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The Syntax of Information-Structural Agreement

Johannes Mursell

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The Syntax of Information-Structural Agreement
by Johannes Mursell

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Johannes Mursell
Goethe University Frankfurt

John Benjamins Publishing Company
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List of symbols and abbreviations

ABL	ablative postposition
ABS	absolutive
ABST	abstract suffix
ACC	accusative
ACT	Active
ACTOR	actor-subject
AN	animate
AI	animate intrans.
AOR	Aorist
APPL	applicative
AUG	augmentative
BENEF	beneficiary-subject
CAUS	causative
CLEFT	cleft marker
C	complementizer
CJ	conjoint
CONJ	conjunct
CONTEMP	contemplative aspect
CONT	continuity marker
CVB	converb
DAT	Dative
DEF	definite
DEM	demonstrative
DET	determiner
DOM	differntial object marker
DIR	directional
DJ	disjoint
DU	Dual
EFOC	emphatic focus
EMPH	emphatic particle
ERG	ergative
EVID	evidential
EX	exclusive
EXIS	existential
F	feminine
FOC	Focus
FP	focus sensitive particle
FUT	Future
GEN	genitive
HAB	habitual
IMP	imperative mood marker
IMPF	imperfective
INAN	inanimate
INF	infinitive
INST	instrumental
INV	Inverse
IRR	irrealis marker
LAT	lative
LIG	ligature
LNK	linker
LOC	locative
M	masculine
MOD	modifier demonstrative
NEG	negation
N	neuter
NTRL	neutral distance
NOM	nominative
NON.EXIS	nonexistential
NONF	non-feminine
NF	non-finite
OV	object voice
O	object
OM	object marker
OBL	oblique
OBV	obviative
PTCP	participle
PART	participle agr.
PRT	particle
PST	past
PERF	perfect
PL	plural
POSS	possessive

P	preposition
PRS	present
PSNV	presentative
PRET	preterite
PROG	progressive
PN	pronoun demonstrative
PROS	prospective
PROX	proximal
PURP	purposive
Q	question particle
QUOT	quotative
RES	resultative
SG	singular
S	subject
SUBJ	subject marker
SBJ	subjunctive
THEME	theme-subject
TOP	topic
TA	trans. animate
TI	trans. inanimate
UWPST	unwitnessed pst.
VAL	valency increasing marker

CHAPTER 1

Introduction

Information structure in general describes a wide class of phenomena used to organize the various components and layers of information of an utterance. Information-structural marking or "Information Packaging" (Chafe 1976) can be achieved in a variety of ways, via phonological or syntactic means, mostly dependent on the particular language. In addition to very different marking strategies, the dimensions which are taken into account for information-structural marking also vary across languages, and even though the various dimensions can overlap, not all languages have mechanisms available to encode all of the distinctions. The marking of particular information-structural categories is context dependent, being determined by the mental states of the individual speakers as well as what the speakers take to be the shared knowledge of the participants of a particular conversation, the Common Ground. Due to the strong influence of the context and due to the observation that most information-structural marking does not affect the truth-conditional meaning of the utterance, information structure is very often considered to be a pragmatic phenomenon.

To exemplify this, consider the exchange in (1), a question-answer pair, one of the typical diagnostics of one information-structural category, focus. As the answer in (1b) shows, the constituent corresponding to the wh-element in the question receives a pitch-accent, which in English and other languages, is used to encode focus. When trying to describe the meaning contribution of focus in (1b), focus appears to mark the new information provided by the speaker meant to fill the gap in information indicated by the initial question. Compare the appropriate answer in (1b) with the answer in (1c). Even though changing the placement of the pitch accent from the object to the subject does not produce a grammatically wrong sentence, it is nevertheless an infelicitous answer, as the information that is highlighted does not correspond to the gap indicated by the question in (1a).

(1) a. What did Paul eat for dinner?
    b. Paul ate CAKE for dinner.
    c. #PAUL ate cake for dinner.

However, the use of focus exemplified in (1) is just one of its several uses, and consequently, focus is not equated with new information in general but rather with indicating possible alternatives to the constituent that is marked as focus. The focus

of an utterance is often contrasted with its background, which is in principle the rest of the utterance except the focus.

A second information-structural dimension that also highlights the second fundamental information-structural category that will play a role in the book, is the dimension of topic – comment. The topic can be described as the element that the sentence is about, and the comment then provides some information about the topic. Consider, for example, again the answer in (1b). In it, *Paul* is the topic of the answer, about whom some information is provided, namely that he ate cake for dinner. Similar to focus, different uses of topics need to be distinguished, and even though (1b) might suggest that topics are usually old information, information that is already present in the discourse, this is not always true, as the example in (2) from Krifka (2008: 265) shows, where the topic is new in the discourse.

(2) [A good friend of mine]$_{\text{Topic}}$ [married Britney Spears last year]$_{\text{Comment}}$.

Another pair of information-structural categories that is often considered opposites is the given information – new information contrast. As shown above, new information is often marked by focus, which is expressed with a pitch accent in English. Given information, information that is already part of the Common Ground, can also be marked phonologically, by deaccenting, but other marking strategies are also common. Thus, in the two sentences in (3), the subject *Paul* of the first sentence is replaced by a personal pronoun in the second one. Personal pronouns are one of the typical devices to indicate that their referent is already part of the Common Ground.

(3) Paul ate cake for dinner. He likes this aspect of the quarantine.

Given these examples, it seems tempting to equate focus with new information and topic with old and given information. However, all of these information-structural dimensions are independent of each other and can even be combined, given the right context. For example, in (4), focus in the answer is clearly on a constituent that was already given in the question.

(4) A: Did Paul or Frank eat cake for dinner?
B: PAUL ate cake for dinner.

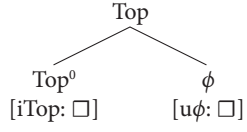
Many of the information-structural categories just introduced will play a role in the chapters to come. However, I will focus mainly on one particular aspect of these categories, namely on their syntactic encoding and the effect this encoding can have on other syntactic processes. As I have mentioned above, encoding of information-structural categories of well-studied languages is very frequently phonological but it can also be marked syntactically. The most frequent syntactic

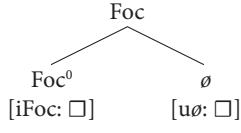
way to mark information structure in the syntax in English is by left dislocating the respective element, for example a topic, as shown in (5).

(5) Cake for dinner, Paul really likes.

There are, however, various problems associated with the syntactic encoding of information structure. Due to their strong relation to pragmatics and their context dependence, the status of information-structural information, if thought of as features like [topic] or [focus], as true syntactic primitives has often been questioned, and syntactic processes apparently caused by these types of information-structural features have been attributed to other factors.

The book provides arguments in favor of the syntactic reality of information-structural features, mostly by investigating the impact information-structural features have on other syntactic processes like φ-feature agreement. Concretely, following much earlier work, I will assume that information structure is encoded in dedicated functional projections in the peripheries of CP as well as vP. In addition to hosting the relevant information-structural features, as I will argue below building on work by Miyagawa (2010, 2017), these heads also contain a set of φ-features bundled with the [topic] or [focus] feature in certain languages, respectively. Structurally, this can be represented as follows.

(6)


(7)


Assuming structures like (6) and (7) in the peripheries of vP and CP will allow for analyses of phenomena in various languages that so far have proven difficult to analyze in current syntactic theory. As it will turn out, information-structural projections cannot only be combined with φ-features, but also with movement-triggering features. For the high CP periphery, this has long been known, as dislocation to the CP is one of the more frequent ways to encode information-structural marking. I will argue that such a movement can also be found in the low periphery, in the vP.

Turning to the structure of the book, after the introduction, I will present the necessary background assumptions in Chapter §2. In this chapter, I will discuss several of the information-structural categories that have been introduced above, and how they can be encoded syntactically. In general, I will follow proposals that

assume dedicated information-structural projections in the peripheries of CP and vP, with different information-structural categories being encoded in different positions. In addition, I will also discuss the proposals on which (6) and (7) are based, feature inheritance (Chomsky 2008) and Strong Uniformity Miyagawa (2010, 2017).

Chapter §3 then discusses the phenomenon of long distance agreement, agreement relations that seem to cross finite clause boundaries and therefore appear to violate the Phase Impenetrability Condition. Assuming that languages in which long distance agreement takes place host a complex information-structural head like (6) or (7) in their CP periphery allows for an analysis of the long distance agree relation in terms of successive cyclic agree. Thereby, similar to wh-movement, the CP of the embedded clause provides the intermediate agreement step and enables the connection between the relevant element in the matrix clause, the verb in this instance, and the embedded, information-structurally marked, agreement target.

In Chapter §4, I investigate object marking in the Bantu language Swahili. As object marking in Swahili and in many Bantu languages in general is not always obligatory, it has long been a controversially discussed phenomenon, with the discussion focussing on the triggers that cause the presence of object marking. Applying the insights discussed in §2 to Swahili, I will argue that the vP periphery hosts a topic projection with a complex topic head similar to (6). This topic head is responsible for the occurrence of object agreement, with the presence of the object marker depending on the object being marked for Givenness, the topical information encoded in the low topic head in the vP periphery.

The analyses in Chapters §3 and §4 crucially depend on information-structural features being bundled with φ-features. In Chapter §5, I turn to information-structural heads that are combined with movement-triggering features. Such heads are well-known from the CP periphery of the clause, where they frequently trigger dislocation. In Chapter §5, I take such a head to be present in the vP periphery of the Austronesian language Tagalog. Similarly to the low topic head in Swahili, it encodes Givenness, but successful agreement with a given element in its c-command domain does not result in the exponence of φ-features, but triggers movement of the agreement goal into its specifier. As the information-structural head in the vP is the highest head of that phase, the moved element subsequently occupies the phase edge and provides the closest agreement goal for T. Thus, the chapter provides an account for subject agreement and subject marking in Tagalog based on Givenness of the subject.

After having discussed different information-structural heads in the CP and vP peripheries, I turn to a third environment in which information-structural marking occurs frequently in Chapter §6, namely focus particles that mark constituents as in focus. In the Papuan language Lavukaleve, the focus particles show φ-feature agreement with the constituent they mark, providing evidence for a lexical item in

the shape of (7). Of particular interest in this chapter will be cases of wide focus marking, in which either the VP or the vP is marked as in focus. In both cases, the focus particles occur sentence finally, but they agree with different elements, with the object in VP focus, and the subject in vP focus. In the analysis, I will argue that the wide focus contexts require a set of φ-features in the CP to derive the respective agreement patterns, providing another argument for the structure in (7).

The next two chapters are concerned with a different phenomenon involving focus, namely association with focus. Above, I mentioned that focus by itself does not affect the truth conditions of the sentence it occurs in and is therefore often treated as pragmatic phenomenon. This changes when so-called *focus sensitive particles* are involved, which are said to associate with a focussed constituent and, based on which constituent is in focus, impact the truth conditions. Thus, association with focus is a phenomenon where focus has a semantic impact. In Chapter § 7 I provide a more general discussion of association with focus, mainly concerned with English and the different analyses that have been proposed in the literature. I will argue that association with focus is best analyzed as an agreement relation based on focus features that involves the focussed constituent, the focus sensitive particle and the focus head in the CP periphery. Most properties of association with focus can be derived from this agreement relation. In Chapter § 8, I turn to association with focus in German. In German, the literature on this phenomenon is mostly concerned with the syntactic position of the focus sensitive particles, their adjunction site. I will argue that earlier proposals, restricting the adjunction of focus sensitive particles to extended verbal projections, make better predictions than alternative analyses, especially when combined with the agreement based approach to association with focus laid out in Chapter § 7.

Chapter §9 concludes, summarizing the main findings, and pointing out directions for further research.

In general, this work as a whole can be seen as an exploration of what is possible when information-structural features are assumed to be fully genuine syntactic features. All the phenomena discussed here can be reduced to the same basic assumptions, namely that information-structural features behave similarly to other syntactic features. Consequently, the book adds to the growing body of evidence, especially based on cross-linguistic investigations, that the impact of information-structural features on agreement and therefore on many other syntactic processes should not be underestimated.

CHAPTER 2

Theoretical background

2.1 Introduction

Before I start presenting arguments in favor of the syntactic nature of information-structural agreement, it is of course necessary to present some theoretical background. While most of these background assumptions are not particularly controversial, it still is important to make them explicit to facilitate the arguments presented in the chapters to come. Many of the points to be discussed in this chapter are interrelated, but not all can be discussed together to avoid confusion.

I will start by discussing more general points about the fundamental syntactic architecture I assume and about agreement in Section § 2. This will also include a discussion of the question whether information-structural features belong to this syntactic architecture. The whole book is intended to provide arguments for a positive answer to that question. In this section, however, I will briefly discuss arguments from the literature that have been adduced in support of a negative answer. Under the assumption that information structure is a syntactic phenomenon, the question immediately arises how this can be encoded. This will be the topic of Section § 3. There, I will turn to the syntactic structure, discussing especially the way information-structural information is combined with other elements, i.e. how, for example, a focus feature comes to mark a particular constituent as in focus. In this section, I will also discuss cases in which the constituent that is in focus is actually larger than what is marked as in focus, for example, by intonation. These cases of so-called focus projection will frequently play a role throughout this work. The next two sections will then discuss dedicated information-structural projections in the peripheries of the CP and the vP. Starting with the CP in Section § 4, I will summarize the relevant points from the literature, focusing on the types of information-structural information that is encoded in the left periphery of the clause. The information-structural projections in the vP will be treated in Section § 5. As this area of information-structural encoding has received considerably less attention than the CP, I will discuss concepts such as *new information focus* or *Givenness* in some more detail in this section. One of the important points that will emerge from these two sections is the general observation that different information-structural categories are encoded in different peripheries, where the CP very often hosts what can be called the more emphatic subtypes of topics and

foci. Section § 5 presents the most controversial part of this theoretical introduction, as it can be considered to be part of the background as well as already part of the analysis, the proposal of Strong Uniformity (Miyagawa 2010, 2017), in combination with the idea of feature inheritance (Chomsky 2008). I will outline how assuming that information-structural features and φ-features are merged on the same head allows for a new view on the interaction of these two types of features. In this section, I will also take this approach a step further, and assume that these two different types of features are not only merged on the same head but even can become bundled, even more intimately connected. This section concludes with presenting some more recent literature that can be argued to employ very comparable mechanisms. Section § 6 concludes and provides a brief summary.

In general, this chapter also introduces the notational conventions I will adhere to throughout this book. For prosodic focus marking, I will capitalize the accented syllable. If it becomes necessary to mark focus features, on words or constituents, this will be done with a subscripted F. For movement, I will indicate traces in angled brackets ⟨…⟩. If it becomes necessary to distinguish LF movement from overt movement, angled bracket will mark LF-moved elements, and the more traditional ~~strikethrough~~ will be used to mark syntactic movement.

2.2 The general architecture

In this section, I briefly present the general syntactic mechanisms I assume, pointing out the constraints and processes that will be relevant to this topics discussed here. In the second subsection, I will discuss one of these processes, agreement, in some more detail and present the theory of AGREE as laid out in Pesetsky & Torrego (2007), as this will be one of the crucial components in all the chapters to come. The last subsection then discusses the question whether information structure, and more particularly, information-structural features have a place in this system, mostly looking at proposals that answer this question negatively.

2.2.1 Syntactic fundamentals

As the Minimalist Program (Chomsky 1993, 1995, 2000, 2013, 2015) is not a syntactic theory but more a way of approaching syntactic research, there is not the one established way to built syntactic structures, even though many proposals share most of the fundamental assumptions. In this book, I assume a rather naive system. As inherent in any minimalist approach to syntactic structure, the basic components are simple. A lexicon contains lexical entries with semantic, syntactic, and

phonological information, or features, of which especially the later can be null. The relevant lexical entries for a particular derivation are selected from the lexicon and placed in the numeration.[1] As will become clear shortly, the presence of a numeration, potentially restricted by phases, is crucial for the discussion to come.[2] The derivation then consists of successive cyclic applications of a small number of operations. After SELECT takes place, taking an item from the numeration and placing it in the workspace, the next, maybe most fundamental operation is MERGE, which can be external, merging an element from the numeration, or internal, merging an element again that has already been merged, giving the impression that this element has been moved. The second operation is AGREE, which on the one hand can be assumed to regulate MERGE, but also establish connections between elements across a distance. Certain other operations that have been proposed, like ADJOIN or LABEL will not play a role here.

While discussing the general nature of syntactic derivations is beyond the scope of this introduction, it needs to be pointed out that at several points during the construction of a sentence, the ordering of functional projections does not follow from the make-up of the elements involved in the derivation, but needs to be determined externally. For example, the merging of V and its internal argument, could be argued to be due to some kind of feature that V carries, for example [uD]. For the various sequences of functional projections, it is much more difficult to argue that their order is also due to some kind of selection. Consequently, I assume that the grammar provides a hierarchy of projections, determining the order in which these functional projections have to be merged. This hierarchy is needed to fix the order of functional projections in various areas of the sentence, and proposals for certain fixed ordering have been made especially in the Cartographic tradition, for example for the CP in Rizzi (1997) or for the TP and DP in Cinque (1999) and Cinque (2010), respectively.

Two general conditions constrain the applications of the operations SELECT, MERGE, and AGREE discussed above, the Extension Condition and the Inclusiveness Condition, of which especially the latter has figured prominently in the discussion of the role of information-structural features as part of the syntax. Starting with the former, the Extension Condition has, as far as I know, never been properly defined by Chomsky, and can be found in various versions and also under the name No

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1. "Let us take a *numeration* to be a set of pairs (LI,*i*) where LI is an item of the lexicon and *i* is its index, to be understood to be the number of times that LI is selected." (Chomsky 1995: 225)

2. In current work, Chomsky (2019) does not assume a numeration as part of the system anymore (thanks to Elly van Gelderen (p.c.) for bringing this to my attention). Instead, operations are restricted to elements that have been placed in certain workspaces.

Tampering Condition (NTC). The condition states that all operations, referring especially to (internal and external) MERGE need to target the root of the tree, leaving the lower structure unchanged. One formulation of this condition from Chomsky (2008) is given in (1).

(1) Merge of X and Y leaves the two SOs [Syntactic Objects, JM] unchanged.

The second important condition, the Inclusiveness Condition, states that nothing new can be added in the course of the derivation, and only the items from the numeration can be used. (2) gives the formulation of this condition by Chomsky (1995: 209).

(2) [A]ny structure formed by the computation […] is constituted of elements already present in the lexical items selected for N [Numeration, JM]; no new objects are added in the course of computation apart from rearrangements of lexical properties (in particular, no indices, bar levels in the sense of X-bar theory […]).

Especially the Inclusiveness Condition can be thought of as an ideal condition that a perfect computational system for human language should meet. As it stands, many violations of it can be observed, especially on PF with the insertion of various prosodic elements. Nevertheless, it has had a strong impact on syntactic theory, especially when its effect on GB-area syntax is taken into consideration. X'-theory crucially relied on the presence of intermediate 'bar' levels as well as maximal projections. If the Inclusiveness Condition is taken seriously, then all the levels are merely projections of the head and should therefore also be labeled like this, instead of X' and XP. As already pointed out above, for readability's sake, I will keep using X' and XP in the structures, simply to indicate that a head, lexical or functional, has projected its features.

The second and more severe consequence of the Inclusiveness Condition for the discussion at hand relates to information-structural encoding. As information structure is context-dependent and therefore arguably not part of the lexicon, it can also not be part of the numeration, and is consequently excluded based on the Inclusiveness Condition. This is of course not to mean that every derivation needs to be completely context independent. The choice of particular lexical items, for example pronouns or determiners, will always be driven by contextual considerations, as the utterances need to fit the discourse they are part of. For information-structural information, this is different, as focus or topic marking are not lexical items by themselves but additions to already existing items. If this is to be handled simply through selection from the lexicon, as, for example the choice in selection between a pronoun and its co-referring R-expression, this would require at least three distinct lexical entries for the same item, a focussed one, a topic-marked

one, and one without any marking, which is simply not feasible. These considerations have led many linguists to the conclusion that information-structural effects in the syntax are based on other types of features. I will discuss some proposals in this line of research in the last subsection of this section. Before that, however, the next subsection will discuss the second fundamental syntactic operation, AGREE.

