if he$_i$ failed/fails repeatedly, (I know that) Zhangsan$_i$ will keep striving forward.'

Note that (77) and (78) are of the same syntactic form with a pronoun embedded to the subject position of an adverbial clause. Yet, pronominal anaphora in (78) is more acceptable than that in (77). The contrast in question is similar to the quantificational binding contrast between Jin's (1998) examples and our examples discussed above. The question is why such contrasts exist. Again, this is a difficult question that we are not able to answer at this time and must leave it as a residual problem for future research. It is hoped, however, that the research results of this article represent a positive step toward our understanding of quantificational binding and pronominal anaphora in natural language, especially in Mandarin Chinese.

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References

Aoun, Joseph & Li, Yen-hui Audrey. 1989. Scope and constituency. *Linguistic Inquiry* 20(2): 141–172.

Aoun, Joseph & Li, Yen-hui Audrey. 1990. Minimal disjointness. *Linguistics* 28(2): 189–203. https://doi.org/10.1515/ling.1990.28.2.189

Barker, Chris. 2005. Remark on Jacobson 1999: Crossover as a local constraint. *Linguistics and Philosophy* 28(4): 447–472. https://doi.org/10.1007/s10988-004-5327-1

Barker, Chris. 2009. Reconstruction as delayed evaluation. In *Theory and Evidence in Semantics*, Erhard Hinrichs & John Nerbonne (eds), 1–28. Stanford CA: CSLI.

Barker, Chris. 2012. Quantificational binding does not require c-Command. *Linguistic Inquiry* 43(4): 614–633. https://doi.org/10.1162/ling_a_00108

Bianchi, Valentina. 2001. Antisymmetry and the leftness condition: Leftness as anti-c-command. *Studia Linguistica* 55(1): 1–38. https://doi.org/10.1111/1467-9582.00073

Bresnan, Joan. 1994. Linear order vs. syntactic rank: Evidence from weak crossover. In *CLS 30: Papers from the 30th Regional Meeting of the Chicago Linguistic Society, Vol. 1: The main Session*, Katharine Beals, Jeannette Denton, Bob Knippen, Lynette Melnar, Hisami Suzuki & Erika Zeinfeld, 57–89. Chicago IL: CLS.

Bresnan, Joan. 1998. Morphology competes with syntax: Explaining typological variation in weak crossover effects. In *Is the Best Good Enough? Optimality and Competition in Syntax*, Pilar Barbosa, Danny Fox, Paul Hagstrom, Martha McGinnis & David Pesetsky (eds), 59–92. Cambridge MA: The MIT Press & MIT Working Papers in Linguistics.

Bruening, Benjamin. 2014. Precede-and-command revisited. *Language* 90(2): 342–388. https://doi.org/10.1353/lan.2014.0037

Chao, Yuen Ren. 1968. *A Grammar of spoken Chinese*. Berkeley CA: University of California Press.

Chomsky, Noam. 1976. Conditions on rules of grammar. *Linguistic Analysis* 2: 303–351.

Chomsky, Noam. 1981. *Lectures on Government and Binding*. Dordrecht: Foris.
Evans, Gareth. 1977. Pronouns, quantifiers, and relative clauses (I). *Canadian Journal of Philosophy* 7(3): 467–536. https://doi.org/10.1080/00455091.1977.10717030
Evans, Gareth. 1980. Pronouns. *Linguistic Inquiry* 11(2): 337–362.
Fox, Danny & Sauerland, Uli. 1996. Illusive scope of universal quantifiers. In *Proceedings of NELS 26*, Kiyomi Kusumoto (ed.), 71–86. Amherst MA: GLSA.
Giannakidou, Anastasia & Cheng, Lisa Lai-Shen. 2006. (In)definiteness, polarity, and the role of wh-morphology in free choice. *Journal of Semantics* 23(2): 135–183. https://doi.org/10.1093/jos/ffl001
Harley, Heidi. 2002. Possession and the double object construction. In *Linguistic Variation Yearbook* 2, Pierre Pica & Johan Rooryck (eds), 31–70. Amsterdam: John Benjamins. https://doi.org/10.1075/livy.2.04har
Higginbotham, James. 1980a. Pronouns and bound variables. *Linguistic Inquiry* 11(4): 679–708
Higginbotham, James. 1980b. Anaphora and GB: Some preliminary remarks. In *Proceedings of NELS* 9, J. Jensen (ed.), 223–236. Ottawa: University of Ottawa.
Higginbotham, James. 1983. Logical form, binding, and nominal. *Linguistic Inquiry* 14(3): 395–420.
Huang, C.-T. James. 1982. Logical Relations in Chinese and the Theory of Grammar. PhD dissertation, MIT.
Huang, C.-T. James. 1983. On the representation of scope in Chinese. *Journal of Chinese Linguistics*, 11(1): 36–91.
Huang, C.-T. James. 1994. Logical form. In *Government and Binding Theory and the Minimalist Program*, Gerd Webelhuth (ed.), 127–175. Oxford: Blackwell.
Huang, C.-T. James. 1998. *Logical Relations in Chinese and the Theory of Grammar*. New York NY: Garland.
Huang, C.-T. James. 2010. *Between Syntax and Semantics*. New York NY: Routledge. https://doi.org/10.4324/9780203873526
Huang, C.-T. James & Lin, Jo-Wang. 2016. Quantificational binding in Mandarin Chinese. Paper presented at IACL24, Beijing Language University, 17–19 July, Beijing, China.
Huang, Shi-Zhe. 2005. *Universal Quantification with Skolemization as Evidenced in Chinese and English*. Lewiston NY: The Edwin Mellen Press.
Jin, Hui-hui. 1998. A Study of Chinese Bound Pronouns. MA thesis. National Chung Cheng University, Taiwan.
Lebeaux, David. 1988. Language Acquisition and the Form of the Grammar. PhD dissertation, University of Massachusetts at Amherst.
Lebeaux, David. 2009. *Where Does the Binding Theory Apply?* Cambridge MA: The MIT Press. https://doi.org/10.7551/mitpress/9780262012904.001.0001
Lin, Jo-Wang. 1998. Distributivity in Chinese and its implications. *Natural Language Semantics* 6(2): 201–243. https://doi.org/10.1023/A:1008299031574
Lin, Jo-Wang. 2003/2004. On restrictive and non-restrictive relative clauses in Mandarin Chinese. *Tsing hua Journal of Chinese Studies* 33(1): 199–240.
Lin, Jo-Wang & Huang, C.-T. James. 2015. Quantificational binding in Chinese. Paper presented at the Theoretical Linguistics Conference: 30 Years of Linguistics at Tsing Hua, September 4, Tsing Hua University, Taiwan.
Lin, Jo-Wang & Huang, C.-T. James. 2018a. Quantificational binding without c-command in Mandarin Chinese. Invited paper presented at the International Forum on Frontiers in Linguistics, Beijing Language and Culture University, October 29–30, Beijing, China.

Lin, Jo-Wang & Huang, C.-T. James. 2018b. Constraints on anaphoric and bound pronouns in Mandarin Chinese. Paper presented at the 10th international conference of the European Association of Chinese linguistics, 28–29 September, Università degli Studi di Milano and Università degli Studi di Milano-Bicocca, Milan, Italy.

Luo, Qiong-peng. 2011. *Mei* and *dou* in Chinese: A tale of two quantifiers. *Taiwan Journal of Linguistics* 9(2): 111–158.

May, Robert. 1977. The Grammar of Quantification. PhD dissertation, MIT.

Partee, Barbara. 1978/2004. Bound variables and other anaphors. In *Proceedings of TINLAP-2*, David Waltz (ed.), 79–85. University of Illinois. Also published as Partee, Barbara. 2004. *Compositionality in Formal Semantics: Selected Papers by Barbara H. Partee*, 110–121. Oxford: Blackwell.

Postal, Paul. 1971. *Cross-over Phenomenon*. New York NY: Holt, Reinhart and Winston.

Reinhart, Tanya. 1976. The Syntactic Domain of Anaphora. PhD dissertation, MIT.

Reinhart, Tanya. 1983a. Coreference and bound anaphora: A restatement of the anaphora questions. *Linguistics and Philosophy* 6(1): 47–88. https://doi.org/10.1007/BF00868090

Reinhart, Tanya. 1983b. *Anaphora and Semantic Interpretation*. Chicago IL: University of Chicago Press.

Shan, Chung-chieh & Barker, Chris. 2006. Explaining crossover and superiority as left-to-right evaluation. *Linguistics and Philosophy* 29(1): 91–134. https://doi.org/10.1007/s10988-005-6580-7

Teng, Elvin T.-H. 1985. Pronominal Anaphora in Chinese. MA thesis. National Taiwan Normal University, Taiwan.

Wasow, Thomas. 1972. Anaphoric Relations in English. PhD dissertation, MIT.

Zhu, Shensheng. 1997. A Dynamic Semantic Theory of Chinese Anaphora. PhD dissertation, The University of Arizona.

CHAPTER 10

Towards a cartography of light verbs

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A common goal shared by cartographic studies is "to draw maps as precise and detailed as possible of syntactic configurations" (Cinque & Rizzi 2008). In the past two decades, a great progress has been made in the study of peripheries of different domains such as CP domain, VP domain and DP domain. The "more precise and detailed" cartographic research goal enables us to rethink those projections which believed to be single projections in earlier theoretical models. A rich literature on peripheries have shown that many of these superficial single projections are actually abbreviations of much richer structural zones. For instance, the C layer is split into Topic and Focus components (Rizzi 1997; Rizzi & Bocci 2017) and Topic and Focus themselves are also conceived as Topic "field" and Focus "field" (Benincà & Poletto 2004), encoding different and hierarchically arranged topic elements or focus elements. Similarly, this chapter suggests that "light verb" can also be further analyzed as a "light verb field", containing several layers of different light verbs, conveying different information. Following this tradition, also in light of Larson (1988, 2014), Harley (2002), and Benincà & Poletto (2004), the present chapter provides a zoom-in/zoom-out mental magnifier for the study of various light verb structures. One major assumption and two subsequent assumptions are proposed: (1) Split light verb hypothesis: from a cartographic point of view, the light verb "*v*" is not "ONE" head, but an umbrella name of a rather "rich structural" zone, call it "light verb field" or "light verb zone". (2) About the argument structure, it is proposed that in the complex light verb constructions, the core of the predicate is not composed of one single argument structure, but a chain of several argument structures. (3) Correspondingly, the event structure can also be looked at in more details in these structures: the idea is that in the sentences contain chain argument structures, the event can also be analyzed as a chain of event fragments, following rule-to-rule correspondence principle.

Keywords: split light verb hypothesis, chain argument structures, chain event structures, 'zoom-in/zoom out', mental magnifier, light verb field, rule-to-rule correspondence principle

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1. Introduction

Relation between deep simplicity and apparent surface complexity in the description of nature is a common issue shared by all fields of science, including theoretical linguistics. In linguistics, the paradoxical relationship between superficial complexity and deep simplicity can be observed not only at the macro level of theory paradigms, but also at the micro level of basic structures. The history of generative grammar, to some extent, can be seen as a history of ongoing efforts to seek out a careful balance between simplicity at the deep level and the complexity on the surface of human language. Ever since its very beginning, the efforts towards the two dimensions (i.e., the investigations on both deep simplicity and superficial complexity) have been moving on in parallel. While a remarkable accomplishment related to general theory formulation at macro aspects has been achieved from its origin and firmed its revolutionary reputation, the exercises and efforts towards reformulation concerning descriptions of atomic elements at micro levels also never stopped. The innovative syntactic descriptions on the inflectional (functional) elements such as "*-ed(past)*", "*-s*", "*-en*", "*-ing*" etc. in Chomsky (1957), recent studies on split structures such as shell structures of VP and NP by Larson (1988, 2014 etc), split IP hypothesis made by Pollock (1989), cartographic studies by Rizzi (1997, 2013, 2015, 2017 etc.), Cinque (1999, 2002c etc.), Belletti (2004), Samo (2019) the inspiring proposals on the lexical argument structures/lexical relational structures/LRSs by Hale & Keyser (1993), among many others, all point to a same direction. That is, these studies are all interested in giving more detailed analysis on those more-micro elements from different perspectives. In these studies, some fundamental theorems related to simplicity have been suggested, such as "Unambiguous Paths" suggested by Kayne (1984), Single Complement Hypothesis proposed by Larson (1988), "an unambiguous system of structural relations holding between the head, its categorial projections and its arguments (specifier, if present, and complement)" and "Unambiguous Projections" discussed by Hale and Keyser (1993), "Local Simplicity" proposed by Rizzi (1997, 2004, etc.). These gave birth to the cartographic approach and sparked a great interest of detailed descriptions of more "primitive" elements. In pretty much the same way, the Chinese syntactic studies are also moving on towards a similar direction, Micro-parameters relevant to analyticity-synthesis continuum proposed by Huang (2005, 2015 etc.), Chinese cartographic studies made by Tsai (2008, 2016, 2018 etc.), Si (2002, 2018, 2019), Stepanov and Tsai (2008); Tang (2019); Xiong (2017); Liu (2017); Shi (2018); Peng and Sun (2017), Li (2020) etc. are the representative examples. Following these footsteps, this paper discusses different types of light verbs in both Chinese and English, with an attempt to gain some new insights into the properties of functional heads under the umbrella term "light verbs" and their possible interactions as well

as distributions. To achieve this goal, some important views of previous studies, cartographic views in particular, will be adopted and adapted as the theoretical background. Specifically, except for the works directly related to the light verb studies that will be quoted in the following discussions, some inspiring proposals dealing with verbal complexes in the functional structure of clause will also be taken as the background knowledge of the discussion, in particular, the "Restructuring Rule" which was originally discussed by Rizzi (1976a & b, 1978, 1981, 1982a & b), and then reconsidered from a cartographic perspective by Cinque (2001, 2002a, 2002b, 2006), as well as studies on verbal complexes by Belletti (2004), Koopman and Sazbolcsi (2000), among many others.

In general, a common goal shared by all cartographic studies is "to draw maps as precise and detailed as possible of syntactic configurations" (Cinque & Rizzi, 2008). Following the same direction, a great progress the cartographic linguists have made is enabling us to consider a single projection such as CP or TP as an abbreviation for a much richer structural zone. For instance, the C layer is split into Topic and Focus components (Rizzi 1997; Bocci 2004; van Gelderen 2004) and Topic and Focus themselves are also conceived as Topic "field" and Focus "field", encoding different and hierarchically arranged topic elements or focus elements (Benincà & Poletto 2004). Similarly, this paper suggests that "light verb" can also be further analyzed as a "light verb field", containing several layers of different light verbs, conveying different information. The basic assumption is as follows:

Split light verb hypothesis
From a cartographic point of view, the light verb "*v*" is not "ONE" head, but an umbrella name of a rather "rich structural" zone, call it "light verb field" or "light verb zone".

With the development of the argumentation, some sub-assumptions related to argument structure and event structure will also be suggested through the discussion. In addition, a methodological means of "mental magnifier" will be introduced.

"Zoom-in" and "Zoom-out" Mental Magnifier
The term "mental magnifier" here is used as a metaphor of the abstract methodological means that can be used either "zoom-in" or "zoom-out" between macro-simplicity at the general scope and the complexity as well as the micro-simplicity at the most deeply rooted atomic level. (See also Si 2019).

The theoretical consequences of proposing the "mental magnifier" are multiple. For one thing, via this "mental magnifier", richer internal layers and structures can be discovered, by clicking the mental 'zoom-in" button. For another, so-called the "tension" between the Minimalist Program and the Cartographic Approach might be softened, from theoretical perspective at least. We might understand the relation

between the Cartographic Approach (CA) and the Minimalist Program (MP) in this way: Cartographic studies prefer the direction of "zoom-in" and the Minimalist Program are more interested in the landscape view by "zoom-out".

With the above understandings as the theoretical background, the major contents of this paper will be organized as follows to support the hypotheses: (1) Firstly, a clarification of the term "light verb" will be presented; (2) Secondly, an investigation on internal structures of both simpler light verb structures and more complex light verb structures will be conducted, using English and Chinese as major data resources. (3) Thirdly, a concluding remark will be made.

2. About the term "light verb"

2.1 LVNs vs. LVBs

It is generally believed that the term "light verb" was first coined by Otto Jespersen (1954, VII: 117) and then became famous in generative studies mainly due to the Shell Structure Theory initiated by Larson (1988) and then adopted and developed by Hale & Keyser (1991, 1993, 1997 & 1998), Chomsky (1993 & 1995), and Huang (2005 & 2008), among many others. Notice that although Jespersen was responsible for the creation of the term, he didn't really provide a definition of it. In generative linguistics, the term "light verb" was often used to refer to the head higher than the relevant matrix verb in a "shell" projection of a verbal predicate, conventionally labelled as a small *v* (Let's call it Larsonian light verb) in the following tree diagram.

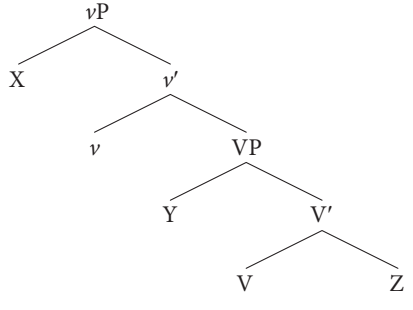

Diagram 1. Larsonian light verb

But in the actual discussions, the nature of light verbs and their distributions are less clear than it should be. For instance, at least from surface structure point of view, some of the "light verbs" are followed by VP structures, like what the classical Larsonian structure indicated (Larson 1988 & 2014; Chomsky 1995); but there are

also some other "light verbs" are followed by nominal structures or substantives, e.g., "*da dianhua* (lit. do telephone, meaning make a phone call)""[1] (Huang 2015), instead of VP. To avoid confusion, and to make the discussions simpler, I would suggest a distinction between light verb in a narrow sense (LVN) and light verb in a broad sense (LVB). Light verbs in Larsonian sense will be called LVNs and light verbs including other types like the "*da*(roughly corresponding to English "do")"[2] in the above Chinese example "*da dianhua* (lit. do telephone, meaning make a phone call)" are named as light verbs in broad sense (LVBs). The discussions in the following will try to cover not only the LVNs, but also other types of light verbs in LVBs and try to provide a unified analysis on all of these light verbs.

2.2 Characteristics of "light verb" in Jespersenian sense

When Jespersen coined the term "light verb", he was mainly concerned with some special "nonce words" like the ones in "*have a talk*" "*take a break*" "*give a talk*". He named the verbs like "*have*" "*take*" "*give*" as "light verbs" (Let's call it "Jespersenian light verbs"). A question should be asked immediately is the following: What is the categorical status of the words (e.g. the "*talk*" "*break*" in the above examples) that follow the "Jespersenian light verbs" (represented by the small v in the following diagram as well)?

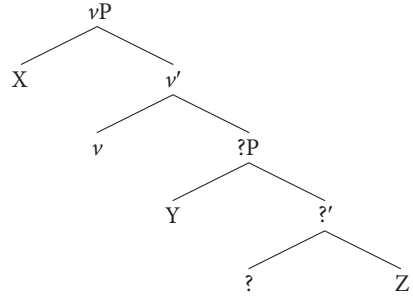

Diagram 2. Jespersenian light verb

1. The Chinese phrase "*da dianhua* (打电话)" means 'making a phone call'.

2. The word *da* (打) orginally means "to hit" in Chinese. It has been grammaticalized in the light verb constructions like "*da dianhua* (打电话)", in which it is more or less like "*make*", "*take*" or "*have*".

Jespersen did mention it and considered the complement of the "light verbs" to be deverbalized "substantives". Syntactically speaking, "*talk*" "*break*" in these examples are nominals, because they are located in the typical nominal position and modified by the determiner "*a*". Derivationally speaking, these words have their own internal generative structures. Following Si (2013), the internal generative process of these deverbalized nominals can be analyzed as follows:[3]

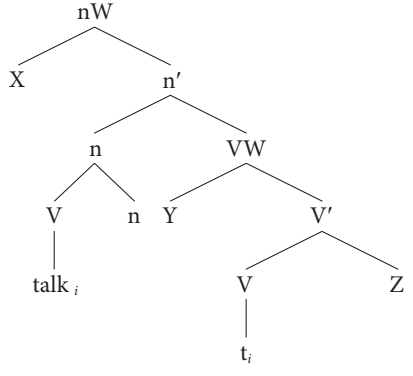

Diagram 3. Deverbalization of the "*talk*" in Jespersenian light verb Structures

The analysis of the internal structure of deverbalized nominals is not something new. The similar insights can be found in Hale & Keyser (1993) as well, in which they analyze the denominal verbs such as *laugh* as a result of incorporation in an initial lexical projection of abstract verb and its nominal complement. "The resulting 'compound' of which only the N component is phonologically realized, corresponds to the denominal verb." Our analysis on the deverbalized nominals shares similar insights in terms of "restructuring" or "internal configuration" of the compounds, but differently in the levels it occurs, i.e., instead of putting it into a pure syntactic level, we consider it an interface between word level structure and phrase level structure.

To incorporate it with the phrase structure of the "*have a talk*", the structure will be as follows:

3. Note that the nW/VW are used in the tree diagram to differentiate the word level generation of the structure from the phrase level generation of the structure such *n*P and VP)

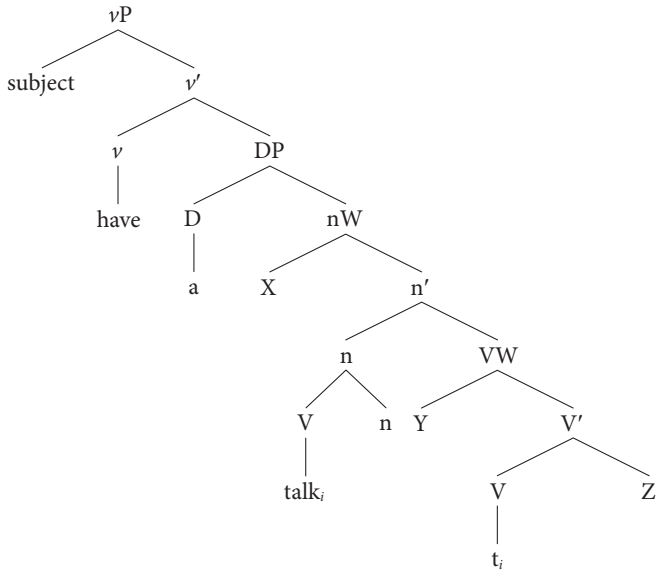

Diagram 4. Jespersenian light verb structures

Note that the "light verbs" in Jespersenian sense are "light" from a semantic perspective. They are not very light from a syntactic perspective, for that they serve as a main verb of the predicate, taking the deverbalized nominal as its object. To distinguish between Jespersenian light verbs from Larsonian ones, I will suggest the former ones "heavy light verbs" and the latter ones "light light verbs".[4]

Concerning the syntactic procedure of the deverbalization of the Jespersenian light verb constructions, one of the anonymous reviewers of this paper posed a very interesting question which is worth responding overtly here. "In the so called Jespersenian light verb structures, we first have deverbalization and then verbalization again through use of light verb. Why the deverbalization stage?" Before answering this question, let's look at more examples provided by Jespersen himself:

(1) a. have a talk
b. take a drive
c. make a plunge
d. give a person a kiss

4. However, to put it in a more complicated way, if we consider the phrase level derivation and the word level derivation as a continuum, then when comparing to the internal VW "*talk*", the light verb "*have*" is still lighter than the word-internal verbal element "*talk*". It is a more complicated story I would like to reserve for a future discussion.

e. to give someone the slip.
f. someone gave a loud laugh (single burse of laughter)
g. dreamed a sweat dream

The real question to ask is the following: why bothers to have deverbalization process of "*talk*" "*drive*" "*plunge*" "*kiss*" "*slip*" "*laugh*" deriving from a verb into a noun and then denominalization of the whole nominalized phrase by adding a light verb "*have*" "*take*" "*make*" "*give*" etc. or more interestingly, to repeat the same word "*dream*" in both the deverblized position and the verbal position in the structure with "cognate object". Isn't language system economic one?

To this question, Jespersen provided an explanation as follows: Firstly, in Modern English, there is a general tendency to place "an insignificant verb" (namely "light verbs") before the really important ideas. Secondly, "such constructions also offer an easy means of adding come descriptive trait in the form of an adjunct", the examples he illustrated include "*a loud laugh*", "*a sweat dream*", "*a delightful bathe*", "*a quiet smoke*" "*a good recommend*", "*a bad lie*", etc.. Thirdly, these light verb structures form a parallel to the structures with a 'cognate object', the examples he mentioned include "*dreamed a sweat dream*", "*fight the good fight*" etc.

Besides the reasons what Jespersen has discussed, there are also other semantic reasons and syntactic motivations to do so. First, by deverbalizing the verb and then adding a light verb, the syntactic length of the structure becomes longer, which means more information can be conveyed than the original non-deverbalized verbal structure. Comparing "*Kiss me*" and "*Give me a kiss*". The former is direct and aggressive and latter is more indirect and euphemistic. A native speaker of English would say that "*I have no problem giving my wrinkly, old, great aunt Edna a kiss. But there is NO WAY that I would kiss her*"[5] Second, the structures with a light verb such as "*have a talk*" "*give a talk*" are more analytic and the non-deverbalized verbal structure "*talk*" (as in "*he talks*) "*scare*" (as in "*she had given him a bad scare*") are synthetic. The more analytic a structure is, the clearer the internal/underlying structure of construction will be. As in "*Someone gave a loud laugh (single burse of laughter)*", not only is the position for describing the trait of the laughter created (i. e. "loud"), but also the thematic role of "*She*" as a "doer" of the action becomes prominent due to the introduction of the light verb "*give*". Just like what Jespersen remarked: "These cannot be explained as ordinary verbal sbs." (Jespersen, 1954)

Thinking from a cartographic perspective, the generation of the Jespersenian light verb structures contain two steps: The first step is the deverbalizaztion of "*talk*" "*smoke*" "*fight*" etc. at the word formation level, which is realized by a process that

5. This explanation given by a native speaker is quoted from the following website: <https://www.teenink.com/fiction/realistic_fiction/article/572006/The-difference-between-giving-a-kiss-and-kissing-someone/>

a nominal functional head (e.g. the "n" in the "nW" in the Diagram 4) selects the verbal root such as "*talk*" "*smoke*" "*fight*" as its complement, forming up a nominal substantive selected by a determiner head. The second step is the insertion of the Jespersenian light verb into the main verb position at phrase structure level to form up a "heavy light verb" phrase which is furtherly selected by a "light light verb" as a complement, as illustrated in the Diagram 10 of this paper in the following.

2.3 Huang's light verb analysis in Chinese

Chinese light verbs in Huang (2015)'s discussions belong to an alternative type of light verb, different from both Larsonian light verbs and Jespersenian light verbs, in the sense that the complement of the light verb in Huang's light verbs are neither a VP as in the Larsonian light verb structures (as illustrated in Diagram 1) nor a deverbalized nominal as in the Jespersenian light verb structures (as illustrated in the Diagram 4). Instead, the complement of the Huang's light verbs are pure nouns such as "*dianhua*(telephone)" '*you* (oil) " "*majiang* (mahjong)" in the "*da dianhua* (make a phone call)" and "da you (to get oil)" "*da majiang* (play mahjong)". I suggest that the light verbs in these examples are semantically light but syntactically not light: they are the main verbs in the structures, which can be illustrated as the follows:

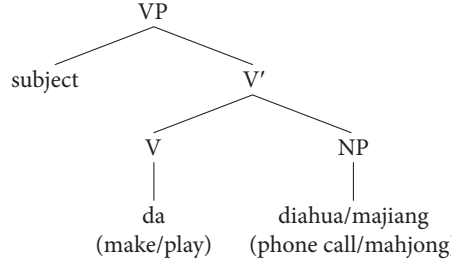

Diagram 5. Huang's light verbs in Chinese

From this perspective, I would like to suggest that Huang (2015)'s light verbs are also "heavy light verbs", though there are differences between Huang's heavy light verbs and Jespersenian heavy light verbs, in the sense that there is no deverbalization process involved in the object position.[6] Thinking from a cartographic perspective suggested by this paper, Huang's heavy light verb structures also share something in common with Jespersenian light verb structures, that is, they will

6. Through a personal communication, Jie Xu (Macau University) made some nice remarks on Jespersenian light verb and Huang's light verb, as follows: The difference between Jespersenian light verb and Huang's light verb is only in the nature of their object, essentially a lexical but not syntactic difference.

also furtherly projected to a light light verb layer, which the prototype light verb in Chomsky's sense (Chomsky 1995).

Notice also that the structures like "*da dianhua* (make a phone call)" are not unique to Chinese language. They are "very widespread across languages".[7] It is worthy conducting a further investigation in future studies, based on a crosslinguistic comparison.

3. Internal configuration of light verb structures

Having discussed some representative studies on light verbs, let's go back to the following question: what categories should a light verb select as its complement? My suggestion is the following: a proto-type light verb selects a "XP_A" (argument projection) as its complement, which could be a VP in Larsonian shell structure, or a predicative NP or AP, PP etc. in other cases.[8] I therefore would like to demonstrate the proto-type light verb structure as follows:

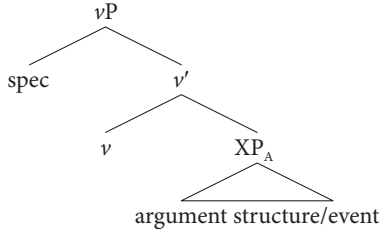

Diagram 6. A generalized proto-type light verb structure

Based on this, some empirical evidence will be presented to support the following assumptions:

> **Hypothesis 1: Split v Hypothesis**
> From a cartographic point of view, the light verb "*v*" is not "ONE" head, but an umbrella name of a rather "rich structural" zone, call it "light verb field" or "light verb zone".

7. This is a helpful comment made by Adriana Belletti via a personnal communication.

8. From this point of view, there is a crucial difference between Huang's light verb and the other two types of light verbs proposed by Larson and Jespersen respectively, in the sense that in Huang's light verb structures such as "*da dianhua*"(lit. Make a phone call), the complement of the light verb is a simple noun phrase denoting an entity, but the other types of light verbs all takes predicative category as their complements: either VP or deverbalized Nominals denoting some kind of event.

Hypothesis 2: About Argument Structure Chain
In complex sentential structures, the core of the predicate is not composed of one single argument structure, but a chain of several argument structures.