2.2.2 Agreement

As described above, operations like MERGE are driven by features which enter into an AGREE relation before internal MERGE (movement) takes place or, in some approaches, even as precondition for external MERGE. These features can be of two different kinds, they can be either interpretable, like the φ-features on a nominal, or they can be uninterpretable, like *phi*-features on T [$u\varphi$]. However, since interpretability is not visible to the syntax, another dimension is added, the dimension of valuation. Features thus cannot only vary in being interpretable or uninterpretable, they can also vary in being valued or unvalued. In earlier approaches, interpretability and valuation were connected, as interpretable features were always valued, and uninterpretable features were always unvalued. As the value, in contrast to the interpretability, was visible to the syntax, this allowed the system to function properly. Uninterpretable features, being unvalued, act as probes and search their c-command domain for a valued, interpretable counterpart, a goal, so that the value of the goal can be copied to the probe. Once the uninterpretable, unvalued feature has found a matching goal and copied its value, the uninterpretable feature is deleted. For the structure to converge successfully, all uninterpretable features need to have been deleted before the structure undergoes spell-out. In Chomsky (2000, 2001) this is formally defined as follows.

(3) **AGREE (Assignment version)**
   a. An unvalued feature F (a probe) on a head H scans its c-command domain for another instance of F (a goal) with which to agree.
   b. If the goal has a value, its value is assigned as the value of the probe.

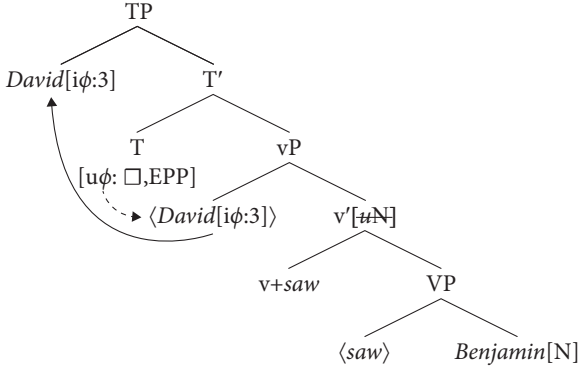
(4) **Valuation/Interpretability Biconditional**
   A feature F is uninterpretable iff F is unvalued.

(5) **Deletion of uninterpretable features**
   Once an uninterpretable feature is valued, it can and must delete.

Even though this is not the approach I am assuming here, consider as example how AGREE works with respect to subjects in English, shown in (6). It is usually assumed that subjects are merged in the specifier of v and then move up to the specifier of T. This movement is, in principle, due to two different features of T. First, T carries

unvalued, uninterpretable *φ*-features, which is a cover term for person, number and gender features. As those features in T are unvalued and uninterpretable, T acts as a probe and agrees with the first host of valued, interpretable *φ*-features in its c-command domain, which will be the subject in spec-vP.[3] However, AGREE by itself does not trigger movement, as AGREE across a distance is easily possible, as will be discussed in several chapters to come, so that a spec-head configuration, created by a strong feature on a head attracting its weak counterpart into its specifier, as envisioned by Chomsky (1995) is not necessary for the valuation of features. Instead, following much of the syntactic literature post Chomsky (2000, 2001), I assume that movement is triggered by an additional feature, the [EPP] feature, which is a language specific property of certain heads.[4] In the structure in (6), the dashed line indicates agreement, the solid line indicates movement.[5]

(6)



In accordance with (3a), the features on the higher head, due to being unvalued, probe and find another, valued instance of the features, a goal, in their c-command domain, as part of the subject in spec-vP. AGREE takes place (3b) and the [EPP] triggers movement of the goal to the specifier of the probe. Consequently, the initially unvalued uninterpretable features have received a value and are therefore deleted, see (5).

It is important to note that in this system, only two kinds of features are permitted. From the valuation/interpretability biconditional (4) it follows that only

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3. I ignore questions of activity here, as they are not directly relevant for the discussion to come. See, for example, Nevins (2004) for an early critical evaluation of the Activity Condition.

4. Again, the discussion around the [EPP]-feature is not directly relevant for the points to be made here, but see, for example, Svenonius (2002) for discussion.

5. Concerning the notational conventions for features, *i* indicates an interpretable (instance of a) feature, whereas *u* indicates an uninterpretable one. Following the colon is the value of the feature, in which ☐ indicates an unvalued feature.

the combinations valued/interpretable and unvalued/uninterpretable are possible feature combinations.

However, except the assumption that interpretability is not visible to the syntactic derivation, there is no argument in favor of (3)–(5). One possible modification is provided by Pesetsky & Torrego (2007), who discard the valuation/interpretability biconditional in (4) and allow for all four possible feature combinations as shown in the Table 2.1 (the new ones are marked in bold).

Table 2.1 Feature combinations according to Pesetsky & Torrego (2007)

	Valued	**Unvalued**
interpretable	iF:val	**iF** [ ]
uninterpretable	**uF:val**	uF [ ]

One possible example for the new feature combinations is the relation between T and the finite verb. T is the position in which it is usually assumed that tense is semantically interpreted, even though it is morphologically marked on the finite verb and not T itself. Thus, it seems feasible to assume that T carries an interpretable but unvalued [Tns] feature, while the finite verb is merged with an uninterpretable but valued [Tns] feature, reflecting the tense morphology on the verb. In the representation below, AGREE between two features is marked by sharing the same number inside the square brackets, while the possible value is given following the colon.

(7) …T …[$_v$walked] … → … T … [$_v$walked] …
…[iTns:□] …[uTns:past[**4**]] … → … [iTns:**4**] … [uTns:past[**4**]] …

This, however, is not the only point in which the AGREE system proposed by Pesetsky & Torrego (2007) differs from the traditional one. Not only do they modify the kinds of permissible features, but also the AGREE process itself which is now modeled as feature sharing. Consequently, if AGREE takes place between two features, the goal feature is copied to the location of the probe feature and the same feature is present in two locations. Thus, the assignment version of AGREE in (3) is replaced by the feature sharing version in (8), (4) is dropped, while (5) is maintained.

(8) **Agree (Feature sharing version)**
   a. An unvalued feature F (a probe) on a head H at syntactic location α (F_α) scans its c-command domain for another instance of F (a goal) at location β (F_β) with which to agree.
   b. Replace F_α with F_β, so that the same feature is present in both locations.

For most of the cases, for example cases in which an uninterpretable unvalued probe probes for a goal, finds a valued interpretable instance of the same feature,

takes on its value and deletes, the modified version predicts the same result as Chomsky's original AGREE. In addition to that, however, AGREE between two unvalued instances of a feature is possible as well, since AGREE as such is independent from valuation. These two features, then, create a feature chain, in which one unvalued feature is present in two locations and has to be valued in a further step by another element that enters the chain.

(9) a. $F_{\alpha}[] \ldots F_{\beta}[] \rightarrow F_{\alpha}[3] \ldots F_{\beta}[3]$
b. $F_{\alpha}[3] \ldots F_{\beta}[3] \ldots F_{\gamma}$:*val*$[] \rightarrow F_{\alpha}[3] \ldots F_{\beta}[3] \ldots F_{\gamma}$:*val*$[3]$

To make sure that the structure is interpretable at the end of the derivation, and since agreement is not directly linked to valuation and thus to deletion any more, the authors must ensure the deletion of the relevant uninterpretable feature instances in the chain by different means. To do so, they employ Brody (1997)'s thesis of radical interpretability.

(10) **Thesis of Radical Interpretability** **(Brody 1997)**
Each feature must receive a semantic interpretation in some syntactic location.

Based on this restriction, a feature chain must contain at least one instance of the feature that is valued and interpretable at the end of the derivation to be well formed. Since all uninterpretable instances of the feature that are part of the same chain share the value with the interpretable instance, it is guaranteed that all uninterpretable instances receive a value and can be deleted.

The two authors show how their system works by applying it to the analysis of raising constructions and the distribution of subjects in English. A discussion of these analyses, however, is not needed for this book, so that it will be omitted here. What is important for the following discussions, though, are the two assumptions pointed out below.

- **The only restriction on probes is that they are unvalued.**
  Due to the valuation/interpretability biconditional, unvalued probes were necessarily uninterpretable. This restriction is not valid any more, and thus, the only remaining restriction on probes is that they are unvalued.
- **More than two features can become part of the same feature chain.**
  AGREE is not directly linked to interpretability any more. Even though each feature must be interpreted once, two uninterpretable features can AGREE and simply remain visible to further probes.

2.2.3 Syntax without information structure

After having discussed the general syntactic system I assume, the question now is whether information-structural features are one of the basic building blocks of this system or not. In this subsection, I discuss proposals that assume that these types of features do not belong to the syntax proper. In addition to being problematic for the Inclusiveness Condition, a point to which I return below, Chomsky takes the computational system to be "dumb" (Chomsky 2001: 32) without any access to information outside the derivation, which also includes discourse-related information necessary for information-structural marking. His view is made clear in the following quote.

> A "dumb" computational system shouldn't have access to considerations of that kind, typically involving discourse situations and the like. These are best understood as properties of the resulting configuration […]. (Chomsky 2001: 32)

This makes quite clear that Chomsky considers a particular information-structural interpretation to be the result of occupying a certain position, but not the reason why an element has moved into that position. In later work, this position is repeated, this time with direct reference to topicality.

> Take, say, Topicalization of DP. […] There are no intervention effects, unless we assume that phrases that are to be topicalized have some special mark. That seems superfluous even if feasible, particularly if we adopt Rizzi's approach to the left periphery: what is raised is identified as a topic by the final position it reaches, and any extra specification is redundant. (Chomsky 2008: 18)

Again, topic is interpreted as a topic due to the position it occupies, but crucially the element does not move into this position because of some kind of topicality feature (the "special mark"). In Chomsky (2008), this type of movement is ultimately reduced to what he calls Edge Features (EFs), which trigger movement into the phase edge. As EFs are hosted by various constituents, this amounts to the assumption that the syntax derives various structures and the intended one is then filtered out at the CI- and SM-interfaces.

A less radical but not less sceptical position towards information-structural features can be found in several other works. Most of these approaches acknowledge movement as being triggered by specific features and not general EFs, but these features are not information-structural in nature. For example, for contrastive focus fronting in Hungarian, den Dikken (2006) assumes that the movement is actually triggered by exhaustivity. As exhaustivity is a semantic property, and syntax interfaces with the semantics via LF, this property is considered an acceptable movement trigger.

López (2009) similarly assumes that movement appearing to be related to information structure is actually not caused by features like [topic] or [focus], but instead by combinations of the features [±a(naphoric)] and [±c(ontrastive)]. López' reason for replacing the more traditional [topic] and [focus] features is not that he sees a pragmatic impact on the syntax as problematic, but rather because [topic] and [focus] fail to describe coherent classes of elements in Catalan. In his system, a dedicated syntactic module, which he calls *pragmatics*, assigns the features [±a] and [±c] to specific syntactic positions of already completed derivations, so that when the derivation is mapped to the interfaces, elements in these positions are interpreted as topic or focus, depending on the exact feature configuration. This makes his proposal special in the way that he still assumes a strong pragmatic impact on the derivation, while also deriving the topic/focus interpretation of elements based on their positions, albeit indirectly, via assigning the features to those positions.

Neeleman & Szendröi (2004) argue against feature based analyses of focus due to sentences with complex focus-embedding structures, in (11), their (1), a contrastive focus is contained in a focussed VP as part of an all-new utterance, as set up by the initial questions.

(11) a. Father: What happened?
b. Mother: You know how I think our children should read decent books. Well, when I came home, rather than doing his homework, [$_{TP}$ Johnny was [$_{VP}$ reading [$_{DP}$ SUPERMAN] to some kid]].

Neeleman & Szendröi (2004) especially criticise one particular type of information-structural theory based on features, namely the one that requires a spec-head configuration, either in overt syntax or on LF, between the focussed constituent and a licensing foc-head in the left periphery of the clause. Such an approach has difficulties in accounting for (11), as it is not clear how several foci, one embedded in the other, can move on LF into the specifier of the focus head. While I agree with their assessment, these data are not problematic in an approach that does not require a spec-head configuration for agreement, as even pointed out by the authors. As this is the approach to agreement I follow here, (11) does not pose a problem. Similarly, Neeleman & van der Koot (2008) argue against an information-structural treatment of scrambling. However, as scrambling is notoriously difficult to analyse and it is far from clear what kind of processes are involved in this process (Grewendorf & Sabel 1999; Bailyn 2020), I do not take this as counter-argument to the assumptions made in this work.

Other arguments against information-structural features in the syntax are provided by Fanselow (2006). His first argument again refers to problems with the Inclusiveness Condition. Consider the example in (12) (Fanselow 2006: 139).

(12) Q: What did you see?
A: I saw [$_{DP}$ a small yellow BOOK].

The focus in the answer in (12) is clearly the whole complex DP. Crucially, the property of being the focus of the utterance only applies to the whole DP, and not to individual parts of the DP, as only together they make up the focus of the clause. Even though the prosodically focussed constituent is the noun, the focus necessarily projects[6] up to the DP level. Logically, this is a problem for the syntax. Either, it is assumed that the noun receives a focus feature and somehow the syntax knows that this feature has to end up marking the whole DP, a classical case of a look-ahead problem. Alternatively, the focus marking is only introduced at the DP level, i.e. at the highest projection of the argument. This is a problem for the Inclusiveness Condition, since, as discussed above, the DP is simply a projection of the head, D, with all the features already present in D. This means that if the focus feature is added to DP, i.e. an extra feature is added in the course of the derivation, the Inclusiveness Condition is violated. This is indeed problematic for approaches that assume focus features can undergo focus projection, and might even be problematic in approaches where focus features are assigned indirectly to elements that count as not given (Schwarzschild 1999). One possible solution might be to assume that similarly to vP and CP, DP contains information-structural projections in its periphery (Frascarelli & Ramaglia 2012), so that obligatory agreement takes place, meaning there will be a focus feature in the periphery of the DP available to mark the whole DP as in focus. For reasons of space, I leave this important matter open here.

The other argument provided by Fanselow (2006) against information-structural features, especially related to German, is the optionality of information-structurally conditioned movement. Even if a constituent is marked as in focus in German, it is not obligatory in all cases to move it to the left periphery. However, if it is assumed that the movement-triggering [EPP] is optional for information-structural heads in German, this behavior is not surprising, so I do not take it as an argument against the approach presented here.

Fanselow & Lenertová (2011) add another argument to the discussion. In certain wide focus contexts, i.e. contexts where not a DP but the VP or even the clause is in focus, it is only a subpart of the focus that is moved to spec-CP, the prefield, in German, as shown in (13) (Fanselow & Lenertová 2011: 197). If movement to the prefield is driven by information structure, focus in this instance, it is unclear how the necessary agreement relation can only target part of the focussed constituent.

---

6. I will introduce Focus Projection in Section 2.3.3.

(13) Q: What happened?
A: Der PApst ist mir begegnet.
the pope is me.DAT encountered
'I encountered the pope.'

It is questionable whether data like (13) are an argument against information-structurally conditioned movement. Even if the arguments against a remnant movement or scattered deletion account of Fanselow & Lenertová (2011) go through, the movement in the answer in (13) could simply be triggered by a feature different from focus, as movement to the prefield in German is not restricted to focussed constituents.

The common theme of the proposals by Fanselow is that focus is related to and determined by prosody and not syntax, and for cases of movement which seem to be triggered by focus, it is actually the need for prosodic alignment or the need for a certain interpretation (cf. the discussion of Hungarian exhaustive focus above) that forces constituents to move. A comparable approach can be found in the recent works of Daniel Büring and colleagues in the framework of Unalternative Semantics, i.e. Büring (2015) and subsequent work, in which focus is not derived from focus features or F-marking, but from metric information with which the syntactic representation has been annotated.

This concludes the discussion of proposals arguing against information-structural features in the syntax.[7] In the chapters to come, I will discuss various cases in which syntactic operations like φ-feature agreement[8] are directly dependent on information structure. If φ-agreement is taken to be a syntactic process, and this process is influenced by information-structural information like topic or focus, marking for topic and focus must also be part of the syntax.

In the next section, I will presuppose that information-structural features are indeed part of the syntax and discuss the questions of how they are encoded and how they are combined with the constituent they mark as in focus or as topic.

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7. I do not discuss the argument implicit in most of Preminger's work, i.e. Preminger (2009) et seq., that agreement is exclusively restricted to φ-features. This might be the case, but then the operation establishing a relation between a FocP in the left periphery of the clause and a focus is an operation which is remarkably similar and which can interact with agreement.

8. It is very commonly assumed that φ-feature agreement is part of syntax, but see Bobaljik (2008) for a very different view. If φ-agreement is not part of the syntax, it is absolutely unclear how the phenomena discussed in the various chapters of the book can be accounted for.

2.3 Syntactic encoding of information structure

If the opposite position of what I just discussed is taken, i.e. it is assumed that features like topic and focus are indeed part of the syntax and can have syntactic effects, various questions and challenges arise immediately.

- What kinds of features are involved in the syntactic marking of information structure and how are they distributed?
- How are the features combined with the constituents they mark, especially given the optionality of information-structural marking?
- Very often, focus marking of a particular element indicates a focus domain larger than the marked element. How can this be accounted for in such a system?

In this section, I will discuss these questions in turn. Starting with the features involved and their distribution, I will argue based on empirical and theoretical considerations that the focussed constituent carries a valued but uninterpretable feature, while a functional head in the CP domain carries the unvalued but interpretable counterpart. This distribution of features is explicitly allowed in the framework of Pesetsky & Torrego (2007) introduced above, but banned in more traditional approaches. Concerning the second question, I will argue that information-structural features are combined with their respective constituents in the numeration, following Aboh (2010), whose system, with some slight modifications, can also account for the selection of functional information-structural heads in these cases. Third, I will introduce the notion of focus projection of Selkirk (1995b), and briefly discuss it in relation to other proposal from the literature intended to capture the observation that focus-marking one constituent can indicate focus on a much larger constituent. Lastly, I will discuss the meaning of focus, as this will become partly relevant in the next section when introducing the different places in which information-structural projections can occur.

2.3.1 The distribution of information-structural features

As I have outlined above, syntactic features can vary along two dimensions, interpretable-uninterpretable and valued-unvalued. With respect to focus, it has often been pointed out that focus marking by itself does not change the truth conditions of the sentence. Thus, the sentences in (14) are both true in the same worlds, namely in those worlds where Mary kissed Frank. In other terms, the feature that marks a particular element as in focus seems to be uninterpretable.

(14) a. MAry kissed Frank.
b. Mary kissed FRANK.

However, the sentences are appropriate in different discourse contexts, they answer different Questions Under Discussion (QUDs). For (14), the respective QUDs are given in (15).

(15) a. Who kissed Frank?
b. Whom did Mary kiss?

Several researchers have analysed the effect of focus in (14) not as an effect on the truth conditions of the clause, but on the assertion, or more specifically, the ASSERT operator that embeds the clauses in (14). This analysis is especially prevalent in Structured Meaning approaches to focus, for example in Krifka (1992: 20), where it is claimed that the focus does not affect the meaning of the proposition, but rather the felicity conditions of the ASSERT operator.[9] Thus, the interpretable contribution of focus appears to take place in the left periphery of the clause, in the CP domain. Relating this to possible feature configurations, the focus feature in the left periphery is therefore an interpretable one. As the value of this feature, i.e. the actual interpretable effect, crucially depends on the focussed constituent, I assume that the interpretable feature in the left periphery is initially unvalued and receives its value by agreement from the lower uninterpretable but valued feature.

More theoretical considerations, as laid out in Zeijlstra (2014) for the distribution of interpretable and uninterpretable features in general, lead to a similar outcome. Consider first the distribution of uninterpretable features [*u*F].