Hypothesis 3: About Event Fragment Chain
A sentential structure consisting of a chain of several argument structures will be encoded to represent the event consisting of a set of event fragments, following rule-to-rule correspondence principle.

Studies of light verbs is inseparable with studies of verbal domain (Belletti 2004 & 2009; Bruening 2016; Alessandro, Franco, & Gallego 2017, etc.) or event domain (see Bodomo 1993; Ramchand 2013) and argument structures (see Baker 1989, 1991; Hale & Keyser 1993, 1997, 1998 & 2002; Collins 1997, etc.). The discussions related to argument sharing and internal layers of verbal domain will be incorporated with the discussion of the light verb distributions in the following.

3.1 Observation step 1: Simplex Light Verb Shell Structures

The following discussion will begin with the simplex constructions such as follows:

(2) John read the book carefully. (Chomsky 1995)

(3) I thumbed my nose. (Jespersen 1954)

(4) I have a bad lie. (Jespersen 1954)

(5) Zhang San da dianhua. (Huang 2015)
Zhang San Da(make) telephone.
'Zhang San made a phone call.'

(6) Wang Mian si le fuqin.
Wang Mian die Asp father.
'Wang Mian (experienced/suffered from the fact that) his father died."

The examples above represent five kinds of simplex light verb structures. The example (2) is a standard transitive structure with a unergative transitive verb as the main verb of the predicate.[9] The sentence (3) is a non-standard transitive structure with a denominalized verb/nonce word occupies the main verb position of the predicate;

9. Huang (2010) made a distinction between unergative transtive verbs and unaccusative transitive verbs. Along with Sybesma (1992), Hoekstra (1999), Mateu (2005), Washio (2005), Huang (2010) argued that the distinction between unergative-unaccusative is not always clear-cut, and some verbs may have a dual status. "In various languages (Dutch, German, and Old Japanese), certain transitive verbs (with meaning like follow, pass, forget, and approach), in spite of being transitive, may behave as unaccusatives under auxiliary selection." (Huang 2010)

the example (4) is a Jespersenian light verb structure with an overt verb without clear meaning for action but taking a deverblized nominal complement which denotes an action. the example (5) is an overt light verb construction discussed by Huang (2015) in which the "light verb" occupies the main verb position of the predicate denoting a vague meaning and taking a typical noun as its complement. the example (6) is a special unaccusative structure in which two "argument-like" constituents occur in an intransitive unaccusative structure which supposed to have only one argument according to the S-selection of the main verb "*si* (die)". "Simplex light verb structures" is an informal expression to distinguish the above structures from more "complex light verb structures", in that they have less "argument-like" elements than the canonical light verb structures as in double object constructions, or less overt verbal elements than other types of complex predictive structures as in verb-complement causative structures. However, being "simplex" doesn't mean less importance. Instead, the further considerations on these structures will be crucial starting point for deeper understandings of the full picture of light verb theory.

To begin with, let's look at the example (2), a typical standard transitive structure. Chomsky (1995) adopted Larsonian proposal on the VP shell structure and described the structure of the example (2) as follows:

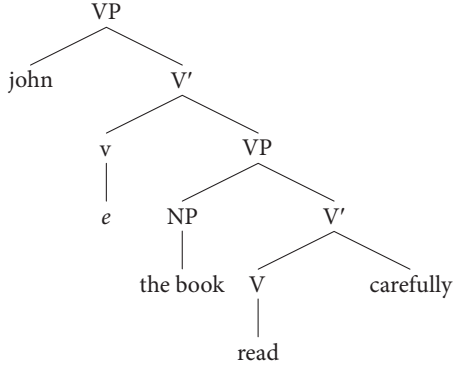

Diagram 7. Chomskyan light verb in standard transitive structures

This analysis indicates that light verb shell structures not only exist in more complex structures as double object constructions, but also in the most simplex transitive structures, in other words, it implies that almost all sentential structures can be analyzed as shell structures. Further discussions on light verb structures also suggested that light verbs are not empty, from both syntactic and semantic point of views: there are different kinds of light verbs, encoding different semantic contents (Si 2002, 2018; Feng 2005, 2015; Zhu 2005; Huang 2008). Following Huang (2008), the basic structure of the sentence (2) can be reanalyzed as follows, with a light verb "DO":

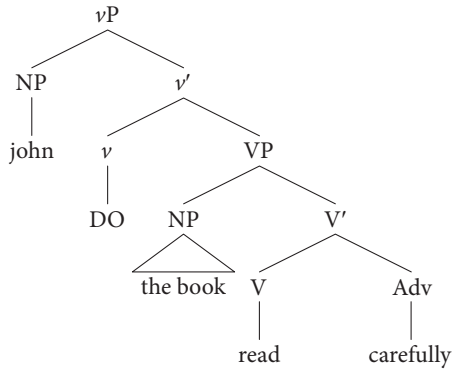

Diagram 8. A revised Chomskyan light verb structure following Huang (2008)

Similarly, (3) and (4) also contain a light verb "DO", but the derivational processes of them are worth further mentioning, in that they each contain a nonce word and the internal structures of these nonce words are also very interesting to see:

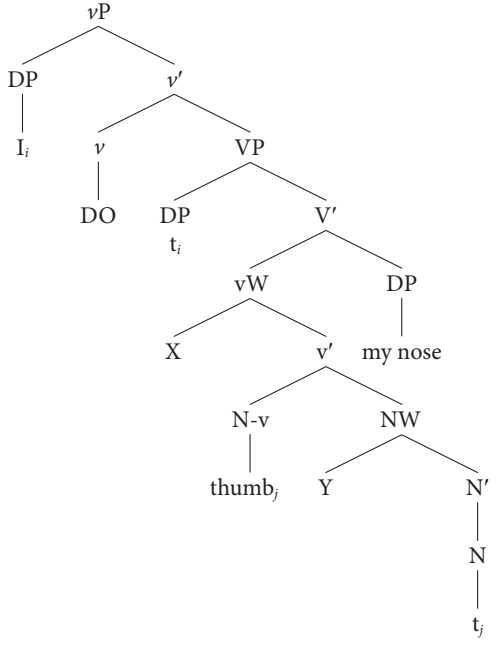

Diagram 9. *v*P structure in "*I thumbed my nose*"

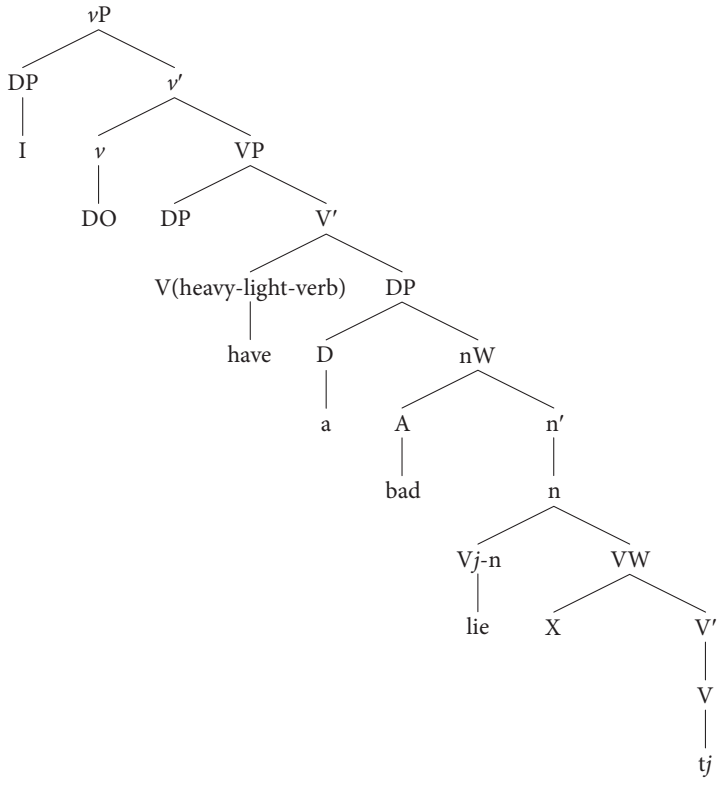

Diagram 10. *v*P structure in "*I have a bad lie*"

It should be noticed that, in our system, while normal transitive structures have only one light verb (a light light verb) which is higher than the main verb, Jespersenian light verb structures have two light verbs: one is a "light light verb" (e.g., "DO" in the Diagram 10), the other one is a "heavy light verb" (e.g., "*have*" in the Diagram 10). More interestingly, including the base form of the deverbalized nominal "*lie*" (the nonce word), there are actually at least three verb-like predicative elements[10] in the sentence "*I have a bad lie*": (1) light light verb "DO"; (2) heavy light verb "*have*" and (3) predicative nominal "*lie*" which has been deverbalized on surface. The properties of the three predicative elements in "*I have a bad lie*" can be analyzed as follows:

10. The adjective "*bad*" is also a predicative element, but I will not include it here in the discussion.

Table 1. Properties of the three Predicative elements in "*I have a bad lie*"

Categorial status	*lie*	Predicative nominal
	have	LVB: heavy light verb
	DO	LVN: light light verb
Distribution	*lie*	Complement of D
	have	Main verb
	DO	VP-shell: higher than the main verb
Argument taking/sharing	*lie*	Two arguments: I; Sth.(covert A)
	have	Two arguments: I; Action "a lie"
	DO	Two arguments: I; Event "to have a lie"

In brief, the three predicative elements distributed hierarchically as:

(7) […[…light light verb "DO" […heavy light verb "*have*" […deverbalized nominal with a verbal base "*lie*"]]]

The "heavy light verb" "*have*" here is light semantically, but heavy syntactically. From syntactic functional perspective, it functions as a main verb, just as the main verbs (the first "*fight*", "*die*" "*dream*" "*smile*") in the following examples:

(8) …fight the good fight.
…die a dry death.
…dreamed a sweat dream.
…smile a friendly smile.

In the structure, the light light verb "DO" and the heavy light verb ("*have*")/main verbs (first "*fight*", "*die*" "*dream*" "*smile*" in (8)) and their argument structures formed a syntactic zone and the derived nominal ("*lie*" and the second "*fight*", "*die*" "*dream*" "*smile*" in (8)) and its argument structure together with the upper empty functional nominal head "n" formed the lexical zone. Both syntactic zone A1 and lexical zone A2 here are shell structures. These two zones formed a continuum of chain argument structures, sharing certain argument in common ("*I*" in this example).

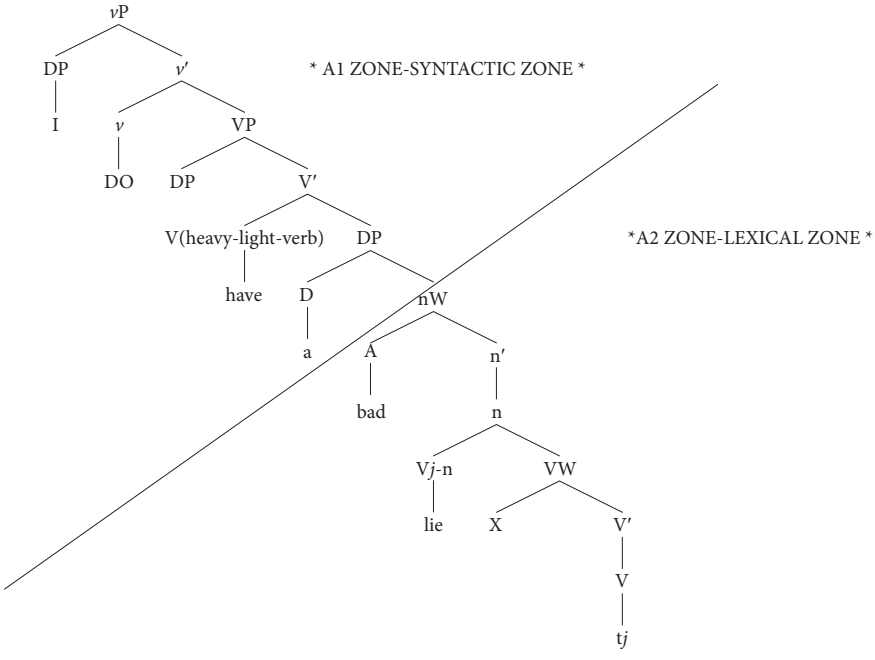

Diagram 11. Revised analysis of "I have a bad lie"

The example (5) also has two light verbs: light light verb "DO" and heavy light verb "*da* (打)", but it is slightly different from (4) in that it doesn't have a more heavy predicative base as "*lie*" in (4). Therefore, the structure is simpler than both (3) and (4).

Following the same light verb zone schema suggested above, we suggest a further projection of a light light verb layer above Huang's light verb which is a heavy light verb. The revised analysis of the structure is as follows:

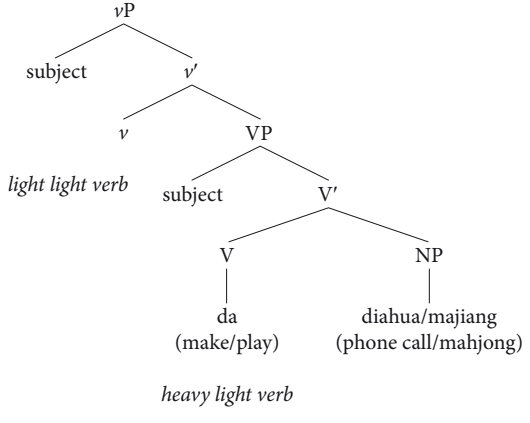

Diagram 12. Revised analysis of "*da dianhua/mahjong*"
(lit. making a phone call/playing mahjong)

The example (6) is more complicated than the (2)–(5) for the following reasons: (1) its event structure and argument structure are more complex; (2) its light verb belongs to a different type: not "DO", but "EXPERIENCE" (for more details, see also Zhu 2005): the light verb takes event fragment "*si le fuqin* (lit. die ASP father)" as its complement without sharing a common argument with it.

The notion of "argument sharing" (Baker 1989, 1991 & Collins 1997 etc) is also called "token-sharing" in some literature (see Beermann, Sahoo & Hellan 2007). It has been discussed by previous studies such as Baker (1989, 1991, etc.) and Collins (1997) etc. that in other languages such as African languages, argument sharing is a necessary process in certain constructions such as serial verb constructions (Collins 1997; Baker 1989, 1991; Bamgbose 1974, 1982). Shared arguments play a very important role in linking two event structures or clauses in a complex sentence structure. It worth an independent further study.

3.2 Observation step 2: Complex Light Verb Shell Structures

In this section, I will follow the same track to look at, very briefly, some more complex structures in both English and Chinese. "Causative structure", for instance, belongs to such kind of complex structure. Consider the following example:

(9) He will have the eye specialist examine the patient.
(English causative structure)

Viewing the internal structure of the sentence (9) in details by clicking our "zoom-in" button of the abstract mental magnifier, we should be able to see a richer configuration of the light verb layers as follows:

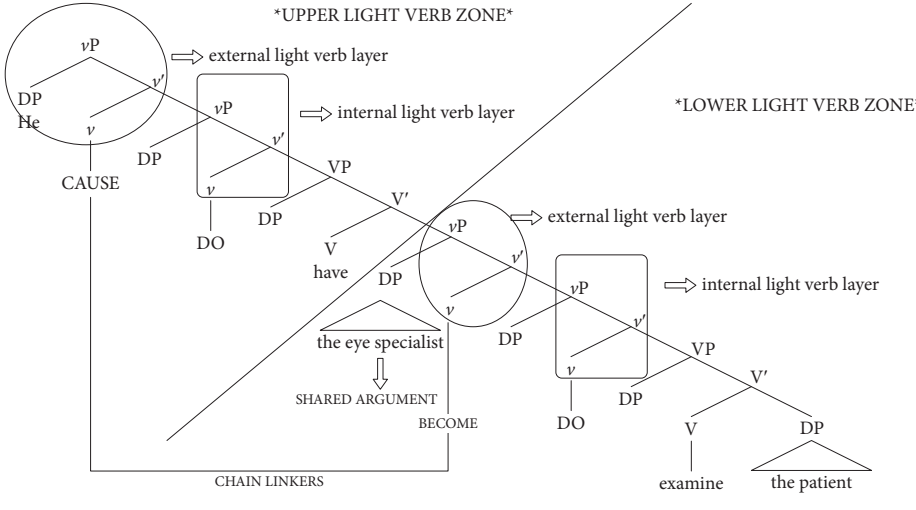

Diagram 13. Light verb zones in "*he will have the eye specialist examine the patient*"

As what can be seen in the Diagram 13, there are two shell structure zones in the structure of the sentence (9), the upper light verb zone can be roughly called "Cause Zone" and the lower one "Result Zone". Each zone contains two layers of light verbs: internal light verb layer introducing the relevant argument structure/event fragment and external light verb taking care of the chain relation with the other zone. In the upper Cause Zone, "*have*" is a "heavy light verb", the same as the Jespersenian light verb "*have*" in the Example (3). There is also a light light verb "DO" upper than "have" introducing the event fragment encoded by the heavy light verb projection. In the lower Result Zone, there is a light light verb "DO" upper than the main verb "*examine*", similar to the "DO" in the Example (1), introducing the argument structure/event fragment encoded by the main verb projection. "DO" in each zone is an internal light verb. Then the external light verbs "Cause" and "Become", together with the shared argument "*the eye specialist*" serve as the chain linkers to help the two zones connect to each other as a chain.

The analysis on causative structures is also inspired by previous studies on event structures, double object constructions etc. (c.f. Harley 1995, 2002, etc.) The proposal of the hierarchy of v_{CAUSE} and v_{BECOME} also parallels with Ramchand (2008, 2017) in which it was suggested "that (i) argument positions related to causation are structurally high and in a privileged feeding relationship to formal subjecthood, and that (ii) arguments related to the undergoing of change are lower in the structure and are related to the boundedness of the event."

The empirical studies on Mandarin illustrates that the same approach can also be applied in the analysis of various of Chinese causative structures. Consider the following example:

(10) Ta xi ganjing le yifu.
He wash clean Asp clothes.
'He washed the clothes clean.'

Sentence (10) is a typical example of Chinese "verb-complement structure", the cause-result relation existed in the structure has been widely recognized (see also Li 1990; Cheng & Huang 1995 among many others). Li (1990) proposed a systematic account of the argument structure of resultative compounds on the basis of argument structure of their component verbs. Cheng & Huang (1995) observed four types of resultative compounds and argued "the argument structure of a compound is essentially a composition of the event structure, rather than the transitivity properties of its component parts." Both Li (1990) and Cheng & Huang (1995) were concerned with the potential number of the argument of V1 and V2 in the resultative compounds and their relationship with configuration of the structure. They also made an observation of the causative paradigm, in both the cases that either

when the subject of Vs is a Theme or Experiencer or the Subject of V1 is a Causee, the external argument is neither an argument of V1 nor of V2, but is a Causer added from outside of the basic argument structures of V1 and V2. In Cheng & Huang (1995), they also suggested that the generation of the resulting verbal compounds are derived from underlying left headed event structures whose semantics determines their linking with appropriate thematic and argument structures. These inspiring statements perfectly explained the relationship between semantics, argument structure and their configurations. The possibility of the status of the light verb Cause is also indicated.

Following this tradition, many studies on resultative verb compounds have been conducted in Chinese syntactic studies. In the more recent studies, "Cause" is usually analyzed as a light verb which I agree. What I furtherly suggest in the following is that actually the Cause is not one light verb, but a light verb zone, and so is the Result. In each of the two zones, there are two light verb layers. The two light verbs in the upper Cause Zone are external light verb CAUSE and the internal light verb DO; and the two light verbs in the lower Result Zone are external light verb BECOME and the internal light verb "BE". The two zones are connected together by the shared argument "*yifu* (clothes)" and the linking of the two external light verbs "CAUSE" and "BECOME". The basic idea is conveyed by the two light verb zones in this example can be understood as: The first event fragment encoded by "[$_{vP}$ *ta* (he) DO [$_{VP}$ *xi* (wash) *yifu* (clothes)]]" cause to the second event fragment encoded by "[$_{vP}$ *yifu*(clothes) BE [$_{AP}$ *ganjing*(clean)]]". The structure is be illustrated as follows:

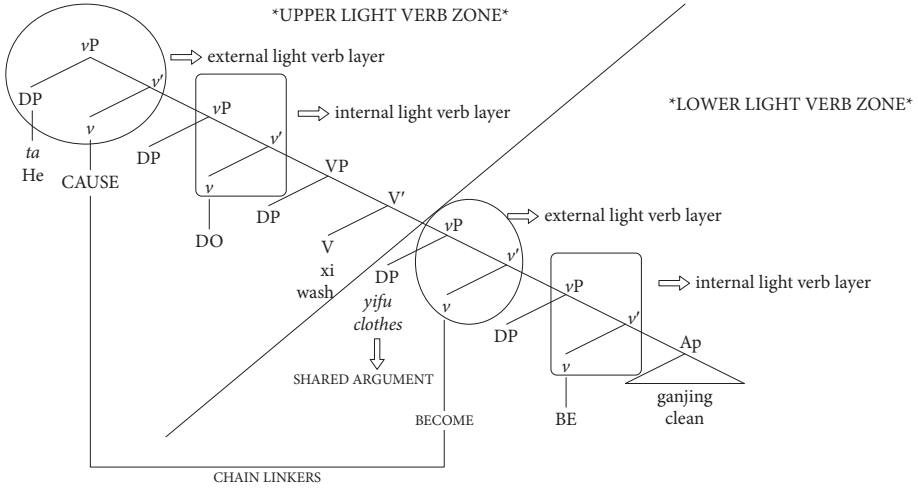

Diagram 14. Light verb zones of "*ta xi ganjing le yifu*"(lit. he wash clear ASP clothes)

Note that most so-called "Chinese peculiar sentence patterns" such as "*ba*" constructions, "verb-complement constructions" should be sorted as "complex light verb structures". More examples:

(11) a. wo ba ta guan-zui le.
I Ba him make-drunk Asp
'I made him drunk.' (Chinese *Ba*-sentence+verb-complement structure)

b. Ta he-jiu he-zui le. (Chinese verb series structure)
He drink-liquor drink-drunk Asp.
'He drank and got drunk.'

c. Wo pai ta mai zaocan. (Chinese pivotal sentence)
I send him buy breakfast
'I sent him to buy breakfast.'

d. John gave Mary a book (DOC)

e. wo chi le ta san-ge pingguo. (Pseudo-DOC)
*I eat Asp him three-*CL *apple*
'I ate his three apples."

To save the space, I will not provide the detailed the structural analysis for all of these examples, but just give a generalized structure which can be applied to all the complex causative light verb structures, including double object constructions and Chinese pseudo-double objection constructions:

(12) [...[v_{Ex}P CAUSE [v_{Int}P DO [VP [v_{Ex}P BECOME [v_{Int}P DO/HAVE/BE [VP]]]]]]]

Following this schema, more other facts can be explained both in Chinese and crosslinguistically, such as nominal predicate structures (as in "*na wei tongxue jinshiyan*.(lit. That student myopia), as one of the reviewers of this paper suggested. The type of the light verb in these structures might be slightly different though. The above light verb zone schema and the mental magnifier tool can also be applied in studies of more other constructions. In addition, the detailed description of the underlying structures might also provide some insights for language proceeding. We will leave these issues for future discussions.

4. Concluding remarks

In summary, what this paper intends to do is to provide a "magnifier-like" or "microscope-like" means for the study of various light verb structures. Looking at the light verb structures by clicking the "zoom-in" button of the "mental magnifier", a richer and detailed internal configuration of light verb structure is presented. According to this, one major assumption and two subsequent assumptions are

proposed: (1) Split light verb hypothesis: from a cartographic point of view, the light verb "*v*" is not "ONE" head, but an umbrella name of a rather "rich structural" zone, call it "light verb field" or "light verb zone". (2) About the argument structure, it is proposed that in the complex light verb constructions, the core of the predicate is not composed of one single argument structure, but a chain of several argument structures. (3) Correspondingly, the event structure can also be looked at in more details in these structures: that is, in the sentences containing chain argument structures, the event can also be analyzed as a chain of event fragments, following rule-to-rule correspondence principle.

Superficially, the structures provided here look more complicated than the traditional ones. But it is just like a geographic map, no one would complain the "complexity" of the information: the richer the information the map offers, the more helpful and clearer its function will be. Surely one could also "Zoom-out" if you just want to get a more general picture of the place. The same is true to linguistic descriptions. It depends on which direction of the power you prefer to work on. It is now well-known that a common goal shared by all cartographic studies is "to draw maps as precise and detailed as possible of syntactic configurations" (Rizzi & Cinque, 2008). Due to the detailed description of the rich internal layers of various structures, it looks like the products of the theory are more complex. However, if one's attention is turned to the "local" relations of the basic projections, the simplicity of the basic configuration will self-present clearly. Koopman and Szabolcsi (2000) also illustrated the relations of the two aspects, i.e., the complexity of syntactic representations ("syntactic representations are large structures, much larger than previously thought on the basis of the actual lexical material in a particular sentence") and the simplicity of syntactic structures ("Syntactic structures themselves became quite simple, binary-branching structures, obeying the X-bar schema, with both lexical heads and functional heads projecting"). Rizzi (2015) might provide readers with some clue about why it is necessary to do so: "…… natural languages seem to privilege local simplicity of configurations and relations (with featurally simple heads and configurationally simple projections), accepting to pay the price of an increased global complexity through the accumulation of simple atomic structures."

Simply speaking, the local simplicity and clarity will lead to a "complexity", if counting the numbers of layers. But it is merely a necessary result defined by a physical law: "the law of conservation (indestructibility) of matter". In practice, it is also a good deal, as long as we could really achieve the goal of the "local simplicity" and the simplicity of system formulation.

References

D'Alessandro, Roberta, Franco, Irene, & Gallego, Ángel J. 2017. *The Verbal Domain*. Oxford: OUP. https://doi.org/10.1093/oso/9780198767886.001.0001

Baker, Mark. 1989. Object sharing in serial verb constructions. *Linguistic Inquiry* 20: 513–553.

Baker, Mark. 1991. On the relation of serialization to verb extensions. In *Serial Verbs: Grammatical, Comparative and Cognitive Approaches* [Studies in the Sciences of Language Series 8], Claire Lefebvre (ed.), 79–102. Amsterdam: John Benjamins. https://doi.org/10.1075/ssls.8.04bak

Bamgbose, Ayo. 1974. On serial verbs and verbal status. *Journal of West African Languages* 9:17–48.

Bamgbose, Ayo. 1982. Issues in the analysis of serial verb constructions. *Journal of West African Languages* 12: 3–20.

Beermann, Dorothee, Sahoo, Kalyanamalini & Hellan, Lars. 2007. What is 'argument sharing'? A case study on argument sharing under VP-serialization in Oriya. In *Linguistic Theory and South Asian Languages: Essays in Honour of K. A. Jayaseelan* [Linguistik Aktuell/Linguistics Today 102], Josef Bayer, Tanmoy Bhattacharya & M. T. Hany Babu (eds), 15–28. Amsterdam: John Benjamin. https://doi.org/10.1075/la.102.04bee

Bodomo, Adams. 1993. Complex predicates and event structure [University of Trondheim Working Papers in Linguistics 20]. Trondheim: Department of Linguistics, University of Trondheim.

Belletti, Adriana (ed.). 2004. *Structures and Beyond: The Cartography of Syntactic Structures*, Vol. 3. Oxford: OUP.

Belletti, Adriana. 2009. *Structures and Strategies*. London: Routledge.

Benincà, Paola & Poletto, Cecilia. 2004. Topic, focus and V2: Defining the CP sublayers. In *The Structure of IP and CP:The Cartography of Syntactic Structures*, Luigi Rizzi (ed.), 52–75. Oxford: OUP.

Bocci, Giuliano. 2004. Contrastive focalization on topics and preverbal subjects in Italian. *Rivista di Grammatica Generativa* 29: 3–60.

Bruening, Benjamin. 2016. Light verbs are just regular verbs. <http://udel.edu/~bruening/Downloads/LightVerbsPLCProc1.pdf> (29 January 2021).

Cheng, Lisa Lai-Shen & Huang, C.-T. James. 1995. On the argument structure of resultative compounds. In *In Honor of William Wang: Interdisciplinary Studies on Language and Language Change*, Matthew Chen & Ovid Tzeng (eds), 187–221. Taipei: Pyramid Press.

Chomsky, Noam. 1957. *Syntactic Structures*. The Hague: Mouton. https://doi.org/10.1515/9783112316009

Chomsky, Noam. 1993. A minimalist program for linguistic theory. In *The View from Building 20. Essays in Linguistics in Honor of Silvain Bromberger*, Ken Hale & Samuel Jay Keyser (eds). Cambridge MA: The MIT Press.

Chomsky, Noam. 1995. *The Minimalist Program*. Cambridge MA: The MIT Press.

Cinque, Guglielmo. 1999. *Adverbs and Functional Heads: A Cross-Linguistic Perspective*. Oxford: OUP.

Cinque, Guglielmo. 2001. Restructuring and the order of aspectual and root modal heads. In *Current Studies in Italian Syntax. Essays Offered to Lorenzo Renzi*, Guglielmo Cinque & Giampaolo Salvi (eds), 137–155. Amsterdam: Elsevier.

Cinque, Guglielmo. 2002a. The interaction of passive, causative, and "restructuring" in Romance. In *The Syntax of Italian Dialects*, Christina Tortora (ed.), 50–66. Oxford: OUP.

Cinque, Guglielmo. 2002b. A note on 'restructuring' and quantifier climbing in French. *Linguistic Inquiry* 33(4): 617–636. https://doi.org/10.1162/002438902762731781

Cinque, Guglielmo. 2006. *Restructuring and Functional Heads: The Cartography of Syntactic Structures*, Vol. 4. Oxford: OUP.

Cinque, Guglielmo (ed.). 2002c. *Functional Structure in DP and IP: The Cartography of Syntactic Structures*, Vol. 1. Oxford: OUP.

Cinque, Guglielmo & Rizzi, Luigi. 2008. The cartography of syntactic structures. *STiL-Studies in Linguistics: CISCL Working Papers* 2: 42–56.

Collins, Chris. 1997. Argument sharing in serial verb constructions. *Linguistic Inquiry* 28(3): 461–497.

Feng, Shengli. 2005. Light verb movement in modern and classical Chinese. *Linguistic Science* 1: 3–6.

Feng, Shengli. 2015. Light-verb syntax between English and classical Chinese. In *Chinese Syntax in a Cross-Linguistic Perspective*, Audrey Li, Andrew Simpson & Wei-Tien Dylan Tsai (eds), 229–250. Oxford: OUP.

van Gelderen, Elly. 2004. The CP and split CP cross-linguistically: The layer parameter. *Word* 55(3): 369–403. https://doi.org/10.1080/00437956.2004.12098206

Hale, Ken & Keyser, Samuel Jay. 1991. *On the syntax of argument structure*. Lexicon Project Working Papers, Center for Cognitive Science, MIT.

Hale, Ken & Keyser, Samuel Jay. 1993. On argument structure and the lexical expression of syntactic relations. In *The View from Building 20: Essays in Honor of Sylvain Bromberger*, Ken Hale & Samuel Jay Keyser (eds), 53–109. Cambridge MA: The MIT Press.

Hale, Kenneth & Keyser, Samuel Jay. 1997. The limits of argument structure. In *Theoretical Issues at the Morphology-Syntax Interface*, Amaya Mendikoetxea & Myriam Uribe-Etxebarria (eds), 203–230. Bilbao & Donostia-San Sebastián: Universidad del País Vasco & Diputación Foral de Gipuzkoa.

Hale, Kenneth & Keyser, Samuel Jay. 1998. The basic elements of argument structure. In *Papers from the UPenn/MIT Roundtable on Argument Structure and Aspect* [MIT Working Papers in Linguistics 32], Heidi Harley (ed.), 73–118. Cambridge MA: MITWPL.

Hale, Ken & Keyser, Samuel Jay. 2002. *Prolegomenon to a Theory of Argument Structure*. Cambridge MA: The MIT Press. https://doi.org/10.7551/mitpress/5634.001.0001

Harley, Heidi. 1995. Subjects, Events and Licensing. PhD dissertation, MIT.

Harley, H. 2002. Possession and the double object construction. In *Yearbook of Linguistic Variation* 2, Pierre Pica & Johan Rooryck (eds), 31–70. Amsterdam: John Benjamins. https://doi.org/10.1075/livy.2.04har

Hoekstra, Teun. 1999. Auxiliary selection in Dutch. *Natural Language & Linguistic Theory* 17: 67–84.

Huang, C.-T. James. 2005. *Syntactic analyticity: The other end of the parameter*. Lecture notes, 2005 LSA Linguistic Institute, Harvard University and MIT.

Hang, C.-T. James. 2008. Ta de laoshi dang de hao. *Linguistic Sciences* 3: 225–241.

Huang, C.-T. James. 2010. *Between Semantics and Syntax*. London: Routledge. https://doi.org/10.4324/9780203873526

Huang, C.-T. James. 2015. On syntactic analyticity and parametric theory. In *Chinese Syntax in a Cross-Linguistic Perspective*, Audrey Li, Andrew Simpson & Wei-Tien Dylan Tsai (eds), 1–48. Oxford: OUP.

Jespersen, Otto. 1954. *A Modern English Grammar on Historical Principles*. London: George Allen & Unwin and Copenhagen: Ejnar Munksgaard.

Kayne, Richard S. 1984. *Connectedness and Binary Branching*. Dordrecht, Neth.: Foris.
Koopman, Hilda & Szabolcsi, Anna. 2000. *Verbal Complexes*. Cambridge MA: The MIT Press.
Larson, K. Richard. 1988. On the double object construction. *Linguistic Inquiry* 21: 589–642.
Larson, K. Richard. 2014. *On Shell Structure*. London: Routledge. https://doi.org/10.4324/9780203429204
Li, Fuqiang. 2020. A cartographic study of Chinese "*you*" in "*you*+VP" construction. Beijing Language and Culture University: PhD dissertation.
Li, Yafei. 1990. On V-V compounds in Chinese. *Natural Language and Linguistic Theory* 8:177–207. https://doi.org/10.1007/BF00208523
Liu, Wenying. 2017. Functional Hierarchy of Chinese Spatial PPs. PhD dissertation, BLCU.
Mateu, Jaume. 2005. Arguing our way to the Direct Object Restriction. *Journal of Comparative Germanic Linguistics* 8: 55–82.
Méndez, Rodrigo Romero. 2005. Spanish light verb constructions: Co-predication with syntactically formed complex predicates. <http://www.acsu.buffalo.edu/~rrgpage/rrg/Romero-%20Light%20Verbs.pdf> (29 January 2021).
Peng, Jiafa & Chao, Sun. 2017. Syntactic generation of Chinese intransitive verbal constructions taking oblique objects: The cartographic project of syntactic structures containing different inventories. *Journal of Anhui Electrical Engineering Professional Technique College* 2: 48–55.
Pollock, Jean-Yves. 1989. Verb movement, universal grammar, and the structure of IP. *Linguistic Inquiry* 20: 365–424.
Radford, Andrew. 2000. *Syntax: A Minimalist Introduction*. Cambridge: CUP.
Ramchand, Gillian. 2008. *Verb Meaning and the Lexicon*. Cambridge: CUP. https://doi.org/10.1017/CBO9780511486319
Ramchand, Gillian. 2013. The event domain. Workshop on Little v, Leiden University, 25–26 October.
Rizzi, Luigi. 1976a. Ristrutturazione. *Rivista di Grammatica Generativa* 1:1–54.
Rizzi, Luigi. 1976b. La montee du sujet, le si impersonnel et une règle de restructuration dans la syntaxe italienne. *Recherches Linguistiques* 4:158–184
Rizzi, Luigi. 1978. A restructuring rule in Italian syntax. In *Recent Transformational Studies in European Languages*, Samuel Jay Keyser (ed.), pp. 113–158. Cambridge MA: The MIT Press. (Also in Rizzi 1982a).
Rizzi, Luigi. 1981. Nominative marking in Italian infinitives and the nominative island constraint. In *Binding and Filtering*, Frank Heny (ed.), 129–157. London: Croom Helm.
Rizzi, Luigi. 1982a. *Issues in Italian Syntax*. Dordrecht: Foris. https://doi.org/10.1515/9783110883718
Rizzi, Luigi. 1982b. Comments on Chomsky's chapter 'On the representation of form and function'. In *Perspectives on Mental Representation*, Jacques Mehler, Edward C. T. Walker & Merrill Garrett (eds), 441–451. Hillsdale NJ: Lawrence Erlbaum Associates.
Rizzi, Luigi. 1997. The fine structure of the left periphery. In *Elements of Grammar: A Handbook of Generative Syntax*, Liliane Haegeman (ed.), 281–337. Dordrecht: Kluwer. https://doi.org/10.1007/978-94-011-5420-8_7
Rizzi, Luigi. 2004. "Locality and Left Periphery." In *Structures and Beyond*, edited by Adriana Belletti, 223–251. New York, NY: Oxford University Press.
Rizzi, Luigi. 2013. Notes on cartography and further explanation. *Probus* 25(1): 197–226. https://doi.org/10.1515/probus-2013-0010
Rizzi, Luigi. 2015. Cartography, criteria, and labeling. In *Beyond Functional Sequence*, Ur Shlonsky (ed.). Oxford: OUP. https://doi.org/10.1093/acprof:oso/9780190210588.003.0017
Rizzi, Luigi. 2017. The left periphery: Cartography, freezing, labelling. In *Studies on Syntactic Cartography*, Fuzhen Si (ed.). Beijing: China Social Sciences Press.

Rizzi, Luigi & Bocci, Giuliano. 2017. The left periphery of the clause. Primarily illustrated for Italian. In *The Wiley Blackwell Companion to Syntax*, 2nd edn, Martin Everaert & Henk C. van Riemsdijk (eds). Malden MA: Wiley-Blackwell. https://doi.org/10.1002/9781118358733.wbsyncom104

Rizzi, Luigi & Cinque, Guglielmo. 2016. Functional categories and syntactic theory. *Annual Review of Linguistics* 2: 139–163. https://doi.org/10.1146/annurev-linguistics-011415-040827

Samo, Giuseppe. 2019. *A Criterial Approach to the Cartography of V2*. John Benjamins Publishing Company.

Shi, Deming. 2018. A cartographic study of right dislocations in Mandarin Chinese. MA thesis, Beijing Language and Culture University.

Si, Fuzhen. 2002. Multiple feature checking and its syntactic consequences. PhD dissertation, Beijing Language and Culture University.

Si, Fuzhen. 2007. Two types of Chinese double object constructions. Paper presented at the Joint Conference of IACL-15/ NACCL-19, Columbia University, New York, 25–27 May.

Si, Fuzhen. 2012. A comparative study of Chinese and English derivational morphology. *Journal of Yili Normal University* 3: 98–102.

Si, Fuzhen. 2015a. Possessive relationship in double object constructions. *Foreign Language and Literature Research* 3: 2–11.

Si, Fuzhen. 2015b. Light verb constructions: A cartographic perspective. Paper presented at the Round Table Conference on Light Verbs, Chinese University of Hong Kong.

Si, Fuzhen. 2018. A cartographic study on the light verb constructions. *Linguistic Research* 1: 11–17.

Si, Fuzhen. 2019. New horizons in syntactic cartographic studies. *Language Teaching and Linguistic Studies*. No 3: 25–37.

Stepanov, Arthur & Tsai, Wei-Tien Dylan. 2008. Cartography and licensing of wh-adjuncts: A cross-linguistic perspective. *Natural Language and Linguistic Theory* 26(3): 589–638. https://doi.org/10.1007/s11049-008-9047-z

Sybesma, Rint. 1992. Causatives and Accomplishments: the case of Chinese *ba*. Leiden University: PhD dissertation.

Tang, Sze-Wing. 2019. Hot-cool typology of the sentence-final particles. *Foreign Language Teaching and Research* 51(5): 643–652.

Tsai, Wei-Tien Dylan. 2008. Object specificity in Chinese: A view from the v P periphery. *The Linguistic Review* 25(3): 479–502. https://doi.org/10.1515/TLIR.2008.014

Tsai, Wei-Tien Dylan. 2016. Distributions and interpretations of Chinese inner light verbs and outer light verbs. *Linguistic Sciences* 4.

Tsai, Wei-Tien Dylan. 2018. High applicatives are not high enough: A cartographic solution. *Lingua Sinica* 4 (2). https://doi.org/10.1186/s40655-018-0034-y

Washio, Ryuichi. 2005. Some issues in unaccusativity. Handout of invited speech at the 2005 Annual Meeting of the Chinese Linguistic Society of Japan, University of Tsukuba.

Xiong, Zhongru. 2017. A cartographic study of Chinese Lian construction. *Modern Foreign Languages* 4: 439–450.

Yee Fan Tan, Min-Yen Kan & Hang Cui. 2006. Extending corpus-based identification of light verb constructions using a supervised learning framework. <https://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.118.7144&rep=rep1&type=pdf> (29 January 2021).

Zhu, Xingfan. 2005. Light verbs and the objects-taking phenomenon of Chinese intransitive verbs. *Modern Foreign Languages* 3.

CHAPTER 11

Attitudinal applicative in action

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In this study, we have investigated a rather peculiar attitudinal construal of an applicative pronoun in Taiwan Southern Min (TSM), which may well advance our understanding of the split affectivity in Chinese dialects (cf. Tsai 2017), as exemplified below:

(1) Guá beh lim hōo i kàu-khuì!
1SG want drink HOO 3SG satisfied
"I want to drink to my satisfaction!"

It is also established that this type of pronominal usage is not specific to TSM but widely observed crosslinguistically (e.g., Vietnamese, Finnish, West Flemish, and Dominican Spanish; see Greco et al. 2017). Furthermore, the attitudinal applicative pronoun, though non-referential, has its root in an Affectee argument in association with the causative/passive marker of *hōo*. As it turns out, the expression *hōo i* has developed a speaker-oriented construal, expressing the intention to carry out the activity to the extreme.

Keywords: attitudinal applicatives, Taiwan Southern Min (TSM), applicative pronoun, causative/passive marker of *hōo*, affectee argument, speaker-oriented construal

1. A peculiar pronoun

In the literature, *gěi* 'give' in Mandarin Chinese (MC) is often taken as the counterpart of *hōo* in Taiwan Southern Min (TSM), based on their similar syntactic behavior as shown in the following double object constructions (cf. Cheng et al. 1999, among others):

(1) Akiū gěi wǒ wǔshí yuán. (MC)
PN GEI 1SG fifty dollar
阿Q 給 我 五十 元
"Akiu gave me fifty dollars."

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(2) A-bîng hōo guá gōo-tsa̍p khoo. (TSM)
PN HOO 1SG fifty dollar
阿明 予 我 五十 箍
"Abing gave me fifty dollars."

On the other hand, *hōo* and *gěi* differ from each other with respect to a variety of applicative construals. As illustrated below, the causative/affective usages of *hōo* in (4a, b) are not available for Mandarin *gěi* in (3a, b):[1]

(3) a. *Akiū gěi tāmen hěn dānxīn. (MC)
PN GEI 3PL very worried
阿Q 給 他們 很 擔心
(Intended) "Akiu worries them quite a lot."
b. *Wǒ yào hē gěi tā tòngkuài.
1SG want drink GEI 3SG satisfied
我 要 喝 給 他 痛快
(Intended) "I want to drink to my satisfaction."

(4) a. A-bîng hōo in tsiok huân-ló. (TSM)
PN HOO 3PL very worried
阿明 予 您 足 煩惱
"Abing worries them quite a lot."
b. Guá beh lim hōo i kàu-khuì!
1SG want drink HOO 3SG satisfied
我 欲 啉 予 伊 到氣
"I want to drink to my satisfaction!"

The disparity between *hōo* and *gěi* is also found in the reference of their pronominal objects: While the 3PL pronoun in (4a) may refer to a group of people in the discourse, the reference of the third-person singular (3SG) pronoun in (4b) is not easy to pin down.

In this paper, we focus on the rather peculiar construal of (4b): The expression in question consists of a functional element *hōo* and a referentially nullified pronoun *i*, which follows the main verb but precedes a resultative complement. Most importantly, it is construed with a distinct touch of extremity/ferocity on the speaker's attitude, as shown by the contrast between (5) and (6):

1. Some Taiwan Mandarin speakers may consider (3b) acceptable, presumably due to the heavy influence from TSM (cf. (4b)).

(5) # Bô tio̍h-kip, lán ta̍uh-ta̍uh-á sip --tsi̍t-ē sip tsi̍t-ē, lim hōo
not hurried 1PL slowly sip a.while sip a.while drink HOO
無 著急 咱 沓沓仔 sip 一下 sip 一下 啉 予
i kàu-khuì.
3SG satisfied
伊 到氣
(Intended) 'There's no hurry. We can sip the wine slowly to our satisfaction.'

(6) Kín! Lán kā tsiú lóng khui –lueh, ing-àm īng kuàn –ê, beh
hurry 1PL KA wine all open down.go this.evening use gulp PRT will
緊 咱 共 酒 攏 開 落去 下昏暗 用 灌 的 欲
lim hōo i kàu-khuì.
drink HOO 3SG satisfied
啉 予 伊 到氣
'Hurry up! Open all the wine bottles. This evening, we'll gulp down to our satisfaction.'

The relevant discourse involves an individual inviting a group of people to drink. While the speaker of (5) has no intention to drink fast and furious, the speaker of (6) can't wait to drink, and is determined to gulp down all the beer. It is possible to drink and feel satisfied in both scenarios, but the extremity/ferocity usage of *hōo i* is compatible only with (6), hence the inappropriateness of (5). To offer a plausible account, we put forth the claim that *i* is a defective applicative pronoun, and the mood encoded by *hōo i* is speaker-oriented and attitudinal.

We start with reviewing some previous studies in Section 2. Section 3 continues to examine the attitudinal applicative pronoun *i* (henceforth attitudinal *i*) from a crosslinguistic perspective along the line of Greco et al. (2017). Section 4 puts the construction under scrutiny through various syntactic tests, followed by a cartographic analysis of *hōo i* in Section 5 and its Mandarin counterpart in Section 6. Section 7 then concludes this study in the new light.

2. Previous studies of applicative pronouns in TSM

In the literature, *hōo* is taken as either a passive marker or a causative predicate. When it is construed as causative, the pronoun *i* takes the role of causee (e.g., Tsao 1997; Lee 2009). In this study, we will focus on the causative usage, leaving out the passive.

Cheng (1974) treats *hōo* as a conjunction, and looks into a number of syntactic properties of *hōo i*, including the optional presence of *i*, and its choice of resultative predicate type. It is pointed out that causative *hōo* cannot be omitted when it takes

a modal or aspect marker, unless the intention of the causer is emphasized. On the other hand, Tsao (1997) argues that *hōo* is a causative predicate. Moreover, *hōo* typically goes with a directive or imperative mood, while *i* may refer to a specific individual when it is not silent. A thorough investigation is also carried out by Cheng et al. (1999), where it is argued quite forcefully that all six usages of *hōo* can be seen as representing special instances of the causative construal.

In recent years, the non-canonical usages of *hōo* have drawn much attention in the literature. For instance, Lee (2009) takes causative *hōo* in-between a verb and a resultative complement to convey the causer's intention. Lee & Hsieh (2009) pursue further the issue surrounding the pronominal reference in the *ka … hoo i* construction, where *kā* is taken to be a role indicator that marks its object as either a patient, a beneficiary, a goal, or a source, depending on the context. It is suggested that *i* most likely refers to the *kā*-object when the construction involves a resultant state. However, if it involves a ditransitive instead, the construal is non-resultative, and the reference of *i* can only be identified through discourse.

Departing from the mainstream treatments, Lin (2011) identifies *hōo* as an adversative marker, in addition to being passive and causative.[2]

(7) Bȧk-tsuí hōo (i) ta --khì --ah. (Lin 2011: 2037(7b); TSM)
ink ADVS 3SG *dry go* PRT
墨水 予 伊 焦 去 矣
"The ink has gone dry (and this event has an adverse effect on someone)."

Disregarding irrelevant details, Lin argues that this pronoun (*i*) is a non-referential expletive, and it may occur in either the overt or the covert form.[3] Under this view, *hōo i* serves as an adversative adjunct, required to appear in a sentence denoting a change of state. The theoretical status of this 3SG pronoun is very similar to the one under our investigation, but their functions differs.

To sum up, while the non-referential use of *i* has long been recognized in the literature, the extremity/ferocity flavor of postverbal *hōo i* remains unexplained. In the next section, we will look into the referential property of expletive *i* from a crosslinguistic perspective before presenting our detailed analysis.

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2. The expression *--khì --ah* is a grammatical aspect denoting the inchoation of a state, comparable to *le*[2] in Mandarin Chinese. Moreover, this aspect may follow another phase marker such as *liáu* 'finish', and is therefore structurally higher than its Mandarin counterpart.

3. In an earlier study, Lin (2009) has already noted the non-referential usage of *i* after *kā*. Cf. Lin (2012).

3. The (non-)referentiality of *i* from a crosslinguistic viewpoint

To address the referentiality issue of an adversative adjunct, Matthews et al. (2005) suggests that there are only two possible antecedents if the pronoun is referential: one is an implicit agent, while the other a grammatical subject. Based on this insight, Lin (2011) examines pronominal expressions in the TSM adversative construction. She rules out the first option since the agent in an unaccusative construction is always implicit. The second option is also rejected, due to the fact that the pronoun in question remains third-person singular even if its antecedent (i.e., the grammatical subject) is plural. In other words, no other agreement forms are acceptable. First consider the contrast between (8a) and (8b):

(8) a. Hit-nn̄g-kuàn tsiú lóng hōo i tshìng-siau --khì --ah. (TSM)
DEM-two-CL wine all HOO 3SG evaporate go PRT
彼兩罐 酒 攏 予 伊 衝消 去 矣
"Those two bottles of wine have been vaporized and this event has an adverse effect on someone."

b. *Bák-tsuí hōo guá ta --khì --ah. (Lin 2011: 2042(33))
ink ADVS 1SG dry go PRT
墨水 予 我 焦 去 矣
(Intended) "The ink has gone dry and this event has an adverse effect on me."

As shown in (8a), the plural grammatical subject can co-occur with the third-person singular pronoun that follows *hōo*. On the other hand, although it is semantically/pragmatically conceivable to have a first-person singular entity incur adversity, in no case can the pronoun be replaced with a first-person singular one syntactically, as shown in (8b). Therefore, *i* has to be an expletive or a non-referential pronoun.

In fact, the non-referential usage of a 3SG pronoun has been observed crosslinguistically. As noted by Greco et al. (2017), non-referential 3SG pronouns are used in several languages as expletives for speaker-related construals. Here is a Vietnamese example:

(9) (Nó) không có cái bút nào. (Vietnamese; Greco et al. 2017: 75 (12b))
3SG NEG exist CL pen any
"There are no pens."

Since Vietnamese is a radical pro-drop language without subject-verb agreement, a pronoun can be omitted so long as its reference can be retrieved from discourse. As a result, the subject of (9) cannot be a dummy motivated by EPP. The interpretation shows that it simply lacks referential content, and cannot be focused. Nonetheless, Greco et al. suggest that this expletive is not vacuous: Namely, its function is to

narrow down the context so that the sentence would be appropriate in terms of speaker-related epistemic specificity.

A similar construal of 3SG pronouns can also be found in West Flemish, as exemplified below:

(10) Vrydag moet tet Valere werken.
Friday must 3SG Valere work
"On Friday Valery must work." (West Flemish; Greco et al. 2017: 82 (29d))

Unlike Vietnamese, West Flemish is not a pro-drop language. Still the 3SG pronoun *tet* in (10), just like its Vietnamese counterpart, does not have a place in the argument structure. According to Greco et al., the insertion of *tet* is a way for the speaker to signal a conflict between the propositional content of the utterance and some contextually salient assumptions.

Based on the relative distribution of the pronoun *tet* and other elements, Greco et al. suggest that *tet* is situated in a functional projection that immediately above the subject. The functional projection encodes Point of View. In other words, this expletive is not functionally empty, but serves as a linker to the discourse.[4]

All in all, using non-referential pronouns for a particular pragmatic construal is nothing new across languages. Along this line, it is conceivable that, when co-occurring with *hōo* postverbally, the TSM pronoun *i* functions as an expletive with an attitude of extremity/ferocity. We therefore adopt Greco et al.'s (2017) view that this type of expletives brings on extra speaker-oriented sense. They can only be found in specific constructions, and are position-wise constrained. We will investigate relevant phenomena in depth, and pinpoint their morpho-syntactic properties in cartographic terms.

First consider the following contrast between (11a) and (11b) in TSM:

(11) a. Hit-kuí-king pâng-king, guá lóng ū sàu hōo i tshing-khì.
that-several-CL room 1SG all ASP sweep HOO 3SG clean
彼幾間 房間 我 攏 有 掃 予 伊 清氣
"Regarding those rooms, I have swept them pretty well clean." (TSM)

b. *Hit-kuí-king pâng-king, guá lóng ū sàu hōo in tshing-khì.
that-several-CL room 1SG all ASP sweep HOO 3PL clean
彼幾間 房間 我 攏 有 掃 予 恁 清氣
(Intended) "Regarding those rooms, I have swept them pretty well clean."

4. An anonymous reviewer wonders if it is possible to have a silent *do* next to *tet*., which may well be a clitic. If so, this silent *do* is reminiscent of the use of *hōo*. We do not have a definite answer, but suggest that *tet* is actually a discourse particle to the right of a subject clitic (cf. Greco et al. 2017: 85). This presents another example of employing an expletive for pragmatic purposes across languages.

In (11a), we have a plural subject, but it is impossible to replace *i* with a plural one, as evidenced by (11b). Note that the English translation here is a bit misleading, as the plural form *in* 'them' can never appear in this construction. This in turn shows that *i* refers to neither the matrix subject nor an argument of the resultative predicate.

Last but not least, one might attempt to identify the 3SG pronoun through contextual association (cf. Matthews et al. 2005). Yet however rich the background information is, the reference of the postverbal *hōo i* remains elusive.

Before we conclude this section, there is one more thing to consider: Unlike Indo-European languages, a TSM pronoun cannot refer to an inanimate entity, as evidenced by the deviance of (12a,b):

(12) a. *Hit-king pâng-king, i tsiok tshing-khì. (TSM)
*that-*CL *room* *3*SG *very* *clean*
彼間 房間 伊 足 清氣
(Intended) "Regarding that room, it is very clean."

b. *Hia-ê thn̂g-á$_i$ tsiok hó tsia̍h, lí kám beh kā in$_i$ thia̍h
those candy very good eat you INT want KA 3PL take
遐的 糖仔$_i$ 足 好 食 你 敢 欲 共 您$_i$ 提
lâi tsia̍h.
come eat
來 食
(Intended) "Those candies are tasty. Would you want to eat them?"

Parallel to the failure of the 3SG pronoun referring to the room in (12a), the plural pronoun in (12b) can only refer to certain salient animate individuals in the discourse rather than the candies. With this constraint in place, the referentiality of a TSM pronoun is further restricted, which has a direct impact on its productivity. By contrast, the same restriction does not apply to the non-referential usage of the 3SG pronoun, which, as we have seen above, is associated with an attitude of extremity/ferocity. This observation, therefore, further supports our position.

4. The status of attitudinal *i* and its habitat

In this section, we look into the characteristics of the non-referential 3SG pronoun and its attitudinal/applicative properties through a series of tests. Firstly, unlike other *hōo*-pronoun combinations, the one containing attitudinal *i* does not allow dislocation. As shown in (13b), the combination of *hōo* and *lâng* 'person' can be preposed to the sentence-initial position, so is the typical pronominal construal of *hōo i* in (14b).[5]

5. The usage of *lâng* 'person' here can be characterized as pronominal. Its combination with *hōo* is often contracted as *hông*.

(13) a. A-bîng hōo lâng kóng liáu, tō m̄-kánn tsò pháinn --ah (TSM)
Abing HOO *person say finish then not-dare do bad* ASP
阿明 予 人 講 了 就 毋敢 做 歹 矣
"Abing dare not to do evils after people told him not to do so."

b. Hōo lâng kóng liáu, A-bîng tō m̄-kánn tsò phiánn --ah.
HOO *person say finish Abing then not-dare do bad* ASP
予 人 講 了 阿明 就 毋敢 做 歹 矣
"After people told him not to do so, Abing then dare not to do evils."

(14) a. Tsit-kiānn tāi-tsì tshian-bān m̄-thang hōo i tsai. (TSM)
*this-*CL *thing must not.allowed* HOO 3SG *know*
這件 代誌 千萬 毋通 予 伊 知
'This thing must not be known by him.

b. Hōo i tsai Tsit-kiānn tāi-tsì sī tshian-bān m̄-thang.
HOO 3SG *know this-*CL *thing is must not.allowed*
予 伊 知 這件 代誌 是 千萬 毋通
"For him to know this thing is totally not allowed."

By contrast, it is impossible for non-referential *hōo i* to raise from its postverbal position in (15a), as evidenced by the deviance of (15b). This indicates that the combination is neither a VP nor a PP (which is subject to preposing in TSM). Instead, it forms part of the clausal spine as a functional projection (presumably applicative).

(15) a. A-bîng beh lim hōo (i) kàu-khuì![6] (TSM)
Abing want drink HOO 3SG *satisfied*
阿明 欲 啉 予 伊 到氣
"Abing wants to drink to his satisfaction."

b. * Hōo (i) kàu-khuì sī A-bîng beh lim.
HOO 3SG *satisfied is Abing want drink*
予 伊 到氣 是 阿明 欲 啉
(Intended) "Drinking to his satisfaction is what Abing wants to do."

Besides its limited distribution, attitudinal *i* behaves quite differently from ordinary TSM pronouns. Consider the following examples: In (16a, b), we have typical pronominal construals linked to their respective topics (as reflected by the number agreement).

(16) a. [A-tshun kap A-tiong]$_i$, guán beh kái-sueh hōo in$_i$ liáu-kái.
Atshun and Ationg 1PL *want explain* HOO 3PL *understand*
阿春 佮 阿忠 阮 欲 解說 予 恁 了解
"As for Atshun and Ationg, we'd like to explain this for them to be able to understand." (TSM)

6. Note that the 3SG pronoun *i* can be omitted here with a tonal change on *hōo*.

b. A-tshun$_i$, guá beh kóng hōo (i_i) liáu-kái.
Atshun 1SG want say HOO 3SG understand
阿春 我 欲 講 予 伊 了解
"As for Atshun, I'd like to talk to him and make him understand this."

In the case of the extremity/ferocity construal of (17), however, the co-referential dependency between attitudinal *i* and the topic *A-tshun* simply breaks down. This again shows that attitudinal *i* is neither an argument nor referring to an individual in the discourse.

(17) A-tshun$_{*i}$, lán beh tsò-hué lim hōo (i_i) sóng-khuài! (TSM)
Atshun 1PL want together drink HOO 3SG satisfied
阿春 咱 欲 做伙 啉 予 伊 爽快
(Intended) "As for Atshun, we'd like to drink in order to make Atshun satisfied."

First note that Huang (1984) takes an empty object to be an A'-bound variable, which can be licensed by a discourse topic. The fact that attitudinal *i* cannot refers to the topic *A-tshun* in (17) further supports our view that it is not a typical pronominal.

Then what about island-sensitivity? Following is an example of *hōo i* embedded in a complex NP, where no island effects are detected.

(18) Lí kám ē kah-ì [khǎp-bē-tio̍h tō beh lim hōo i sóng-khuài
2SG Q will like apt.to then want drink HOO 3SG satisfied
你 敢 會 佮意 磕袂著 就 欲 啉 予 伊 爽快
ê] lâng? (TSM)
LK person
的 人
"Do you like people who drink to their satisfaction whenever they have a chance?"

Furthermore, since it is possible to embed *hōo i* in a subordinate clause, as shown below, the attitudinal applicative construal in question may involve an unbounded dependency, presumably through unselective binding:

(19) A-bîng in tsi̍t tīn lâng teh phah-sǹg kóng tán --leh in beh
Abing 3PL one group person ASP plan COMP wait a.while 3PL will
阿明 恁 一 陣 人 咧 拍算 講 等 咧 恁 欲
khì lim hōo i sóng-khàui. (TSM)
go drink HOO 3SG satisfied
去 啉 予 伊 爽快
"Abing and a group of people, they are planning to go to drink to their satisfaction later."

To sum up, the attitudinal version of *hōo i* is quite unique, and does not pattern with other combinations of *hōo* and a pronoun in various aspects: First, it is not subject to preposing. Second, it cannot refer to a topic. Last but not least, it is not island-sensitive, and can undergo long-distance construals.