(16) If some morpho-syntactic element *α* manifests the presence of some semantic context F, but cannot be assumed to be the carrier of F itself, then assign a formal feature [*u*F] to *α*. (Zeijlstra 2014: Example (7))

(16) describes more or less directly the situation that holds with respect to focus marking. Based on (14), the focus accent indicates the presence of focus, but it cannot be taken to be the carrier of the meaning of focus itself, as different foci do

9. (i) ASSERT($\langle F, B \rangle$) maps a common ground c to a common ground c′, where c′ is the intersection of c with the set of possible worlds for which B(F) is true, i.e. $c' = c \cap$ B(F)
Felicity conditions (among others):
a. $c' \neq c$ (asserting B(F) makes a difference in CG)
b. $c' \neq \varphi$ (the truth of B(F) must not be already excluded by c)
c. There are X, with $X \approx F$ and $X \neq F$, such that B(X) could have been asserted with respect to c. That is, it would have changed c, $c \cap [B(X)] \neq c$, it would not be excluded by c, $c \cap [B(X)] \neq \varphi$, and would have yielded a different output context, $c \cap [B(X)] \neq c \cap [B(F)]$.

not have an impact on the truth conditions of the clause. From this, it follows that the focussed constituent should carry a [*u*F], an uninterpretable focus feature. Of course, the uninterpretable focus feature still has an effect, an effect on PF in that it leads to a focus accent on the focussed constituent.[10] PF effects are exactly those effects that are expected from uninterpretable features, as, for example, the uninterpretable *φ*-features on T that are spelled out as subject agreement on the finite verb. As the uninterpretable focus feature [*u*Foc][11] has this effect on PF, I assume the focussed constituent carries an uninterpretable but valued focus feature, a valued uninterpretable feature just as envisioned by Pesetsky & Torrego (2007).

Turning to the ASSERT operator, or the interpretable contribution of focus, Zeijlstra (2014: ex. (8)) suggests the following.

(17) Assign [*i*F] to all morphosyntactic elements that introduce the semantic context that is manifested by [*u*F]. If no overt morphosyntactic element is responsible, assume some covert element to be present that carries the semantics of F and that therefore should be assigned [*i*F].

The second sentence in (17) is the crucial one for the discussion here. As there is no overt element that overtly encodes the position where the meaning contribution of focus becomes palpable, a covert element is assumed. As discussed in the next section, this covert element will be hosted in the left periphery and carry an interpretable focus feature [*i*Foc]. This [*i*Foc] needs to enter into a relation with the focussed constituent, as the meaning contribution of focus of course depends on the actual element that is in focus. Relating this to the definition of AGREE given above, especially (8a), this requires the [*i*Foc] to be unvalued, so that it can act as a probe and agree with the valued [*u*Foc] of the focussed constituent. These considerations are also intimately connected to (10), the Thesis of Radical Interpretability, which requires every uninterpretable feature to have an interpretable counterpart. Consequently, and equating this high position with the head of the focus phrase in the left periphery of the clause (to be discussed in the next section), I will assume the following feature configurations from now on.

(18) **Focus feature configuration**
   a. Focussed constituent: [*u*Foc:val]
   b. Focus head in the CP: [*i*Foc:□]

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10. I do not have anything to say about the phonological side of focus. For comprehensive overviews, see Truckenbrodt (2016) as well as Zubizarreta (2016). For German, Féry (1993) gives an extensive overview.

11. I use [*u*Foc] here to make clear the distinction to [*u*F] which simply indicates an uninterpretable feature in general. In the chapters to come, I will use [*u*F] to refer to focus features instead.

Note again that a feature configuration like (18) is permitted in the agree-system of Pesetsky & Torrego (2007), not, however, in a system like that from Chomsky (2000, 2001), which assumes a close connection between interpretability and valuation.

2.3.2 Combining constituents with information-structural features

The question remains how a focussed constituent receives the [*u*Foc] feature. As pointed out above, the feature cannot be part of the lexical entry of the constituent, as focus marking is optional. Trying to encode this in the lexicon would require additional lexical entries for nearly every element in the lexicon, one with and one without a focus feature, nearly doubling the size of the lexicon. This is of course a possibility, however, I will pursue a different approach. Instead, I follow Aboh (2010) in assuming that [*u*Foc] and the focussed element, the prosodically marked element, are combined in the numeration. While a slight modification to his approach is necessary, I still take his main assumption in (19) for granted.

(19) A numeration N pre-determines the Information Structure of a linguistic expression. (Aboh 2010: 14)

While Aboh only discussed the selection of the relevant information structural heads, i.e. the selection of [*i*Foc:□] in the terms introduced in (18), I assume that it is actually the other focus feature, [*u*Foc:val] that plays the more important role. Concretely, I assume that focus is present as its own lexical entry. If a constituent is to be marked as focus, the constituent is selected from the lexicon and placed in the numeration. The feature [*u*Foc:val] is also selected and placed in the numeration, and inside the numeration combined with the constituent that is to be focussed. If lexical items are analyzed as bundles, sets, of syntactic, semantic and phonological features, this operation can be seen as a set union.[12] Selecting [*u*Foc:val] from the lexicon has other important effects, as this leads to the additional obligatory selection of [*i*Foc:□]. As stated in the Thesis of Radical Interpretability (10) above, every uninterpretable feature needs to have at least one interpretable counterpart. This is necessary, since LF is not able to deal with uninterpretable features without such a counterpart, meaning the derivation crashes if [*i*Foc:□] is not added to the numeration as well. This can be represented as in (20).

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12. I assume that the uninterpretable focus feature necessarily combines with another element in the numeration. Besides the question of how an individual uninterpretable feature would be realized in the syntax in the first place, this is reminiscent of other features that have been proposed that necessarily combine with other elements. One example for such a feature is the Σ-feature proposed by Grewendorf & Sabel (1999) which triggers scrambling and is necessarily combined with Agr-heads in their analysis.

(20) a. N = {XP, [*u*Foc:val], [*i*Foc:□]}
b. N = {XP$_{[u\text{Foc:val}]}$, [*i*Foc:□]}

As (20) shows, the uninterpretable focus feature is combined with the focussed XP while the interpretable focus feature remains in the numeration. I assume then that the remaining interpretable focus feature is interpreted as a category feature Foc, similar to other functional categories, for example v or T. Thus [*i*Foc:□] will project a FocP and consequently serve as head of this projection in the course of the derivation, or, in other words, this head will be able to label the resulting projection when undergoing MERGE (Chomsky 2013, 2015, and much related work). The position in which the Foc head is merged, the position of the focus projection, is predetermined by the aforementioned Hierarchy of Projections. Similar to how it is predetermined that TP will dominate vP which will dominate VP, without the need for selection, it is fixed that the FocP will be merged in the left periphery of the clause, with the details discussed in the next section.

Note that this approach also provides a direct answer to one of the most frequent points of criticism leveled towards information structural projections. Very often, so-called *cartographic* approaches to sentence structure are criticized for the number of projections they need to assume to provide hosts for all the elements requiring their own projections. This might be true for approaches like Cinque (1999, 2010), where most of the assumed projections in the TP or DP are always present even if they do not contain overt elements. This criticism, however, does not apply to the left periphery of the clause, the split-CP in the sense of Rizzi (1997) and also not to the approach presented here. Information-structural projections are optional, and only projected when needed. I have made this more precise in assuming that the iFoc feature that will end up projecting the FocP in the left periphery is only selected from the lexicon because a uFoc is selected, which in turn is selected to mark a constituent as in focus. If no uFoc is selected, i.e. no constituent is marked as in focus, no iFoc is selected either, so that no FocP will be projected.

This concludes the discussion about how information-structural features are encoded in the syntax and how their optionality is reflected in this. In short, I assumed that an uninterpretable, but valued focus feature is combined with the element it marks as in focus in the numeration. The selection of the uninterpretable focus feature automatically leads to the additional selection of the interpretable counterpart of the feature. This interpretable focus feature will end up projecting the FocP in the left periphery of the clause, its exact position determined by the Hierarchy of Projections, which needs to be assumed for independent reasons. Even though I did not discuss this explicitly, the same arguments hold for all other information-structural categories that play a role in the syntax.

2.3.3 Focus Projection

As has been mentioned above, sometimes, the constituent that is interpreted as in focus is not the element that is marked with the focus accent, but a larger constituent containing the accented word. In other words, focus is able to project in the syntactic structure, and the system needs to be able to account for this. Selkirk (1995b) gives the following rules for how a focus feature can project.

(21) **Basic Focus Rule**
An accented word is F-marked.

(22) **Focus Projection**
a. F-marking of the head of a phrase licenses F-marking of the phrase.
b. F-marking of an internal argument of a head licenses the F-marking of the head.

Focus then is defined as an F-marked constituent that is not dominated by another F-marked constituent. Thus, the following sentence with a pitch accent on *bats* can serve as answer to different questions, illustrating how the F-feature can project (Selkirk 1995b: p. 554), and also how this projection causes different elements to be the focus of the clause. Following Selkirk, in (23), F indicates the focus feature and its different levels of projection, and FOC indicated the constituent that is interpreted as in focus, the so-called *focus domain*.

(23) a. Q: What did Mary buy a book a about?
A: Mary bought a book about $[_{FOC}[BATS]_F]$
b. Q: What did Mary buy?
A: Mary bought $[_{FOC}$a $[book]_F$ $[[about]_F$ $[[BATS]_F]_F]_F]$
c. Q: What has been happening?
A: $[_{FOC}$ Mary $[[bought]_F$ [a $[book]_F$ $[[about]_F$ $[[BATS]_F]_F]_F]_F]_F]$

As becomes obvious from (22) and (23), the F-feature projects at least until the next phrasal node in the tree, providing an F-feature for the XP. Cases like (23c), where the whole sentence seems to be in focus and the F-feature has projected up until the TP/vP, are assumed to contain wide, or sentence focus. Importantly, I assume that it is always the highest F-feature that serves as agreement goal for the probing focus head in the left periphery. This requires Focus Projection to be a genuine syntactic process. The problem with this is the clause (22b), where focus marking of the internal argument of a head licenses focus marking on that head. While Focus Projection from the head to the phrasal level is in line with the syntactic assumptions presented above, as it is a simple case of feature percolation, Focus Projection from the internal argument to the head cannot be subsumed under the process of

feature percolation. This makes (22b) its own fundamental operation, in addition to SELECT, MERGE, AGREE and the others discussed above, which is naturally extremely suspicious from a minimalist perspective. I will nevertheless follow the idea of Focus Projection and not one of its alternatives proposed in the literature and to be discussed presently. This is due to the fact that Focus Projection is the only theory of the spreading of focus features that allows direct syntactic access to these features, which will be an indispensable component of the analyses to come. Nevertheless, future work is needed to address Focus Projection from the internal argument to the head.

A second problem that will become especially prevalent in Chapter 6 when discussing focus marking in the Papuan language Lavukaleve is that Focus Projection from the head to the phrasal level does not license a focus feature on the specifier. If, for example, the subject is to be interpreted as in focus as well, a secondary accent on the subject is necessary. It will be shown that in sentence focus in Lavukaleve, which is marked by a sentence final focus particle, the subject is clearly also part of the focus domain, as the focus particle shows φ-agreement with the subject. Thus, I will assume that, at least in languages that mark focus with a particle and not via intonation, the subject is standardly considered part of the focus domain and does not require additional marking.[13]

The focus projection rules of Selkirk (1995b) have been extensively discussed in the literature, and several alternative proposals are on the market. Schwarzschild (1999), for example, derives F-marking indirectly via Givenness. The goal of his approach is to avoid F-marking as much as possible (*AvoidF*) and only F-mark those constituents for which it is absolutely necessary. To achieve this, elements are not evaluated with respect to being in focus but to being given, meaning present or in some way inferable from the discourse. Elements that do not count as given can then be F marked. In this theory, the distribution of F-features is much more restricted than in Selkirk's approach, which makes an agreement-based theory of focus that requires direct access to these F-features rather problematic. Consequently, I do not follow Schwarzschild's approach, but hope to investigate in future work whether his theory is compatible with what is proposed here.

Other proposals try to completely eliminate focus projection rules, for example Büring (2006). However, in his proposal, Büring does not only dispose of Focus Projection rules but of F-marking altogether and assumes a prominence based perspective. Arregi (2018) groups approaches like those of Schwarzschild (1999) and Büring (2006) under the more general term of Default Prominence

13. Alternatively, it could be assumed that the subject in these cases simply receives another focus feature, similar to the secondary accent in languages that mark focus by intonation.

approaches, which he argues to be the consensus that has emerged in the literature on focus projection. However, as I will argue extensively in the following chapters, information-structural features are a genuine syntactic phenomenon requiring focus features to be present in the syntax, so such an approach is not easily compatible with the data discussed here. Second, focus projection can also take place in languages that do not mark focus prosodically, with similar restrictions compared to those that do. Consequently, an approach that does not rely on prosodic means to achieve this is necessary independently.

After having introduced this last more general point about information-structural encoding in the syntax, I will very briefly introduce the semantics of focus in the next subsection, before turning to the concrete position where information-structural projections have been argued to exist in the next section.

2.3.4 The meaning of focus

As this book deals with the syntactic impact of information-structural features, the meaning of focus plays only a minor role. Following the idea of Alternative Semantics (Rooth 1985, 1992), I will assume that the main impact of focus is to introduce alternatives to the constituent in focus and relate them to the Common Ground (CG, Stalnaker 2002), i.e. the shared knowledge of speaker and hearer in the discourse. How these alternatives then affect the meaning is theory-dependent, with the Structured Meaning account of Jacobs (1983) and Krifka (1992) being one option.

As discussed above, most uses of focus do not contribute to the truth conditions of the clause but have an impact on the speech act operator or the illocutionary force. These uses of focus have usually been called *pragmatic* uses of focus. Focus does become relevant for the semantics when combined with so-called *focus sensitive particles*, and these uses of focus have accordingly been called *semantic* uses of focus. For a comprehensive overview of the possibilities of focus marking, the reader is referred to Krifka (2008). In chapters 7 and 8, I will discuss focus sensitive particles and the related phenomenon of association with focus in more detail, also providing a more formal semantic treatment of focus.

In addition, focus can be enriched with different additional meaning components. For example, focus can be contrastive, indicating somehow that an element which is already part of the CG needs to be put in opposition to the current focus.[14] Focus can also be exhaustive, signaling that the focussed constituent does not have

14. This is an extremely simplified notion of contrast. For a comprehensive overview, see Repp (2016).

any (true) alternatives. In general, these types of more specific foci are often perceived to be stronger than a less specific focus that only indicates alternatives or new information, and are frequently dislocated to the left periphery of the clause. Other foci that are often left dislocated have been argued to convey surprise or unexpectedness and are therefore sometimes also called *mirative foci* (Bianchi, Bocci, & Cruschina 2016; Cruschina 2019).

These considerations will become relevant immediately below when discussing different areas of information structural projections, where it will emerge that different foci are associated with different positions, the left peripheral one usually with contrast, exhaustivity or mirativity, and the clause medial one more with a simple alternative-introducing focus. However, in this discussion, I will not go into too much detail concerning the fine-grained meaning contributions of various foci.

2.4 Information-structural projections in the periphery

In the last section, I have argued that information-structural features like topic and focus project their own phrases. From the discussion above, this is simply a theoretical necessity, required by the way I assumed information-structural marking takes place and the need for interpretable instances of topic and focus features. Of course, there are also many empirical arguments in favor of such projections. In this section, I will discuss some of these arguments, as a comprehensive discussion of all the arguments brought forward in favor of information-structural projections would fill these pages more than once.

In very general terms, the positions in which information-structural projections seem to be present coincide with edges of phases, i.e. the periphery of CP and the periphery of vP, and, arguably also the periphery of DP, which I will not discuss here. This correlation between phase edges and information-structural projections does not come as a surprise. Phases are part of the derivation which are shipped off to LF and PF and interface with the CI and SM systems, and consequently can be assumed to be evaluated against the current discourse or Common Ground. This requires information about which elements are in focus or topical, so that information-structural projections in those peripheries are expected.

Below, I will discuss the information-structural projections by periphery, starting with the CP followed by the vP. Again, the presentation is intended to point out some of the more common assumptions about the relevant projections in these places and not provide a comprehensive account of all the possible projections that have been proposed. I will also restrict the presentation of concrete phenomena

that have been accounted for with information-structural projections, especially for the CP. Some of the more relevant data will be discussed in the next section, when introducing the ideas of feature inheritance and Strong Uniformity.

2.4.1 Information structure in the CP

In traditional terms, the clausal spine was assumed to consist of a very limited set of projections, given in (24) where ⟩ means 'dominates'.

(24) CP ⟩ TP ⟩ vP ⟩ VP

It soon emerged that the space provided by these projections, even when adjunction was taken into account, was not sufficient to provide positions to all possible elements. For example, based on data from French, especially from infinitives, Pollock (1989) argued that several other projections in the TP area were needed. Several years later, a similar development could be observed for the CP.

Since Jackendoff (1972), focus was assumed to be marked by a syntacticly accessible focus feature, and the connection of focus to the left edge of the clause was also well known, especially as part of so-called *stylistic rule component* of the grammatical model at the time, as introduced by Chomsky & Lasnik (1977). For early discussions of focus and its relation to fronting in English, see for example Rochemont (1978, 1986) and Guéron (1980). Similarly, for topics, it had been observed early on that old or given information typically precedes new information (Chafe 1976; Prince 1981), with different kinds of topics identified over the years (Reinhart 1981; Büring 1999). However, this section is not meant to discuss the history of information structure, and the interested reader is referred to the comprehensive overview in Krifka (2008).

Careful consideration of fronting data in Italian led Rizzi (1997) to a similar conclusion Pollock had reached for the TP, the one available projection was not sufficient to account for all the observable variation. Starting with the possible complementizers, at least two positions can be identified. The finite complementizer *che* precedes left dislocated elements (25), the non-finite complementizer *di* follows left dislocated elements (26), from Rizzi (1997: 288).[15]

(25) a. Credo che il tuo libro, loro lo apprezzerebbero molto.
I.think that the your book they it would.appreciate much
'I believe that your book, they would appreciate it a lot.'

15. Unfortunately, Rizzi (1997) does not provide any glosses. I have added them to the best of my knowledge.

b. *Credo, il tuo libro, che loro lo apprezzerebbero molto.
I.think the your book that they it would.appreciate much
'I believe, your book, that they would appreciate it a lot.'

(26) a. *Credo di il tuo libro, apprezzar=lo molto.
I.think of the your book appreciate=it much
'I believe 'of' your book to appreciate it a lot.'
b. Credo, il tuo libro, di apprezzar=lo molto.
I.think the your book of appreciate=it much
'I believe, your book, 'of' to appreciate it a lot.'

The contrast between (25) and (26) is the first indication that two complementizer positions are necessary. Rizzi further supports this assumption with additional theoretical considerations, looking at the information that complementizers typically encode. On the one hand, they interface with the higher structure, be it the matrix clause or the discourse. Determined by this higher structure, i.e. due to selection, complementizers encode whether a clause is to be interpreted as a question, as a declarative, as an exclamative, etc. Consequently, the complementizer encodes information about what Rizzi (1997: 283) calls the Force of the clause.[16] In languages that overtly encode clause type, Force is the position in which Rizzi assumes this encoding is realized. The second type of information expressed by the complementizer does not concern the higher structure but clause internal properties, most importantly finiteness. Thus, many languages, including Italian, distinguish different kinds of complementizers based on the finiteness of the clause they embed, as visible in the contrast between *che* and *di* in (25) and (26), respectively. As this low position is mostly related to finiteness, Rizzi labels it Fin.

Based on (25) and (26), the higher complementizer appears to precede left dislocated elements, the lower complementizer follows them. From the description in the previous paragraph, it is also expected that the higher complementizer is the highest element in the CP area, and the lower complementizer the lowest one, as they interface with the superordinate and subordinate structure, respectively. Consequently, what has traditionally been analysed as one projection, the CP, is at least split in the following way. In (27), XP represents the left dislocated constituent in (25) and (26).

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16. Rizzi uses the term Force instead of clause type for the highest projection in the CP. There have been suggestions in the literature that it might be necessary to distinguish the two notions, see, for example, Coniglio & Zegrean (2012). It is already telling that Rizzi mixes clause type information, like declarative, and more illocutionary oriented information, like exclamative, when talking about Force.

(27) ForceP ⟩ XP ⟩ FinP ⟩ TP

In Italian, just as in English or German, the left dislocated element can either be a topic (28a) or a focus (28b) (Rizzi 1997: 290).[17] In contrast to German and English however, topicalization in Italian requires a resumptive clitic.