5. The syntax of attitude: A cartographic analysis

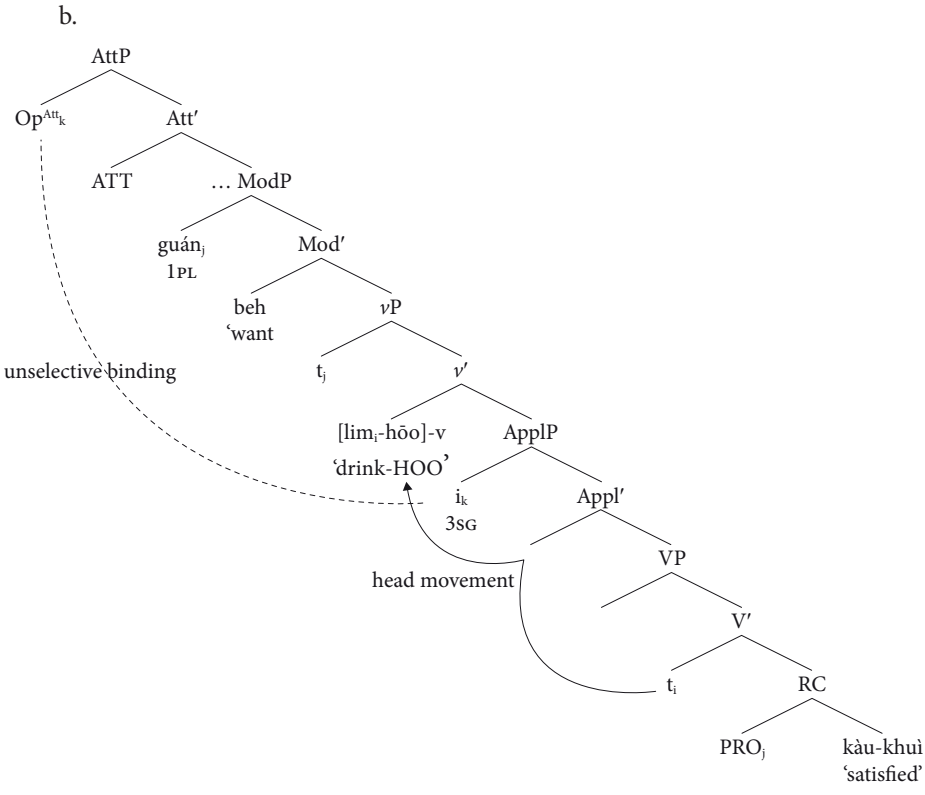
Based on the distribution of attitudinal *i*, we propose it is an applicative projection above VP that introduces an applicative argument. However, the impossibility of identifying attitudinal *i* with a discourse referent shows that this pronoun is not referential, but associated with the attitude of extremity/ferocity. Moreover, since the construal in question is not island-sensitive and can undergo long-distance construals, no movement or Agree applies during its derivation. Instead, we entertain the possibility that here the pronoun provides a degree variable bound by an attitudinal operator hosted by AttP (attitude phrase) in the left periphery. Through unselective binding, its force adds to the otherwise ordinary resultative construction a touch of extremity/ferocity.

In the same vein, we propose that *hōo* is an applicative head, and the extremity/ferocity reading is from binding of the pronoun *i* bound by the Op^{Att} in the Spec of AttP. In the literature, Hill (2007) first splits the speech act phrase (SAP) into two parts: The higher SAP expresses the speaker's viewpoint, and the lower SAP the addressee's viewpoint. Haegeman (2014), on the other hand, takes the higher SAP to relate the utterance to the addressee, while the lower SAP more 'attitudinal'. Adopting Haegeman's proposal, we may well translate the function of the lower SAP (the AttP in our terms) into the speaker's attitude towards the utterance to the addressee, in our case, the ferocious attitude to bring things to their extreme (see also Paul 2014 for an AttP analysis of Mandarin sentence final particles).

This move accounts for the attitudinal construal in question. Take (20a) for instance ((4b) repeated here): It follows from our proposal that the 3SG pronoun *i* is hosted by an applicative projection headed by *hōo* (Pylkkänen 2002; Tsai 2017; Tsai 2018), which is typically supplemented by a resultative clause (RC).[7]

(20) a. Guán beh lim hōo i kàu-khuì.
1PL want drink HOO *3SG be.satisfied*
阮 欲 啉 予 伊 到氣
"We want to drink to our satisfaction."

7. In (20a), the subject in the Spec of ModP is a 1PL pronoun. An anonymous reviewer raises the question as to whether it can be 3rd person. The answer is positive, as we have already seen in (15a), (18), and (19). Namely, the subject does not have to be or include the speaker who utters the sentence.



As sketched in (20b), the attitudinal operator Op^{Att} binds the pronoun in the Spec of ApplP, thus deriving the speaker-oriented construal (that is, an attitude of extremity/ferocity; cf. Huang & Ochi 2004; Chou 2012, among others). Within the verbal domain, the verb picks up the Appl head *hōo* on its way to *v*, hence the illusion that *hoo i* appears postverbally. Crucially, the binding construal triggers the pragmatics that the proposed activity should be carried out to the extreme such that some individual(s) will be affected in some manner. Under this view, the applicative pronoun *i* may well function as a variable whose value is designated as an extreme degree.

More specifically, the attitudinal operator is not formally linked to the ModP subject. Under our analysis, the attitude construal is associated instead with the degree construal, where the dependency is built through unselective binding of the degree variable associated with the expletive. In other words, it is the unselective binding dependency that licenses the atypical usage of *i* (cf. (12)). Consequently, the speaker-oriented construal in question is immune from island effects.

Finally, at the postverbal complement position, there is a resultative clause (RC) whose subject is empty (presumably a PRO) and controlled by the matrix subject (cf. Huang 1984). Its status can be illustrated by the fact that the subject position of RC cannot be filled by a lexical DP:

(21) Guán beh lim hōo i (*guán) kàu-khuì. (TSM)
1PL want drink HOO 3SG 1PL satisfied
阮 欲 啉 予 伊 阮 到氣
"We want to drink to our satisfaction."

In the literature, *hōo* is often characterized either as a passive marker or as a causative marker. One way to look at the evolution of the attitudinal applicative in question is to say that the 3SG pronoun *i* actually developed from the affectee argument involved in the causative/passive relationship associated with *hōo*. Through the bleaching process, the applicative pronoun has become non-referential, and cannot denote a human individual (unlike a typical pronoun in this language). Even more interestingly, this bleaching process is accompanied by an enrichment on the pragmatic/prosodic side, i.e., the extremity/ferocity construal of a distinct intonation pattern. We then predict that *i* may be weakened to the point that it either becomes a clitic, or loses its prosodic status entirely. This is borne out by the fact that, as an attitudinal applicative, *i* behaves like a clitic to *hōo*, and can be omitted, as evidenced by (22):

(22) Guán beh lim hōo (i) kàu-khuì. (TSM)
1PL want drink HOO 3SG satisfied
阮 欲 啉 予 伊 到氣
"We want to drink to our satisfaction."

6. Further consequences: A cross-dialectal perspective

A natural extension of our view is to apply the above cartographic analysis to the non-referential usage of the following object pronoun *tā* in Mandarin: Just as its TSM counterpart, the construal is distinctly attitudinal and speaker-oriented.

(23) Wǒ yào hē tā ge tòngkuài! (MC)
1SG want drink 3SG CL satisfaction
我 要 喝 他 個 痛快
"I want to drink to my satisfaction!"

But Mandarin does not employ a lexical applicative marker *gei*, as in (24) ((3b) repeated here). Rather, Tsai (2018) presents a comprehensive argument for an implicit applicative head above VP, which attracts the main verb *hē* 'drink' very much like its lexical counterpart hōo in TSM (cf. the diagram of (20b)).

(24) *Wǒ yào hē gěi tā tòngkuài. (MC)
1SG want drink GEI 3SG satisfaction
我 要 喝 給 他 痛快
(Intended) "I want to drink to my satisfaction."

As a matter of fact, there are already a number of proposals which deals with the expletive-like behavior of the object pronoun *tā* in (23) (cf. Ma 1983; Lin & Zhang 2006, among others). Some defining properties have been sorted out in the literature, as summarized below:

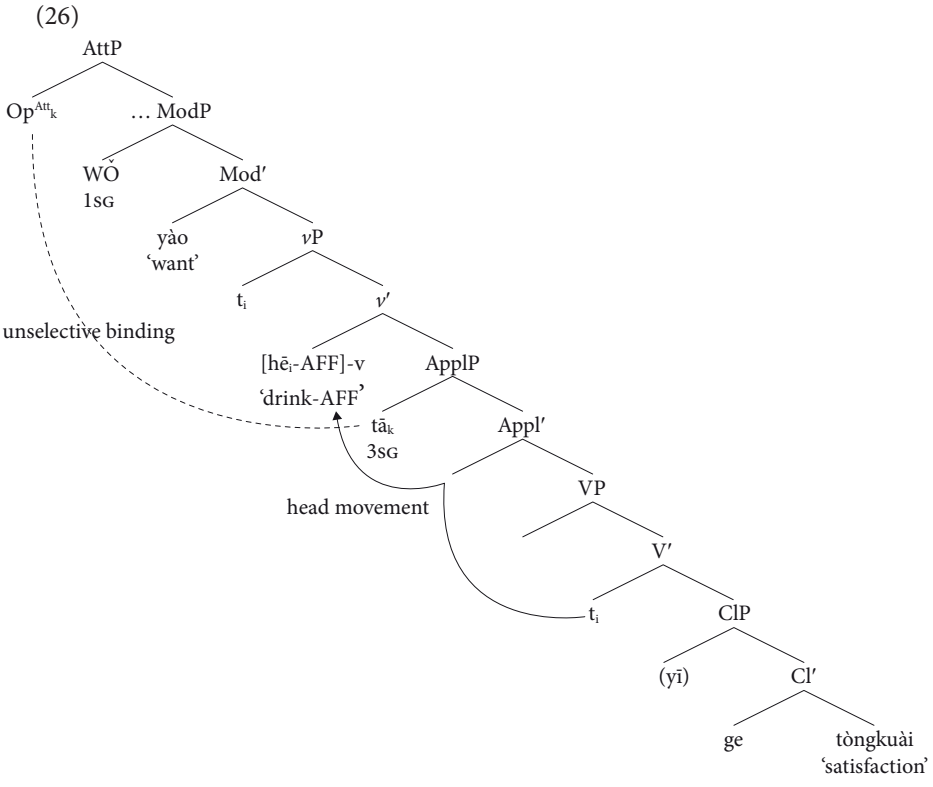
I. The object expletive *tā* is optional.
II. The object expletive *tā* follows the main verb closely, and is incompatible with an aspect.
III. The object expletive *tā* precedes a nominal with a certain quantifier/classifier.

As illustrated below, the object expletive *tā* can be omitted, but the extremity/ferocity flavor is also gone. On the other hand, the indefinite nominal complement *yī ge tòngkuài* remains, providing the expected resultant state, i.e., to the speaker's satisfaction.

(25) Wǒ yào hē yī ge tòngkuài. (MC)
1SG want drink one CL satisfaction
我 要 喝 一 個 痛快
"I want to drink (one round) to my satisfaction."

While we agree with the previous studies in the non-referential status of the object expletive *tā*, none of the proposals have approached the attitudinal construal shared by Mandarin and TSM in a systematic manner. Its pragmatics has been described as either indifference or emphasis (cf. Iljic 1987; Lei 2012, among other), which does not capture the flavor of extremity/ferocity mentioned above. Therefore, departing from the classic double object analysis (Zhu 1982; Ma 1983; Lü 1985) as well as the cliticization analysis (Lin & Zhang 2006), we would like to offer a cartographic point of view to the issue, pretty much in parallel to our treatment of attitudinal *i* in TSM, as shown in the following diagram:

(26)



Here we essentially combine Tsai's (2018) applicative analysis of the so-called pseudo double object construction like (27) and the attitudinal operator analysis presented above. Under this view, it is an implicit applicative head AFF that introduces the object pronoun *tā* while triggering verb movement. The difference is that *tā* is actually an affected argument in (27), hence referential. Moreover, it is compatible with the perfective aspect, and does not carry the extremity/ferocity attitude.

(27) Wǒ hē-le tā sān píng jiǔ. (MC)
1SG drink-PRF 3SG three CL wine
我 喝了 他 三 瓶 酒
"I drank three bottles of wine on him."

Armed with our cartographic treatment of the attitudinal construal of (23), we not only capture the similarity between the pseudo double object construction and the attitudinal applicative construction, but also provide a unified analysis of non-referential object pronouns across Chinese dialects: On the one hand, this treatment enables us to explain the adjacency restriction between *tā* and the main verb without resorting to clitic climbing from D to V (cf. Lin & Zhang 2006). We have reservations about the cliticization approach partly because the object

expletive actually carries a intonational stress in (23), partly because we would like to maintain the crosslinguistic generalization that clitics are mostly specific (cf. Uriagereka 1995). On the other hand, the aspectual restriction receives a straightforward account as the attitudinal construal is irrealis by nature, hence incompatible with the tense-anchoring effects of Chinese aspects (cf. Tsai 2008).

As for the apparent optionality of the objective expletive in question, we do not submit to the observation that it can be omitted. Rather, it may well be the case that it is the key to the attitudinal construal as a legacy to the affective usage as seen in (27). More specifically, while the applicative pronoun undergoes semantic bleaching, its affectedness lingers on, turning into a degree variable licensed by the attitudinal operator in the left periphery.

7. Conclusion

In this study, we have investigated a rather peculiar attitudinal construal of an applicative pronoun in Taiwan Southern Min (TSM), which may well advance our understanding of the split affectivity in Chinese dialects (cf. Tsai 2017). It is also established that this type of pronominal usage is not specific to TSM but widely observed crosslinguistically (e.g., Vietnamese, Finnish, West Flemish, and Dominican Spanish; see Greco et al. 2017). Furthermore, the attitudinal applicative pronoun, though non-referential, has its root in an affected argument in association with the causative/passive marker of *hōo*. As it turns out, the expression *hōo i* has developed into a speaker-oriented applicative, expressing the intention to carry out the activity to the extreme. This line of thinking receives independent support from the attitudinal construal of Mandarin object expletive *tā*: It works in very much the same way as its TSM counterpart except that there is no lexical applicative marker, and the resultative complement is a nominal rather than a clause.

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References

Cheng, Robert L. 1974. Causative constructions in Taiwanese. *Journal of Chinese Linguistics* 2(3): 279–324.

Cheng, Lisa L. S., Huang, C.-T. James, Li, Y.-H. Audrey & Tang, C.-C. Jane. 1999. *Hoo hoo hoo*: Syntax of the causative, dative, and passive constructions in Taiwanese. In *Contemporary Studies on the Min Dialects*, Pang-hsin Ting (ed.) 146–203. Berkeley CA: Project on Linguistic Analysis, University of California.

Chou, Chao-Ting Tim. 2012. Syntax-pragmatics interface: Mandarin Chinese *Wh-the-hell* and point-of-view operator. *Syntax* 15(1): 1–24. https://doi.org/10.1111/j.1467-9612.2011.00157.x

Greco, Ciro, Haegeman, Liliane & Phan, Trang. 2017. Expletives and speaker-related meaning. In *Order and Structure in Syntax II*, Laura R. Bailey & Michelle Sheehan (eds), 59–81. Berlin: Language Science Press.

Haegeman, Liliane. 2014. West Flemish verb-based discourse markers and the articulation of the speech act layer. *Studia Linguistica* 68(1): 116–139. https://doi.org/10.1111/stul.12023

Hill, Virginia. 2007. Vocatives and the pragmatics-syntax interface. *Lingua* 117: 2077–2105. https://doi.org/10.1016/j.lingua.2007.01.002

Huang, C.-T. James. 1984. On the distribution and reference of empty pronouns. *Linguistic Inquiry* 15: 531–574.

Huang, C.-T. James & Ochi, Masao. 2004. Syntax of *the hell*: Two types of dependencies. In *Proceedings of NELS 34*, Keir Moulton & Matthew Wolf (eds), 279–294. Amherst MA: GLSA.

Iljic, Robert. 1987. Empty ta in Mandarin Chinese. *Computational Analyses of Asian and African Languages* 26: 15–34.

Lee, Hui-Chi. 2009. *Ka…Hoo* constructions in Taiwan Southern Min. *Taiwan Journal of Linguistics* 7(2): 25–48.

Lee, Hui-Chi & Hsieh, Ching-Yu. 2009. The reference of the third person pronoun *i* in the *ka…hoo* Construction. *Journal of Taiwanese Vernacular* 1(1): 62–79.

Lei, Dongping. 2012. "He ta ge tongkuai" Lei Goushi de Xingcheng jiqi Yuyi Yanjiu (The study of the formation of the "he ta ge tongkuai" construction and its semantics). Yuyan Kexue (Linguistic Sciences) 2: 134–147.

Lin, Huei-Ling. 2009. Empty pronouns in disposal constructions in Taiwan Southern Min. Paper presented at the 17th Annual Conference of the International Association of Chinese Linguistics (IACL-17). Ecole des Hautes Etudes en Sciences Sociales, Paris, France, 2–4 July.

Lin, Huei-Ling. 2011. Pure unaccusatives with *Hoo I* in Taiwan Southern Min. *Lingua* 121: 2035–2047. https://doi.org/10.1016/j.lingua.2011.07.006

Lin, Huei-Ling. 2012. A non-uniform analysis of *Ka7* constructions in Taiwan Southern Min. *Language and Linguistics* 13(4): 743–766.

Lin, Jo-Wang & Zhang, Niina Ning. 2006. The syntax of non-referential TA 'it' in Mandarin Chinese. *Language and Linguistics* 7(4): 799–824.

Lü, Shuxiang. 1985. Jindai Hanyu Zhidaici (Pronouns in Modern Chinese). Shanghai: Xuelin Publishing House.

Ma, Qingzhu. 1983. Xiandai Hanyu de Shuangbinyu Gouzao (Double object constructions in Modern Chinese). *Yuyanxue Luncong* 10: 166–196.

Matthews, Stephen, Xu, Huiling, Yip, Virginia. 2005. Passive and unaccusative in the Jieyang dialect of Chaozhou. *Journal of East Asian Linguistics* 14: 267–298. https://doi.org/10.1007/s10831-005-3822-1

Paul, Waltraud. 2014. Why particles are not particular: Sentence-final particles in Chinese as heads of a split CP. *Studia Linguistica* 68: 77–115. https://doi.org/10.1111/stul.12020
Pylkkänen, Liina. 2002. Introducing Arguments. PhD dissertation, MIT.
Tsai, Wei-Tien Dylan. 2008. Tense anchoring in Chinese. *Lingua* 118: 675–686. https://doi.org/10.1016/j.lingua.2007.09.002
Tsai, Wei-Tien Dylan. 2017. On split affectivity in Chinese. *Tsing Hua Journal of Chinese Studies, New Series* 47(2): 409–434.
Tsai, Wei-Tien Dylan. 2018. High applicatives are not high enough: A cartographic solution. *Lingua Sinica* 4(1): 1–12. https://doi.org/10.1186/s40655-018-0034-y
Tsao, Feng-fu. 1997. Táiwān Mǐnnányǔ Zònghé Yǔfǎ Yánjiù: Táiwān Mǐnnányǔ Zònghé Yǔfǎ Huìzhěng Shìxiě (A comprehensive study on Taiwan Southern Min grammar: A draft of a comprehensive Taiwan Southern Min grammar). Xíngzhèngyuàn Guójiā Kēxué Wěiyuánhuì Zhuāntí Yánjiù Jìhuà Chéngguǒ Báogào (Report of Research Project subsidized by the National Science Council, Executive Yuan).
Uriagereka, Juan. 1995. Aspects of the syntax of clitic placement in western Romance. *Linguistic Inquiry* 26: 79–123.
Zhu, Dexi. 1982. Yufa Jiangyi (Lectures on Grammar). Beijing: The Commercial Press.

CHAPTER 12

Multiple counterparts of Mandarin *qu* (go) in Teochew and their cartographic distributions

A new perspective into its multiple syntactic functions and grammaticalization process

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Qu (lit. go, 去) in Mandarin is a thorny topic for syntactic analyses, considering that it has multiple functions but only one phonetic form, not to mention that Mandarin also has some other complicated syntactic constructions intertwined in the discussions. However, in Teochew, a variety of Southern Min, which boasts a richer phonetic and phonological system, its counterparts of Mandarin *qu* have different realizations, each corresponding to different syntactic functions. Through analyzing these different phonetic forms in Teochew and exploring their cartographic distributions, this paper aims to provide a new view from the perspective of Chinese dialect on the discussions on this topic. In addition to Zhang's (2016: 188–197) descriptive observations on two Teochew counterparts of Mandarin *qu* – *k'a* and *k'u*, this paper also discusses another counterpart – *k'ə*, analyzes their syntactic characteristics and finds out that their cartographic distributions are located from the VP layer all the way up to the CP layer – namely VP, vP, AspectP, TP and SAttP in the CP domain, demonstrating a grammaticalization process. And *k'u* and *k'ə* are the outcome of morphological/phonological derivation from *k'u*. Some crosslinguistic comparisons between Teochew, Old Chinese, Mandarin Chinese and English are also made to make the picture clearer.

Keywords: *qu*, *k'u*, *k'a*, *k'ə*, Teochew, cartography, grammaticalization

1. Introduction

Qu 去, which means *go* in English, is one of the most commonly used words in Mandarin Chinese and there is numerous research on it (see Liu 1980; Xu 1983; Lu 1985; Yue 1987,1994; Chen 1992; Wang 2002, 2003; Xiao 2003; Sun 2005; Liang 2005; Hu 2006; Chen 2007; Zhang 2007; Tian 2010, etc.). Its multiple functions are

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apparent, however hard to be captured and analyzed, mainly due to the same phonetic forms in all situations and the complex characteristics of Mandarin Chinese.

This word also has its counterparts in Teochew, a variety of Southern Min in China. Zhang (2016: 188–197) discusses two counterparts of Mandarin *qu* in Teochew, namely *k'a* and *k'u* in his book. The morphological changes, as well as their grammatical functions, were well elaborated in detail, which is groundbreaking. However, he misses taking another counterpart of Mandarin *qu* in Teochew, which is *k'ə*, into account. In other words, the counterparts of Mandarin *qu* in Teochew should have three phonetic forms – *k'a, k'u* and *k'ə*. Considering that the approach Zhang adopted for analyses is from the perspective of traditional grammar, some subtle linguistic phenomena are failed to be caught, which contributes little to unveil the syntactic performances of these words. Thus, on the foundation of Zhang's research, with some crosslinguistic comparisons covering other languages like Old Chinese, Mandarin Chinese and English and using cartography approach as its tool, this research aims to shed light on the cartographic distributions of the Teochew counterparts of Mandarin *qu* and depict a fine cartographic map for them. In this way, this research can contribute a new perspective on the study of *qu* based on the data from the Chinese dialect.

The following table shows three counterparts of Mandarin *qu* in Teochew –

Table 1. Teochew counterparts of Mandarin *qu**

	Mandarin	**Teochew**
Phonetic forms	Qu	k'u
		k'a
		k'ə

* Although Mandarin has four tones and Teochew has eights, tone exerts no influences on the discussions in this paper. Thus, we choose to ignore it. Besides, for the phonological denotation of language data, following the tradition of Chinese linguistic studies, IPA system is used to denote Teochew data while Pinyin system is used to denote the Mandarin data.

First, here are some introductions of Teochew. Teochew, also known as Chaoshan Dialect (潮汕话), is a variety of Southern Min, but its speech community lives in the eastern part of Guangdong Province, namely in the cities of Shantou or Swatow, Chaozhou and Jieyang with the total population of about 10 million people. Besides, the number of overseas Chinese whose mother tongue is Teochew reaches nearly 10 million. According to Lin (1997a, 1997b, 1997c), it keeps many phonetic and phonological features as well as vocabularies of Old Chinese. Thus, Teochew is also called 'the living fossil of Old Chinese'. Karlgren (1934) even regarded Teochew as the most ancient and unique dialect in China. Thus, through clearing up the syntactic performances of Mandarin *qu* in Teochew, this research may also give

some inspirations on the study of the grammaticalization of Mandarin *qu* from the perspective of diachronic syntactic change.

Further discussions on this topic will be presented as follows. First, some theoretical primaries, namely the cartography approach, will be introduced so as to support the following analyses. Then, an in-depth study of the above three counterparts will be conducted respectively, based on the linguistic data in Teochew (mainly from Zhang (2016)). And in this part, most of Zhang's (2016: 188–197) discussions will be reanalyzed under the theoretical framework of generative grammar. At the same time, some crosslinguistic comparisons between Teochew and Old Chinese, Mandarin Chinese and English will be made, through which the syntactic performance of the Teochew counterparts of Mandarin *qu* can be better elaborated. And in the concluding session, based on the previous analyses, a comprehensive cartographic map will be given to show its cartographic distributions.

2. Theoretical primaries: Cartography approach

Since Rizzi (1997) and Cinque (1999), cartographic research aiming 'draw maps as precise and detailed as possible of syntactic configurations' (Cinque & Rizzi 2008) have made much progress. In the left periphery, which is the starting point of this line of research, there are numerous studies, like Rizzi's split-CP hypothesis (1997, 2001, 2004) and its further expanded discussion (Rizzi & Bocci 2015). Discussions on other languages like Paul's (2014, 2015) and Pan's (2015) research on Mandarin sentence final particles also prevail. In the IP domain, Pollock's (1989) split-IP hypothesis and other discussions with the spirit of 'splitting functional head' also raised much attention. In the VP domain, based on Larson's VP shell (it is some kinds of 'split VP' work) theory (1988), Chomsky (1995) put forward the concept of 'light verb, *v*' and Huang (1997) further demonstrated the semantic meanings of light verb *v* using some empirical evidence from Mandarin and other Chinese languages. Even for this new *v*P domain, some cartographic works are also conducted like Si's Split-*v*P hypothesis (2018) and Tsai's (2016) discussions on the inner and outer light verbs in Chinese. As for other functional projections, Cinque (1999, 2010), Shlonsky (1997); Gong (2018) and Kang (2018) also did some in-depth discussions on some specific language phenomena like adverb, adjective and some speaker-oriented projections. And at the morphological level, Si's (2012, 2017, 2019a, b) and Luo (2019) extend the cartography approach to the lexical domain. To conclude, with the strong hypothesis that 'if some language provides evidence for the existence of a particular functional head (and projection), then that head (and projection) must be present in every other language' (Cinque & Rizzi 2008)

and the guideline 'one feature, one head, one projection' (Rizzi 2013) as guidance, cartographic research tends to explore the complicated language phenomena using this split functional head approach.

According to Rizzi (2013), 'the fundamental guideline of cartographic studies is that syntactic representations are locally simple, ideally in a rather radical sense' and he pointed out 'some guidelines' – 'simple heads: one (morphosyntactically relevant) property is expressed by one feature, which in turn defines one functional heads…simple branching: a head can take a single complement (because of binary branching: Kayne 1984) and a single specifier: no adjunction, no multiple Specs, no multiple complement'. And in this spirit, this research intends to depict the cartographic distributions of the Teochew counterparts of Mandarin *qu*, which will spread across different domains of the sentence structure.

3. An in-depth analysis of *k'u*

According to Zhang (2016: 188–197), there are five usages of *k'u* in Teochew from the perspective of traditional grammar. In this session, the linguistic data given by Zhang will be re-elaborated and re-organized one by one under the theoretical framework of generative grammar.

3.1 *k'u* as Verb head

When *k'u* functions as a verb in Teochew, it always conveys the semantic meanings of 'get rid of, eliminate or reduce'. The examples given by Zhang can be seen in (1).

(1) a. k'u t'am
去 痰
eliminate phlegm
'eliminate the phlegm'

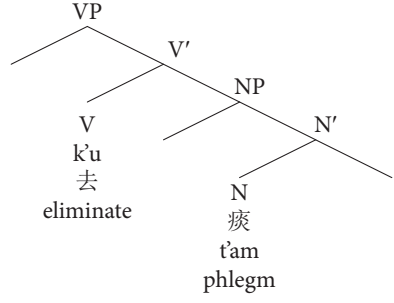
b. k'u hue
去 火
eliminate internal heat
'eliminate the internal heat of body'

c. k'u su
去 暑
eliminate hotness
'eliminate the hotness of body'

d. k'u sip
去 湿
eliminate wetness
'eliminate the wetness of the body'
e. k'u tak
去 毒
eliminate poison
'eliminate the poison' (data from Zhang (2016: 193))

K'u in this case is functionally equivalent to the formally written-version *qu* 祛 in Mandarin Chinese. However, any native speaker of Mandarin Chinese can accept both *qu* 去 and *qu* 祛 version of the above expressions. However, in Teochew, the 祛 version does not exist, and only 去 has this kind of semantic meaning as 'get rid of, eliminate or reduce'. According to Wang (1963, 2018; 1: 136), *qu* in Old Chinese also has this kind of semantic meaning. For example, in *The Analects of Confucius* (*Yan Yuan*) (《论语·颜渊篇》), *qu bing* 去兵 means 'reduce the military power' and in *The Book of Mencius (The Lord of Tengwen)* (《孟子·滕文公下》), *qu guan shi zhi zheng* 去关市之征 means 'eliminate the taxes of custom as well as trade'. We mentioned above that Teochew keeps many relics of Old Chinese, and this is one piece of evidence.

Based on the above linguistic data, one can draw a structure map like this:



Therefore, *k'u* in this case functions as a Verb head.