(28) a. Il tuo libro, lo ho comprato.
the your book, it I.have bought
'Your book, I bought it.'
b. IL TUO LIBRO ho comprato (non il suo).
the your book I.have bought not the his
'Your BOOK I bought (not his).'

Based on (28), Rizzi assumes dedicated topic and focus projections in the left periphery of the clause, which host the topicalized or focussed constituent in their specifier. In Italian, the head of these phrases is not overt, but other languages show overt topic or focus heads, respectively, as I will discuss below. The question now arises, if and how topic and focus can interact when preposed. Two observations concerning this question are relevant. First, several topics can be preposed (29a), but only one focus (29b) (Rizzi 1997: 290).

(29) a. Il libro, a Gianni, domani, glie=lo darò senz'altro.
the book, to Gianni, tomorrow, to.him=it I.will.give for.sure
'The book, to John, tomorrow, I'll give it to him for sure.'
b. *[A GIANNI] [IL LIBRO] darò (non a Piero, l'articolo).
to Gianni the book I.will.give not to Piero the=article
'To JOHN the BOOK I'll give, not to Piero, the article.'

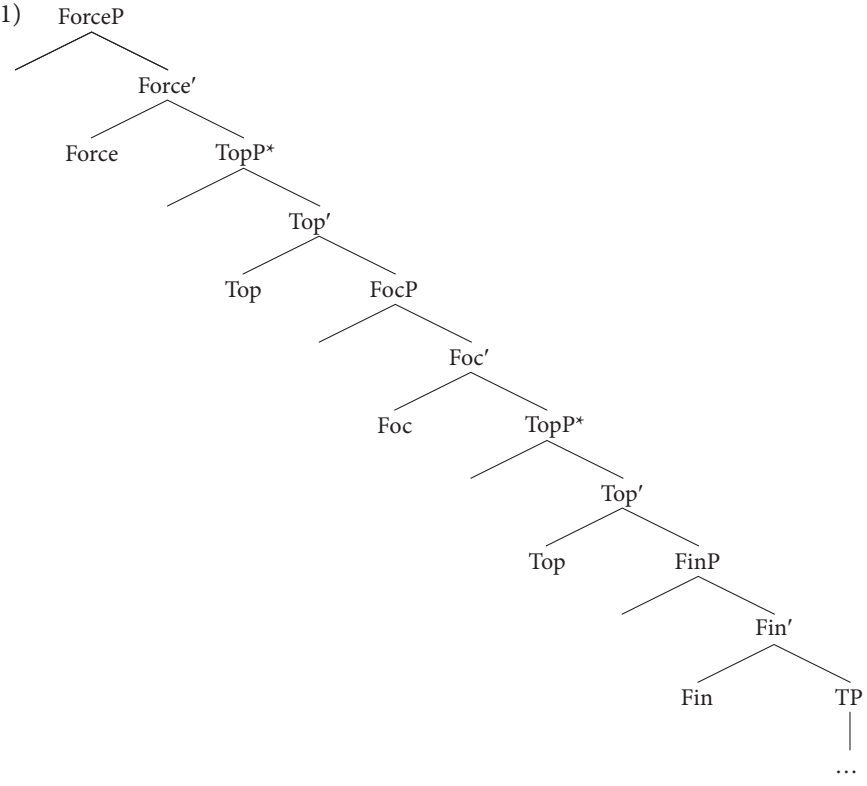
Second, a focussed constituent can be preceded or followed by a topic, or even sandwiched between the two topics, as shown in (30) (Rizzi 1997: 291).

(30) A Gianni, QUESTO, domani, gli dovrete dire.
to Gianni this tomorrow to.him you.must say
'To Gianni, THIS, tomorrow, you should tell him.'

In sum, two complementizer projections seem to surround several positions for topics and foci. There is no structural limit on the number of topics and topics can precede or follow foci. This leads Rizzi (1997: 297) to the following fine structure of the left periphery, where * indicates that several projections of that type are possible.

17. Rizzi capitalizes the whole focussed constituent.

(31)



Importantly, only ForceP and FinP are obligatory. As for TopP and FocP, "it is reasonable to assume that the topic-focus system is present in a structure only if 'needed', i.e. when a constituent bears topic or focus features to be sanctioned by a Spec-head criterion" (Rizzi 1997: 288).[18] While I argued above that spec-head configurations for feature checking should be replaced by agreement, the main point still holds, focus and topic projections are optional in the sense that they are only projected when needed, formalized above as selecting a iFoc/iTop when a constituent is marked for focus with a uFoc or for topic with a uTop, respectively.

Since Rizzi (1997), assuming dedicated information-structural projections in the left periphery of the clause to encode topic and focus has become the most widespread approach in the syntactic analysis of information structure, which I will also pursue here. This does not mean that no modifications to the structure in (31) have been proposed in the literature, and I will briefly discuss two of these proposals, first, a more fine-grained analysis of the different topic projections by Frascarelli & Hinterhölzl (2007), and second, an extension to what Rizzi labels ForceP.

18. This increases the number of projections in this area from one, the CP, to at least two, ForceP and FinP. This in turn has some significant effects on other processes targeting the left periphery, for example verb second. See, for example, Poletto (2013) for a discussion.

Starting with the discussion of topic positions, Rizzi (1997) did not investigate how different topics behave beyond the two observations introduced above, namely that topics can precede or follow the focus and that the TopP is recursive, i.e. several topics are possible preceding or following the focussed constituent in the left periphery. Based on syntactic and phonological data from Italian and German, Frascarelli & Hinterhölzl (2007) show that the ordering restrictions for topics are more fine-grained than that and that certain types of topics behave consistently. Focussing on the less controversial Italian data, the authors distinguish three different types of topics, based on previous discussions in the literature. The three types of topics, including a short characterization, are given in (32), based on Frascarelli & Hinterhölzl (2007: 88).

(32) a. *aboutness topic* (sTop)
Introduces what the sentence is about, used especially when this constituent has recently been changed. Therefore, Frascarelli & Hinterhölzl (2007), following Givón (1983), refer to this topic as *shifting topic*.

b. *contrastive topic* (cTop)
A topic that introduces alternatives without effect on the alternatives introduced by focus. It usually creates an opposition between different topics (Büring 1999).

c. *familiar topic* (fTop)
A given or accessible topic that is very often expressed as a pro-form.

After having identified the relevant types of topics, the authors investigate their distribution in the left periphery of the clause based on corpus data. Some relevant examples are given in (33) (Frascarelli & Hinterhölzl 2007: 96).

(33) a. [$_{sTop}$ Io], [$_{cTop}$ una cosa che ho trovato positiva], è stata la
I one thing that have.1SG found positive is been the
comprensione.
comprehension
'As for me, one thing that I considered as positive was the comprehension part.'

b. [$_{sTop}$ Io], [$_{fTop}$ inglese] non l'avevo mai fatto.
I English not it=had never done
'I never studied English before.'

c. [$_{cTop}$ Io] francamente [$_{fTop}$ questa attività particolare] non me la
I frankly this activity particular not to.me it
ricordo.
remember.1SG
'Frankly, I don't remember that particular activity.'

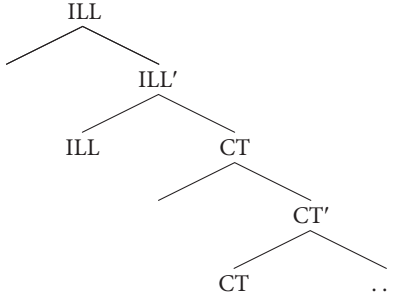
Based on many more similar data to (33), the authors arrive at the following topic hierarchy.

(34) **Topic hierarchy** (Frascarelli & Hinterhölzl 2007: 89)
Shifting topic [+aboutness] ⟩ Contrastive topic ⟩ Familiar topic

I will not discuss different types of topics in the left periphery of the clause. However, the relevant point of (34) for this book is that different types of topics, and, as I will discuss in the next subsection, also different types of foci, occupy distinct structural positions in the clause.

Another area where a modification of (31) has been proposed is ForceP. Already hinted at above, Rizzi (1997) combines properties of clause type and illocutionary force in a single projection, ForceP. However, clause type and illocutionary force of an utterance are clearly distinct, which has led some researchers to propose to split up the ForceP into two projections, so that this difference is also syntactically reflected. Coniglio & Zegrean (2012), for example, split the ForceP into two projections, one for the illocutionary force (ILL) and one for the clause type (CT) (35).

(35)



Evidence for this assumption comes from languages that seem to mark illocutionary force and clause type with distinct morphemes, for example Japanese (Endo 2012), with the relevant examples in (36).

(36) a. Are-o mi-**ro**-**yo**
that-ACC look-IMP-YO
'Look at that!'
b. *'Hayaku tabe-**ro**-**yo**' to meirei sareta.
quickly eat-IMP-YO C order PASS
int.:'I was ordered to eat quickly.'

According to Endo (2012), the sentence final particle *yo* in (16) expresses the illocutionary force of an urgent solicitation, which is expressed by the imperative clause type marked by the particle *ro*. Using *yo* in a context like (16), forcing the

directive reading of the imperative, however, causes ungrammaticality, which is easily explainable by assuming that *yo* marks the illocutionary force of a solicitation and is therefore incompatible with the force of a directive.

Other approaches take this idea even further and posit many more speaker and addressee related projections in the left periphery. As these will not play a role in this following chapters, I will not discuss them further, but see for example Wiltschko (2014) for a prominent proposal. Before I turn to information-structural projections in the second relevant periphery, the vP periphery, two additional remarks about the CP area are in order.

First, above I presented the idea that the contribution of focus to the clause is not a modification of the truth conditions of the utterance but of the felicity conditions of the speech act operator, for example the ASSERT operator, and equated this with an interpretable focus feature in the left periphery. These two assumptions appear to contradict each other. On the one hand, the interpretable focus feature projects the FocP in the left periphery, on the other, the effect is related to the speech act operator, which is usually assumed to be hosted in the head of ForceP, or in ILL, in the system of Coniglio & Zegrean (2012). There are several ways to solve this problem. It would be possible to argue that all the discourse related projections in the left periphery taken together are interpreted as forming the speech act operator, since topics influence the meaning of the clause in a similar way. A second option would be to assume an additional agreement relationship between the speech act operator and the focus, which I have argued for based on the behavior of German discourse particles (Egg & Mursell 2017). For reasons of space, I will not revisit the arguments here, and presuppose for the rest of the book that it is possible to connect the speech act operator and the relevant information-structural projections in the left periphery.

Second, assuming dedicated functional projections for information structure in the left periphery allows for a uniform treatment of discourse configurational languages. Discourse configurational languages, as laid out by Kiss (1995) and Surányi (2016), are a subtype of configurational languages (as opposed to non-configurational languages). Configurational languages in general show a structural asymmetry between different arguments. In discourse configurational languages this asymmetry is based on information-structural categories like topic and focus. In its most general interpretation, if a language is discourse configurational, it will always move constituents into information-structural projections, which might even determine verbal agreement. Assuming a complex left periphery following Rizzi (1997) allows to easily accommodate this type of movement into the syntactic structure. In contrast, in a language like English, movement of the subject to spec-TP is obligatory, but completely independent of discourse factors, and

therefore, English is seen as a typical configurational language, but not as discourse configurational. Closely related to discourse configurationality are the notions of *topic prominence* and *focus prominence* (Paul & Whitman 2017), as in languages of these types, the word order is assumed to reflect the prominent status of topics and foci, respectively, in contrast to, for example, the subject in its prominent position in spec-TP in English. I postpone a discussion of some concrete examples of discourse configurational languages to the next section when discussing Miyagawa's idea of Strong Uniformity. In general, however, discourse configurational languages are rather widespread. Many of the East Asian Languages, including Chinese, Japanese, and Korean are frequently analysed as topic prominent, and therefore discourse configurational, languages (Paul & Whitman 2017), whereas Hungarian, a European discourse configurational language, shows both topic and focus prominence (Kiss 1995),

This concludes the discussion of information-structural projections in the CP. In the next subsection, I discuss comparable projections in the periphery of vP.

2.4.2 Information structure in the vP

CP and vP are often assumed to share the property of being a phase (Chomsky 2001, 2008), meaning that after the derivation of CP and vP is finished, the structure is spelled-out and sent to the interfaces. Consequently, via the connection to the semantics, CP and vP both also interface with pragmatics, so that at the end of the vP, similar to the end of the CP, the structure can be evaluated against the current discourse context, the Common Ground. Information relating to the Common Ground is encoded in dedicated information-structural projections, and, based on these considerations, such projections are also expected in the periphery of vP. While some proposals employing low information-structural projections can be found in the literature, the area is much less explored than information structure in the CP. In this subsection, I will present some arguments in favor of low focus and low topic projections.

In Belletti (2004, 2005), the author argues in favor of what she terms a "clause-internal periphery" (Belletti 2004: 17), an area similar to the CP hosting a focus projection surrounded by topic projections in the periphery of vP, based on data from contemporary Italian. Her argument consists of two main parts, first it is shown that postverbal subjects in Italian remain low in the structure, and second, that they are interpreted mainly as new information focus. Concerning the first point, consider the data in (37) that show that postverbal subjects obligatorily follow low adverbs (Belletti 2004: 19).

(37) a. ?Capirà completamente Maria.
will.understand completely Maria
'Maria will understand completely.'
b. *Capirà Maria completamente.
will.understand Maria completely
int.: 'Maria will understand completely.'

As *completamente* in (37) is considered to be a low adverb, adjoined to vP, the subject remains low in the structure, inside the vP. This contrasts, for example, with French, where it has been argued that these kinds of inversion structures involve the subject in a high, left-peripheral position (Kayne & Pollock 2001).

For the second part of her argument, Belletti (2004) shows that postverbal subjects receive a particular information-structural interpretation. In questions-answer pairs, a clear indicator for focus on the answer-constituent corresponding to the wh-word of the question, postverbal subjects are interpreted as new information focus (38b) (Belletti 2004: 22). Importantly, preverbal, sentence initial subjects do not lead to a felicitous answer in these contexts (38c).

(38) a. Chi ha parlato?
who has spoken
'Who has spoken?'
b. Ha parlato Gianni.
has spoken Gianni
'Gianni has spoken.'
c. #Gianni ha parlato.
Gianni has spoken
'Gianni has spoken.'

Given the appropriate context, Belletti (2004: 22) argues that postverbal subjects can receive a topic interpretation as given information (39), basically the complement to new information focus. While I will indeed assume that a low topic position in the vP periphery encodes Givenness, the example in (39) needs to be taken with a grain of salt, since the intonational break, indicated by the comma preceding the subject, might hint at a more complex underlying structure.

(39) a. Che cosa ha poi fatto Gianni?
what thing has finally done Gianni
'What has Gianni finally done?'
b. Ha parlato, Gianni.
has spoken Gianni
'He has spoken, Gianni.'

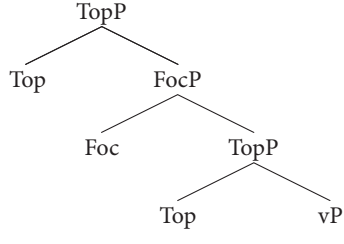
As already indicated by the contrast in (38), the postverbal focus position and the preverbal focus position in the left periphery discussed in the last section differ significantly in their interpretation. In Italian, the focus position in the CP is strongly associated with a contrastive/corrective/mirative interpretation and carries a special stress. This difference is also reflected in their semantics, as argued for in Torregrossa (2012), where, semantically, contrastive focus is analysed as a subtype of new information focus. Consequently, it is therefore expected that subjects in this preverbal focus position cannot serve as answers to common information-seeking wh-questions. This is shown by the infelicitous answers in (40) and (41) from Belletti (2004: 24).

(40) a. Chi ha parlato?
who has spoken
'Who has spoken?'
b. #GIANNI ha parlato.
Gianni has spoken
'GIANNI has spoken.'

(41) a. Che cosa hai letto?
what thing you.have read
'What have you read?'
b. #IL LIBRO ho letto (non il giornale).
the book I.have read not the newspaper
'THE BOOK I have read, not the newspaper.'

Based on the data just discussed, Belletti (2004) proposes the structure in (42).

(42)



In this work, I will also assume projections comparable to (42). However, even though there is evidence for a low focus and a low topic position in several languages, so far the evidence does not support a fully articulate structure of the periphery of vP that parallels the CP as presented by Belletti, as there is no evidence for more than one low topic position.

Evidence for a low focus position is not restricted to contemporary Italian, but can also be found in Old Italian, as argued for by Poletto (2006), where scrambling of internal arguments can target a low focus position. A similar low focus position is

claimed to be the target of wh-movement in Malayalam by Jayaseelan (2001). In this Dravidian language spoken mainly in south-west India, wh-questions frequently contain a clefted wh-word. However, clefting is not obligatory and the wh-word can also occur in a lower position in the clause, where it needs to be adjacent to the verb. This is shown in (43) and (44) from Jayaseelan (2001: 40).

(43) a. ninn-e aarə aTiccu?
you-ACC who beat.PST
'Who beat you?'
b. *aarə ninn-e aTiccu?

(44) a. awan ewiTe pooyi?
he where went
'Where did he go?'
b. *ewiTe awan pooyi?

To derive the word order facts in (43) and (44), Jayaseelan (2001) argues that the low wh-element moves into a focus position in the periphery of the vP and all other constituents are evacuated from the vP. Unfortunately, the meaning differences between questions like (43) and (44) on the one hand and clefted wh-questions on the other are not discussed. However, in line with Belletti's characterization of the low focus position in Italian, interpretational differences between the two different structures are expected.

Proposals for a low topic position can also be found in the literature. For example, Paul (2002) analyses certain objects in non-canonical position in Chinese as having been moved to a preverbal topic position, which is hosted above the VP but below the TP. Consider the example in (45), from Paul (2002: 679). In their base position, objects in Chinese usually follow the verb. However, in the construction under discussion, the object is moved into a position above typical VP adjuncts like negation but still below the subject position.

(45) Wo dianying bu kan le.
1SG film NEG watch ASP
'I won't go to the movies.'

Paul now argues that the object in (45) is moved into a low topic position. Importantly, this topic position is not associated with the Aboutness-interpretation that is typical for left dislocated topics, but with a different kind of topicality, which she characterizes, based on Chafe (1976: 50), as "the applicability of the main predication to a certain restricted domain".

Returning to the analysis of Belletti (2004), she characterizes the low topic position as encoding Givenness, which can be construed as the complement of new

information, which is marked in the low focus position. The notion of Givenness is difficult to define precisely and is usually taken to indicate presence in the Common Ground, the shared background of the interlocutors in a particular discourse, whereby being entailed by the Common Ground very often already suffices to count as given (Schwarzschild 1999). As discussed in Rochemont (2016), prosodically, Givenness is very often associated with deaccenting in English, but otherwise not syntactically marked. In other languages, however, it has been argued that Givenness or a closely related property has a syntactic effect. For example, Bax & Diercks (2012), employing an idea of Kallulli (2000), argue that object marking in the Bantu language Manyika is determined by the object being interpreted as non-focus, as complement to new-information focus, which for them equals topicality. Similarly, Zeller (2014, 2015) argues for an antifocus feature that drives object dislocation from the vP in Zulu. Again, Zeller (2014: 356) acknowledges that an object marked with the antifocus feature is interpreted as given or presupposed. I will discuss Manyika and Zulu in some more detail, including the relevant examples, in Chapter 4. More recently, Kallulli (2016) argued that clitic doubling in the Balkan languages is determined by the Givenness of the object. For example, in Albanian, definites and indefinites with articles can be doubled, but not bare indefinites, as shown in (46).

(46) a. (E) botoi librin më në fund.
CL.ACC.3SG published.3SG book.the.ACC at long last
'S/he published the book.'

b. (E) botoi një libër më në fund.
CL.ACC.3SG published.3SG a book at long last
'S/he published a book (at long last).'

c. (*E) botoi libër më në fund.
CL.ACC.3SG published.3SG book at long last
'S/he published a book (at long last).'

More concretely, she assumes that the clitic cross-referencing the object in (46) is the spell-out of an agreement relation between the verb and a topic marked as [+given], i.e. determined by Givenness. However, similar to Bax & Diercks (2012) and Zeller (2014, 2015), the author remains vague regarding the underlying structure and the relevant heads involved in the agreement process. Yet, based on the argumentation in Belletti (2004), the answer to this question is straightforward if it is assumed that Givenness is encoded in a dedicated topic position in the vP periphery. It is exactly the head of this projection then that can be assumed to be involved when Givenness is marked syntactically in any way. This head will also be at the heart of the analyses of object marking in Swahili and subject agreement in Tagalog, to be presented in chapters 4 and 5, respectively.