Some may argue that in Mandarin Chinese, *qu* with the semantic meaning of 'go somewhere' also functions as a verb. However, *k'u* in Teochew only has this semantic meaning in the literary system, while this semantic meaning does not exist in its colloquial reading system.[1] Instead, in the colloquial system, it uses *wang* 往

1. One unique characteristic of Teochew is that there are two language systems – literary reading and colloquial readings (*Wen Bai Yi Du,* 文白异读). And people tend to mix the usage of these two systems in daily life. Lin (1991b), Li (1994: 312–314) and Zhang (2016: 89–125) have done some detailed researches on it.

to refer to this meaning. Wang (1962, 2018; 1: 136) also pointed out that in Old Chinese, the antonym of *lai*[2] 来,[3] which means 'come', is *wang* rather than *qu*. In Old Chinese, *wang* refers to 'go to the destination' while *qu* refers to 'leave somewhere' (also see Wang 2002 and Hu 2006). Therefore, the antonym of *lai* should be *wang* in Old Chinese. For example, the meaning of *meng zi qu qi* 孟子去齐 in Modern Chinese is 'Mencius goes to the country Qi', but in Old Chinese, it means 'Mencius leaves the country Qi'. The colloquial case in Teochew, which is called the 'living fossil' language in China, shares some similarities with it in some way – in the colloquial reading system of Teochew which keeps more 'relics' of Old Chinese than its literary reading system, *k'u* does not have the semantic meaning as 'go somewhere'. However, in the literary reading system of Teochew, *k'u* does have the same semantic meaning 'go somewhere' as Mandarin Chinese (it also has the semantic meaning of 'get rid of, eliminate, reduce'), which is easy to understand for the reason that the literary reading system of Teochew is deeply influenced by Mandarin Chinese so that it is less original. Considering that in the context of both semantic meanings, *k'u* functions as a verb, we still choose to see it as a Verb head.

3.2 *k'u* as Comp of VP

According to Zhang, *k'u* can occur after some verbs, meaning 'away'. And these verbs usually indicate the semantic meaning of location change. Examples of this case can see the following phrases:

(2) a. t'au k'u
偷 去
steal away
'steal and take away'

b. k'a k'u
叼 去
hold in the mouth away
'hold in the mouth and take away'

---

2. The pinyin denotation of Old Chinese is as same as that in Mandarin Chinese. Although the word pronunciation changes during the historical development, considering that historical phonology is not the topic of this paper and no one actually knows how these words are pronounced in Old Chinese, this paper just uses the pinyin system based on the Mandarin pronunciations to mark them.

3. Considering that we have no idea about the pronunciation of these characters in Old Chinese, we only use character instead of the Pinyin system to refer to them.

c. p'iang k'u
骗 去
lie away
'lie to be away'

d. liaʔ k'u
掠 去
rob away
'rob away'

e. tiaʔ k'u
摘 去
pick away
'pick away'

f. t'iaʔ k'u
拆 去
take apart away
'take apart and take away' (data from Zhang (2016: 190))

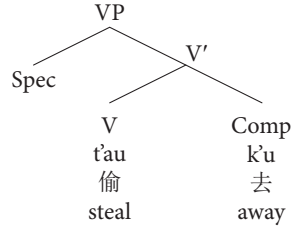
Some may argue that *k'u* functions like a 'complete' particle indicating the telicity of the predicate here. Actually, *k'u* does have an aspectual function, but it is a grammatical, not lexical one, and we will discuss it later. However, in this case, *k'u* is a complement of verb for the reason that any native speaker of Teochew can easily add *o*, which is an aspectual marker in the colloquial reading system of Teochew, after all the above verb phrase. We can see it from the following example:

(3) Bun tsu k'i yi t'au k'u o.
本书 乞 伊 偷 去 哦
this book by he steal away ASP[4]
'This book has been stolen and took away by him.'

What is more, in the literary reading system of Teochew, *k'u* in (3) can be replaced by *tsao* 走, which in this context also means 'away'. And this is also another evidence supporting that *k'u* functions as the complement of verb. Lu (1985) also mentioned that in Mandarin Chinese, in some cases of the structure *VP* + *qu*去 (lit. go), *qu*去 (lit. go) also functions as a complement of the verb indicating the direction of the

4. A reviewer points out that *o* in this case may function as sentence final particle instead of as aspectual marker. There are two reasons why this paper chooses to see *o* as an aspectual marker – first, though Teochew like Cantonese, has a rich system of sentence final particles, these particles in Teochew all convey the attitude of the speaker, therefore they are not neutral in tone; however, (3) has a neutral instead of objective reading. Second, native Teochew speaker can get the past-tense interpretation from (3), which follows the spirit of Lin (2006), should be derived from the precedence relation between the topic time t_{TOP} and the evaluation time t_0 in the lexical entry of the perfective makers in Chinese language. Therefore, this paper chooses to see *o* as an aspectual marker.

action. Based on the discussions above, we can draw the structural map the first example of (2) as follows.



As for the specific function of *k'u* in this case, it is assumed that it is the resultative complement of the VP. Some people may argue that it may be a phrasal verb structure like *V* + *k'u* located at the V head. However, if *V* + *k'u* is a phrasal verb structure, a DP or a pronoun should be able to be put between V and *k'u,* but it cannot. Therefore, this phrasal verb structure alternative cannot work.

3.3 *k'u* as Aspect head

According to Zhang, when *k'u* occurs after certain adjectives (usually with derogatory sense), it implies that the object has turned into a particular state (usually become worse). We have mentioned above that *k'u* can function as an Aspect marker in the former session. And this is the case. Examples can be seen as follows:

(4) a. mi k'u
糜 去
become millet-like ASP
'became millet-like'

b. sue k'u
衰 去
(become) declining ASP
'became declining'

c. pai k'u
败 去
become withered ASP
'became withered'

d. p'ua k'u
破 去
become broke ASP
'became broke'

e. sak k'u
塞 去
stuffed ASP
'became stuffed'

f. bo k'u
无 去
disappearing ASP
'became disappearing'

g. iang k'u
蔫 去
withered ASP
'became withered'

h. sang k'u
瘦 去
thin ASP
'become thin'

i. ngeng k'u
软 去
soft ASP
'became soft'

j. nge k'u
硬 去
tough ASP
'became tough'

k. mo k'u
坏 去
bad ASP
'became bad' (data from Zhang (2016: 190))

A reviewer points out that in this case, *k'u* is more like *diao* (lit. 'fall'), which is a 'complete' particle in Mandarin Chinese. However, this is not the case in Teochew. The evidence comes from the change of state construction – *bian* 'become'+ *adjective*. Either in Mandarin or Teochew, this predicate can be interpreted as either telic or atelic. In Mandarin, aspectual particle *le* can be located after this construction to indicate the finishing of the changing process, while in Teochew, the counterpart particle *o* cannot. Besides, unlike Teochew *k'u*, Mandarin *diao* cannot be used after this construction – *bian* 'become' + adjective + (**diao*) is ungrammatical. Therefore, Teochew *k'u* in this case is not the counterpart of Mandarin *diao*.

Another piece of crucial evidence supporting that *k'u* is an aspectual maker is that Teochew native speaker can get the sense that all examples in (4) have an apparent past-perfect interpretation (cf. Footnote 4). Thus, we choose to see *k'u* as an aspect marker. Liang (2005) also mentioned that in Old Chinese, *qu* can function

as a 'quasi-aspect marker'. He pointed out that in the Tang Dynasty (618–907AD), when used after some adjective or intransitive verbs, *qu* indicates that the very state has happened. We can see it from some poems mentioned by Liang (2006) as follows. However, there is one thing we need to point out: in Teochew, though both *o* and *k'u* function as aspectual makers (counterpart of Mandarin *le*[5]), they have different tone colors – *o* conveys a neutral or positive reading while *k'u*, as indicated by Zhang's (2016) description and the Old Chinese data, conveys a negative reading. This is another topic in the Teochew studies, so it will not be further elaborated here.

(5) a. Lao qu tu shangbei.
老 去 徒 伤悲
old perf only sad
'After being old, one can only feel sad.'
(A poem written by Li Bai) (李白《相和歌辞 相逢行二首》其一))

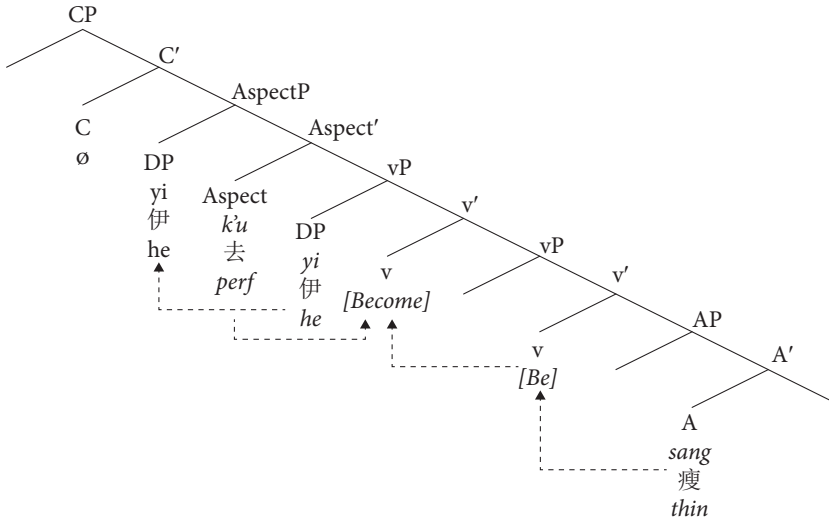
b. Shiqing pin qu zhi.
世情 贫 去 知
worldly affairs poor ASP know
'After being poor, one can know the worldly affairs.'
(A poem written by Meng Jiao) (孟郊《病起言怀》))

c. Huilan sui qu shi duoqing.
蕙兰 衰 去 始 多情
cymbidium withered ASP begin emotional
'After the cymbidium withered, people begin to be emotional'
*(A poem written by Wu Rong) (*吴融《秋事》*)*

Although Liang saw it as a quasi-aspectual marker, here in this research, we prefer to see it as the Aspect head in the syntactic structure. However, this triggers another question: how can an aspect affix be attached to an adjective? Here, what we assume that although Zhang holds that the category of the first word is adjective, we believe that there should exist two separate light verb [Become] and [be] at the higher layer, which triggers the movement of the adjective at the lower layer to attach to them one by one successively if following the spirit of Si's (2018) split-light verb hypothesis. Moreover, this can also explain why in the English translations of (4), there occurs a new semantic meaning – 'become', which is invisible in the surface structures of the above phrases. Thus, the structural map of the sentence like (6) can be drawn as follows, while the Aspect-to-v movement follows the spirit of Huang (2015), which holds that Chinese language shares similarities with English on T-to-V movement, contrasting French.

5. The imperfective option of Mandarin *le* (Lin 2006) which is also shared by *o* and *k'u* in Teochew is beyond the discussion scope of this paper. Thus, it is omitted.

(6) Yi sang k'u.
伊 瘦 去
He become thin ASP
'He became thin.'



3.4 *k'u* as Voice head

According to Zhang, *k'u* can be used in the Teochew structure *Verb* + *oi* + *k'u*, which is the counterpart of Mandarin *Verb* + *de* 得 + *complement*. Examples can be seen as follows.

(7) a. ka oi k'u
咬 得 去
bite can PASS.
'can be bit'
b. pou oi k'u
嚼 得 去
chew can PASS.
'can be chewed'
c. boi oi k'u
卖 得 去
sell can PASS.
'can be sold'
d. soi oi k'u
洗 得 去
wash can PASS.
'can be washed'

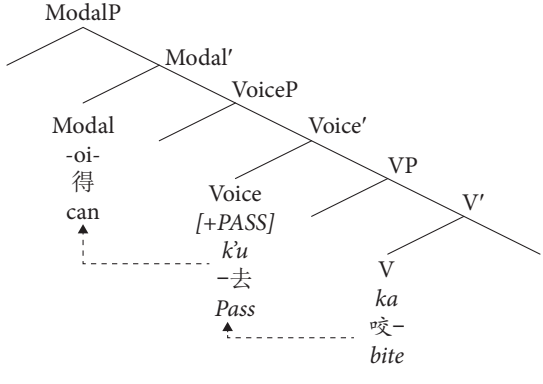
e. tsoiʔ oi k'u
切 得 去
cut *can* PASS.
'can be cut'

f. tsoʔ oi k'u
做 得 去
do *can* PASS.
'can be done'

g. ts'o oi k'u
装 得 去
pack can PASS.
'can be packed'

h. iʔ oi k'u
睡 得 去
sleep can PASS.
'can be slept on' (data from Zhang (2016: 191))

de 得 in Mandarin Chinese is always a hot-spot topic in linguistic discussions. Many scholars have conducted numerous researches on it (see Hashimoto 1971; Lv 1980; Li & Thompson 1981; Zhu 1982; Huang 1982, 1988, 2006, 2009; Sybesma 1992; Tang 1990; Tang 1997, 2010; Yang 1998; Lin 2001; Xiong 2004, 2014; Si 2009, etc.). As for the analyses of *de* in other Chinese dialects, Cheng & Sybesma (2004) and Tang (2010) also made some studies on the syntactic performances of Hakka and Cantonese counterparts. In Cheng & Sybesma (2004), they analyzed *dak,* which is the Cantonese counterpart of *de* as a modal verb with the semantic meaning of 'can'. According to Luo & Kang (in preparation), *oi* in this Teochew structure is functionally equivalent to the modal *dak* in Cantonese, and it is the Modal head. Therefore, the passive semantic meaning can only be conveyed by *k'u* in this structure since the verb itself does not have this function. Therefore, *k'u* is seen as the Voice head with [+PASS] feature. Thus, we can draw the structure map as follows:



3.5 *k'u* as v head

According to Zhang, *k'u* can be used in the structure *Verb* + *k'u* + *adjective*, which is the counterpart of Mandarin structure *Verb* + *de* 得 +*adjective* like *xi de ganjing* 洗得干净, which means 'sth is washed to be clean'. Moreover, *k'u* in this structure can be replaced by *lai* 来, which is a regional difference in the speech community of Teoswa. Examples of this case can be seen as follows:

(8) a. se k'u ngia
生 去 雅
grow [be] pretty
'look very pretty'

b. se k'u ho
生 去 好
grow [be] pretty
'look pretty'

c. soi k'u peʔ
洗 去 白
wash [be] clean
'sth is washed to be (very) clean'

d. sueʔ k'u peʔ
刷 去 白
brush [be] clean
'sth is brushed to be (very) clean'

e. sia k'u t'ong
写 去 通
write [be] smoothly
'sth like article is written (very) smoothly'

f. hue k'u siau
画 去 似
draw [be] alike
'the painting of sth is drawn (very) vivid'

g. hue k'u tsiang
画 去 然
draw [be] alike
'the painting of sth is drawn (very) alike to itself'

(data from Zhang (2016: 192))

According to Tang (2010: 118–129), there are two counterparts of Mandarin *de* 得 in Cantonese – *dak* and *dou*. When used in the structure 'verb + 得 +stative complement (including both 'descriptive complement and resultative complement' (see Huang (1988)) or 'static complement and dynamic complement' (see Zhu (1982))',

dak is used in the case of descriptive/static complement (see (9)) while *dou* is used in the case of resultative/dynamic complement (see (10)), which is used to support the view that *de* should have several functions in Mandarin Chinese. Considering that although *de* has only one phonetic form in Mandarin, some of its syntactic performances are different from others, the different pronunciations of 得 in (9a) and (10a), which is a perfect minimal pair, help substantiate this point, considering that their Mandarin translations look like the same at first sight if ignoring the in-depth semantic interpretation.

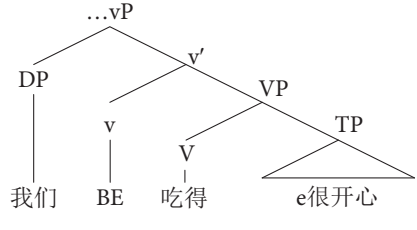
(9) a. Ngo dei sik dak hou hoi sam.
我们 吃 得 好开心
we eat DAK *very happy*
'We eat very happily.'

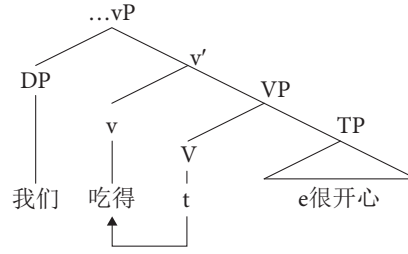
b. Keoi paau dak hou faai.
他 跑 得 很快
he run DAK *very fast*
'He runs very fast.'

(10) a. Ngo dei sik dou hou hoi sam.
我们 吃 得 好开心
we eat DOU *very happy*
'We eat and become very happy.'

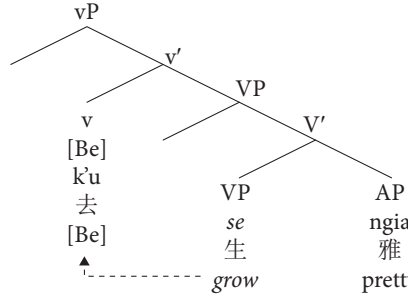
b. Keoi paau dou hou leoi.
他 跑 得 很累
he run DOU *very tired.*
'He runs and becomes very tired.' (Tang 2010)

Tang (2010: 123) held the opinion for (9), *dak* is an affix already attached with the verb *sik/paau* in the lexicon and proposed that there is a light verb [Be] located higher than the verb with the affix *dak* and its strong functional feature will trigger the movement of both verb and its affix, which corresponds to the nature of the complement of the verb – a descriptive/static complement. He drew the syntactic operation of (9a) as follows:





However, Luo & Kang (in preparation) argue that *dak* in this case as a lexicalized light verb [Be] itself, which follows the same spirit as Yang (1998); Lin (2001); Xiong (2004) and Huang (2006)'s discussions. More detailed analyses can be seen in Luo & Kang's (in preparation) discussions on the nature of 得 in the structure *Verb* + 得 + *complement*. In this research, this view is adopted and *k'u* is regarded as a lexicalized light verb [Be] in Teochew. The structural map of *k'u* in this case can be drawn as follows:



3.6 Interim conclusion

We have elaborated five usages of one of Teochew counterpart of Mandarin *qu* – *k'u* under the theoretical framework of generative grammar, and we can see its cartographic distributions in the following table.

Table 2. Cartographic distributions of *k'u* in Teochew

Hierarchy	Layer	Label	Example
↑	AspectP	Aspect	Sang **k'u** (瘦去)
	VoiceP	Voice	K'a oi **k'u** (咬得去)
	vP	v	Se **k'u** ngia (生得雅)
	VP	V	**K'u** t'am (去痰)
		Comp	T'au **k'u** (偷去)

4. An in-depth analysis of *k'a*

Zhang (2016: 195–196) also pointed out there is another counterpart of Mandarin *qu* in Teochew, which is *k'a* and it has two functions – one is to indicate the progressive aspect, and the other one is used to convey speaker-oriented attitude. We will illustrate them under the theoretical framework of generative grammar in the following sessions.

4.1 Progressive aspect

Zhang raises an example as follows:

(11) Ua k'a ts'ia tsam boi pio.
我 去 车站 买票
I go-prog station buy ticket
'I am heading for the station to but ticket'.

To see the picture more clearly, we can see the following minimal pair to capture the different aspect reading between *k'a* and *k'u*.

(12) Ua k'a ts'ia tsam.
我 去 车站
I go-prog station
'I am heading for the station.'

(13) Ua k'u ts'ia tsam.
我 去 车站
I go-simp station
'I go/went to the station.'

Zhang chooses to see *k'a* as a separate word different from *k'u*. Here in the spirit of cartography, we adopt the approach that *k'u* is the original form of *k'a*, while the latter one is the outcome of combining the Verb head *k'u* and an operator located at the position of the Aspect head with the function of changing the vowel from *u* to *a* in PF. Evidence comes from the other three vowels *i, e* and *o* sharing the same [+ATR] phonological feature with *u*. In some varieties of Teochew,[6] when a monosyllabic verb has these four vowels, through changing the vowel to *a*, the predicate can get a progressive meaning. It indicates that this vowel-changing approach is productive in some way. Thus, the structural map (12) should be drawn as follows:

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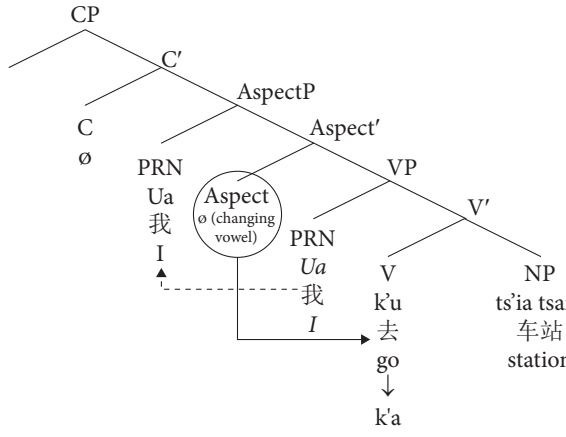
6. Thank Lin Hu, whose mother tongue is the Jieyang and Chao'an varieties of Teochew, for providing this data source.



Some may argue that this kind of inflection change seldom exists in Mandarin Chinese and wonder about the reason why this occurs in the Teochew case. In fact, Huang (2015) puts forward a synthesis hierarchy, and he mentioned that Old Chinese is more synthetic than Modern Chinese. As a dialect or language deeply influenced by Old Chinese, Teochew keeps many phonetic, phonological and lexical features of Old Chinese, some of which can even trace back to the Han Dynasty (206 BC-220 AD) even Qin Dynasty (221 BC-206 BC) (Lin 1997a, 1997b, 1997c). Taking this into account, it is reasonable for Teochew to boast some synthetic performances and inflectional change is one of them (Luo 2019).

Thus, though Zhang sees *k'a* and *k'u* as two separate words, this research is inclined to see the former one as the progressive aspectual variant of the latter one.

4.2 Speaker-oriented

Zhang also mentioned that the use of *k'a* is related to the speaker's role in the event (agent of the same action or not). In order to see it clearer, we can see the minimal pair as follows:

(14) Yi k'a kue pak kia
他 去 过 北京
He go ASP Beijing
'He has gone to Beijing' implying that the speaker also went there with him/her.
Yi k'u kue pak kia
他 去 过 北京
He go ASP Beijing
'He has gone to Beijing' implying that the speaker did not go there with him/her.

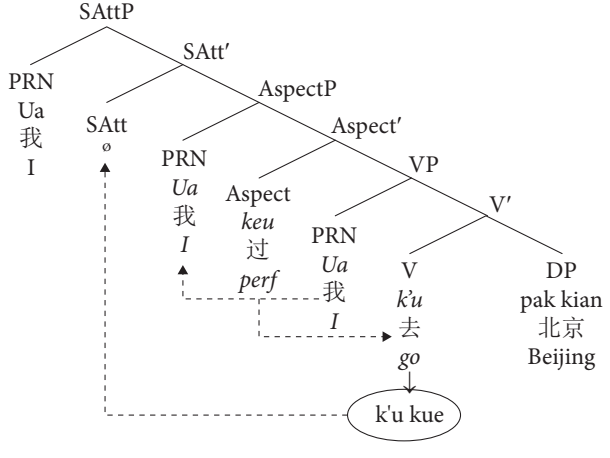
The morphological/phonological changes of Teochew *k'a* related to speaker attitude are as follows:

Table 3. Morphological changes of Teochew *k'a* related to the speaker's role in the event (agent of the same action or not)

Pronunciation	Onset	Nucleus	Role of the speaker
k'a	k'	a	Agent of the same action
k'u	k'	u	Not agent of the same action

According to Paul (2014), there is an AttitudeP in the CP domain, which 'encodes the speaker/hearer' attitude'. Moreover, Pan (2015) also pointed out that 'the AttP postulated by Paul (2014) in fact can be further subdivided into two layers'. He raised the combination of Mandarin sentence final particles *ne* 呢 (particle of the first layer) and *ba* 吧 (particle of the second layer) as an example. Luo (2018) holds the opinion that in Pan's corpus, *ne* is speaker-oriented while *ba* is hearer-oriented, and the head related to 'speaker-oriented' is lower than that of 'hearer-oriented'. Based on the cartographic distributions of Cantonese sentence final particles, Luo (2018) put forward that there exist two layers in the CP domain – SAttP (**S** indicates 'speaker-oriented') and HAttP (H indicates 'hearer-oriented').

Here we propose that there is an operator with the function of changing the vowel of the verb located at the head SAttP in the CP domain, and its strong function feature triggers the movement of the head verb which already moved to the head T to attach with the perfective aspectual affix of *kue*. And this operator will help *k'u kue* transform to *k'a kue*. The specific operations can be seen as follows:



Therefore, though Zhang sees *k'u* and *k'a* as two separate words, this research holds the view that the latter one is the product of morphological changes of *k'u* in the context of indicating the speaker's role in the event, which is speaker-oriented.

4.3 Interim conclusion

Through our discussions on two cases of *k'a*, which is another counterpart of Mandarin *qu* in Teochew, this research holds a different opinion compared with Zhang's proposal. That is, *k'u* and *k'a* are not two separate words with no connection between each other. K*'a* should be the outcome of morphological change of *k'u,* and there are two motivations to trigger this morphological change – indicating the progressive aspect of the sentence and operating the speaker-oriented function. We can see its cartographic distributions more clearly in the following table:

Table 4. Cartographic Distributions of *k'a* in Teochew

Hierarchy	Layer	Label	Example
↑	CP	the head SAtt (operator: k'u → k'a)	Yi **k'a** kue pak kian (他去过北京).
	Aspect	the head Aspect (progressive) (operator: k'u → k'a)	Ua **k'a** ts'ia tsam (我去车站).

5. An in-depth analysis of *k'ə*

Zhang (2016: 195–196) mentions two counterparts of Mandarin *qu* in Teochews – *k'u* and *k'a*, but there is another one left which is *k'ə*. It is often used in the ECM structure with verbs like *kio/'ask'* and *yao k'iu/'demand'*. Here are some examples in Teochew:

(15) a. Yi kio ua k'ə/*k'u/*k'a sia tsak ngiap.
他 叫 我 去 写作业
He ask me to writehomework
'He asks me to do my homework.'

b. Ua yao k'iu yi k'ə/*k'u/*k'a sio ua.
我 要求 他 去 洗碗
I demand him to wash dishes
'I demand him to wash dishes.'

Some may ask the question of why we mark *k'ə* as *to* in English. In this paper, we hold the opinion instead of functioning as a verb, *k'ə* functions like infinitival 'to'

in English. There are two reasons. First, as we can see in (15), in no way can *k'u* or *k'a* replace *k'ə* in this case. And we have discussed above that *k'u* can function as a verb and *k'a* is the variant of the verb *k'u*. There is no need for *k'u*, the original form of the verb, to have another morphological change here. And there already has a verb phrase behind it. The second reason, which the most important one is that *k'ə* and *k'u* can co-occur as follows:

(16) Yi kio ua k'ə k'u hak hao.
他 叫 我 去 去 学校
He ask me to go school
'He asks me to go to school.'

As we can see, there are two counterparts of Mandarin *qu – k'ə* and *k'u,* and it is impossible to have two verbs occur in this syntactic position. Si (class discussions) once proposed an idea that in Mandarin Chinese, *qu* may have some functions which are equivalent to the infinitival *to* in English. In the cartography study, there is a strong hypothesis that 'if some language provides evidence for the existence of a particular functional head (and projection), then that head (and projection) must be present in every other language.' (Cinque & Rizzi 2008). When we compare the Teochew *kio…k'ə…* structure with the English *ask…to…* structure, it is easy to find some similarities and the same syntactic position of *k'ə* and *to* indicate that *k'ə* in this case is functionally equivalent to the infinitival 'to' in English. Lu (1985) already mentioned that in some cases of the Mandarin structure *qu + VP, qu* seems less verb-like and can be replaced by the word *lai* with no obvious semantic difference. He held the opinion that it is because this *qu/lai + VP* structure emphasizes on the event rather than the direction of the action. Therefore, in some literature (see Liu et al. 2001; Lv 2005), this structure is used to express the willingness to 'be about to do something'. Lu mentions the two following examples put forward by Zhu in Mandarin, which have no obvious semantic differences:

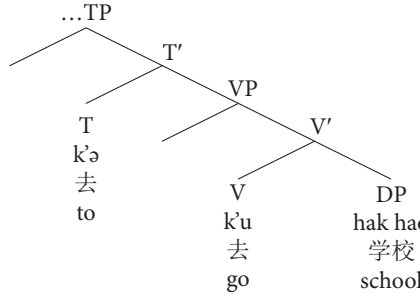
(17) a. Yong jianrenbuba de jingshen lai kefu kunan
用 坚忍不拔的 精神 来 克服 困难
use persistent attitude come overcome difficulties
'use persistent attitude to overcome difficulties'

b. Yong jianrenbuba de jingshen qu kefu kunan
用 坚忍不拔的 精神 去 克服 困难
use persistent attitude to overcome difficulties
'use persistent attitude to overcome difficulties'

As we can see, *lai* and *qu* have no noticeable semantic difference. And the reason why we also choose to mark them as infinitival *to* in English is that if we translate the first example in (17) into Teochew, *qu* will also pronounce as *k'ə* instead of *k'u*

or *k'a*. Lv (1983: 300) also held the view this *qu* has no semantic meaning, which further proves our point.

Following the above discussions, the syntactic map of the TP structure in (16) can be drawn as follows:



Therefore, different from *k'a,* which is the morphological transformation of *k'u, k'ə* is a separate word from these two and is functionally equivalent to the infinitival 'to' in English, which should be located at the T head.

6. Conclusion

Through the detailed discussions on Zhang's (2016: 188–197) research on the two Teochew counterparts of Mandarin *qu* – *k'u* and *k'a* and adding one more counterpart – *k'ə*, we elaborate their syntactic performances under the theoretical framework of generative grammar one by one, from VP layer all the way up to CP layer, and further draw the cartographic map of their distributions following their respective functions. The specific cartographic distributions of the Teochew counterparts – *k'u, k'a* and *k'ə* of Mandarin *qu* are as follows. And among them, *k'a* is the outcome of morpho-phonological derivation from *k'u*.

Table 5. The cartographic distributions of Mandarin *qu*

Hierarchy	Layer	Label	Example
↑	CP	SAtt (operator: *k'u* → *k'a*)	Yi **k'a** kue pak kian (他去过北京)
	TP	T	Yi kio ua **k'ə** k'u hak hao. (他叫我去学校)
	AspectP	Aspect (progressive) (operator: *k'u* → *k'a*)	Ua **k'a** ts'ia tsam (我去车站).
		Aspect	Sang **k'u** (瘦去)
	VoiceP	Voice	K'a oi **k'u** (咬得去)
	vP	V	Se **k'u** ngia (生得雅)
	VP	V	**K'u** t'am (去痰)
		Comp	T'au **k'u** (偷去)

Further looking into the table, we can see that the higher of the position in the syntactic hierarchy is, more grammatical phonetic modifications occur, which is also in accordance with the fact that the higher the position of a syntactic component is located in the syntactic tree, the more functional it turns out to be. From the perspective of grammaticalization, their relative positions also represent the whole process. Through our discussions, *k'ə* and *k'a* are undoubtedly more functional than *k'u*. And that is why their positions are higher than *k'u* in the cartographic map.

There remain some problems to be solved in the future: in what way can this research on Teochew contribute to the studies on Mandarin *qu*, which is a fascinating topic, considering that the rich phonetic forms of Teochew counterparts of Mandarin *qu* may mirror some of its different functions. Following this direction, this research will undoubtedly make contributions to the Mandarin studies on this topic.

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References

Chomsky, Noam. 1995. *The Minimalist Program*. Cambridge MA: The MIT Press.

Chen, Xian. 2007. A Semantic Analysis of the Modern Chinese Verbs "来" and "去". PhD dissertation, Fudan University.

Chen, Zheping. 1992. On perfective particle "去". *Zhongguo Yuwen* 2.

Cheng, Lisa L.-S. & Sybesma, Rint. 2004. Postverhal 'can' in Cantonese (and Hakka) and Agree. *Lingua* 114: 419–445. https://doi.org/10.1016/S0024-3841(03)00067-6

Cinque, Guglielmo. 1999. *Adverbs and Functional heads. A Cross-linguistic Perspective*. Oxford: OUP.

Cinque, Guglielmo. 2010. *The Syntax of the Adjectives: A Comparative Study*. Cambridge MA: The MIT Press. https://doi.org/10.7551/mitpress/9780262014168.001.0001

Cinque, Guglielmo & Rizzi, Luigi. 2008. The cartography of syntactic structures. *CISCL Working Papers* 2.

Gong, Rui. 2018. The cartographic distributions of light verb 'da' in modern Chinese. Academic report on the International Workshop on Syntactic Analyticity and Grammatical Parameters (IWSAGP).

Hu, Chimin. 2006. A case study of the semantic change of "去". *Zhongguo Yuwen* 6.

Huang, C.-T. James. 1982. Logical Relation in Chinese and the Theory of Grammar. PhD dissertation, MIT.

Huang, C.-T. James. 1988. Wo Paode Kuai and Chinese phrase structure. *Language* 64: 274–311. https://doi.org/10.2307/415435

Huang, C.-T. James. 1997. On lexical structure and syntactic projection. *Chinese Language and Linguistics* 3: 45–89.

Huang, C.-T. James. 2006. Resultative and unaccusatives: A parametric view. *Bulletin of the Chinese Linguistic Society of Japan* 253: 1–43. Reprinted in C.-T. James Huang. 2010. *Between Syntax and Semantics*, 377–403. London: Routledge. https://doi.org/10.7131/chuugokugogaku.2006.1

Huang, C.-T. James. 2008. On Ta De Laoshi Dang-de Hao and related problems. *Linguistic Sciences* 3(34): 225–241.

Huang, C.-T. James, Li, Y.-H. Audrey & Li, Yafei. 2009. *The Syntax of Chinese*. Cambridge: CUP. https://doi.org/10.1017/CBO9781139166935

Huang, C.-T. James. 2015. On syntactic analyticity and parametric theory. In *Chinese Syntax in a Cross-Linguistic Perspective*, Audrey Li, Andrew Simpson & Wei-Tien Dylan Tsai (eds), 1–48. Oxford: OUP.

Kang, Xing. 2018. The cartographic analyses of speaker-oriented projections in the left periphery. Academic report on the International Workshop on Syntactic Analyticity and Grammatical Parameters (IWSAGP).

Karlgren, Bernhard. 1934. *Chinese Linguistic Studies*, He, Changqun (trans.). Beijing: Commercial Press.

Larson, Richard K. 1988. On the double object construction. *Linguistic Inquiry* 19(3): 335–391.

Li, Charles N. & Thompson, Sandra A. 1981. *Mandarin Chinese: A Functional Reference Grammar*. Berkeley CA: University of California Press.

Li, Xinkui. 1994. *Dialects in Guangdong Province*. Guangdong: Guangdong People Publishing House.

Liang, Yinfeng. 2006. The evolution of phase complement "来 (come)" and "去 (go)" in Chinese. *Linguistic Science* 6.

Lin, Jo-wang. 2006. Time in a Language without Tense: The Case of Chinese. *Journal of Semantics* 23: 1–53. https://doi.org/10.1093/jos/ffh033

Lin, Lunlun. 1997a. The characteristics and research value of Teochew. *Wen Shi Zhi Shi* 9: 81–85.

Lin, Lunlun. 1991b. See historical sound change of Teochew from the perspective of literary and colloquial readings. *Journal of Hanshan Teachers College*.

Lin, Lunlun. 1997c. The value of Teochew on the research of Chinese history. *Journal of Hanshan Teachers College* 3: 78–86.

Lin, Tzong-hong Jonah. 2001. Light Verb Syntax and the Theory of Phrase Structure. PhD dissertation, University of California at Irvine.

Liu, Yuehua. 1980. Several problems about directional complements "来" and "去". *Language Teaching and Language Studies* 3.

Liu, Yuehua, Pan, Wenyu & Gu, Wei. 2001. *Shiyong Xiandai Hanyu Yufa*. Beijing: Commercial Press.

Lu, Jianming. 1985. About "去 (go)+VP" and "VP+去 (go)" structure. *Language Teaching and Language Studies* 4.

Luo, Zhuosi. 2018. Derived heads of Cantonese left periphery and cartographic distributions of its sentence final particles. Academic report on the 8th International Conference on Formal Linguistics, 23–25 November, Hangzhou, China.

Luo, Zhuosi. 2019. The synthetic performances of Teochew. *Lingua Sinica* 5.
Lv, Jiping. 1983. *Hanyu Yufa Jichu*. Harbin City: Heilongjiang People's Publishing House.
Lv, Shuxiang. 1980/2005. *Eight hundred words in Modern Chinese*. Beijing: Commercial Press.
Pan, Victor Junnan. 2015. Mandarin peripheral construals at the syntax-discourse interface: The linguistic review. *Linguistic Review* 32(4): 819–868. https://doi.org/10.1515/tlr-2015-0005
Paul, Waltraud. 2014. Why particles are not particular: Sentence-final particles in Chinese as heads of a split CP. *Studia Linguistica* 68(1): 77–115. https://doi.org/10.1111/stul.12020
Paul, Waltraud. 2015. *New Perspectives on Chinese Syntax*. Berlin: De Gruyter. https://doi.org/10.1515/9783110338775
Pollock, Jean-Yves. 1989. Verb movement, universal grammar, and the structure of IP. *Linguistic Inquiry* 20(3): 365–424.
Rizzi, Luigi. 1997. The fine structure of the left periphery. In *Elements of Grammar: Handbook of Generative Syntax*, Liliane Haegeman (eds), 282–337. Dordrecht: Kluwer. https://doi.org/10.1007/978-94-011-5420-8_7
Rizzi, Luigi. 2001. On the position "int(errogative)" in the left periphery of the clause. In *Current Issues in Italian Syntax: Essays Offered to Lorenzo Renzi*, Guglielmo Cinque & Giampaolo Salvi (eds), 287–296. Amsterdam: Elsevier.
Rizzi, Luigi. 2004. Locality and left periphery. In *Structure and Beyond: The Cartography of Syntactic Structures*, Vol. 3, Adriana Belletti (eds), 223–251. Oxford: OUP.
Rizzi, Luigi. 2013. The functional structure of the sentence, and cartography. In *The Cambridge Handbook of Generative Syntax*, Marcel den Dikken (ed.). Cambridge: CUP. https://doi.org/10.1017/CBO9780511804571.016
Rizzi, Luigi & Bocci, Giuliano. 2015. Left periphery of the clause: Primarily illustrated for Italian. In *The Wiley Blackwell Companion to Syntax*, 2nd edn. Malden MA: Wiley-Blackwell.
Shlonsky, Ur. 1997. *Clause Structure and Word Order in Hebrew and Arabic*. Oxford: OUP.
Si, Fuzhen. 2009. *Multiple Feature Checking and its Syntactic Consequences*. Beijing: Language and Culture University Press.
Si, Fuzhen. 2012. A comparative study of Chinese and English derivational morphology. *Journal of Yili Normal University (Social Science Edition)* 1: 98–102.
Si, Fuzhen. 2017. On the flexibility and rigidity of Chinese grammar. *Journal of Yili Normal University (Social Science Edition)* 7: 89–94.
Si, Fuzhen. 2018. Towards a cartography of light verb. *Linguistic Research* 1: 11–17.
Si, Fuzhen. 2019a. New horizons in syntactic cartographic studies. *Language Teaching and Linguistic Studies* 3.
Si, Fuzhen. 2019b. Grammatical phonetic modifications in Chinese. *TCSOL Studies* 2.
Sun, Fei. 2005. The Grammaticalization of "来 (Come)" and "去 (Go)" and Some Related Issues. MA thesis, Shanghai Normal University.
Sybesma, Rint. 1992. *Causatives and Accomplishments: The Case of Chinese ba*. Dordrecht: Kluwer.
Tang, Chih-Chen Jane. 1990. Chinese Phrase Structure and the Extended X' – Theory. PhD dissertation, Cornell University.
Tang, Sze-Wing. 1997. The parametric approach to the resultative construction in Chinese and English. In *UCI Working Papers in Linguistics* 3, Luther C.-S. Liu & Kazue Takeda (eds), 203–226. Irvine CA: Irvine Linguistics Students Association.
Tang, Sze-Wing. 2010. *Formal Chinese Syntax*. Shanghai: Shanghai Educational Publishing House.

Tian, Jianwei. 2010. The Motives and Mechanism of the Grammaticalization of "来" and "去". MA thesis, Jinan University.
Tsai, Wei-Tian Dylan. 2016. On the distribution and interpretation of inner and outer light verbs in Chinese. *Linguistic Science* 4.
Wang, Guoshuang. 2002. The semantic change of "去" and some related lexical questions. *Journal of Hebei University of Science and Technology* 2.
Wang, Guoshuang. 2003. The event particle "去" in Mandarin. *Yuwen Yanjiu* 2.
Wang, Li. 1963/2018. *Gu Dai Han Yu (1)*. Beijing: Zhonghua Book Company.
Xiao, Xiqiang. 2003. Revisit "来 (come)" and "去(go)". *Chinese Language Learning* 2.
Xiong, Zhongru. 2004. *Causative Sentences in Modern Chinese*. Hefei: Anhui University Press.
Xiong, Zhongru. 2014. The Bec (come) 'De' in the state complement constructions. *Linguistic Sciences*.
Xu, Jingqian. 1983. About "来 (come)" and "去 (go)". *Language Teaching and Language Studies* 1.
Yang, Shouxun. 1998. The syntactic research on 'De'. *Modern Foreign Languages*.
Yue-Hashimoto, Anne. 1971. Mandarin syntactic structures. *Unicom* 8.
Zhang, Shengyu. 2016. *Studies on the Chaoyang Dialect*. Beijing: Social Sciences Academic Press.
Zhu, Dexi. 1982. *Yufa Jiangyi*. Beijing: Commercial Press.

CHAPTER 13

On the syntactic representation of Chinese *you* (有) in "*you* + VP" construction

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This paper aims at drawing the syntactic maps of *you*(有 lit. have) in "*you* + VP" construction in Chinese within the cartographic framework (Rizzi 1997; Cinque 1999, and much subsequent work) and splitting IP on the basis of Huang (1988). More precisely, a syntax-semantic mismatch of *you* is observed in the literature, namely, previous studies claim that *you* can convey several semantic readings, for instance, past tense, future tense, perfective, as well as (emphatic) affirmative reading; its syntactic representation, however, is put under the syntactic node of I/T (Huang 1988, etc.). This paper first verifies the features on *you* and then offers a cartographic account to this mismatch. The results show that *you* only conveys the perfective feature and the (emphatic) affirmative feature, and it is spelled out at the phrasal lever under AffP. Besides, a *You*-Support Hypothesis in Chinese is suggested.

Keywords: Chinese *you*, split IP, AffP, *you*-support hypothesis, syntactic cartography

1. Introduction

Syntactic cartography promotes the principles of "one feature, one head, one projection" and "local simplicity" (Rizzi 1997, 2004a, b; Cinque 1999; Si 2018a & b, 2019, etc.), indicating that each feature should have its syntactic projection and be locally simple, in other words, feature and projection are in a one-to-one relation.

This relation seems to be challenged by the Chinese auxiliary *you* in "*you* + VP" construction. Previous studies claim that there exist more than one feature on *you*, including the [+past tense] feature (Zhang 1983, etc.), the [+future tense] feature (Xiang 1997; Li 1998, etc.), the [+perfective] feature (Liu 1997; Li 1998; Zheng 1985, etc.), as well as the [+(emphatic) affirmative] feature (Wang, Wang & Jiang 2006; Wang & Ma 2008, etc.), see the examples in (1).

https://doi.org/10.1075/la.267.13li

(1) a. 册 *(有)[1] 撂 来 咧。 ([+past tense])
ce you t'e˧ lai lie
book YOU take come PART[2]
'I took the book here.'

b. 春晚 *(有) 请 奥运 冠军。 ([+future tense])
Chunwan you qing aoyun guanjun
SFG[3] *YOU invite Olympic champions*
Intended: 'Spring festival gala will invite Olympic champions.'

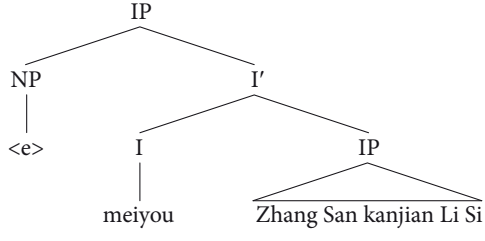
c. 他 今天 上午 (有) 来。 ([+perfective])
Ta jintian shangwu you lai
He today morning YOU come
With *you*: 'He came this morning.'[4]
Without *you*: 'He will come this morning.'

d. 你们 *(有) 提前 沟通 一 下 吗?
nimen you tiqian goutong yi xia ma?
you YOU in advance communicate one down Q[5]
'Have you communicated with each other in advance?'
([+ (emphatic) affirmative])

Syntactically speaking, however, *you*, together with the negative particle *mei* (没 lit. not), is put under the syntactic node of I in Huang (1988) or T in the present term, see (2), in which the subject *Zhang San* will undergo subject raising to the spec of IP.

(2) a. 张 三 没 (有) 看 见 李 四。
Zhang San mei you kan jian Li Si
Zhang San not YOU look -RVC[6] *Li Si*
'Zhang San did not see Li Si.'

b.



1. *() means the omission of the character would result in the sentence.
2. Particle
3. Spring festival gala
4. The perfective reading in Chinese will be translated into past-tense form in English to avoid the confusion between perfective and perfect, thanks for the suggestion from the reviewer.
5. Question
6. Resultative verb constrcution

Considering these claims, the syntactic description of Chinese *you* mismatches with its semantic readings, to put it in a more specific way, they are in a one-to-more relation, i.e., one syntactic projection with more features, rather than the one-to-one relation proposed in cartography.

Along the line of syntactic cartography, this paper attempts to address two main research questions, see (3), i.e., to draw syntactic maps of *you* in "*you* + VP" construction in Chinese as precise as detailed as possible and to split the inflectional phrase (IP) based on Huang (1988).

(3) a. Does Chinese *you* possess these features, namely, [+past], [+future], [+perfective],
[+(emphatic) affirmative], as claimed in literature?
b. If not, what is the syntactic representation of Chinese *you* if cartography is strictly followed?

The results show Chinese *you* in "*you* +VP" construction only conveys two features, that is, the [+perfective] ([+Perf]) feature and the [+affirmative] ([+Aff]) feature; its [+emphatic] feature in [+(emphatic) affirmative] is optionally realized through the change of intonation in Chinese. These two features differ for their prominences. More precisely, *you* only conveys the [+Aff] feature when there is another perfective marker, like *-le/-guo*, in the sentence; while *you* conveys the [+Perf, +Aff] features when there is no other perfective marker. Syntactically speaking, *you* is spelled-out at the phrasal level with the syncretism of two strategies, i.e., nanosyntax (Caha 2009) and feature incorporation, under the maximal projection of affirmative phrase, AffP for convenience. Also, the requirement for the occurrence of *you* in "*you* + VP" construction is not arbitrary; some crosslinguistic parallels are observed by comparing with the strategies applied in emphatic affirmative sentences in Basque and English (Laka 1990), i.e., auxiliary fronting and *do*-support respectively. As such, a *you*-support hypothesis is suggested concerning the occurrence of *you* in "*you* + VP" construction.

The data in this paper comes from the collections in research papers, newspapers, *Weibo, WeChat, TV* series, movies, as well as the online corpus, for instance, BCC.[7] The sources of these data consist of ancient Chinese, Modern Mandarin, as well as some dialects used in China, in particular, dialects used in southern China, to put it in a more general way, the Chinese discussed in this paper refers to the Chinese in a broad sense.

This paper is organized as follows. Section 2 looks into the previous studies on "*you* + VP" construction in Chinese; a detailed investigation on *you*'s functional usages is provided, and a legible table is then summarized. In Section 3,

7. <http://bcc.blcu.edu.cn/>

based on the claims reviewed in the last section, a syntax-semantic mismatch of *you* is proposed in Section 3.1; Section 3.2 is dedicated to prove or to eliminate these seeming-features on *you* by adopting some testing methods; a cartographic approach is suggested to cope with this observed mismatch of *you* in Section 3.3. A conclusion is then provided in Section 4.

2. Previous studies on "*you* + VP" construction

Chinese *you* (有 lit. have), as one of the frequently used characters, can express distinct meanings or behave differently according to its syntactic positions (Liu 1997; Li 1992; Lv 2005; Li 2020). Given the review work on *you*'s semantic readings, it is observed that *you* in Chinese can express both lexical and functional meanings. Its lexical usage can convey possessive and existential readings, usually followed by an NP; the functional *you* can follow a main verb, or be followed either by a numeral phrase or a verbal phrase, and its feature varies. This paper mainly pays attention to the last type of functional use of *you*, namely, auxiliary *you* in "*you* + VP" construction. The rest of this section will give a brief introduction of *you*'s lexical and other functional usages, and then turns into the review of previous studies on "*you* + VP" construction from two aspects, i.e., its semantic readings and syntactic analysis, aiming to present a comprehensive understanding of *you* in "*you* + VP" construction.

When *you* is used as a lexical verb, it is in the syntactic position of VP, under which *you* is interpreted as possession or existence (Lv 1999: 630; Liu et al. 2001; Si 2002; Kang to appear), for instance, (4).

(4) a. 他 *(有) 两 个 孩子。 (Possessive reading)
Ta you liang ge haizi.
He YOU two -CL[8] child
'He has two children.'

b. *(有) 鬼。 (Existential reading)
you gui
YOU ghost
'There are ghosts.' (Liu et al. 2001)

Also, *you* is capable of being a functional item when it is preceded by a verbal phrase (VP, Zhang 1983; Shi 1984; Song 1994; Sun 1996; Zhang 2005; Wang 2014), see (5); followed by a numeral phrase (NumP, Lv 1999; Liu et al. 2001; Xiong 2016; Wen 2012; Li to appear), see (6), or a verbal phrase (VP, Zhang 1983; Liu 1997; Chen

8. Classifier

2004; Zhang 2005; Wang, Wang & Jiang 2006; Li 2020), see (7), indicating various readings or features.

(5) 桌上 放 *(有) 一 本 书。 (VP + *you*)
zhuoshang fang you yi ben shu.
Table above put YOU one -CL book
'There is a book on the table.' (Zhang 2005)

(6) 他 吃 了 (有) 三 大 碗。 (*you* + NumP)
ta chi le you san da wan
he eat PERF[9] *YOU three big bowl*
With *you*: 'He ate for three big bowl('s rice).'
Without *you*: 'He ate three big bowl('s rice).' (Li to appear)

(7) 你们* (有) 提前 沟通 一 下 吗? (*you* + VP)
Nimen you tiqian goutong yi xia ma?
you YOU in advance communicate one down Q
'Did you communicate with each other in advance?'
(Wang, Wang & Jiang 2006)

The present analysis focuses on the auxiliary use of *you* in "*you* + VP" construction see (7). *You* in this construction is claimed to be related to four readings or features according to previous researches, namely, (1) the action has happened, or the event has been finished; (2) the upcoming action or event; (3) the affirmation and emphasis of the existence of an action or an event; (4) the past tense reading. These different readings can be observed in Mandarin and some dialects in the literature, see Table 1. However, these readings' validities still call for further verification, which will be discussed in Section 4.

More precisely, Zhang (1983) and Zhang (2005) claim that in Taiwanese, *you* can precede verbs or verb-complement structure; see (8), in which *you* has lost its lexical meanings.

(8) a. 有 卖，有 听
you mai, you ting
YOU sell, YOU listen
'have sold, have listened'
b. 有 合 伊 讲， 有 叫 我 去
you he yi jiang, you jiao wo qu
YOU and he speak, YOU call I go
'told me, ask me go' (Zhang 1983)

9. Perfective

Table 1. Examples of *you* in "*you* + VP" construction

Semantic meaning	Possible categories	Examples
Perfective: indicating the action or event has been realized	Aspect	他 今天 上午 （有）来。 Ta jintian shangwu you lai He today morning YOU come With *you*: 'He came this morning.' Without *you*: 'He will come this morning.'
Future reading	Tense	春晚 *（有）请 奥运 冠军。 Chunwan you qing aoyun guanjun SFG YOU invite Olympic champions Intended: 'SFG will invite Olympic champions.'
Past reading		册 *（有）擐 来 咧。 ce you t'e-| lai lie book YOU take come PART 'I took the book here.'
To affirm or emphasize the truth or the action has already happened	Emphatic affirmation	你们 *（有） 提前 沟通 一下 吗? Nimen you tiqian goutong yi xia ma? *you YOU in advance communicate one down Q* 'Did you communicate with each other in advance?'

Zheng (1985) and Li (1998) find that *you* in Fuzhou[10] dialect indicates the action or behavior has happened, or the event has been accomplished, for example,

(9) a. 我 *（有）接到 通知。
wo you jiedao tongzhi
I YOU receive notice
'I received the notice.'

b. 我 发票 *（有）带 来
wo fapiao you dai lai
invoice YOU bring come
'I brought the invoice.'

c. 我 （有）共 伊 拍 电话。
wo you gong yi pai dianhua
I YOU with he hit phone
With *you*: 'I talked with him.'
Without *you*; 'I (will) talk with you.' (Zheng 1985)

10. The capital of Fujian province

Xu & Gongtian (1999) and Zhou (1998) argue *you* in Xiamen[11] dialect can precede a VP, and it functions as a perfective marker, like *-le, -guo*, or adverb *yijing* (已经 lit. already) in Chinese, see (10).

(10) a. （有） 去 北京。
you qu Beijing
YOU *go Beijing*
With *you*: 'went to Beijing'
Without *you*: '(will) go to Beijing'

b. 我 *（有）接着 你 的 批。
Wo you jiezhe ni de pi
I YOU receive you DE letter
'I received your letter.' (Zhou 1998)

Shi et al. (2002) compare *you* in Hong Kong Cantonese with the English perfective, and they claim auxiliary *you* and *have* may share some common ground, i.e., *you* also indicates a perfective reading (Huang 1996). Li (1998) and Bai (1998) put forth that *you* in Guangzhou[12] dialect preceding a verb can express that the event has happened, see (11).

(11) a. 你 （有）读 书 呢? 我 （有） 读 书。
ni you du shu ne? wo you du shu
you YOU read book Q? I YOU read book
With *you*: 'Did you read books? I did.'
Without *you*: 'Are you reading books? *I read books.' (Bai 1998)

Besides, similar usage of *you* is also observed in ancient Chinese. Liu (1997) finds when *you* is followed by a VP, it conveys a perfective reading, indicating the fact that the action or behavior has been finished,[13] for examples, *you tao* (有讨) in (12a) means "punished," *you chu* (有出) can be interpreted as "already exceeded."

(12) a. 吾 私 有 讨 于 午 也。 （《左转•定公十三年》）
Wu si YOU tao yu wu ye (*Zuo's Commentary •Dinggong*, year 13)
(lit. I privately punished Zhao Wu.)

11. A city in Fujian province

12. The capital of Guangdong province

13. Liu (1997) further claims that *you* can be seen as a counterpart of some additional functional word in Chinese (虚词, *Xuci* in Chinese), for instance, adverb *ji* (既, lit. already).

b. 且 吾 子 之 心 有 出 焉，可 征 讯 也。《国语•晋语八》
qie wu zi zhi xin YOU chu yan, ke zheng xun ye (*Guoyu•Jinyu* 8)
(lit. Your idea exceeded what I am in charge; you should go and ask others.)

Dunhuang Bianwen (《敦煌变文》 *Dunhuang Narrative Literature*), composed in *Tang* dynasty (618–907 A.D.), *Lao-Qi-Da* (《老乞大》) and *Pu-Tong-Shi* (《朴通事》), written in *Yuan* dynasty (1271–1368 A.D.), also exist this usage of *you*, see (13).

(13) a. 夫人 既 有 身 亡， 家 内 营 其 殡 送。《欢喜国王缘》
furen ji YOU shen wang, jia nei ying qi bing song
(lit. The King of Huangxi's wife passed away, her family arranged her funeral.) (*Huanxi Guowang Yuan*)
b. 我 有 认 色 了， 不 拣 几 时 要 换。 (《老乞大》)
wo YOU ren se PART, bu jian ji shi yao huan (*Lao-Qi-Da*)
(lit. I knew the colour, but I do not know when it will be changed.)
c. 黑夜 道 场 里 你 有 来 么? 我 有 来。 (《朴通事》)
heiye dao chang li ni YOU lai Q? wo YOU lai (*Pu-Tong-Shi*)
(lit. Did you go to the field during the night? Yes, I did.)

This usage of *you* does not only exist in dialects but also widely observed in Mandarin by the generations born since 1990. Chen (2004) lists four types of "*you* + VP" construction, for instance, see (14).

(14) a. 有 说 有 笑
you shuo you xiao
YOU speak YOU laugh
'while speaking, while laugh'
b. 有 增 无 减
you zeng wu jian
YOU increase no decrease
'increased without decreasing'
c. 有 劳， 有 请
you lao, you qing
YOU work, YOU please
'bother, please'
d. 有 赖
you lai
You rely
'rely on'

Xing (1990), Yang and Dong (2003), Zhu (2004), Wang, Wang & Jiang (2006), Li (2008) all observe *you*'s examples in corpora see (15), or Li (2020) for a detailed exemplification.

(15) a. 他 今天 上午 （有）来。
Ta jintian shangwu you lai
He today morning YOU *come*
With *you*: 'He came this morning.'
Without *you*: 'He will come this morning.'

b. 那 件 衣服 她 昨天 *（有）穿。
Na jian yifu ta zuotian you chuan
That -CL *clothes she yesterday* YOU *wear*
'She wore those clothes yesterday.'

c. 我 每天 都 （有）喝 旺仔 牛奶。
wo meitian dou you he Wangzai niunai
I every day all YOU *drink Wangzai milk*
With *you*: 'I DO drink Wangzai milk every day.'
Without *you*: 'I drink Wangzai milk every day.'

d. 我 在 上面 是 *（有）看 到 地球 上 的 情况。
wo zai shangmian shi you kan dao diqiu shang de qingkuang.
I on up be YOU *see* -RVC *earth on* DE[14] *situation*
'I did see the situation on the earth from the universe.'

In (15), *you lai* (有来) indicates "the event of *come* happened", *you chuan* (有穿) means "that clothes were worn", *you he* (有喝) says "drank the milk", and *you kandao* (有看到) is interpreted as "saw."

To sum up, *you* in these dialects and Mandarin, is presented a perfective reading, which can be summarized as follows,

Table 2. Perfective reading in the literature

Semantic meaning	Sources
Perfective: indicating the action or event has been realized	Fuzhou, ancient Chinese, Guangzhou, Xiamen, Hong Kong Cantonese, *Dunhuangbianwen, Lao-Qi-Da, Pu-Tong-Shi*, Mandarin

This perfective reading is not the only feature claimed in the literature, Li (1998), Xiang (1997) and Wang, Wang & Jiang (2006) find *you* can also be used to indicate an upcoming action or event in Fuzhou dialect, Hakka dialect,[15] and Mandarin, for example,

14. A particle which functions like English *of*.

15. Hakka dialect is widely used in Guangdong province, Fujian province, Guangxi province, and some other southern provinces.

(16) a. 这 车 （有）去 福州， 有 去 无?
Zhe che you qu Fuzhou, you qu wu?
This car YOU *go Fuzhou*, YOU *go not*
With *you*: 'This car will go to Fuzhou, does anyone go there?'
Without *you*: 'This car goes to Fuzhou, does anyone go there?' (Li 1998)

b. 明 年 正 *（有）来。
mian¬ na¬ tşa¬ iau¬ liu¬
next year exactly YOU come
'(It) will come next year.' (Xiang 1997)

c. 春晚 *（有）请 奥运 冠军。
Chunwan you qing aoyun guanjun
Spring festival gala YOU invite Olympic champions
Intended: 'Spring festival gala will invite Olympic champions.'
(Wang, Wang & Jiang 2006)

However, in the Taiwan Minnan dialect, *you* is claimed to be able to express a past reading see (17).

(17) 册 *（有）攒 来 咧。
ce you t'e¬ lai lie
book YOU *take come* PART
Intended: 'I took the book here.'

Given the review above, it seems that *you* may also relate to the tense feature, see the table below,

Table 3. Tense reading in the literature

Semantic meaning	Sources
Future reading	Fuzhou, Hakka, Southen Min, Mandarin
Past reading	

More interestingly, *you*'s fourth reading is also observed in Taiwan Minnan dialect[16] by Zhang (1983), and it is used to affirm or to emphasize the existence of the action or behaviour which has been finished in the past, with the intonational change of *you*,[17] for example,

16. Minnan dialect is used in Fujian, Taiwan, Chaoshan, and other southern cities in China.

17. Li (2020) compares the (emphatic) affimative use of *you* in "*you* + VP" construction and the lexical use of *you* in "*you* + NP", their Praat tests show a difference on intonation change of *you*. *You* indicating a perfective reading does not require the intonational change.