Summarizing this section, CP and vP not only share their status as a phase but also both host information-structural projections in their periphery. Different projections have been employed to account for various phenomena in unrelated languages, so that their presence is supported by a large amount of data. One important conclusion that has emerged from the discussion in this section is that distinct information-structural categories are encoded in distinct positions. For foci, for example, it has been shown that high foci in the left periphery, the CP, often encode stronger notions of focus like contrastive or exhaustive focus, while the low focus position encodes new information focus, and a similar split can be observed for the different kinds of topicality. In the next subsection, I take this point up again and present some more data that further support this assumption.

2.4.3 Different periphery equals different meaning

Before closing this section, I want to present more data to illustrate how different information-structural categories are encoded in different positions, especially with respect to focus. As I have discussed above, many languages make a difference in encoding contrastive, or any kind of more emphatic or mirative, focus on the one hand, and new information focus on the other. Looking at the syntactic positions in which these two different foci are encoded, I followed Belletti (2004) in assuming for Italian that focus lower in the structure encodes new information focus, while focus in the CP is usually associated with a contrastive or corrective meaning. This appears to be a general typological trend in that a focused constituent in the left periphery of the clause receives a somewhat stronger interpretation than focused constituents in clause-medial position. To illustrate this, consider for example the difference between identificational focus and information focus in Hungarian (Kiss 1998: 249) as shown in (47). Exhaustive identificational focus in Hungarian is encoded in a preverbal position, to which exhaustively focussed elements are moved (47a). On the other hand, new information focus does not seem to be restricted to a particular position but is typically encoded postverbally (47b).

(47) a. Mari egy kalapot nézett ki magának.
Mary a hat picked out herself
'It was a hat that Mary picked out herself.'
b. Mari ki nezett maganak egy kalapot.
Mary out picked herself a hat
'Mary picked for herself [a hat]$_{\text{FOC}}$.'

A remarkably similar observation can be made for various West-African languages (Fiedler et al. 2010). Taking Dagbani, a Mabia language, as example, Issah (2019)

argues that focus can be encoded in two different ways in this language. To encode more emphatic focus, a constituent can be moved to the left periphery of the clause, where it is then followed by a focus marker, the overt realization of Rizzi's Foc-head (48a). Focus can also be encoded in-situ, without any explicit marking, but in the in-situ position, the focussed constituent can then only be interpreted as new information focus and never as emphatic focus (48b) (examples from Issah 2019: 142–143 with slightly modified translation).

(48) a. Búkù kà páɣà máá sà dá.
book FOC woman DEF PST buy.PFV
'It was a book that she bought yesterday.'
b. Páɣà máá sà dá là búkù.
woman DEF PST buy LA book
'The woman bought [a book]$_{FOC}$ yesterday.'

These insights are summarized by Issah (2019: 143) in the following conclusion.

(49) Move a wh-phrase to the left periphery in a wh-question or its substitute in corresponding answer to the left periphery position only for purposes of presenting unexpectedness or emphasis/prominence.

Both the data in (47) and (48) can be accounted for in the system developed so far. Both languages host two focus heads, one in the left periphery of the clause associated with an exhaustive interpretation in Hungarian and with an emphatic interpretation in Dagbani, respectively, and one lower in the vP periphery encoding new information focus. In addition, the focus head in the left periphery carries an additional [EPP] feature, so that it will trigger movement of the exhaustive/emphatic focus into its specifier. The lower focus head does not carry this additional movement-triggering feature and therefore agrees with the constituent being marked for new information focus without forcing it to move into its specifier.

This short section was merely intended to emphasize again that different information-structural heads encode different information-structural meanings, not just in Italian but cross-linguistically. Interestingly, it appears to be the general case that new information focus, and Givenness topicality, are encoded low in the edge of the vP, while stronger flavors of focus are encoded in the edge of CP.

Before turning to the last important theoretical component that will play a role in this in the next section, the idea of Strong Uniformity of Miyagawa (2010, 2017), two general closing remarks on the matter of high and low information-structural projections are in order at this point. First, it is tempting to analyze left-peripheral information-structural categories as being built on their clause-internal counterparts, especially in light of findings like the one in Torregrossa (2012) whereby

contrastive focus can be considered a subtype of new information focus. Several pieces of data in the chapters to come in this book also seem to suggest that, and present syntactic evidence that some information-structural categories of the CP contain their vP counterparts. However, these cases need to be treated carefully, as evidence for this assumption is generally rather scarce and more research is needed. Second, taking the presence of low information-structural projections for granted, these projections lend themselves to a very straightforward analysis of scrambling, i.e. scrambling as movement into the specifiers of these projections. Presenting arguments in favor and against this position is not in the scope of this discussion, so it suffices to point out that the matter is far from settled and several arguments in favor (for example Molnárfi 2002; Grewendorf 2005) and against (Struckmeier 2017) this approach to Scrambling can be found in the literature.

2.5 Feature inheritance and Strong Uniformity

So far, I have discussed *φ*-features and *φ*-feature agreement, i.e. subject-verb agreement in languages like German and English, and information-structural features and their agreement operations separately. This was justified as *φ*-features and information-structural features are relevant at different points in the derivation, the former being restricted to T for subject agreement and v for object agreement, while the latter mark information that is encoded in the peripheries of vP and CP. In several chapters in this book, however, I will argue that *φ*-features and information-structural features are much more closely connected, so closely that they form a feature bundle that undergoes agreement together, meaning the valuation of one part of the features bundle depends on the valuation of the other, following an emerging trend in the literature (cf. esp. Ostrove (2018)). This immediately raises the question how these two rather distinct features end up being combined into one complex feature bundle. This section is intended to discuss this question, and the answer will revolve around two theoretical insights. First, *φ*-features and information-structural features are actually merged on the same phase head (C or v) and can then be inherited by a lower head, the idea of so-called *feature inheritance*. Second, which features are inherited by a lower head and which features remain on the phase head varies cross-linguistically, but both types of features are present in every language, the idea of Strong Uniformity.

Feature inheritance has been proposed mostly on theoretical grounds by Chomsky (2008). One of the main goals of the Minimalist Program (Chomsky 1995) was and still is to eliminate as many unnecessary components of the grammatical architecture as possible. While various levels of representation could be eliminated, for example Deep Structure and Surface Structure by switching from a

representational X'-syntax to a derivational system, one important assumption that remains due to overwhelming evidence is the cyclical mapping of structure to the semantic and phonological interfaces. In other words, the derivation of a clause is, in many syntactic theories,[19] broken up into several chunks, the aforementioned phases, and at the end of the derivation of a particular phase, the phase undergoes spell-out, is sent to the interfaces, and subsequently, its internal structure is mostly opaque to following syntactic operations in the next higher phase.

In an ideal syntax, following the Strong Minimalist Thesis (SMT),[20] operations inside the different phases are triggered by the phase heads. As language, and therefore also syntax, needs to provide an optimal solution to interface problems, and phases are the elements that get shipped to the interfaces, operations like internal merge (movement) should also only be triggered at the phase-level, i.e. driven by features on the phase head. For information-structural movement to the CP-area of the clause, this conclusion holds, as C is the head of the CP-phase, and the different information-structural projections can be seen as components of C, as argued for by Chomsky (2008: 143). For *φ*-features, and *φ*-feature triggered movement of the subject to spec-TP, however, this is problematic, as T triggers movement but is not considered to be the head of a phase.

Based on these theoretical considerations, Chomsky (2008: 143) proposes the system of feature inheritance. T's *φ*-features are initially merged on C and only inherited by T in the course of the derivation. This keeps the theoretical assumptions as closely as possible aligned with the SMT and ascribes a special status to phase heads. This assumption of course comes with its own large set of problems and has spawned a lively debate in the literature (see for example Richards 2007 and Gallego 2014), which I cannot present here. For the discussion, I will follow the idea that *φ*-features are initially merged in C but remain agnostic as to the exact implementation of feature inheritance.

Assuming feature inheritance now enables new questions to be asked concerning the encoding of information structure and the relation to *φ*-agreement. As usual, the system just outlined, information-structural features and *φ*-features being merged in C and then *φ*-features inherited by T, describes the English system well. T agrees in *φ*-features with the subject and dislocation to the CP is optional and mostly triggered by information-structural features. An account in these terms becomes problematic, however, when other languages are considered. For example, as discussed above, Chinese, a discourse-configurational language, more specifically

19. See Bobaljik (2002) for a notable exception and the idea of a single-cycle syntax.

20. "[L]anguage is an optimal solution to interface conditions that FL [faculty of language, JM] must satisfy […]." (Chomsky 2008: 135), but also discussed and defended in much subsequent work (Chomsky 2013, 2015).

a topic prominent language, does not show *φ*-feature agreement between the verb and the subject/topic. In languages like these, the question arises, which features are actually merged in C and then possibly inherited by T, as this clearly differs from languages like English.

Miyagawa (2010, 2017) discusses these issues and proposes his idea of Strong Uniformity, according to which the same sets of features, here especially referring to *φ*-features and information-structural features, are present in all languages. His formulation of Strong Uniformity is given in (50).

(50) **Strong Uniformity** (Miyagawa 2017: 2)
Every language shares the same set of grammatical features, and every language overtly manifests these features.

Relating this to *φ*-features and information-structural features, which Miyagawa terms *δ*-features, (50) states that *φ*- and *δ*-features are present in all languages and are initially merged in C, following Chomsky's idea of feature inheritance. Where languages differ significantly, however, is in which features are inherited by T and which remain in C. There are four logical possibilities, shown in Table 2.2, and according to Miyagawa, all four possibilities are attested. Importantly, *δ*-feature here is really just a cover term, and different information-structural features can behave differently.

Table 2.2 Some predicted types of languages (Miyagawa 2017: ex. (5))

Category I:	C_{φ}, T_{δ}	Japanese
Category II:	C_{δ}, T_{φ}	English
Category III:	C, $T_{\varphi, \delta}$	Spanish
Category IV:	$C_{\varphi, \delta}$, T	Dinka

Briefly discussing the different types from Table 2.2, Category I languages like Japanese present the opposite picture compared to English, with *φ*-features in C and *δ*-features in T. Japanese is also a language that does not show *φ*-feature agreement between subject and verb. Miyagawa (2010, 2017) nevertheless argues that both types of features are overtly manifested in this language. First, due to the *δ*-features, more specifically topic features, in T, scrambling in Japanese is A-movement into spec-TP interpreted as topicalization, which Miyagawa (2017: 6) shows with established tests for A-movement. For example, clause-bound scrambling in Japanese creates a new binder, as shown in the contrast in (51), where the object in its base position is unable to bind *each other* (51a), whereas binding is possible when the object is scrambled (51b).

(51) a. *Otagai$_1$-no sensei-ga [Taroo-to Hanako]$_1$-o suisensita.
each.other-GEN teacher-NOM Taro-and Hanako-ACC recommended
'Each other's teachers recommended Taro and Hanako.'
b. Taroo-to Hanako-o$_1$ otagai-no sensei-ga t$_1$ suisensita.
Taro-and Hanako-ACC each.other-GEN teacher-NOM recommended
'Taro and Hanako, each other's teachers recommended.'

Evidence for *φ*-agreement in C is more difficult to find in Japanese, as it is usually argued that Japanese is an agreementless language. In contrast to this general claim, Miyagawa (2017) proposes to treat politeness marking as addressee-oriented agreement on the verb.[21] The relevant contrast is shown in (52) from Miyagawa (2017: 19). The sentence in (52a) is the polite variant, marked by the verbal marker *-mas-* and appropriately uttered towards someone socially superior. In (52b), this marker is absent and the sentence is in the colloquial form, appropriate for friends or children.

(52) a. Watashi-wa piza-o tabe-mas-u.
I-TOP pizza-ACC eat-MAS-PRS
'I will eat pizza.' (formal)
b. Watashi-wa piza-o tabe-ru.
I-TOP pizza-ACC eat-PRS
'I will eat pizza.' (colloquial)

If the argument of politeness markers as addressee related *φ*-feature agreement in C goes through, Japanese very nicely illustrates the opposite behavior of English, where *φ*-features are inherited by T and *δ*-features stay in C. As I have discussed English frequently above, I will not present additional data here and skip to Category III languages, for which it is claimed that both types of features are inherited by T. Jiménez-Fernández (2010) and Jiménez-Fernández & Miyagawa (2014) have shown that in Spanish, the topic feature as well as *φ*-features are inherited by T. If the features are distributed in this way, it is expected that, similar to Japanese, topic movement should show A-movement properties while the verb at the same time agrees with the subject independently of topic movement. This is exactly what can be observed in (53) from Jiménez-Fernández (2010: 40): Topicalizing *al paciente* 'to the patient' creates a new binder, and the verb still agrees with the subject *su enfermera* 'self's nurse'.

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21. This presupposes addressee-related projections in the left periphery, which I alluded to above. Importantly, this argument shows that Miyagawa's proposal is compatible with C consisting of various projections.

(53) a. *Su$_1$ enfermera llamó al paciente$_1$ ayer.
self's nurse call.PST.3SG to.the patient yesterday
int.: 'His nurse called the patient yesterday.'
b. Al paciente$_1$ su$_1$ enfermera lo llamó ayer.
to.the patient self's nurse CL call.PST.3SG yesterday
'The patient, his nurse called him yesterday.'

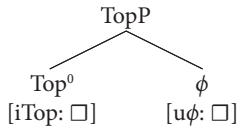
The last category, Category IV languages, is exemplified by Dinka, a Nilo-Saharan languages spoken in South Sudan and described extensively in van Urk (2015). It is claimed that in Dinka, both *φ*- and *δ*-features remain in C. Dinka is a V2 language, but unlike German, the finite verb in Dinka agrees with the element in its specifier, which can either be filled by moving a topic there, as in (54a), or a focus, for example wh-questions like (54b). Relativization, not shown here, also targets this position.

(54) a. Mìir à-càa ⟨Mìir⟩ tîiN.
giraffe 3SG-PRF.1SG see.NF
'A giraffe, I have seen.'
b. Yè kɔɔc-kó [$_{CP}$ é-kè-cíi Áyèn ké gàam gàlàm]?
be people-which PST-3PL-PRF.OV Ayen.GEN 3PL give.NF pen
'Which people had Ayen given a pen to?'

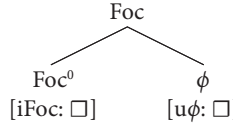
Note that in Dinka, in contrast to what I will argue for several cases in various chapters, *φ*-features and *δ*-features operate independently, at least much more independently than the cases that I will discuss in this book. As shown in (54), the *φ*-features in C are not sensitive to a particular type of information-structural information and simply agree with whatever constituent is found in spec-CP, independently of which *δ*-feature caused it to move there.

One of the main theoretical claims of this work can be seen as an extension of the proposal of Miyagawa (2010, 2017). In addition to both types of features, *φ* and *δ*, being merged in C and remaining there, I assume that the features can become bundled, merged into one complex feature. Remember that above, I claimed that the information-structural features that serve as heads of the information-structural projections in the peripheries are unvalued but interpretable features, which therefore act as probes and agree with the focussed or topicalized constituent, respectively. I now argue that these features can be more complex and be bundled with an unvalued set of *φ*-features, which is uninterpretable, similar to the *φ*-features on T in English. Structurally, this can be represented as in (55) for the topic head, similar to the proposal in Ostrove (2018), and (56) for the focus head.

(55)



(56)



Note that both components of the complex head, the *φ*-part and the *δ*-part are unvalued and therefore need to agree with an appropriate goal. Importantly, due to being bundled into one complex head, the features agree together and the two components of the probe can only receive a value from the same constituent, i.e. a constituent that hosts a valued set of *φ*-features and the valued respective information-structural feature. In languages that display such a head, it is therefore expected, that the exponence of *φ*-features is dependent on the provider of the *φ*-features also carrying a particular information-structural marking. To give a hypothetical example, imagine a language like Spanish, call it Spanish', where similarly to the discussion above, the topic feature is inherited by T, but instead of the *φ*-features also inherited by T, they are bundled with the topic feature, as shown in (55). The only difference between such a language, Spanish', and Spanish would be that in the former the verb shows agreement with the topicalized constituent and not with the subject (the nominative marked element merged in spec-vP), whereas the latter behaves just as discussed above, where topicalization and *φ*-agreement are independent of each other.

Two related questions arising from these considerations are first, how the two distinct features end up as a complex feature bundle, and second, whether the set of *φ*-features that is bundled with the *δ*-feature is the same set of *φ*-features otherwise inherited by T, or, in other words, whether the presence of (55) or (56) prevents T inheriting *φ*-features from C.[22] The phenomenon of complementizer agreement seems to provide an answer to the second question. Many languages that show complementizer agreement also show agreement of the verb with the subject. Under feature inheritance, it is assumed that the *φ*-features surfacing on T are initially merged in C. In addition, the set of *φ*-features responsible for complementizer

22. A third question, one that I will not address here, concerns the locality restrictions for the different components of the complex heads in ((55)) and ((56)). As both types of features, *δ*- and *φ*-features in C, are unvalued, they probe for an appropriate valued feature. It is conceivable, that the locality restrictions for these two types of features could be different in a particular language, in that one feature needs to agree with a more local goal than the other. For the phenomena discussed in this book, both types of features behave similarly.

agreement is also being merged in C. Consequently, it follows that more than one set of *φ*-features can be merged in the C-domain. This assumption is supported by languages in which the agreement expressed on the complementizer can differ from the agreement expressed on the verb. This holds, for example, for complementizer agreement in Limburgian with coordinated subjects. As discussed in Haegeman & van Koppen (2012), the complementizer generally only shows agreement for second person singular subjects, as shown in (57), where the verb also shows the same agreement (Haegeman & van Koppen 2012: 443).

(57) Ich denk de-s doow Marie ontmoet-s.
I think that-2SG you.SG Marie meet-2SG
'I think that you will meet Marie.'

If in a coordinated subject, a second person singular pronoun as first conjunct is conjoined with a third person element, the verb shows plural agreement, while the complementizer shows first conjunct agreement, i.e. agreement for second person singular (Haegeman & van Koppen 2012: 443).

(58) Ich denk de-s [doow en Marie] kump.
I think that-2SG you.SG and Marie come.PL
'I think that you and Marie will come.'

This strongly suggests that in Limburgian, there are two distinct sets of the *φ*-features, one responsible for complementizer agreement and one responsible for subject-verb agreement. Both of them need to be merged in the C-domain, however, with the latter set inherited by T and the former remaining in the C-domain. An alternative to this hypothesis could be to assume that the *φ*-features inherited by T are in some cases not inherited but copied from C to T. In both cases, the presence of a complex probe consisting of *φ*- and *δ*-features in C would not block the presence of another set of *φ*-features in T.

If more than one set of *φ*-features can be merged in C, or there is copying instead of inheritance, then the most straightforward answer to the first question posed above is that the bundling of *φ*-and *δ*-features can be assumed to take place in the syntax, as it does not affect the potential inheritance of *φ*-features by T, due to the possible presence of more than one *φ*-feature set.[23]

Following the SMT and also the discussion above concerning information-structural projections in the vP, similar phenomena to what is found in the CP are expected in the edge of vP, as both projections are considered phases and both phases host information-structural projections. Unfortunately, this area remains

23. For a comparable account of a 'fused' complex probe, albeit internal to the set of *φ*-features, see Coon & Bale (2014).

understudied with respect to the impact of information structure and possible patterns of feature inheritance. One notable exception is provided by Jiménez-Fernández & Spyropoulos (2013) who argue that differences in the ordering of constituents in small clauses between languages like English on the one hand and languages like Greek and Spanish on the other can be reduced to which features are inherited by V from v, only φ-features in the former case, but φ- and δ-features in the latter.

In general, the bundling of φ-and δ-features appears to be only a small extension of Miyagawa's proposal of Strong Uniformity, which is in turn connected to feature inheritance. In the chapters to come, especially in chapters 3 and 4, I will exploit this idea and show how the presence of otherwise optional agreement phenomena can be reduced to the presence of information-structural features bundled with φ-features.