(18) a. 有 买 /卖 /听 /讲 /讨 /钓 /收
You mai[3] /mai[4] /ting /jiang /tao /diao /shou
YOU buy /sell /listen /speak /ask /fish /collect
'bought/sold/listened/spoken/asked/fished/collected'

b. 早 昏 伊 *(有) 来。
zao hun yi you lai
morning night he YOU come
'He came last night.' (Zhang 1983)

Zheng (1985), Luo (1994), Cao & Zheng (1997), Xiang (1997), Bai (1998), Yan (2000) and Wang (2007) confirm this usage of *you* in different dialects, for example,

(19) a. 伊 厝 *(有) 养 鸡 鸭。
yi cuo you yang ji ya
he home YOU *raise chicken duck*
'His family raised chicken and duck.' (Fuzhou, Zheng 1985)

b. 饭 我 *(有) 食。
Fan wo you shi
Food I YOU *eat*
'I ate the food.' (Xiamen, Li 1998)

c. 伊 昨方 *(有) 写 好 啊。
Yi zuofang you xie hao a
He yesterday YOU *write well* PART.
'He finished it well yesterday.' (Minnan, Wang 2007)

d. 佢 不 时 都 *(有) 来 新泉。
Ju bu shi dou you lai Xinquan
He not time all YOU *come Xinquan*
'He often came to Xinquan.' (Hakka, Xiang 1997)

e. 上海 我 *(有) 走, 北京 冇 走。
Shanghai wo you zou, Beijing mou zou
Shanghai I YOU walk, Beijing mou walk
'I went to Shanghai, but I did not go to Beijing.' (Ou,[18] Luo 1994)

The (emphatic) affirmative reading can also be found in Mandarin, for instance,

(20) a. 你们 *(有) 提前 沟通 一 下 吗?
nimen you tiqian goutong yi xia ma?
you YOU *in advance communicate one down Q*
'Did you communicate with each other in advance?'
(Wang, Wang & Jiang 2006)

18. Ou dialect is mostly used in Wenzhou area, Zhejiang province.

b. 我 *(有) 看 到 他。
wo you kan dao ta
I YOU *see* -RVC *he*
'I saw him.' (Wang & Ma 2008)

c. 那天 我 *(有) 走 到 立交桥 上面 去 哦。
natian wo you zou dao lijiaoqiao shangmian qu o
that day I YOU *walk* -RVC *bridge above go* PART
'I walked to the bridge that day.' (Yang & Dong 2003)

Considering the review above, *you* is also related to an (emphatic) affirmative reading, see the table below,

Table 4. (Emphatic) affirmative reading in the literature

Semantic meaning	Sources
To affirm or emphasize the truth or the action has already happened	Fuzhou, Xiamen, Taiwan Minnan, Minnan, Hakka, Ou, Mandarin

To conclude, previous studies observe the different usages or readings of *you* in "*you* + VP" construction, including the past reading, future reading, perfective reading, as well as (emphatic) affirmative reading. These features possess their examples in Chinese, while these claims in literature still call for further verifications, and this will be presented in detail in Section 4.

3. A syntax-semantic mismatch of *you*

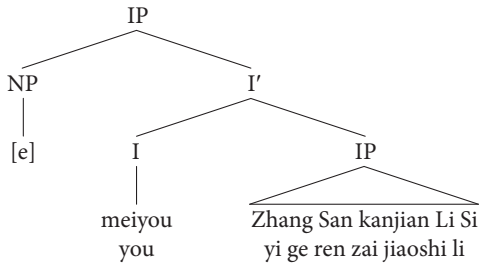
This section is dedicated to present the paradox observed between the semantic readings of *you* mentioned in last section and its syntactic analysis in Huang (1988), for instance, who claims that Chinese intransitive *you* is an auxiliary which allows subject fronting, and it shares the same deep structure with existential *you*, for example,

(21) a. 张 三 没 (有) 看 见 李 四。
Zhang San mei you kan jian Li Si
Zhang San not YOU *see* -RVC *Li Si*
'Zhang San did not see Lisi.'

b. *(有) 一 个 人 在 教室 里。
you yi ge ren zai jiaoshi li
YOU *one* -CL *person at classroom in*
'There is someone in the classroom.'

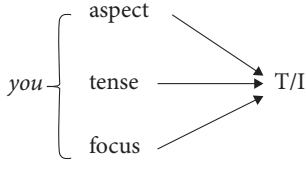
As such, the syntactic representation of *you* in Huang (1988) is drawn, in which *you* in both constructions are under the node of I or T, see (22).[19]

(22)



Given the syntactic analysis and the features mentioned in previous studies, a syntax-semantic mismatch is attested. More precisely, four semantic readings or features of *you* in "*you* + VP" construction are observed in the literature, namely, [+past tense], [+future tense], [+perfective aspect], as well as [+(emphatic) affirmative] feature. Syntactically speaking; however, it is put under the node of I/T for some reason, then the relation between syntactic representation of *you* and its semantic features is one-to-more, which can be shown by the diagram below,

(23)



The present analysis, however, is under the framework of syntactic cartography, which promotes the principles of "one feature, one head (OFOH)" and "local simplicity," indicating that each feature should have its syntactic projection and be locally simple, namely, a one (feature)-to-one (syntactic projection) relation. By observing the studies of auxiliary *you* (有 lit. have) in "*you* + VP" construction in Chinese, however, it seems to go the opposite way with cartography.

Concerning the language facts and the paradox, two main research questions rise, that is, (3), repeated here.

19. (21a) is generated through subject fronting, while the subject in (21b) stays in situ.

(24) a. Does Chinese *you* possess these features, namely, [+past], [+future], [+perfective],
[+(emphatic) affirmative], as claimed in literature?
b. If not, what is the syntactic representation of Chinese *you* if cartography is strictly followed?

As such, the next section will contribute to the verification of these features mentioned in previous studies, to prove or to eliminate.

4. Verification of the features on *you*

Features are claimed in previous studies; however, they may not be a property of *you*, rather, it could be the result of other elements in the sentence, or the integrated reading of the whole construction. Putting this in mind, different testing methods will be adopted in this section to verify or to eliminate these features mentioned in the last two sections.

Our story begins with the perfective readings observed in the literature. The evidence is mainly presented from two aspects, that is, the parallel between *you* in some dialects and perfective marker *-le* in Mandarin, and the co-occurrence of aspectual adverbs with *you*. The former is further divided into six sub-sections, that is, from the viewpoints of the previous claims, deletion of *you*, diachronic data, conjunction test, as well as the semantic consideration.

Heine (1993, 1997) compares the verbal use of *have* with its auxiliary usage and claims that "constructions using *'have'* as their predicate base have given rise to both expressions of verbal possession and of perfective aspect. Such constructions involve the items *'be'* or *'have'* as auxiliaries…." If this claim has its universality, *you* should also be in the scope of Heine's claim; in other words, *you* also show some perfective feature.

This assumption is evidenced by the parallel between *you* in some dialect and the perfective marker *-le* in Mandarin. Wang (1965) and Huang (1988) claim that *you* in Chinese (more precisely, in particular dialect) is an aspectual marker, Huang (1989) posits *you* is a suppletive form of *-le*.[20] Song (1994); Sun (2005) and Wang (2014) find "*you* + VP" construction in some dialects can be replaced and interpreted as "VP + *-le*" in Mandarin, for example,

20. A detailed comparison between *you* and *-le* for their featural relation will be presented in Section 5.1, indicating that *you* conveys more features than the [+perfective] feature on *-le*.

(25)

Table 5. Parallel between *you* in dialects and *-le* in Mandarin

Dialect		Mandarin		English
有买	*you mai*	买了	*mai-le*	*bought*
有去	*you qu*	去了	*qu-le*	*went*
有睇	*you ti*	看了	*kan-le*	*watched*
有计划	*you jihua*	计划了	*jihua-le*	*planned*
有来	*you lai*	来了	*lai-le*	*came*
有食	*you shi*	吃了	*chi-le*	*ate*
有批评	*you piping*	批评了	*piping-le*	*criticized*
有接到	*you jiedao*	接到了	*jiedao-le*	*picked up*
有觉察	*you juecha*	觉察到了	*juecha dao-le**	*noticed*
有欠	*you qian*	欠了	*qian-le*	*owed*

* *Dao* (到 lit. arrive) in Mandarin Chinese is a resultative verb marker (Tai 1984), this is because there is no distinction between accomplishment verb and achievement verb discussed in Vendler (1967).

The perfective feature on *you* can also be attested by the deletion of *you*, as it can be replaced by the perfective marker *-le* or *-guo* in Chinese, for instance, (26), the deletion of *you* results in the ungrammaticality of (26); however, it becomes grammatical when *you* is replaced by *-le* or *-guo*, see (26).

(26) a. 杨 利伟：我在 上面 是 有 看 到 地球 上
Yang Liwei: wo zai shangmian shi you kan dao diqiu shang
Yang Liwei: I on up be YOU *see* -RVC *earth on*
的 情况。
de qingkuang.
DE *situation*
'Yang Liwei: I did see the situation on earth in the universe.'

b. *杨 利伟：我在 上面 是 看 到 地球 上
Yang Liwei: wo zai shangmian shi kan dao diqiu shang
Yang Liwei: I on up be see -RVC *earth on*
的 情况。
de qingkuang.
DE *situation*
('Yang Liwei: I did see the situation on earth in the universe.')

c. 杨　利伟：我在　上面　　是 看　到　了/过 地球 上
Yang Liwei: wo zai shangmian shi kan dao le/guo diqiu shang
Yang Liwei: I on up be see -RVC PERF[21] *earth on*
的 情况。
de qingkuang.
DE situation
'Yang Liwei: I did see the situation on earth in the universe.'

From a diachronic perspective, Zhai (1988) puts forth that the prepositioned morphological elements occur much earlier than those occurring in the postposition in Sino-Tibetan languages, which means that *you* as a perfective marker is used much earlier than *-le*. This claim can be evidenced by the widespread use of "*you* + VP" construction in southern dialects, which are seen as "more conservative", in other words, it remains the usages in the past. Besides, some evidence is also found in ancient Chinese, Song (1994) argues that in *Yinshang Jiagu Buci* (殷墟甲骨卜辞, *The Inscriptions on Bones or Tortoise Shells in Yinxu*) and some literature in pre-Qin dynasties (先秦典籍, Xianqin Dianji, paleolithic period – B.C. 221), *you* is used as a perfective marker, see (27).

(27) a. 于 己 丑　有　来。　　(《合》33063)
Yu ji chou you lai　　(*He* 33063)
((He) came on the day of Jichou.')
b. 月　有　食。　　(《丙》56)
Yue you shi　　(*Bing* 56)
('There came the eclipse of the moon.')
c. 则 连　有　赴 东海　而 死 耳。　　(《战国策•赵策》)
Ze lian you fu donghai er si er
('I drowned myself in the Eastern Sea.')
(*Intrigues of the Warring States • Zhaoce*)

Moreover, the conjunction test can shed some light on the parallel between *-le* and *you*, by the cancellation of the ending point. More precisely, perfective *-le* indicates closed events of a single point, for example,

(28) a. 张　三　昨天　写　了　一 封　信。
Zhang San zuotian xie le yi feng xin
Zhang San yesterday write PERF one -CL letter
'Zhang San wrote a letter yesterday.'
b. 张　三　昨天　有　写　一 封　信。
Zhang San zuotian you xie yi feng xin
Zhang San yesterday YOU write one -CL letter
'Zhang San wrote a letter yesterday.'

21. Perfective

In (28), perfective marker *-le* has both endpoints (Smith 1997) and presents a closed event; the interpretation indicates that the event of writing a letter has been terminated. This interpretation can also be attested by the sentences with *you*, see (28). However, it can also be cancelled by other information (Grice 1975), for instance, by adding some further information, the interpretations of sentences with *-le* can be changed, for example, see (29), in which the termination of writing a letter is cancelled, and this testing method works for *you* too.

(29) a. 张 三 昨天 写 了 一 封 信，但是 还 没 写 完。
Zhang San zuotian xie le yi feng xin, danshi hai mei xie wan
Zhang San yesterday write PERF *one -CL letter, but yet not write-RVC*
'Zhang San wrote a letter yesterday, but he has not finished yet.'

b. 张 三 昨天 有 写 一 封 信，但是 还 没 写 完
Zhang San zuotian you xie yi feng xin, danshi hai mei xie wan
Zhang San yesterday YOU *write one -CL letter, but yet not write -RVC*
'Zhang San wrote a letter yesterday, but he has not finished yet.'

In this sense, the terminations of (28) are changed into the state of being uncompleted. From this comparative perspective, *you* shares the same property with *-le*.

Based on the discussion in Alexiadou (1997: 90–91), the perfective aspect can co-occur with some cardinal count or definite frequency adverbs in Greek, such as *molis* "just", *amesos* "immediately", *mja fora* "once", *djo fores* "twice", for example.

(30) a. Pigame mjafora s' afto to musio
*went*PERF:1PL *one time to this+the-museum-ACC*
'We went once to this museum.'

b. Ta pedja xipnisan amesos
*the-children-NOM woke*PERF:3PL *immediately*
'The children woke up immediately.'

These aspectual adverbs are very sensitive to the aspectual morphology on the verb. If Alexiadou's classification has its universality, then the corresponding adverbs in Mandarin can also be used as a testing method. The related adverbs are *ganggang* (刚刚 lit. just now), *cengjing* (曾经 lit. once), *liangci* (两次 lit. two times), *zhijie* (直接 lit. directly).

(31) a. 他 刚刚 *(有) 去 学校。
Ta ganggang you qu xuexiao
He just YOU go school
'He went to school.'

b. 李 先生 曾经 (确实) *(有) 写 一 封 信 给
Li Xiansheng cengjing (queshi) you xie yi feng xin gei
Mr. Li once (for sure) YOU write one -CL letter to
孙 老师。
Sun laoshi
Sun teacher
'Mr. Li once (for sure) wrote a letter to the Prof. Sun.'

c. 之前 两次 你 都 *(有) 抓 到 吗?
Zhiqian liangci ni dou you zhua dao ma?
Before two times you both YOU catch -RVC Q
'Did you catch them for the last two times?'

d. (昨晚 离开 这里 后,) 他 (确实) *(有) 直接 打 给 我。
(zuowan likai zheli hou,) ta (queshi) you zhijei da gei wo.
(last night leave here after,) he (for sure) YOU directly hit to me
'(After leaving here,) He (for sure) called me directly.'

In the examples above, *you* gets along well with these aspectual adverbs, which means that *you* is an aspectual marker.

Is *you* related to the tense feature, such as the past or future? The answer is negative. The discussion will be presented from three viewpoints, i.e., from language itself, empirical studies as well as the perspective of theoretical reasoning.

Different languages have their system for tense representation, for example, affixes or the present participle (Reichenbach 1947: 291). While Chinese, as a tenseless language (Saussure 2011: 11), does not have the "marking of time." There are, however, "a number of adverbial morphemes … in these languages to specify temporal reference when needed" (see Saussure 2011: 11). Smith (1997: 263) also claims that "[T]emporal location is given by adverbials and modal auxiliaries" in Chinese.

From an empirical perspective, the claim that *you* conveys the tense feature can also be refuted by the co-occurrence with some temporal adverbs. In other words, if *you* is related to the tense feature, then the sentence should be grammatical when *you* co-occur with some temporal adverbs, for example, *zuotian* (昨天 lit. yesterday), *mingtian* (明天 lit. tomorrow), *liangtian qian* (两天前 lit two days ago), *liangtian hou* (两天后 lit. "two days later"), see (32).

(32) a. 他 昨天 *(有) 去 学校。
ta zuotian you qu xuexiao
He yesterday YOU go school
'He went to school yesterday.'

b. *他 明天 有 去 学校。
ta mingtian you qu xuexiao
he tomorrow YOU go school

c. 他 两天 前 *(有) 去 学校。

ta liangtian qian you qu xuexiao
he two days ago YOU *go school*
'He went to school two days ago.'

d. *他 两天 后 有 去 学校。
ta liangtian hou you qu xuexiao
he two days later YOU *go school*

However, as indicated in the examples above, the result shows that *you* cannot co-occur with temporal adverbs indicating a future reading; instead, it can only co-occur with the past temporal adverbs, such as *zuotian, liangtianqian*. In this sense, *you* may be a past tense marker.

If so, the question is changed into "whether *you* is a past tense marker?" The prediction can be presented as follows: If *you* is a past tense marker, then no matter whether there is a temporal adverb or not, the sentence should still be interpreted as past, in other words, these two sentences in (33) should share the same tense diagram as described in Reichenbach (1947).

(33) a. 昨天 他 *(有) 去 学校。
Zuotian ta you qu xuexiao
Yesterday he YOU *go school*
'He went to school yesterday.'

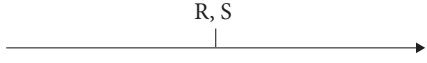
b. 他 *(有) 去 学校。
Ta you qu xuexiao
He YOU *go school*
'He went to school.'

In sentence (33), *zuotian* indicates the reference time, shown by R; the speech time is marked by S. With the interpretation of the sentence, the relative order on the diagram can be shown in (34).

(34)

In sentence (33), however, there is no overt temporal adverb indicating the reference time; therefore, the reference time coincides with the speech time, shown below:

(35)



Given the diagram (35), the reference time coincides with the speech time, which means sentence (33) should be with the present tense, but this is contrasted with

the language facts in (33). In this sense, *you* in the sentence (33) cannot be a past tense marker.[22]

Last but not least, the affirmative feature on *you* can be verified through the comparison between *you* and its negative form *mei (you)*. Shi & Li (2001) and Shi (2004) claim that *meiyou* is a negative perfective marker, given the parallel between them, it is reasonable to see *you* as an affirmative marker, see (36). Wang (1965), and Gu (2016) also mention the parallel between affirmative and negative sentences.

(36) a. 他 没 （有）去 学校。
Ta mei you qu xuexiao
He not YOU *go school*
'He did not go to school.'

b. 他 *（有）去 学校。
Ta you qu xuexiao
He YOU *go school*
'He went to school.'

Based on the discussion in Chao (1968), Edmondson (1983: 54) claims that Chinese *you*'s auxiliary use shows the property of polarization, namely, the relation of "negation-affirmation."

From a comparative perspective, the affirmative feature on *you* can also be verified. Holmberg (2003, 2016: 3) finds that in some languages, for example, Finnish, the affirmative answer of a *yes-no* question can be answered with an elliptic combination of auxiliary + verb, see (37).

(37) Q: Voinko panna maidon jääkaappiin?
can.1SG put milk fridge.INE
'Can I put the milk in the fridge?'

A: Voit (panna).
can.2SG put
'Yes (you can).'

If this is right, then the possibility of answering with auxiliary *you* indicates that *you* conveys the [+affirmative] feature, see (38).

(38) Q: 他 有 去 学校 吗?
Ta you qu xuexiao ma
He YOU *go school Q*
'Did he go to school?'

---

22. The past reading in these sentences is from the perfective aspect, which always refers to some action or event that has happened, see Stowell (2008); Li (2020) for more detailed discussion.

A: 有 （去）.
you (qu)
YOU go
'Yes (he did).'

What is more, the affirmative feature on *you* can be found in the context below, which occurs typically in opera or Chinese TV series. For instance, when an emperor or officer in *Qin* dynasty orders the guard to arrest someone, he will shout it out:

(39) 皇帝 /官员： 武士 们！ 武士： 有！
Huangdi/guanyuan: Wushi men! Wushi: you!
Emperor/officer: *Guard -PL* *Guard:* *YOU*
Emperor/officer: Guards! Guards: Here!

In this sense, *you* can be applied to answer and then to affirm. Similar evidence is also found in *Wechat* moment (20, Oct. 2019), in which a person YR posted a picture of her boyfriend, another person ZYX says: *shuai guoguo* (帅锅锅 lit. "What a handsome boy!"). YR answers: *you ma* (有嘛 lit. "Is he handsome?"). In this dialogue, *you* is used to answer this comment to indicate an affirmation with some modest.

From a historical perspective, the affirmative feature on *you* can also be enlightened through the investigation in Chomsky (1957), in which he claims that there is a morpheme λ applied to affirm the proposition. Inspired by the transformation rule in Chomsky (1957), Laka (1990: 84) compares the similarities between negation and emphatic affirmation in English and Basque, see the examples below:

Table 6. Parallel between English and Basque (Laka 1990)

Sentence type	English	Basque
Declarative sentence	a. Mary left.	a. Mari joan da *Mary left has* 'Mary has left.'
Negative sentence	b. Mary did not leave.	b. Mari ez da joan *Mary not has left* 'Mary hasn't left.'
Declarative sentence	c. *Mary did leave.	c. * Mari da joan *Mary has left* ('Mary has left')
Emphatic affirmative sentence	d. Mary <u>did</u> leave.	d. Mari da joan *Mary has left* '<u>Mary</u> has left.'

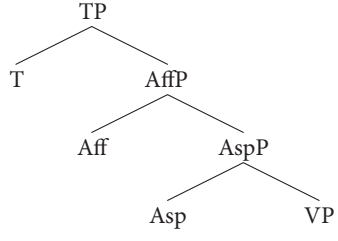
Laka (1990: 84) shows that the auxiliary in Basque declarative sentence is after the main verb, and *did* cannot be used in English declarative and affirmative sentence. However, English *did* is allowed to occur in an emphatic affirmative sentence, and the auxiliary also moves to the left of the main verb in Basque. No matter how different these two languages are, the same strategy used in negative sentences is applied in emphatic affirmative sentences in both languages, which can be shown by the table below:

Table 7. Strategies adopted in Basque and English negative/affirmative sentences

Sentence type	Basque	English
Negative sentence	Auxiliary fronting	*Do*-support
Affirmative sentence	Auxiliary fronting	*Do*-support

Given the similarities between these two constructions, she proposes that "there is a morpheme Aff (for affirmation) which introduces *do*-support in the same way in which negation does." Besides, following the proposal of the functional projection NegP in Pollock (1989); Laka (1990) claims that there is an Aff head, which projects an affirmation projection and the Aff is a functional head, generated lower than tense in English by considering the Tense C-command condition (TCC),[23] the diagram can be shown in (40).

(40)



Following the discussion in Chomsky (1957); Laka (1990), among others, and considering the language facts of *you*, the [+ (emphatic) affirmative] feature on *you* in "*you* +VP" construction seems to be related to the AffP to some degree. The comparison between English and Chinese shows the instinct is in the right direction, see the table below.

23. Based on the discussion in Laka (1990: 9), the Tense C-command Condition (TCC) refers to the requirement that "Tense must c-command at S-structure all propositional operators of the clause," which is based on the discussion of *do*-support and verb raising in English and French by Pollock (1989) as well as in Chomsky (1989). And this requirement is not only valid on sentence negation, "but on the dominance relations holding betweenTense and all other functional heads that operate on the clause." As English is an inflected language, and Aff is an inflectional head, therefore, Aff is under the c-command condition of Tense. Also see Pollock (1989) on English and Feench, Laka (1990: 77) for Hebrew.

Table 8. Comparison between English and Chinese sentences

Sentence type	English	Chinese
Declarative sentence	a. Mary went to school.	a. 张 三 去 了 学校。 Zhang San qu le xuexiao *Zhang San go* PERF *school* 'Zhang San went to school.'
Negative sentence	b. Mary did not go to school.	b. 张 三 没 有 去 学校。 Zhang San mei you qu xuexiao *Zhang San not* YOU *go school* 'Zhang San did not go to school.'
Declarative sentence	c. *Mary did go to school.	c. * 张 三 有 去 学校。 Zhang San you qu xuexiao *Zhang San* YOU *go school* ('Zhang San went to school.')
Emphatic affirmative sentence	d. Mary did go to school.	d. 张 三 有 去 学校。 Zhang San you qu xuexiao *Zhang San* YOU *go school* 'Zhang San went to school.'

For example a, the English sentence has an inflected verb, and the Chinese sentence consists of a non-inflected lexical verb and an aspectual marker. For example b, the English sentence shows its negative form by introducing *do*, while the Chinese sentence does not display *do*-support, instead, it applies an auxiliary verb *you* to the left of the lexical verb. English does not allow *do*-support in declarative sentences, as shown in example c and auxiliary verbs cannot be applied in declarative sentences in Chinese either. In the case of emphatic affirmative sentences, however, both languages resort to the same methodologies that applied in declarative negative sentences, that is, *do*-support and *you*-support respectively, see example d.

Concerning the comparison above, the parallel property between *you* in Chinese and *do* in English can be illustrated clearly, namely, *do*-support in English and *you*-support in Chinese, see the table below.[24]

---

24. A similar claim can be found in Cheng (2019), in which she argues that in Cantonese, *jau*^{5} (*you*) can be seen as a *do*-support type of answer, for instance,

a. 你 有 冇 送 礼物 畀 老 板 啊?
nei^{5} jau^{5} -mou^{5} sung^{3} lai^{5} mat^{6} bei^{2} lou^{5} baan^{2} aa^{1}?
you have -not. have give gift to boss SFP
'Did you give a gift to the boss?'

b. 有 啊/ 送 咗 啦。
jau^{5} aa^{3}/ sung^{3} -zo^{2} laa^{3}
have SFP/ *give* -PERF SFP
'Yes, I did.'

Table 9. Parallel between *you* in Chinese and *do* in English

Sentence type	English	Chinese
Negative sentence	*Do*-support	*You*-support
Affirmative sentence	*Do*-support	*You*-support

From an empirical perspective, the co-occurrence of an emphatic adverb *jiushi* (就是 lit. exactly) can also be used to verify the existence of AffP, for example,

(41) 就是 （有）想 你 了。 （微博）
jiushi you xiang ni le (*Weibo*)
exactly YOU *miss you* PERF
With *you*: 'It is true that I did miss you.'
Without *you*: 'I really miss you.'

In (41), the adverb *jiushi* can occur in front of *you* and give the semantic interpretation of a much higher affirmation or emphasis. Syntactically speaking, it generates at the specifier of AffP, a similar idea in Cinque's (1999) adverbial hierarchy.

To sum up, *you* in "*you* + VP" construction convey only two features, namely, [+perfective] feature and [+ (emphatic) affirmative] feature, as for its syntactic representation, it will be discussed in the next section under the framework of syntactic cartography.

5. A cartographic attempt: The licensing of *you*

Features are related to syntactic representations; in other words, where there is a feature, there is a projection. In this section, given the number of features on *you*, a synthetic perspective is subject to, and syntactic analysis is presented by following the cartographic approach.

5.1 A synthetic viewpoint

From the discussion above, a conclusion reached is that *you* in Chinese only conveys 2 features, that is, [+perfective] and [+ (emphatic) affirmative] feature. In these two features, however, there exist two options, one is *you* with both of these two features, the other is that *you* only convey the second feature, when the [+perfective] feature is expressed by some other perfective markers, such as *-le* or *-guo.*

To put it more precisely, the features expressed by *you* are in a synthetic form. Based on Huang's (2015) analysis on the differences between synthesis and analyticity and following Si's proposal, Li (2017: 32) presents a formal representation of these two notions, which can be shown below.

(42) i. If [$+F_1$] [$+F_2$] [$+F_3$] → LI, then language L is synthetic.

ii. If [$+F_1$] → LI_1; [$+F_2$] → LI_2, then language L is analytic.; [$+F_3$] → LI_3

Language L is synthetic if and only if the multiple grammatical functions or features [$+F_1$], [$+F_2$] and [$+F_3$] are morphologically realized as one single lexical item LI; L is analytic if and only if [$+F_1$], [$+F_2$] and [$+F_3$] are morphologically realized as separate lexical items LI_1, LI_2, and LI_3.

In parallel, features on *you* can be shown by the representation below, even the discussion on *you* is not on the level of language types, but the notions of synthesis and analyticity is the same, concerning the asymmetry between the features conveyed by *you* and its spell-out morph.

(43) [+perfective] [+affirmative] —*Spell out*→ *you*

In (43), these features on *you* are spelled out as a single item or morph *you*. In this sense, *you* is a combination of features. Similar ideas can be found in Wang and Chen (2004), which also claim that *you* itself conveys multiple meanings.

To some degree, this analysis shares some common ground with the proposal in Starke (2002, 2005, 2009, 2014, 2018), Caha (2009), from a nanosyntactic perspective. They claim that "nanosyntax allows for an elegant approach to syncretism" (Starke 2002, 2009), Caha (2009: 6) defines the phenomenon of syncretism as "a surface conflation of two distinct morphosyntactic structures," and is "a direct descendant of cartography" (Baunaz, De Clercq, Haegeman & Lander 2018: 3), see Li (2020) for much detailed analysis or the references cited there.

As discussed in the last several sections, the synthetic morph of *you* is the spell-out form of two syntactic features, namely, [+perfective] feature and [+ (emphatic) affirmative] feature. While considering the discussion in nanosyntax and the language facts in Chinese, it is not always the case that the spell-out form *you* conveys both of these two features, which means that it can convey only one of them in some sentences or we can say, the more prominent one, for example, when it co-occurs with other perfective markers:

(44) a. 他（有）去 过 学校。
ta you qu guo xuexiao
he YOU *go* PERF *school*
With *you*: 'He did go to school.'
Without *you*: 'He went to school.'

b. 美军 4 月 22 日 在 伊拉克 首都 巴格达 的 一处
Meijun 4 yue 22 ri zai yilake shoudu bageda de yichu
U.S army 4 month 22 day in Iraq capital Baghdad DE *one*
高档 居民区 （有）发现 了 1.12 亿
gaodang juminqu **you** faxian **le** 1.12 yi
place high-quality community ***YOU*** *find* PERF *1.12 billion*
美元 的 现钞。
meiyuan de xianchao
U.S dollars DE *cash*
With *you*: 'On 22nd April, the U.S army DID find 1.12 billion U.S cash in a high-quality community in Baghdad, the capital of Iraq.'
Without *you*: 'On 22nd April, the U.S army found 1.12 billion U.S cash in a high-quality community in Baghdad, the capital of Iraq.'

In these two examples, *you* co-occurs with other perfective markers, *-guo* in (44), *-le* in (44). In these cases, *you* does not show its [+perfective] feature in these examples, because there is already a perfective marker *-le/-guo* in these sentences, considering the economic condition, *you* can only convey the feature of [+Aff] or we can say, in this sentence, the [+perfective] feature on *you* is not prominent as the [+perfective] feature on *-le/-guo*.[25]

In contrast, when there is no other perfective marker shown in the same sentence, *you* in the sentence will convey the feature of [+perfective], see (45), in which *you* is with the feature of [+Perf, +Aff]. What is more, in these sentences, *you* is the necessary element in the sentence.

(45) a. 那 天 我 有 走到 立交 上面 去 哦。
Na tian wo **you** zoudao lijiaoqiao shangmian qu o.
That day wo ***YOU*** *walk-*RVC *bridge above go* PART
'I had walked to the bridge that day.'