Much more research into the consequences of feature inheritance in combination with Strong Uniformity is needed, especially with respect to other phasal peripheries. For the purposes of this work, however, the discussion of the theoretical background so far suffices to set the general background for the chapters to come. Where necessary, additional theoretical background will be introduced later, but mostly, all the chapters are built on the theoretical assumptions presented so far.

Before concluding and providing a summary of the main points discussed above, in the next subsection, I want to very briefly discuss some proposals that appear to employ the same background assumptions, most importantly the direct influence of information-structural features on φ-feature agreement.

2.5.1 Known phenomena

This subsection briefly introduces previous work that also relies on φ-feature agreement being dependent on particular information-structural marking of the agreement goal. This is not intended as a comprehensive discussion, though, and proposals that deal with topics directly relevant to the topics of the coming chapters will be discussed there.

The idea that topics determine verbal agreement can already be found in Givón (1976). There, it is argued that diachronically, what is now subject or object agreement, called pronominal agreement by Givón, originated as topic agreement with a topicalized and dislocated constituent. Meinunger (1999) takes this insight and applies it to various synchronic phenomena, showing that assuming agreement with topics can be used to account for otherwise puzzling data. He discusses two cases I touch upon very briefly in the coming chapters, the relation of object case to topicality in Turkish and the dependence of differential object marking on topicality in

some Romance languages. For focus, Hole (2004) already alludes to the possibility of a language in which verbs show agreement with focal constituent, mentioning Yukaghir, a (near) extinct language family from eastern Siberia, for which this has been claimed.

More recent work also highlights the strong impact topicality can have on agreement. Ostrove (2018), for example, discusses the Mixtec language San Martín Peras Mixtec and argues that a pervasive sentence-initial element is not a pronoun or clitic but an agreement morpheme that shows agreement with the sentence topic. Some relevant data from Ostrove (2018: 6) are given in (59), which show that the sentence initial marker can either agree with the subject (59a) or the object (59b).

(59) a. Rà$_1$ íxutsya míí mástro$_1$.
he swim.PRS the teacher
'The teacher is swimming.'
b. Rí$_1$ xa nùhmi rà lo'o míí tsina$_1$.
it.ANIMAL PRF hug.PST he little the dog
'The boy already hugged the dog.'

Following Ostrove (2018), the easiest explanation to account for (59) is to assume that φ- and δ-features remain in C, and act as one complex probe, probing for and agreeing with a constituent that carries a topic feature in addition to φ-features. Note that here, in contrast to Dinka discussed above, the φ-probe is sensitive to the information-structural properties of its agreement goal and does not simply agree with the closest available target.

Lastly, Colley & Privoznov (2019) show that movement to the subject position in the Uralic language Khanty is actually dependent on topicality and also triggers φ-feature agreement. In this respect, it is very similar to the movement to spec-CP in Dinka discussed above, in that it shows mixed A- and A′-properties. However, in Khanty, this movement is restricted to topics, which leads the authors to assume a probe consisting of φ-features bundled with a topic feature.

As alluded to above, more relevant cases will be introduced in the course of the chapters, which enables better comparison to the phenomena discussed there.

2.6 Summary and conclusion

In this chapter, I have presented the theoretical background assumptions on which the rest of this book is built. None of the mechanisms I assume can be considered radical departures from what can be seen as some kind of established core of syntactic minimalist assumptions, and nearly all of them are taken from the literature, and are therefore supported by independent evidence.

In general, I assume a syntactic derivation as laid out in Adger (2003), MERGE driven by selectional features on heads agreeing with the category features of their selected arguments, but also driven by a Hierarchy of Projections determining the order in which functional projections are merged. Importantly, category features are sufficient for a phrase to be projected on top of this feature. In addition to MERGE, the second important operation is AGREE, for which I adopt the framework proposed in Pesetsky & Torrego (2007), in which unvalued Probe search for valued Goals in their c-command domain. Importantly in this agreement system, there is no correlation between being valued and being interpretable, and being unvalued and being uninterpretable, respectively.

The approach to information-structural marking is based on Aboh (2010), and I assume that constituents are combined with information-structural features in the numeration. More concretely, the constituents to receive a particular information-structural marking are combined with a valued but uninterpretable information-structural feature of the appropriate type. Placing such a valued but uninterpretable feature into the numeration leads to the obligatory addition of an unvalued but interpretable counterpart to the numeration, to ensure interpretability at the end of the derivation. This interpretable information-structural feature will then serve as the head of the respective projection, and, due to being unvalued, probe for and agree with the constituent that carries the valued but uninterpretable counterpart.

The position in which the relevant information-structural phrase is projected is determined by the Hierarchy of Projections. In general, I assume information-structural projections to be present in the phasal peripheries, vP and CP, with different information-structural information being expressed in different positions. Following the assumptions of feature inheritance, not only are the information-structural features present in the peripheries, but initially also the *φ*-features that, in languages like English, are subsequently inherited by T. However, languages actually differ with respect to which features are inherited by T, and out of the four logical possibilities, all are cross-linguistically attested.

Information-structural features are not only initially merged on the same head as *φ*-features, but can also become bundled with them. This process leads to complex probes, where a bundle of *φ*-features and an information-structural feature probes for and agrees with the same goal, which consequently needs to host a valued set of *φ*-features and must be appropriately information-structurally marked. This leads to *φ*-feature agreement being determined by information structure.

In the next chapter, I will discuss a phenomenon known as *long distance agreement*, and I will argue that it is exactly such a head, a bundle of *φ*- and information-structural features in the CP that enables the presence of long distance agreement.

CHAPTER 3

Long distance agreement

3.1 Introduction

In this chapter of the book,[24] I will discuss an effect of information-structural agreement on φ-feature agreement in the CP, the area on which most of the discourse in the literature on information structure has focussed on. I will discuss the phenomenon of long distance agreement, whereby an argument in an embedded clause determines agreement on the verb in the matrix clause. I will argue that the presence of such an agreement crucially depends on information-structural marking of the embedded argument. This argument then undergoes agreement with a head in the left periphery of the embedded clause that hosts a bundle of unvalued information-structural and φ-features, which are subsequently valued by the embedded argument. This set of φ-features in the CP of the embedded clause will then serve as agreement goal for the probing matrix verb. Thus, the agreement of the matrix verb with the embedded argument depends on an information-structural head bundled with φ-features in the CP of the embedded clause.

Long distance agreement (LDA) in general refers to a syntactic dependency by which certain features, usually φ-features, of a probing head depend on features of a non-local constituent, i.e. a constituent not in the specifier of the probing head (Bhatt & Keine 2016). Long distance agreement provides a strong argument for the operation of AGREE as formulated in Chomsky (2000) and Chomsky (2001), and further refined in Pesetsky & Torrego (2007) as given in (1), repeated from the previous chapter for convenience.

(1) **Agree** (Pesetsky & Torrego 2007: 268)
   a. An unvalued feature F (a probe) on a head H at syntactic location α (F_α) scans its c-command domain for another instance of F (a goal) at location β (F_β) with which to agree.
   b. Replace F_α with F_β, so that the same feature is present in both locations.

Three cases of LDA need to be distinguished and they differ from each other with respect to the distance between probe and goal. Those two elements can either be part of the same clause, separated by a non-finite clause boundary or by a finite

24. This chapter first appeared in a slightly different version as Mursell (2020).

one. The first case of LDA can be exemplified by quirky subjects in Icelandic or object agreement in Zulu. The example in (2) from Zaenen, Maling, & Thráinsson (1985) shows that in sentences with non-nominative subjects, a nominative object controls verbal agreement. Importantly, this nominative object is most likely not in the specifier of the projection that hosts *voru* and thus, qualifies as case of long distance agreement.

(2) Konunginum voru gefnar ambáttir.
the.king.DAT were given.F.PL maidservants.NOM.F.PL
'The king was given female slaves.' Icelandic (Zaenen et al. 1985: 460)

The second type, in which probing head and agreement target are separated by a non-finite clause boundary, can be found in English. In raising constructions, an expletive can be inserted in matrix subject position instead of raising the embedded subject. However, the embedded subject still controls agreement on the matrix verb.[25]

(3) a. Two men seem to be in the garden.
b. There seem to be two men in the garden.
c. *There seems to be two men in the garden.

This type of cross-clausal long distance agreement, i.e. agreement into a non-finite clause, is present in several languages and has frequently been discussed in the literature. Thus, this type of agreement can be found in, among others, Hindi-Urdu (Bhatt 2005), (4a), Godoberi (Haspelmath 1999), (4b), or Basque (Preminger 2009).

(4) a. Vivek-ne [**kitaab** paṛh-nii] chaah-ii.
Vivek-ERG **book.F** read-INF.F want-PERF.F.SG
'Vivek wanted to read the book.' Hindi-Urdu (Bhatt 2005: 760)
b. [našu-di **quči-be** r-al-u] **r**-uL-i.
boy-ERG **book-PL.ABS** PL.N-read-CVB.PST **PL.N**-finish-AOR
'The boy finished reading the books.' Godoberi (Haspelmath 1999: 136)

If long distance agreement into a non-finite clause is analysed as being based on a restructuring configuration (Wurmbrand 2003), i.e. a configuration consisting of a full-fledged matrix clause and a truncated, smaller embedded clause, the two types of long distance agreement discussed so far do not challenge the locality of the agreement process in (1), since neither violates the strong version of the Phase-Impenetrability Condition in (5).

25. Examples like (3c) are possible in certain registers of English.

(5) **Phase-Impenetrability Condition (PIC)** (Chomsky 2001)
In a phase α with head H, the domain of H is not accessible to operations outside α, only H and its edge are accessible to such operations.

If phases are assumed to be at least CP and vP and if restructuring involves embedding clauses smaller than CP, then agreement into a clause smaller than a CP does not violate the PIC.

The last and most surprising possibility of long distance agreement[26] concerns instances in which probe and goal of the agreement process are separated by a finite CP boundary, and thus constitutes a clear violation of the PIC.[27] Examples for this type of LDA are rather rare but can be found in at least three different language families, namely in some of the Nakh-Dagestanian languages spoken in the north-eastern Caucasus region, in certain Algonquian languages spoken in north America, and in at least one Altaic language.

In those languages it is possible that, in certain circumstances, an argument of an embedded finite CP determines agreement on the matrix verb. In this chapter, I will be concerned with the conditions in which this kind of long distance agreement can take place. I will argue that the crucial factor for this specific type of LDA in all languages under discussion is that the embedded agreement goal is information-structurally marked, either as topic or as focus. This will also enable an analysis of the phenomenon compatible with the PIC by agreement through the edge of the CP based on information-structural features, analyzing LDA as successive cyclic agreement comparable to successive cyclic wh-movement. In the discussion of LDA, an interesting generalization will emerge, namely that languages that allow this form of LDA, allow it either for topics alone or for topics and foci, not, however for foci alone.

The chapter is structured as follows: I will first introduce the relevant phenomenon of LDA in more detail in Section §2 before I turn to previous analysis and their respective problems in Section §3. In Section §4, I develop my analysis and Section §5 concludes the chapter.

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26. From now on in this chapter, I reserve the term LDA to specifically refer to this subtype of long distance agreement.

27. This presupposes that AGREE is subject to the same restrictions as movement. This is not undebated, see Bošković (2003, 2007).

3.2 LDA crosslinguistically

Long distance agreement of the kind I am interested in in this chapter is typologically much rarer than the other two types, but can be found in at least three different and unrelated language families. In this section, I am going to present the relevant data, pointing out the specific properties of the construction in the various languages based on the available literature, the properties any theory of LDA should be able to account for. First, the most well-known example, Tsez, will be presented, together with data from two other Nakh-Dagestanian languages, Hinuq and Khwarshi. Second, I will present data from the Algonquian languages Blackfoot, Innu-aimûn, and Passamaquoddy. In the last subsection, I will present data from an Altaic language, Uyghur, which displays a slightly different type of LDA, not only based on φ-features but mostly on case.

As will become clear in this section, all languages share one important property: long distance agreement always takes place between an element of a higher phase and an information-structurally marked element of the lower phase. This information-structural marking will be at the heart of the analysis developed in Section §4.

3.2.1 Nakh-Dagestanian languages

In their seminal paper, Polinsky & Potsdam (2001) discuss LDA in the Nakh-Dagestanian language Tsez. The basic paradigm is given in (6, from Polinsky & Potsdam 2001: 584).

(6) a. Eni-r [užā **magalu** b-āc'ruɬi] **b**-iyxo.
mother-DAT [boy **bread.III**.ABS III-ate] **III**-know
'The mother knows that, as for the bread, the boy ate it.'

b. Eni-r [užā **magalu** b-āc'ruɬi] **r**-iyxo.
mother-DAT [boy **bread.III**.ABS III-ate] **IV**-know
'The mother knows that the boy ate the bread.' Tsez

In this ergative, verb final language, only absolutive arguments determine agreement. As can be seen in (6a), it is possible that the absolutive argument of the embedded clause determines noun class agreement on the matrix verb. As the translations of (6) suggest, this is only possible if the embedded absolutive argument is interpreted as a topic; if it is not, the matrix verb shows default agreement (noun class IV). One possible solution to this problem would be to assume that *bread* in (6) was actually scrambled into the matrix clause. However, as Polinsky & Potsdam (2001: 590) point out, Tsez does not show independent evidence for cross-clausal scrambling. Thus, the agreement pattern in (6) constitutes an apparent violation of the PIC. The topic status of the agreement target can further be confirmed with

overt topic marking, which is generally optional in Tsez. If the embedded absolutive is overtly topic marked, LDA becomes obligatory (7a). Furthermore, LDA is impossible with a focussed absolutive in the embedded clause ((7b), from Polinsky & Potsdam 2001: 610–611).

(7) a. Eni-r [užā **magalu**-n/gon b-āc'ruɬi] **b/*r**-iyxo.
mother-DAT [boy **bread.III**.ABS-TOP ate] **III/IV**-know
'The mother knows that, as for the bread, the boy ate it.'

b. Eni-r [**ťek**-kin y-igu yāɬruɬi] ***y/r**-iy-xo.
mother-DAT [**book**.II.ABS-FOC II-good be] **II/IV**-know-PRS
'The mother knows that the BOOK is good.'

The authors show that this agreement indeed crosses a clause boundary and that there is neither movement into the matrix clause nor a covert *pro* co-referent with the embedded absolutive in the matrix clause. More important for the present purpose, there are further restrictions on long distance agreement in Tsez. Non-absolutive topics, either fronted or marked by a topic particle, block LDA.

(8) Enir [**ħuɬ** užā magalu b-āc'ruɬi] ***b/r**-iyxo.
mother [**yesterday** boy bread.III.ABS III-ate] **III/IV**.know
'The mother knows that yesterday the boy ate bread.'
(Polinsky & Potsdam 2001: 636)

Non-absolutive wh-words, in-situ or ex-situ, also block LDA, which is shown in (9). As they are interpreted in a position above the topic position in the left periphery of the embedded clause, they make the lower absolutive topic inaccessible to the matrix verb.

(9) Enir [**ɬu** micxir b-ok'ākruɬi] ***b/r**-iyxo.
mother [**who.ERG** money.III.ABS III-stole] **III/IV**-know
'The mother knows who stole the money.' (Polinsky & Potsdam 2001: 634)

As will become clear when presenting the analysis in section 4 of this chapter, absolutive wh-elements should be possible triggers for LDA. Unfortunately, as discussed by Polinsky & Potsdam (2001: fn. 20), the absolutive wh-word *šebi* 'who, what' shows class IV agreement which cannot be differentiated from agreement with the whole embedded clause/default agreement. D-linked wh-words in Tsez, however, can belong to a different class, the class of the noun they are d-linked to, and can consequently be used to test the availability of LDA with wh-elements. And indeed, d-linked wh-elements can trigger long distance agreement.[28]

28. Again foreshadowing the analysis, this cannot be taken as evidence that focus is also a possible trigger for LDA in Tsez, as d-linking is very often associated with topicality.

(10) Enir [**šebi** y-āk'iru-ɬi] **y**-iy-x-ānu.
mother [**wh.II.ABS** II-went-C] **II**-know-PRS-NEG
'The mother does not know who [of women] left.'
(Polinsky & Potsdam 2001: fn. 20)

Lastly, LDA is also blocked by the presence of the overt complementizer *-ƛ̓in* (11). In contrast, the complementizer *-ɬi* does not block LDA, as can be seen from the previous examples.

(11) *Enir [užā **magalu** b-āc'-si-**ƛ̓in**] **b**-iyxo.
mother [boy **bread.III.ABS III**-eat-PST.EVID-**C**] **III**-know
int.: 'The mother knows that, as for the bread, the boy ate it.'
(Polinsky & Potsdam 2001: 635)

The fact that the two complementizers behave differently is puzzling at first glance. Polinsky & Potsdam (2001: fn 19) suggest that *ɬi* should not be treated as a complementizer at all but rather as a derivational suffix. A different possibility would be to assume that the two complementizers occupy different positions in a complex left periphery, as has been proposed for Italian (Rizzi 1997; Ledgeway 2005). For the analysis to be presented in Section §4, it is only important to note that at least one type of complementizer blocks LDA.

Long distance agreement in the Nakh-Dagestanian languages is not just restricted to Tsez but also present in at least two other, related languages, namely Khwarshi and Hinuq.

In Khwarshi (Khalilova 2008, 2009) long distance agreement is possible into complement clauses of verbs of cognition,[29] and, in contrast to Tsez, embedded topics and embedded foci can be targeted. Again, only absolutive arguments show agreement and in addition to LDA with the embedded absolutive, the matrix verb can also show class IV agreement, which can either be treated as agreement with the whole complement clause or as default agreement, comparable to Tsez. In (12), an example for LDA with an embedded topic is shown. In its in-situ position, the topic can cause optional LDA with the matrix verb. If the topic is fronted to the matrix clause, however, then the matrix verb obligatory agrees with the fronted topic.

(12) a. Uža-l **b/l**-iq'-še [**zihe-n** b-iti-xx-u].
boy.OBL-LAT **III/IV**-know-PRS **cow(III)**-& III-devide-CAUS-PERF.CVB
'The boy knows that the cow was stolen.'

29. Khalilova (2008, 2009) mentions that LDA is possible into complement clauses of verbs of cognition but only gives examples for *to know* and also does not provide a reason for this behavior. From the author's discussion of the examples, it might be concluded that the reason for this is related to case: the subject of *to know* surfaces in Lative case and the other argument with Absolutive which enables the other argument to determine agreement.

b. **Zihe-n** uža-l **b**-iq'-še [b-iti-xx-u].
cow(III)-& boy.OBL-LAT **III**-know-PRS III-devide-CAUS-PERF.CVB
'The boy knows that the cow was stolen.' (Khalilova 2008: 118)

In addition to embedded topics, embedded foci, more specifically answers to d-linked wh-questions, can also show long distance agreement. In d-linked wh-questions, the pattern is similar to (12): the wh-element in the embedded clause can determine agreement on the matrix verb, while agreement with the whole complement clause remains a possible but dispreferred option.

(13) [dogu **zihe** b-ot'uq'q-u] **b/l**-iq'-še uža-l?
which **cow(III)** III-come-PST.PTCP **III/IV**-know-PRS boy.OBL-LAT
'Which cow does the boy know came?' (Khalilova 2008: 390)

Similarly in the answer, the LDA pattern is preferred over local agreement. If the constituent corresponding to the wh-element in the question is fronted, then LDA becomes obligatory. Since constituents that correspond to wh-elements in the respective questions usually carry focus, I assume that not only topic but also focus on the agreement goal can license LDA in Khwarshi.

(14) a. uža-l **b/l**-iq'-še [kˤaba **zihe** b-ot'uq'q-u].
boy.OBL-LAT **III/IV**-know-PRS black **cow(III)** III-come-PST.PTCP
'The boy knows that the black cow has come.'
b. [kˤaba **zihe** b-ot'uq'q-u] **b**-iq'-še uža-l.
black **cow(III)** III-come-PST.PTCP **III**-know-PRS boy.OBL-LAT
'The boy knows that the black cow has come.' (Khalilova 2008: 390)

Those complement clauses that allow LDA in Khwarshi are formed based on a nominalized form of the embedded verb, compatible with a clause union / restructuring analysis (Haspelmath 1999 for Godoberi). However, Khalilova (2009: 386–388) explicitly argues for a bi-clausal analysis based on the behaviour of reflexives and adverbs as well as the scope of negation. Thus, Khwarshi constitutes another language in which cross-clausal long distance agreement is possible, differing from Tsez in the fact that not only topics but also foci can participate in LDA.

The last Nakh-Dagestanian language to be discussed is Hinuq (Forker 2012). Again, only absolutive arguments agree and in cases in which LDA is possible, the verb can either show noun class agreement with the embedded absolutive or agreement with the whole complement clause/default agreement, which is class v. While the class of matrix verbs that allow LDA is bigger than in Khwarshi, the status of the agreement target is similar, it can either be a topic (15a) or a focus (15b).

(15) a. hayło-z **b**-ike-s [**meši** čeq-i-do b-iλ'i-š].
he.OBL-DAT III-see-PST **calf(III)** forest-IN-DIR III-go-PST
'He saw that the calf went into the forest.'

b. Pat'imat-ez **y**-eq'i-yo [Madina-y **t'ek** y-ux-iš-ɬ].
Patimat-DAT IV-know-PRS Madina-ERG **book(IV)** IV-buy-RES-ABST
'Patimat know that Madina bought the BOOK.' (Forker 2012: 628)

In contrast to Tsez, non-absolutive wh-elements do not block LDA, and absolutive wh-elements can themselves be agreement targets in LDA constructions.

(16) a. Šamil-ez **r/b**-eq'i-yo [ni Madina-y **mecxer**
Shamil-DAT V/III-know-PRS where Madina-ERG **money(III)**
b-uqi-š-ɬi].
III-hide-RES-ABST
'Shamil knows where Madina hid the money.'

b. obu-z **r/Ø**-eq'i-yo [ked-ez **ɬu** Ø-ike-s-ɬi].
father-DAT V/I-know-PRS girl-DAT **who(I)** I-see-RES-ABST
'Father knows who the girl saw.' (Forker 2012: 637)

Another interesting difference concerning LDA in Hinuq is that it is possible across several clauses. In a sentence with three clauses, LDA is easily possible when the higher verbs all show non-local agreement (17a). It is also possible that only the intermediate verb(s) show non-local agreement (17b), but non-local agreement of the highest verb and local agreement of the intermediate one is dispreferred (17c).

(17) a. ʔali-ž **b**-eti-yo [[obu-y ec'endiyu **mašina**
Ali-DAT III-want-PRS father-ERG new **car(III)**
b-ux-λ'os-ɬi] Madina-z **b**-eq'-ayaz].
III-buy-HAB-ABST Madina-DAT III-know-PURP
'Ali wants Madina to know that father will buy a new car.'

b. Murad-ez **r**-eq'i-yo [ħakim-ez **y**-eti-n [de **kaɣat**
Murad-DAT V-know-PRS ruler-DAT IV-want-UWPST I.ERG **letter(IV)**
cax-a]].
write-INF
'Murad knows that the boss wants me to write a letter.'

c. ʔdi-ž **b**-eti-n [debez **r**-eq'-a [ɬu-y **gulu**
I-DAT III-want-UWPST you.SG.DAT V-know-INF who-ERG **horse(III)**
b-ik'ek-iš-ɬi]].
III-steal-RES-ABST
'I want you to know who stole the horse.' (Forker 2012: 633)

Thus, even though all three languages presented in this section allow LDA, the exact implementation varies. The most important point of variation concerns the status of the agreement target, the DP in the embedded clause. While in Tsez it is only possible when the embedded DP is interpreted as a topic, Hinuq and Khwarshi allow LDA with embedded foci as well. In the next section it will be shown that the same type of variation can be found in the Algonquian language family.

3.2.2 Algonquian languages

A second language family in which some languages show LDA are the Algonquian languages spoken in north-east America. The patterns of LDA found in this language family are remarkably similar to LDA in Nakh-Dagestanian languages, in that a precondition for LDA is that the agreed-with DP in the embedded clause receives a special information-structural interpretation.

Starting with Innu-aimûn, as discussed in Branigan & MacKenzie (2002), a very similar pattern to Tsez emerges. Certain matrix verbs take complement clauses and can show agreement either with the φ-features of the embedded subject (18b), (19a), or the embedded object (18c), (19b). However, LDA is always optional, and agreement with the whole complement clause/default agreement is possible (18a), which in Innu-aimûn is similar to transitive inanimate (TI) agreement, the agreement with inanimate objects. The complement clause is fully specified for tense and can be declarative (18) or interrogative (19), thus strongly suggesting a CP-sized complement clause.[30]

(18) a. Ni-tshissenitamu-ânân [mûpishtuât Shûshepa Tshân mâk Maânî].
1PL-know.TI-1PL visit Joseph John and Marie
'We know that John and Marie visited Joseph.'

b. Ni-tshissenim-ânân-**at** [mûpishtuât Shûshepa **Tshân mâk Mânî**].
1PL-know-1PL-**3PL** visit Joseph **John and Marie**
'We know that John and Marie visited Joseph.'

c. Ni-tshissenim-ânân [mûpishtuât **Shûshepa** Tshân mâk Mânî].
1PL-know-1PL-**3SG** visit **Joseph** John and Marie
'We know that John and Marie visited Joseph.'

(Branigan & MacKenzie 2002: 388)

30. Agreement in Innu-aimûn and Passamaquoddy is very complex and a full discussion beyond the scope of the chapter. I have marked the relevant agreement marker and the argument it references in bold. For further details about the agreement systems, including the differences between TA (transitive animate) and TI (transitive inanimate) agreement or the contribution of DIR, the reader is referred to the referenced literature.

(19) a. Ma tshi-tshissenim-**in** [tân ishpish na **nit**-aimâ Mânî]?
Q 2SG-know-**1SG** when **1SG**-called Marie
'Do you know when I called Marie?'
b. Ma tshi-tshissenim-**âu** [tân ishpish na nit-aimâ **Mânî**]?
Q 2SG-know-**3SG** when 1SG-called **Marie**
'Do you know when I called Marie?' (Branigan & MacKenzie 2002: 399)

Since Innu-aimûn is a pro-drop language, the agreement target in LDA frequently is a dropped pronoun. If LDA takes place, the agreed-with DP can be moved to the front of the embedded clause. Interestingly, this movement is impossible if LDA is absent, similar to Passamaquoddy discussed below. The question arises whether the moved embedded DP ends up in a position in the matrix clause or a left-peripheral position of the embedded clause. Branigan & MacKenzie (2002), in contrast to Bruening (2001) for Passamaquoddy, assume that the DP ends up in the matrix clause. However, (20) is also compatible with the dislocated DP still being in the embedded clause, simply higher than the wh-element or complementizer.

(20) a. Tshi-tshissenim-**âu**-â [**Mânî** tshekuân kuet aimiât Pûna
2SG-know-TA-**3SG**-Q **Marie** why called Paul
utshimâminua]?
boss
'Do you know why Marie called Paul's boss?'
b. N-uî-tshissenim-**âu** [kassinu **kâuâpikueshit** tshetshî
1SG-want-know-**3SG** every **priest** if
mûpishtâshkuenit].
visited-2SG/INV
'I want to know if every priest visited you.'
(Branigan & MacKenzie 2002: 389)

The authors argue at length against a proxy-agreement account, to be discussed shortly, and instead propose that the agreement target in the embedded clause carries an unvalued A′-feature that they term *O*-feature which allows it to move covertly into the specifier of the CP so it is available for agreement with the matrix verb. Additionally, the authors claim that the agreement goal in the embedded clause is usually interpreted as the topic of that clause, so that the most likely candidate for the *O*-feature is a topic feature. This is in line with the observation mentioned earlier that the LDA goal is frequently a dropped pronoun, a highly topical element. The only qualification to this assumption is presented by wh-elements, since they also can appear as targets for LDA. Thus, the left periphery seems to play the crucial role in licensing LDA: either the LDA agreement goal is information-structurally

marked or moved high enough in the left periphery of the embedded clause due to independent reasons like wh-movement.[31]

Thus, Innu-aimûn shows many properties of LDA already discussed for Nakh-Dagestanian languages, since it is possible either with embedded topics or with wh-elements in the left periphery of the embedded clause. Similarly, if the embedded agreed-with DP is overtly topic marked by dislocation, LDA is obligatory, just as in Tsez when the topic is marked overtly by a particle.

Another Algonquian language that shows long distance agreement is Passamaquoddy (Bruening 2001). Here, the picture is more complex, just as the data in Hinuq appear to be more complex than in Tsez. Passamaquoddy has a raising to object construction, raising the embedded object across embedded C, that causes object agreement on the matrix verb (21). However, the actual raising part of this operation is optional, such that a LDA configuration is created (22), in which the matrix verb does not need to agree with the highest argument in the embedded clause. If LDA takes place, the agreed-with argument in the lower clause is usually interpreted as topical or focussed.

(21) a. '-Kosiciy-a-**l** [yaq **uhsimis-ol** eli keka
3SG-know.TA-DIR-**OBV** QUOT **3.younger.sib-OBV** C almost
peciya-li-t].
come-OBV.S-3SG.CONJ
'She knew that her brother had almost arrived.'

b. Susehp '-kosiciy-**à** [**akòm** eli Muwin
S. 3SG-know.TA-DIR.**OBV.PL** **snowshoe.OBV.PL** C M.
kisi-mil-at Wiphun].
PERF-give-3SG.CONJ W.
'Susehp knows that Muwin gave Wiphun snowshoes.' (Bruening 2001: 258)

(22) a. N-wewitaham-a-**k** [ma=te nomiy-a-w-ik
1SG-remember-DIR-**3PL** NEG=EMPH see-DIR-NEG-PART.3PL
mawsuwinuw-ok Kehlis-k].
person-3PL Calais-LOC
'I remember that I didn't see people in Calais.'

b. N-kosicihtun-ol [eli Piyel nokkaht-aq **sukolis-ol**
1SG-know.TI-**INAN.PL** C P. eat.up-3SG.CONJ **candy-INAN.PL**
wikahtm-an-pon-il].
like.eat-L.CONJ-PRET-PART.INAN.PL
'I know that Piyel ate up the candies that I liked.' (Bruening 2001: 259)

31. Unfortunately, the authors do not discuss whether the wh-element can be targeted for LDA when a topicalised element precedes it.

LDA is also possible in embedded questions, either with the wh-element (23a) or a different argument. If LDA in embedded questions takes place with an argument different from the wh-element and is also accompanied by overt movement, this agreed-with argument may end up in a position to the left of the embedded wh-element (23b). Since Passamaquoddy is a wh-movement language, the fronted argument consequently either occupies a position in the left periphery even higher than the wh-element in the embedded clause or a low position already in the matrix clause, similar to what Branigan & MacKenzie (2002) argue for Innu-aimûn. The author argues extensively for the first option, which thus makes LDA in Passamaquoddy similar to LDA in the Nakh-Dagestanian languages.

(23) a. Tihtiyas ma=te wewitaham-a-wiy-**il** [**wen-il** amsqahs
T. NEG=EMPH remember-DIR-NEG-**OBV** **who-OBV** first
kis-aqosom-uw-iht kiwhosu].
PERF-cook-APPL-3SG.CONJ.INV muskrat.OBV.PL
'Tihtiyas doesn't remember who first cooked muskrat for her.'

b. N-kosiciy-a-**k** [**nuhuw-ok** muwinuw-ok keq
1SG-know.TA-DIR-**3PL** **three-3PL** **bear-3PL** what
kis-temu-htit].
PERF-eat-3PL.CONJ
'I know what the three bears ate.' (Bruening 2001: 259)

Similarly to Branigan & MacKenzie (2002) for Innu-aimûn, Bruening (2001) conclusively argues against possible alternatives to the movement analysis. However, the exact nature of the landing site of the movement into the left periphery of the embedded clause is not clear. The agreement target in the embedded clause is compatible with either a topic or a focus interpretation. This is shown by either marking the embedded argument with the contrastive topic marker *olu*, (24a), or modifying it with the focus sensitive particle *tehpu* 'only', (24b).

(24) a. Ma=te n-kosiciy-**a**-wi [**wot** **olu** **n-tatat**, tan-iyut
NEG 1SG-know.TA-DIR-NEG **this.AN** **TOP** **1SG-father** WH-this.INAN
keti-nomkuwal-s-it atomupil].
IC.FUT-lend-INTRANS-3SG.CONJ car
'I don't know which car, my father, he's going to buy.'

b. N-kosiciy-**a** [**tehpu** **Susehp** oc menuwa-c-ihi
1SG-know.TA-**DIR** **only** **S.** FUT IC.buy-3SG.CONJ-PART.OBV.PL
nuhu akom].
three.OBV.PL snowshoe.OBV.PL
'I know that only Susehp would buy three snowshoes.'
(Bruening 2001: 282)

If two possible agreement targets compete, i.e. when the embedded clause contains a focus and a topic, the topic can be the target of LDA while skipping the focussed argument, as already shown in (23b), where a topic serves as goal for LDA despite the presence of a focussed element, the wh-word.

This leads Bruening (2001) to the conclusion that the landing position of the raising to object movement cannot be a single dedicated topic or focus projection. Assuming a split-CP analysis (Rizzi 1997), the data are compatible with an analysis of the landing position in terms of discourse projections: both the topic projection and the focus projection can serve as a landing site for raising to object movement and agree with the respective constituent. [32] These data show striking similarities with respect to LDA not only between Passamaquoddy and Innu-aimûn, but also between those two languages from the Algonquian family and the languages from the Nakh-Dagestanian family, Tsez, Khwarshi, and Hinuq.

As already pointed out by Polinsky (2003), it is important when discussing LDA in Algonquian languages to carefully distinguish genuine LDA from cases of proxy agreement or prothetic agreement which is not a case of LDA even though it appears to be one on the surface. In those languages that are viable to that kind of analysis, a silent pronoun in the matrix clause, which is co-referential with the element in the embedded clause serves as the actual agreement target of the matrix predicate.[33] Due to the co-referentiality of the proxy argument in the matrix clause and the embedded argument, such a structure appears to show LDA even though

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32. Some data appear to be incompatible with this analysis. Singular, non-referential quantifiers can appear in embedded questions preceding wh-elements (i).

(i) Sapet '-kosiciy-a-**l** [**psi=te** **wen-il** tan-iyuhtol
S. 3SG-know.TA-DIR-OBV **all=EMPH** **someone-OBV** WH-that.OBV
nucitqonkelic-il kisi-tqon-at].
policeman-OBV PERF-arrest-3SG.CONJ
'Sapet knows which policeman arrested everybody.' (Bruening 2001: 282)

However, first, it is not obvious that the fronted quantifiers cause long distance agreement on the matrix verb. If the language provides other means to move an element in the embedded clause above the wh-element, then LDA could for example also be based on overt QR. Second, Bruening (2001) argues that sometimes the element that appears to have undergone raising to object is actually initially merged in the matrix clause, which could also be the case for (i). Thus the data do not constitute counterevidence to the information structural dependence of LDA.

33. At least one argument used by Polinsky (2003) in favor of a proxy agreement account is directly addressed and dismissed by Bruening (2001) as well as Branigan & MacKenzie (2002). In Passamaquoddy as well as Innu-aimûn, agreement on the matrix verb can be with a subset of the goal in LDA configurations. Polinsky argues this is due to a *pro* in the matrix clause, but Bruening (2001: 269) shows that it can also occur in contexts which definitely involve movement like relative clauses and thus dismisses this argument.

only clause bound agreement is involved. Such a construction would be similar to English (25), with the matrix pronoun being a silent *pro*.

(25) *Peter knows of her that Mary went to the movies.

Note the ungrammaticality of (25), which is due to a violation of Principle C. Even though Principle C is not necessarily active in all Algonquian languages, Branigan & MacKenzie (2002) argue that it does play a role in Innu-aimûn and thus an analysis along the lines of proxy agreement is not feasible. This is supported by further arguments, for example the impossibility of having a sentence comparable to English (26) with a proxy argument in the matrix clause, i.e. having a prothetic pronoun co-referring with a wh-element.

(26) *Do you know of him who is laughing?

For Passamaquoddy, Bruening (2001) also discusses and dismisses a proxy agreement account, relying on the same arguments as Branigan & MacKenzie (2002). He shows that having an overt pronoun in the matrix clause doubling the embedded DP is ungrammatical, probably due to a principle C violation, (27). The observation that LDA in Passamaquoddy can also target the wh-element of the embedded clause and that embedded wh-elements cannot be coreferential with a matrix pronoun (cf. 26), provides another argument against a proxy agreement analysis.[34]

(27) a. N-kosiciy-**a** [eli **Piyel** koti-nathula-t Susehp-ol].
1SG-know.TA-**DIR** C **Piyel** FUT-pick.up.in.boat-3SG.CONJ S.-OBV
'I know that Piyel will pick up Susehp in a boat.'

b. *N-kosiciy-**a** **nekom** [eli **Piyel** koti-nathula-t
1SG-know.TA-DIR 3SG C Piyel FUT-pick.up.in.boat-3SG.CONJ
Susehp-ol].
S.-OBV
'I know about him that Piyel will pick up Susehp in a boat.'
(Bruening 2001: 270)

Before closing this section, it should be pointed out that even though the proxy agreement account of LDA cannot be applied to LDA in Passamaquoddy or Innuaimûn, other Algonquian languages do seem to present cases of agreement by proxy. Blackfoot, for example, shows apparent LDA (28). Blackfoot also presents

34. The author also argues against a different kind of the proxy agreement analysis in which either a proxy or the full DP is base generated in the left periphery of the embedded clause, comparable to a left dislocation construction. I cannot discuss this here for reasons of space, but Bruening (2001: 263ff) provides ample evidence that movement inside the embedded clause does indeed take place.

an apparent counterexample to the generalization stated in the beginning that either topic and focus can serve as LDA targets in a given language or topic alone, since Bliss (2009) argues that LDA in Blackfoot marks contrastive foci.

(28) nit-iksstaat-a an-wa Leo nin-aahk-sspommo-a-hsi.
1SG-want.TA-1SG:3SG DEM-PROX Leo 1-MOD-help.TA-1SG:3SG-CONJ
'I want to help Leo.' (Bliss 2009: 1)

However, LDA in Blackfoot has been analysed as proxy agreement and thus does not constitute a proper case of LDA and therefore also not a counterexample to the generalization stated above. Polinsky (2003), going back to Frantz (1978), discusses several phenomena that can be linked to LDA by proxy. One of them concerns binding. In Blackfoot, since the proxy in the matrix clause constitutes a full pronoun, it can actually bind a reflexive on the verb.

(29) noxkówa ki niistówa nits-íksstat-tsiiyi-xpinnaani n-áxk-a'po'tak-ss-innaan
my.son.3 and I I-want-RECIPROCAL-1PL 1-might-work-CONJ-1PL
lit.: 'My son and I want of each other that we work.'
(Frantz 1978: 99, via Polinsky 2003: 286)

I have argued in this section, that in addition to languages in the Nakh-Dagestanian family, some Algonquian languages also show LDA, also conditioned by information structural properties of the embedded agreement target. Similarly to Nakh-Dagestanian languages, two types of LDA targets can be distinguished in Algonquian languages: either agreement with both topics and foci is possible, as in Passamaquoddy, or LDA is restricted to topics as in Innu-aimûn. Additionally, I have also distinguished LDA proper from LDA by proxy, as exemplified by Blackfoot. Concerning LDA by proxy in Nakh-Dagestanian languages, Polinsky (2003) has argued that Tsez shows proper LDA. This has not been discussed explicitly for Hinuq or Khwarshi, but data strongly suggest an analysis in the line of Tsez. The next subsection will discuss LDA in yet another unrelated language family, however in a slightly different context.

3.2.3 LDA in Uyghur

Another, less frequently discussed, case of an apparent PIC violating dependency is exceptional subject case marking in Altaic languages. In many languages from this family, subjects in certain types of finite embedded clauses can occur with a case other than nominative, mostly genitive but also accusative. Clauses in which this exceptional subject case is possible usually involve nominal complement or relative clauses. Even though the occurrence of non-canonical subject case is different from

the LDA agreement pattern discussed above, in which a matrix verb agrees with an argument in a complement clause, those cases could still constitute instances of LDA, namely when the exceptional case is licensed from outside the clause and the clause itself is of CP size. Thus, these two aspects need to be considered carefully, and Table 3.2.3 shows that, as expected, significant variation along these two dimensions can be found in the Altaic languages.