25. The [+perfective] featural prominence on *-le/-guo* and *you* can be attested by the statistical result of their usages. More precisely, in current days, the usage of *-le/-guo* is more common than *you*.

a′. *那 天 我 走 到 立交桥 上面 去 哦。
Na tian wo zou dao lijiaoqiao shangmian qu o.
That day wo walk -RVC bridge above go PART
('I walked to the bridge that day.')

b. 你们 有 提前 沟通 一 下 吗?
nimen you tiqian goutong yi xia ma?
you YOU in advance communicate one down Q
'Did you communicate with each other in advance?'

b′. *你们 提前 沟通 一 下 吗?
nimen tiqian goutong yi xia ma?
you in advance communicate one down Q
('Did you communicate with each other in advance?')

Given the discussion above, there will be two options for the features with *you*:

a. *You* is with the [+Aff] feature if the PerfP is occupied by the perfective marker *-le* or *-guo*.
b. *You* is with the [+Perf, +Aff] feature if there is no other element under PerfP.

Given the summary of those features on *you*, a clear indication is that *you* is not an analytic form, which conveys only one feature; instead, it is a synthetic combination consisting of more than one feature. As the present analysis is under the framework of syntactic cartography, which follows the principle of OFOH strictly, and the situation now is that *you*'s features have been verified, and the main task will then be turned into the syntactic representation of these features.

5.2 A syntactic analysis

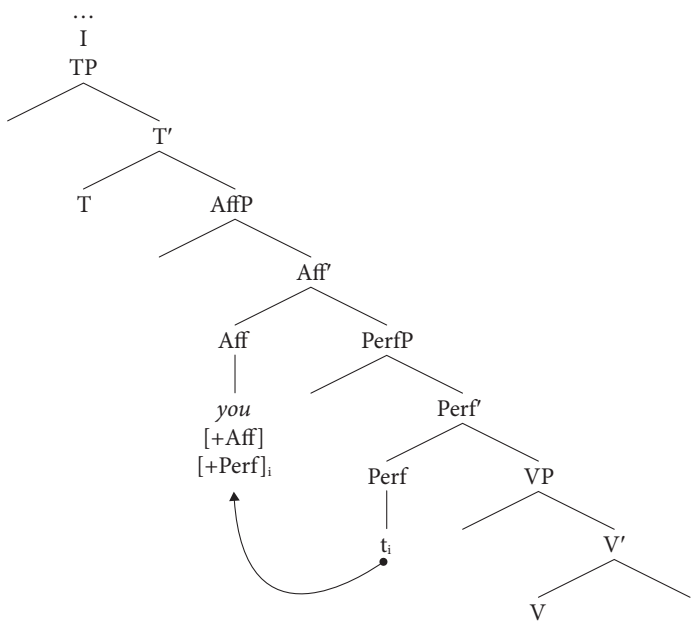
Following the proposal and synthetic description in the last section, the analysis of these sentences can be presented uniformly, concerning their differences in features.

Given all of these facts, the present analysis will combine the nanosyntactic approach with the head movement analysis, indicating that *you* is merged in the head of AffP, and it selects the PerfP as its complement, which meets the selection either with *-le/-guo*, or with a phonologically null Perf head.[26] In detail, (1) the [+perfective] feature on *you* will undergo head movement to incorporate with the [+affirmative] feature under AffP, and then these two features will be spelled out

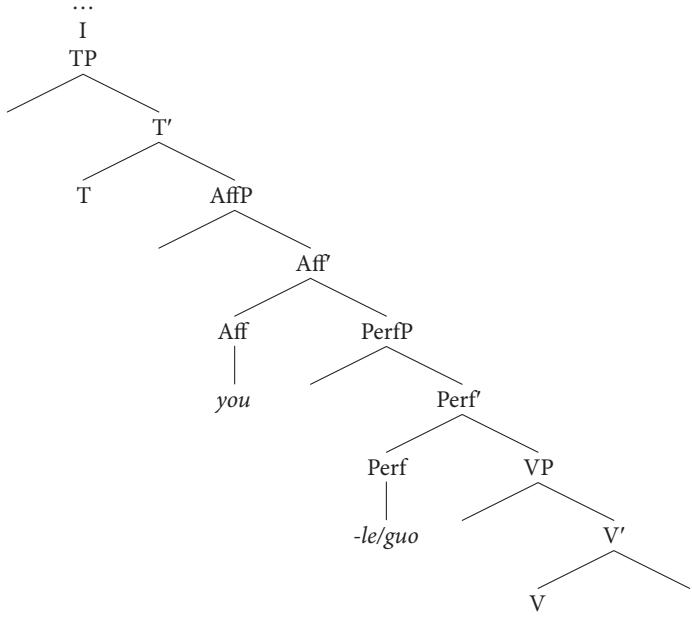
26. This can be described alternatively, i.e. *-le/-guo* is a clitic and it has two options, either it attracts the verb to incorporate with or it moves and cliticizes to *you* in AffP, and in the later case, *-le/-guo* is spelled-out as zero.

under the node of Aff^0 with the form of *you*, if there is no other perfective markers, see (46a); (2) *you* will be spelled out under the node of Aff^0 directly, if there is another perfective marker, see (46b). The essential derivation can be shown below:

(46) a.



b.



In the rest part of this section, two representative examples will be presented by resorting to the syntactic derivation of *you* proposed above:

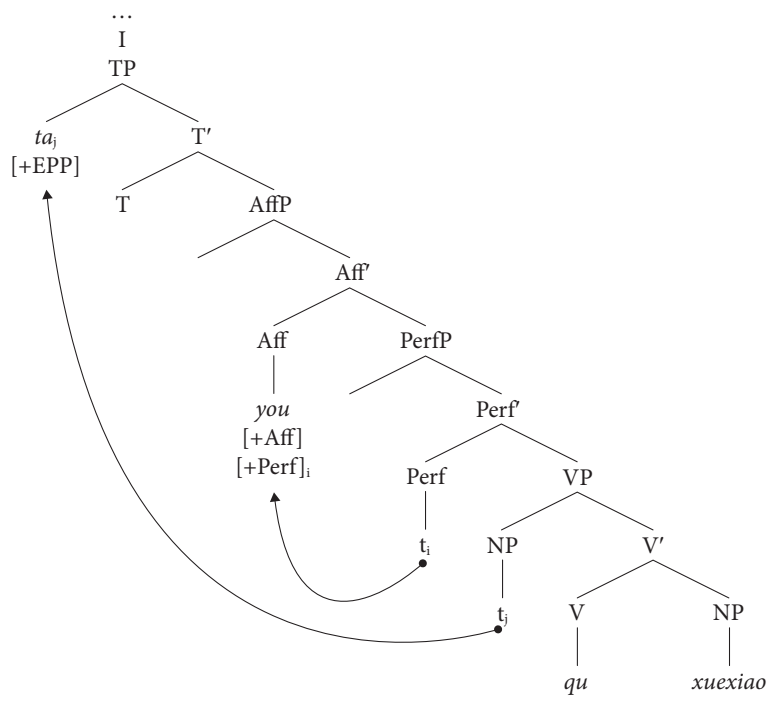
(47) a. 他 有 去 学校。
Ta you qu xuexiao
He YOU *go school*
'He went to school'

b. 美军 4 月 22 日 在 伊拉克 首都 巴格达 的 一 处
Meijun 4 yue 22 ri zai yilake shoudu bageda de yi chu
U.S army 4 month 22 day on Iraq capital Baghdad DE *one place*
高档 居民区 有 发现 了 1.12 亿 美元
gaodang juminqu you faxian -le 1.12 yi meiyuan
high-quality community YOU *find* PERF *1.12 billion U.S dollars*
的 现钞。
de xianchao
DE *cash*
'On 22nd April, the U.S army found 1.12 billion U.S cash in a high-quality community in Baghdad, the capital of Iraq.'

First, let us take a look at the syntactic derivation of (47a). The main verb *qu* is base-generated at the syntactic position of V, and it merges with the internal argument *xuexiao*, and then the V' merges with the external argument *ta* to form the VP in the lexical field. At this stage, the VP cannot be named as a sentence, which is barely a language fragment, and it needs to incorporate other elements to form a sentence. In this case, it incorporates with the [+Perf] feature, while the feature of [+Perf] cannot be spelled out at the PerfP level because of the language typological difference, which forces the [+Perf] feature to incorporate with the feature of [+Aff], and the features [+Perf, +Aff] will be spelled out at the head of AffP with the surface morph *you*. Then TP merges, and the external argument moves to the specifier of TP because of EPP. The phonological realization of the [+emphatic] feature will be shown on *you*.[27] The derivation can be shown in the diagram below:

27. In Chinese "*you* + VP" construction, the [+emphatic] feature is realized by the intonation change, rather than syntactic derivation, see the detailed discussion in Li (2020, Chapter 3).

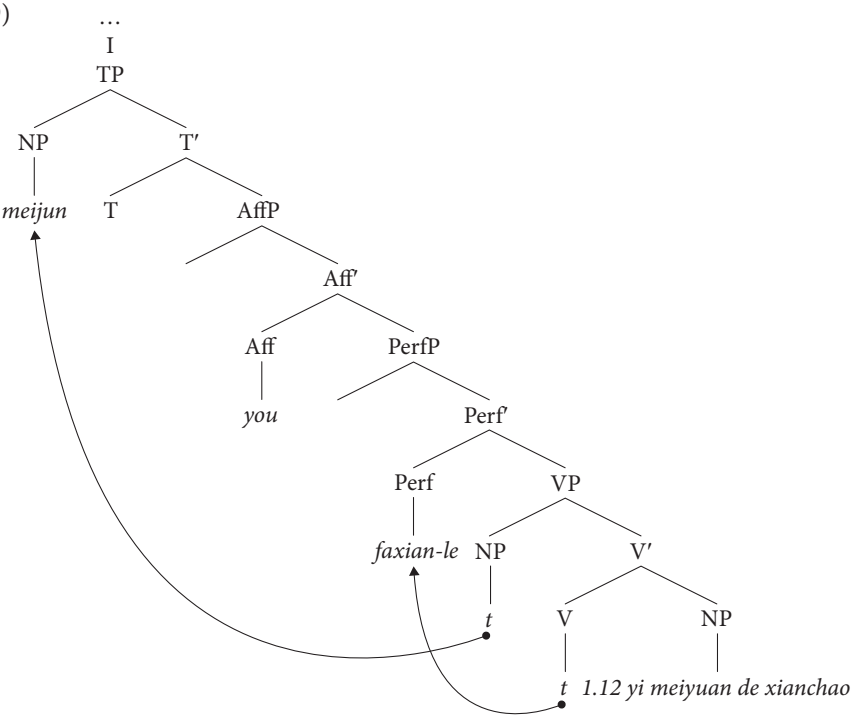
(48)



The second example is *you* without the [+perfective] feature; the derivation is almost the same as the first sentence. These two sentences differ in that the second sentence is with an overt perfective marker *-le*, which occupies the syntactic position of the head of PerfP, there is no further feature incorporation, but the main verb incorporates with the perfective marker because of the property of affixes. And then *you* is spelled out at the head of AffP with the phonological realization of the emphatic feature. The syntactic derivation can be shown in (49), and only the related trees are shown.

To sum up, in this section, a synthetic approach is suggested, and by comparing it with the nanosyntactic approach, the head movement derivation is subject to. Given the two features conveyed by *you*, two options are explored. The principles of OFOH and local simplicity are met.

(49)



6. Concluding remarks

This paper begins with the paradox of syntax-semantic mismatch of *you* in "*you* + VP" construction in Chinese, in order to address this question, a cartographic approach is respected. First, a review consisting of various claims on *you* from different perspectives, for instance, syntax, semantics, and cognition, is presented. The time spans from ancient Chinese to Modern Chinese. Some Chinese dialects, as well as crosslinguistic data, are also adopted as evidence. The review shows Chinese *you* can convey several possible features, i.e. [+past], [+future], [+perfective], as well as [+(emphatic) affirmative], its syntactic position, however, is put under the node of I or T for some reason. In other words, *you*'s syntactic representation, and its feature are in a "one-to-more" relation.

As the main principles of syntactic cartography, namely, "one feature, one head (OFOH)" and "local simplicity", are strictly followed during the analysis. In order to achieve a "one-to-one" relation between *you*'s syntactic and semantic representation, a verification of features is suggested, aiming to prove or to eliminate these features mentioned in the literature. The result shows *you* in "*you* + VP"

construction conveys only two features, i.e. [+Perf] feature and [+Aff] feature, while not both of them are always prominent or overtly shown during the derivation, for instance, *you* will only have the [+Aff] feature when there is another perfective marker co-occurring, for instance, *-le* or *-guo*. As such, two options are suggested; that is, *you* is with the features [+Aff, +Perf] when there is no other perfective marker, while it only conveys [+Aff] feature when there is another perfective marker. However, *you* with only one feature here does not mean that the other feature is deleted, it means this particular feature is not prominent when another marker shows, in *you*'s case, when there is another perfective marker, e.g. *-le/guo, you*'s [+Perf] feature is not as prominent as *-le/guo*.

Comparatively speaking, Chinese *you* shares some properties with English *do* concerning its syntactic position and requirements for occurrence. As such, by comparing these two auxiliaries in two languages, a *you*-support hypothesis is suggested to address the requirement of *you* in *"you* + VP" construction.

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References

Alexiadou, Artemis. 1997. *Adverb Placement: A Case Study in Antisymmetric Syntax* [Linguisik Atuell/Linguistics Today 18]. Amsterdam: John Benjamins. https://doi.org/10.1075/la.18

Bai, Wanru 1998. *Guangzhou Dialect Dictionary*. Nanjing: Jiangsu Education Press (白宛如, 1998,《广州方言词典》, 江苏教育出版社).

Baunaz, Lena, De Clercq, Karen, Haegeman Liliane & Lander, Eric. 2018. *Exploring Nanosyntax*. Oxford: OUP. https://doi.org/10.1093/oso/9780190876746.001.0001

Caha, Pavel. 2009. The Nanosyntax of Case. PhD dissertation, University of Tromsø.

Cao, Feng. Fu. & Zheng, Ying. 1997. On *you's* five usages and their relations in *Minnan* dialect. *Studies on Chinese* 2 (曹逢甫、郑萦, 1997, 谈闽南语"有"的五种用法及其间的关系,《中国语文研究》, 第 2期).

Chao, Yuen Ren. 1968. *A Grammar of Spoken Chinese*. Berkeley CA: University of California Press.

Cheng, Lisa L.-S. 2019. Verb-stranding ellipsis: Evidence from Cantonese. 1st International Workshop on Cantonese Syntax, Palacký University in Olomouc, Czech Republic.

Chen, Haiyan. 2004. A study of the Adverbiality of *you* in the structure of *you* VP. *Journal of Hainan Normal University (Social Science)* 6: 90–92 (陈海燕, 2004, 关于"有VP"中"有"的副词性探讨—兼谈"有没有VP"中"有"的副词性,《海南师范大学学报(社会科学版)》6:90–92).

Chomsky, Noam. 1957. *Syntactic Structures*. Gravenhage: Mouton. https://doi.org/10.1515/9783112316009

Chomsky, Noam. 1989. Some notes on the Economy of Derivation. In Laka Itziar and Mahajan, Anoop (eds.) *MIT Working Papers in Linguistics Vol 10: Functional Heads and Clause Structure*. MIT, Cambridge, Massachusetts.

Cinque, Guglielmo. 1999. *Adverbs and Functional Heads: A Cross-Linguistic Perspective* [Oxford Studies in Comparative Syntax]. Oxford: OUP.

Edmondson, Jerold A. 1983. Polarized Auxiliaries. In *Linguistic Categories: Auxiliaries and Related Puzzles, Vol. 1: Categories*, Frank Heny & Barry Richards (eds), 49–68. Dordrecht: Reidel. https://doi.org/10.1007/978-94-009-6989-6_3

Grice, H. Paul. 1975. Logic and conversation. In *Speech Acts* [Syntax and Semantics 3], Peter Cole & Jerry Morgan (eds), 41–58. New York NY: Academic Press.

Gu, Mingdi. 2016. The isomorphism research on "*You* N" and "*You* V" constructions. *Language Teaching and Researches* 4:104–112 (顾鸣镝, 2016, "有N"和"有V"的同构性研究,《语言教学与研究》4：104–112).

Heine, Bernd. 1993. *Auxiliaries: Cognitive Forces and Grammaticalization*. Oxford: OUP.

Heine, Bernd. 1997. *Possession: Cognitive Sources, Forces and Grammaticalization*. Cambridge: CUP. https://doi.org/10.1017/CBO9780511581908

Holmberg, Anders. 2003. Yes/no questions and the relation between tense and polarity in English. *Linguistic Variation Yearbook* 3(1): 43–68. https://doi.org/10.1075/livy.3.04hol

Holmberg, Anders. 2016. *The Syntax of Yes and No*. Oxford: OUP.

Huang, Borong. 1996. Hanyu Fangyan Yufa Leibian. Qingdao: Qingdao Press (黄伯荣, 1996,《汉语方言语法类编》, 青岛出版社).

Huang, C.-T. James. 1988. On be and have in Chinese. *Bulletin of the Institute of History and Philology, Academia Sinica* 59: 43–64 (黃正德, 1988, 說「是」和「有」,《中央研究院歷史語言研究所集刊》59:43–64).

Huang, C.-T James. 1989. Pro drop in Chinese: A generalized control approach. In *The Null Subject Parameter*, Osvaldo Jaeggli & Ken Safir (eds), 185–214. Dordrecht: Reidel. https://doi.org/10.1007/978-94-009-2540-3_6

Huang, C.-T. James. 2015. On syntactic analyticity and parametric theory. In *Chinese Syntax in a Cross-Linguistic Perspective*, Audrey Li, Andrew Simpson & Wei-Tien Dylan Tsai, 1–48. Oxford: OUP.

Kang, Xing. To appear. A cartographic analysis of broad existential sentence, *Language Sciences* (康兴, 待刊, 广义存现句的制图分析,《语言科学》).

Laka, Miren Itziar. 1990. Negation in Syntax: On the Nature of Functional Categories and Projections. PhD dissertation, MIT.

Li, Fuqiang. 2017. A Comparative Study of Light Verbs and Verb-resultative Compounds in CSL and ASL. MA thesis, Beijing Language and Culture University.

Li, Fuqiang. To appear. A cartographic approach on "you" in "you + NumP." *Journal of Beijing International Studies University*. (李富强, 待刊, "有+数量结构"中"有"的句法制图分析,《北京第二外国语学院学报》).

Li, Fuqiang. 2020. A Cartographic Study of Chinese "*you* (有)" in "*you* + VP" Construction. PhD dissertation, Beijing Language and Culture University.

Li, Jinxi. 1992. (1924/1957). *New Chinese Grammar*. Beijing: The Commercial Press (黎锦熙, 1992(1924),《新著国语文法》, 北京：商务印书馆).

Li, Rong. 1998. *Fuzhou Dialect Dictionary*. Nanjing: Jiangsu Education Press (李荣, 1998,《福州方言字典》, 江苏教育出版社).

Li, Xuefeng. 2008. Is *you* an auxiliary in Chinese? *Science & Technology Information* 35: 649–650 (李雪峰, 2008, 汉语中的"有"能否被看成助动词,《科技信息》35:649–650).

Liu, Li. 1997. The perfective function of *you* in *you* +VP in ancient Chinese. *Journal of Xuzhou Normal University (Philosophy and Social Science)* 1: 66–68 (刘利, 1997, 古汉语"有VP"结构中"有"的表体功能,《徐州师范大学学报(哲学社会科学版)》1:66–68).

Liu, Yuehua. et al. 2001. *A Practical Reference of Modern Chinese Grammar*. Beijing: The Commercial Press (刘月华, 2001,《实用现代汉语语法》, 北京:商务印书馆).

Luo, Chuilian. 1994. *You* in Ou language. *Journal of Wenzhou Normal College (Ph. & So. Scs.)* 2: 63–66 (骆锤炼, 1994, 瓯语的"有"字句,《温州师范学院学报(哲学社会科学版)》2:63–66).

Lv, Shuxiang. 2005 [1979]. *Issues on Chinese Grammar Analysis*. Beijing: The Commercial Press (吕叔湘, 2005[1979],《汉语语法分析问题》, 北京:商务印务书馆).

Lv, Shuxiang. 1999. *Eight Hundred Words in Modern Chinese*. Beijing: The Commercial Press (吕叔湘等, 1999,《现代汉语八百词》, 北京:商务印书馆).

Pollock, Jean-Yves. 1989. Verb movement, universal grammar and the structure of IP. *Linguistic Inquiry* 20: 365–424.

Reichenbach, Hans. 1947. *Elements of Symbolic Logic*. New York NY: Macmillan.

Rizzi, Luigi. 1997. The fine structure of the left periphery. In *Elements of Grammar*, Liliane Haegeman (ed.), 281–337. Dordrecht: Kluwer. https://doi.org/10.1007/978-94-011-5420-8_7

Rizzi, Luigi. 2004a. Locality and left periphery. In *Structures and Beyond, The Cartography of Syntactic Structures*, Adriana Belletti (ed.). Oxford: OUP.

Rizzi, Luigi (ed.). 2004b. *The Structure of IP and CP. The Cartography of Syntactic Structures*, Vol. 2. Oxford: OUP.

de Saussure, Louis. 2011. Temporal reference in discourse. In *Cambridge Handbook of Pragmatics*, Keith Allan & Katarzyna Jaszczolt (eds). Cambridge: CUP.

Shi, Dingxu, Wang, Canlong & Zhu, Zhiyu. 2002. Syntactic changes induced by language contact: The case of Hong Kong written Chinese. Yuyan Wenzi Yingyong 8: 23–32 (石定栩, 王灿龙, 朱志瑜, 2002, 香港书面汉语句法变异:粤语的移用、文言的保留及其他,《语言文字应用》8:23–32).

Shi, Youwei. 1984. On verb+*you*. *Essays on Linguistics* 13 (史有为, 1984, 关于"动+有",《语言学论丛》, 第十三辑).

Shi, Yuzhi. 2004. The possession verb of Chinese and the expression of perfect aspect. *Studies in Language and Linguistics* 2: 34–42 (石毓智, 2004, 汉语的领有动词与完成体的表达,《语言研究》(2):34–42).

Shi, Yuzhi & Li, Ne. 2001. *A History of Grammaticalization in Chinese: Motivations and Mechanisms of Evolution of Chinese Morpho-syntax*. Beijing: Beijing University Press (石毓智, 李讷, 2001,《汉语语法化的历程—形态句法发展动因和机制》, 北京:北京大学出版社).

Si, Fuzhen. 2002. Multiple Feature Checking and its Syntactic Consequences. PhD dissertation, Beijing Language and Culture University.

Si, Fuzhen. 2018a. New developments of the theory of syntactic cartography. *China Social Science Newspaper* (司富珍, 2018a, 句法制图理论在中国的新进展,《中国社会科学报》, 2018-01-02(003)).

Si, Fuzhen. 2018b. Syntactic cartography of light verbs. Yuwen Yanjiu 1:11–17 (司富珍, 2018b, 轻动词结构的层级制图,《语文研究》第1期11–17).

Si, Fuzhen. 2019. New horizons in syntactic cartographic studies. *Language Teaching and Linguistic Studies* 3: 25–37 (司富珍, 2019, 句法制图研究的新视野,《语言教学与研究》3:25–37).

Smith, Carlota S. 1997. *The Parameter of Aspect*. Dordrecht: Kluwer. https://doi.org/10.1007/978-94-011-5606-6

Song, Jinlan. 1994. New research on *You*-sentence: The aspectual usage of *you*. *Journal of Qinghai Shizhuan* (2):33–37 (宋金兰, 1994, "有"字句新探:"有"的体助词用法,《青海师专学报》, 第2期33–37).

Starke, Michal. 2002. *The day syntax ate morphology*. Class taught at the EGG summer school, Novi Sad.

Starke, Michal. 2005. *Nanosyntax*. Seminar taught at CASTL, University of Tromsø.

Starke, Michal. 2009. Nanosyntax: A short primer to a new approach to language. *Nordlyd* 1(36): 1–6.

Starke, Michal. 2014. Towards an elegant solution to language variation: Variation reduces to the size of lexically stored trees. In *Linguistic Variation in the Minimalist Framework*, Carme M. Picalo (ed.), 140–153. Oxford: OUP. https://doi.org/10.1093/acprof:oso/9780198702894.003.0007

Starke, Michal. 2018. Complex left branches, spellout, and prefixes. In *Exploring Nanosyntax*, Lena Baunaz, Karen De Clercq, Liliane Haegeman & Eric Lander (eds), 239–249. Oxford: OUP.

Stowell, Tim. 2008. Where the past is in the perfect. In *Tiempos compuestosy formas verbales complejas* [Lingüistica Iberoamericana 34], Ángeles Carrasco Gutierrez (ed.), 103–118. Madrid & Frankfurt: Iboamericano & Vervuert. https://doi.org/10.31819/9783865278654-004

Sun, Honglin. 1996. Existence sentence composed by V+*you*. *Chinese Teaching in the World* 2 (孙宏林, 1996, 由"V+有"构成的存在句,《世界汉语教学》, 第2期).

Sun, Jing. 2005. A Study on "You (有)+VP" Structure in Mandarin Chinese. MA thesis, The Chinese University of Hong Kong.

Tai, James H-Y. 1984. Verbs and times in Chinese: Vendler's four categories. In *Papers from the Parasession on Lexical Semantics, Chicago Linguistic Society*, David Testen, Veena Mishra & Joseph Drogo (eds), 289–296. Chicago IL: CLS.

Vendler, Zeno. 1967. *Linguistics in Philosophy*. Ithaca NY: Cornell University Press. https://doi.org/10.7591/9781501743726

Wang, Dongmei. 2014. On assertion and description from *shi, de, you* and *le*. Zhongguo Yuwen 1: 22–34 (王冬梅, 2014, 从"是"和"的"、"有"和"了"看肯定和叙述,《中国语文》1:22–34).

Wang, Guoshuan & Ma, Qingzhu. 2008. The structure of *"you + VP"* (+*le*) in Putonghua. Nankai Yuyanxuekan 2: 87–91 (王国栓, 马庆株, 2008, 普通话中走向对称的"有+VP(+了)"结构,《南开语言学刊》2:87–91).

Wang, Sen, Wang, Yi & Jiang, Li. 2006. On the constructions of *youmeiyou/you/mei"you + VP"*. Zhongguo Yuwen 1: 10–18 (王森, 王毅, 姜丽, 2006, "有没有/有/没有+VP"句,《中国语文》1:10–18).

Wang, Shuying. 2007. You-wu sentence in Minnan dialect. *Journal of Minjiang College* 4:34–38 (王树瑛, 2007, 闽南方言中的"有-无"句,《闽江学院学报》(4):34–38).

Wen, Suolin. 2012. You (有) as an informational focus marker in the construction of 'you + quantative phrase'. *Studies of the Chinese Language* 1: 29–37 (温锁林, 2012, "有+数量结构"中"有"的自然焦点凸显功能,《中国语文》1:29–37).

Xiang, Mengbing. 1997. Liancheng Hakkahua Yufa Yanjiu. Beijing: Yuwen Chubanshe (项梦冰, 1997,《连城客家话语法研究》, 语文出版社).

Xing, Fuyi. 1990. *Youmeiyou* VP question sentence. *Journal of Huazhong Normal University (Humanities and Social Sciences)* 1: 83–87 (邢福义, 1990, "有没有VP"疑问句式,《华中师范大学学报(人文社会科学版)》1:83–87).

Xiong, Zhongru. 2016. A syntactic analysis of degree construction with *you* in Chinese. *Language Teaching and Linguistic Studies* 4: 46–55 (熊仲儒, 2016, 汉语量度有字句的句法分析,《语言教学与研究》4:46–55).

Xu, Baohua & Gongtian, Yilang. 1999. *Chinese Dialect Dictionary*. Beijing: Zhonghua Book Company (许宝华, 宫田一郎, 1999,《汉语方言大词典》, 中华书局).

Yang, Wenquan & Dong, Yuwen. 2003. Language change: On Chinese *"you + VP"*. Yuwen Jianshe Tongxun 75 (杨文全, 董于雯, 2003, 语言变异:汉语"有+VP"句简析,《语文建设通讯》75).

Yan, Yiming. 2000. Zhenan Ou Language. Sjanghai: Huadong Normal University Press (颜逸明, 2000,《浙南瓯语》, 华东师范大学出版社).

Zhai, Aitang. 1988. On the morphology of Sino-Tibetan languages. *Minority Language of China* 4 (翟霭堂, 1988, 论汉藏语言的形态,《民族语文》, 第4期).

Zhang, Bin. 2005. *Ten Talks on Modern Chinese Grammar*. Sjanghai: Fudan University Press (张斌, 2005,《现代汉语语法十讲》, 复旦大学出版社).

Zhang, Zhenxing. 1983. Taiwan Minnan Fangyan Jilue. Taibei: Wenshizhe Press (张振兴, 1983,《台湾闽南方言记略》, 台北:文史哲出版社).

Zheng, Yide. 1985. You-Sentence in Fuzhou Dialect, *Dialects* 4: 309–313 (郑懿德, 1985, 福州方言的"有"字句,《方言》4:309–313).

Zhou, Changji. 1998. *Xiamen Dialect Dictionary*. Nanjing: Jiangsu Education Press (周长楫, 1998,《厦门方言词典》, 江苏教育出版社).

Zhu, Xiaohong. 2004. A new view on *"you + VP"* structure. *Journal of Language and Literature Studies* 11: 102–103 (祝晓宏, 2004, "有+VP"结构新探,《语文学刊》, 第 11期102–103).

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This book illustrates recent developments in cartographic studies, seen from a comparative perspective. The different chapters explore various aspects of theoretical and descriptive syntax, bearing on such topics as selection, causativity, binding, light verb constructions, the structure of the high and low peripheral zones. Syntactic issues in the study of dialects and ancient languages are also addressed. The languages investigated include French, Hebrew, Standard Dutch and the Ghent dialect, Etruscan, Japanese, English, Arabic, Mandarin Chinese and the Teochew dialect. The intended readers of this book include researchers and students working on natural language syntax, the interface between syntax and semantics/pragmatics, and comparative and typological linguistics, as well as scholars interested in particular languages such as East Asian and Romance languages.

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