Table 3.1 Exceptional subject case in Altaic

Language	Emb. clause size	Licenser for subject
Turkish (Kornfilt 2008)	CP	clause internal C
Dagur (Hale 2002)	AspP (<CP)	clause external D
Japanese (Miyagawa 2011)	TP (<CP)	clause external D
Uyghur (Asarina & Hartman 2011a)	CP	clause external D

As can be seen in the table, Uyghur seems to present the right configuration that exceptional subject case could be analyzed as LDA, since the case of the subject in a CP is licensed by an element from outside that CP. If case licensing is taken to be based on agreement, and if this analysis is correct, then Uyghur shows a case of LDA. Examples of this configuration are given in (30). Exceptional subject case correlates with the presence of an agreement morpheme on the superordinate noun (30).

(30) a. [**men-ɨŋ** ji-gen] tamaq-**im** jaχʃi.
I-GEN eat-RAN food-**1SG.POSS** good
'The food that I ate is good.'

b. [**Ötkür-niŋ** oqu-ʁan] kitav-**i** uzum.
Ötkür-GEN read-RAN book-**3SG.POSS** long
'The book that Ötkür read is long.'

c. [Ötkür oqu-ʁan] kitap uzum.
Ötkür read-RAN book long
'The book that Ötkür read is long.' (Asarina & Hartman 2011b: 4)

In order to make this point more clear, I will summarize the discussion in Asarina & Hartman (2011a), first showing that it is indeed clause external D that licenses genitive subject case in relative clauses and NP complement clauses in Uyghur and second, presenting arguments in favour of a CP sized embedded clause. The first argument for licensing GEN on the embedded subject by an external head comes from agreement with the embedded subject that shows up on the external head only when the subject carries genitive case, (30a–30b). If the embedded subject is unmarked (which is a free variant), then this agreement is absent (30c). The second piece of evidence comes from the observation that the clause external head can only

assign genitive once. Thus, the sentence in (31a) is ambiguous, and double genitives as in (31b) are impossible.[35]

(31) a. Ajgül-nuŋ resim-i
Aygül-GEN picture-3SG.POSS
'picture belonging to Aygül' or 'picture depicting Aygül'
b. *Ötkür-niŋ Ajgül-nuŋ resim-i
Ötkür-GEN Aygül-GEN picture-3SG.POSS
int.: 'picture that depicts Aygül and belongs to Ötkür'
(Asarina & Hartman 2011a: 3)

If in relative clauses and nominal complements the clause external D head is responsible for genitive assignment to the subject of the embedded clause, genitive subjects should be in complementary distribution with genitive possessors while unmarked subjects should be able to occur with genitive possessors since the genitive of the clause external D is still available when it is not assigned to the subject. The data in (32) show that this prediction is borne out.

(32) a. *[Ötkür-niŋ oqu-ʁan] Ajgül-nuŋ kitav-i uzum.
Ötkür-GEN read-RAN Aygül-GEN book-3SG.POSS long
int.: 'Aygül's book that Ötkür read is long.'
b. [Ötkür oqu-ʁan] Ajgül-nuŋ kitav-i uzum.
Ötkür read-RAN Aygül-GEN book-3SG.POSS long
'Aygül's book that Ötkür read is long.' (Asarina & Hartman 2011a: 3)

Following the authors, I conclude from this that the genitive subject is indeed licensed from outside the clause. However, to analyze this phenomenon as a case of LDA proper, it is also necessary to show that the embedded clauses are CPs and not smaller constituents as in other Altaic languages. The authors support the assumption of CP sized embedded clauses with two arguments, CP adverbs and embedded questions. First, if the embedded clause can host CP adverbs, then it must be treated as a CP. The clause initial adverb *xeqiqi* 'truly' in (33) shows the possibility of CP adverbs.

(33) a. [xeqiqi **Ajgül-niŋ** jaz-ʁan] kitiv-**i**-ni korset!
truly **Aygül-GEN** write-RAN book-3SG.POSS-ACC show
'Show me the book that Aygül truly wrote!'
b. [χeqiqi **men-iŋ** jaχʃi kör-i-gen] tamaq-**im**-ni ber!
truly **I-GEN** well see-IMPF-RAN food-**1SG.POSS**-ACC give
'Give (me) the food that I truly like!' (Asarina & Hartman 2011a: 8)

35. Under the assumption that genitive is assigned by D and not by N, this clause external head is D.

Second, the embedded clause can also be a question and it is argued that an interpretation as a question necessarily requires a CP layer in the embedded clause to host the clause-type information.

(34) men [**Ajgul-nuŋ** katʃan ket-ken-(lik)] heqiqet-**i**-ni sordum.
I **Aygül-GEN** when leave-RAN-LIQ fact-**3SG.POSS**-ACC asked
'I asked when Aygül left.' (Asarina & Hartman 2011a: 8)

Summarizing the discussion, genitive subject licensing in Uyghur constitutes a genuine case of long distance agreement. However, Asarina & Hartman (2011a) reject an analysis in the spirit of Polinsky & Potsdam (2001) to account for the apparently PIC violating pattern, since not all genitive subjects are topics. As I have discussed above, not only topics can participate in LDA though, but also foci. The following data show exactly that, namely that in addition to the LDA cases above, which Asarina & Hartman (2011a) claim involve topical subjects, foci are also possible in LDA in Uyghur. The Examples (35a) and (35b) contain a focused subject marked by the focus sensitive clitic *-la* 'only', while (36) contains a contrastive focus.[36]

(35) a. [**Ötkür-nɪŋ**-la kel-gen-lik] xever-**i** muhim.
Otkür-GEN-only come-RAN-LIQ news-**3SG.POSS** important
'The news that only Ötkür came is important.'
b. [**men-iŋ**-la jaχʃi kör-gen] kitav-**im** uzun.
I-GEN-only well see-RAN book-**1SG.POSS** long
'The book that only I like is long.' (Asarina & Hartman 2011a: 10)

(36) Q: Ötkür [Ajgül-nuŋ kel-gen-lik-i-ni] didi-mu?
Ötkür Ajgül-GEN come-RAN-LIQ-3.POSS.ACC said-Q
'Did Ötkür say that Aygül came?'
A: Yaq, Ötkür [Mehemmet-niŋ kel-gen-lik-i-ni] didi.
no Otkür Mehemmet-GEN come-RAN-LIQ-3.POSS-ACC said
'No, Ötkür said that MEHEMMET came.'
(Asarina & Hartman 2011a: 10)

36. This stands in contrast to subjects in finite ECM clauses in Turkish. As Sener (2008) shows, the subjects, which receive exceptional accusative case need to be topics. Thus, Turkish ECMs might yet present another case of LDA in an Altaic language, with the variation with respect to the information-structural features of the agreement target being in line with the variation found in other language families.

Table 3.2 LDA and IS property of goal

IS property	Dependency	
	***φ*-features**	**Case**
TOP	Tsez (Polinsky & Potsdam 2001) Innu-aimûn (Branigan & MacKenzie 2002)	Turkish (Sener 2008)
TOP+FOC	Hinuq (Forker 2012) Khwarshi (Khalilova 2009)	Uyghur (Asarina & Hartman 2011a)

Thus, LDA in Uyghur seems to behave parallel to Hinuq, Khwarshi, and Passamaquoddy, in that not only embedded topics can serve as agreement target but embedded foci as well. This sensitivity to information structure seems to be the uniting property of LDA in all languages discussed in this section, with either topic, or topics and foci being possible agreement targets for an element in a higher clause, a verb in the case of Algonquian and Nakh-Dagestanian languages, and a D-head in the case of Uyghur. The findings from this section are summarized in Table 3.2.

The next section presents previous analyses of this phenomenon, their advantages and their problems, before I turn to my own analysis in Section §4.

3.3 Previous analyses

Long distance agreement and the challenge it presents to standard locality theories, more specifically the Phase Impenetrability Condition (PIC), have made it a frequently discussed phenomenon in the syntactic literature. Two possible ways to solve the apparent incompatibility between LDA and the PIC are immediately obvious. One could either assume that agreement is simply not subject to locality constraints as strong as they are for movement, an approach taken for example by Bošković (2007). In contrast, the other approach relies on the strong parallel between agreement and movement by claiming that the way moved constituents can, on the surface, violate the PIC, is also the solution to LDA, namely successive cyclicity. Thus, similarly to elements moving out of phases by successive cyclically moving first into a phase edge position, agreement crossing a phase boundary should be possible via an element in the phase edge serving as intermediate agreement step. Arguments in favor of such a cyclic agreement process are frequently found in the literature, for example in Legate (2005) for a theory of agreement of T with a DP in-situ but also mentioning LDA data, and, in the framework of Tree Adjoining Grammar, in Frank (2006).

Worked-out proposals for long distance agreement are much rarer in the literature than general approaches suggesting agreement through phase edges. The two most discussed proposals are Polinsky & Potsdam (2001), who actually suggest LF movement of the agreement goal in the embedded clause into the phase edge, and, more recently Bjorkman & Zeijlstra (2019) who assume an agreement process through the periphery of the embedded clause.[37] Since Polinsky & Potsdam (2001) as well as Bjorkman & Zeijlstra (2019) (including its discussion in Preminger 2013 and Preminger & Polinsky 2015), in part deal with data that are also the focus of this chapter, I will discuss their contributions in more detail in this section, starting with Polinsky & Potsdam (2001). The main facts that all proposals of LDA need to account for are the dependence on information-structural properties of the agreement goal as well as the locality restrictions to which LDA is subject in the various languages.

3.3.1 Polinsky & Potsdam (2001)

In their paper on LDA in Tsez, Polinsky & Potsdam (2001) propose to account for the pattern by assuming that the embedded topic moves on LF into a left peripheral topic position (Rizzi 1997) in the embedded clause. This position then is close enough to the matrix verb (cf. also Bobaljik 2008), part of the phase edge in our terms, to serve as the agreement goal for the probing matrix v.[38] Alternatives, for example that the agreement goal has continued to move covertly to the matrix clause or that there is a *pro* co-indexed with the embedded topic in the matrix clause, are conclusively argued against by the authors. A structural representation of their approach is given in (38).[39]

(37) Eni-r [užā **magalu** b-āc'ruɬi] **b**-iyxo
mother-DAT boy **bread.III**.ABS ate **III**-know
'The mother knows that, as for the bread, the boy ate it.'
(Polinsky & Potsdam 2001: 584)

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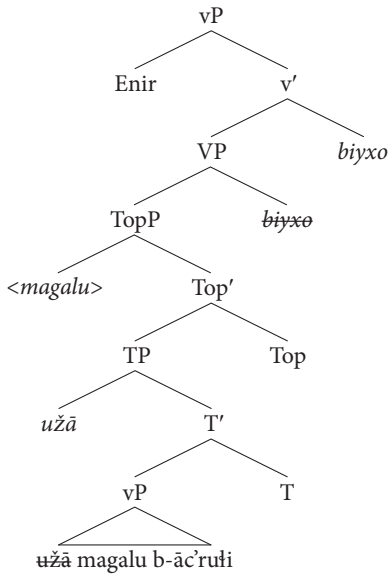
37. A very recent proposal, Börjesson & Müller (2020), will not be discussed due to reasons of space. While the two authors discuss very similar data compared to what is discussed here, their proposal is based on reprojective head movement and introducing this theoretical approach here is beyond the scope of this chapter.

38. I assume the φ-probe in the matrix clause is on v whereas the authors seem to relegate it to V. Nothing depends on that.

39. Note that ~~strikethrough~~ represents traces of overt movement while ⟨XP⟩ is used for covertly moved elements in this chapter.

(38)



From this assumption nearly all properties of LDA in Tsez can be derived. First, the topic status of the agreement goal in the embedded clause is crucial. If the element does not serve as the topic of the embedded clause, then it will not move to spec-TopP on LF, meaning it will be too far away from matrix v to serve as an agreement goal. This is further supported by the observation that if the embedded absolutive argument is overtly topic marked (which is usually optional), the LDA even becomes obligatory. Second, the fact that non-absolutive topics, overtly marked or not, block LDA, can also be easily accounted for. Only absolutive arguments show agreement in Tsez in general. If the only position that can serve as goal for LDA is occupied by a non-absolutive element, LDA becomes impossible. The same holds for non-absolutive wh-elements, either in-situ in the embedded clause or moved to the left periphery of the embedded clause. If it is assumed that the landing site of wh-elements in the embedded clause is above TopP they provide a closer goal hosting *φ*-features for the probing matrix *v* than the topic and they thus block LDA since *φ*-features of non-absolutive elements cannot participate in agreement and therefore lead to default agreement on matrix *v*. Note on the other hand that this implies that wh-elements should not block LDA when they are absolutive and instead provide suitable agreement targets. This is indeed the case, as can be seen in (10), repeated for convenience in (39).

(39) Enir [***šebi*** y-āk'iruɬi] y-iy-x-ānu.
mother **wh.II.ABS** II-went II-know-PRS-NEG
'The mother does not know who [of women] left.'
(Polinsky & Potsdam 2001: fn. 20)

The blocking effect of complementizers can be accounted for in the same fashion. Assume that complementizers also carry a set of valued *φ*-features in Tsez. Then it is expected that if the complementizer is situated structurally above the TopP, it will block LDA due to providing a closer agreement goal. If the complementizer is situated below TopP, it should not have this effect. Both types of complementizers can be found in the language. The high complementizer *-ƛ̃in* blocks LDA, as can be seen in (11), repeated in (40). As argued for extensively by Polinsky & Potsdam (2001: sec. 3), and as expected, this blocking effect is due to the complementizer occupying a position above the TopP. In contrast, the complementizer *-ɬi* does not block LDA, as can be seen from the previous example. Polinsky & Potsdam (2001) only assume one possible high complementizer position and therefore argue that *-ɬi* should not be analysed as complementizer but as nominalizer. However, assuming two possible positions for complementizers in the left periphery, a high one and a low one, as has been proposed for Romance languages (Ledgeway 2005), allows an analysis of *-ɬi* as complementizer.

(40) *Enir [užā **magalu** b-āc'-si-**ƛ̃in**] **b**-iyxo.
mother [boy **bread.III.ABS** **III**-eat-PST.EVID-C] **III**-know
int.: 'The mother knows that, as for the bread, the boy ate it.'
(Polinsky & Potsdam 2001: 635)

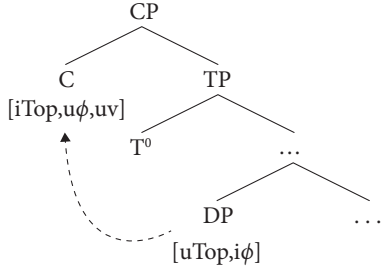
Turning to languages other than Tsez, it appears easy to extend the proposal by Polinsky & Potsdam (2001) to cases in which not only embedded topics but also embedded foci can participate in LDA. The only additional assumption that needs to be made is that it seems to be a language specific property whether only topics or both topics and foci covertly move to peripheral positions. However, this assumption is more problematic than it appears at first glance, since it is generally assumed that all information structural information is always encoded in the CP-periphery. Thus, if covert movement is assumed, then the distinction is usually not made between whether elements move or do not move (overtly or covertly) to a peripheral position but only whether or not this movement is overt or covert. Consequently, it is actually expected that if LDA is possible for (covertly moved) topics it should always also be possible for (covertly moved) foci, contrary to what can be observed. A second, more theoretical problem concerns the reliance of Polinsky & Potsdam (2001) on LF movement of the topic. As already pointed out in earlier versions of Bjorkman & Zeijlstra (2019), if LF movement is taken to be a post-syntactic process, then its output should not be able to feed narrow syntactic processes like agreement. The argument of Preminger & Polinsky (2015) that if the embedded clause is taken to be its own domain, LF movement in that domain or phase can very well serve

as input to the narrow syntax of the next higher domain/phase, also does not hold since it would wrongly predict long distance QR. A possible solution to that would be a single output syntax as proposed by Bobaljik (2002) in which all movement happens in the syntax and spell out can target different copies. I will not follow this assumption and instead propose an analysis that is compatible with the standard model of grammar that does not rely on LF movement but on agreement in the next section. Before that, however, I will first discuss another proposal from the literature for LDA that also relies on agreement, albeit a non-standard version of it, namely Bjorkman & Zeijlstra (2019).

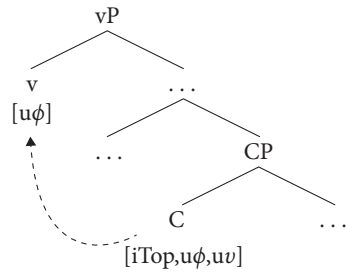
3.3.2 Bjorkman & Zeijlstra (2019)

Bjorkman & Zeijlstra (2019) discuss long distance agreement as an argument supporting their general theory of upwards instead of downwards agreement (see also Baker 2008 and Wurmbrand 2012, 2016b,a). Even though the direction of agreement is different from what I assume in my own proposal, their general argument can also be made in a standard, downward agreement framework. The two authors assume a configuration very much in the spirit of the successive cyclic agreement idea of Legate (2005) without any recourse to LF movement. It is assumed, following the notational conventions of the authors, that the agreement goal, the DP in the embedded clause, carries an uninterpretable topic feature, [uTop], and also interpretable valued φ-features. The [uTop] feature probes upwards and establishes an agreement relation with the [iTop] feature on the C head, allowing the C head to value its own uφ-features (41). Even though not discussed explicitly, the authors appear to assume a feature bundle on a C-head which comprises information-structural features and φ-features, with the valuation of one being dependent on an agreement relation established based on the other. This will also be the core of my own proposal and elaborated on in more detail in the next section.

(41)



(42)



To establish the second link in the agreement chain, the authors assume that the C head also carries an unvalued feature, namely an unvalued case feature [uv], which allows the C-head to establish an agreement relation with the matrix v, so that v can value its *φ*-features (42), which then show up as LDA on the matrix verb, following the frequently assumed connection between case assignment and agreement.[40]

Several points of criticism can be raised against this proposal, many of which have already been discussed in Preminger & Polinsky (2015). From an empirical point of view, there is no obvious explanation for the various blocking effects observed in Tsez. Neither complementizers, nor non-absolutive topics or wh-elements should block the relationship between the C head and the higher v since those elements cannot assign case, therefore do not carry a valued v feature and thus cannot intervene in the relation between embedded C and matrix v based on this feature. Second, it does not seem straight-forward in this system to derive cross-clausal long distance agreement as can be found in Hinuq (17). While Polinsky & Potsdam (2001) could stipulate successive cyclic LF movement of the topic DP, Bjorkman & Zeijlstra (2019) would have to assume that each v head that participates in cross-clausal LDA carries its own [uTop] feature to establish an agreement relationship with the next higher C head.

From a theoretical point of view, Bjorkman & Zeijlstra (2019) have to assume that in an extended left periphery in the sense of Rizzi (1997), it is a language specific property whether the topic head or the focus head hosts the [uv] case feature to account for the fact that in some languages foci can also trigger LDA. However, if it is assumed that this is an idiosyncratic property of a specific head in the left periphery, it becomes impossible to account for the generalization that if foci can trigger LDA in a specific language, this language will have LDA based on topics as well. Additionally, as has been discussed for Uyghur, LDA is sometimes also possible in relative clauses and DP complements. For the approach of Bjorkman & Zeijlstra (2019), it follows that in these languages, the C head in the periphery

40. This assumption has often been questioned, for example in Bobaljik (2008) and more recently in Baker & Bobaljik (2015) and Bárány (2015).

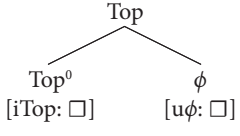
of the embedded clause does not carry a [uv]-feature but a [uD]-feature, since, in this case, D is the case assigner, assigning genitive case to the embedded subject. Lastly, turning again to Tsez and other ergative-absolutive languages, linking the assignment of absolutive case to v appears problematic, as absolutive is frequently linked to a higher case assigner since it is usually the unmarked case and shows up, for example, in unaccusatives and passives.

Summing up the discussion, both approaches presented in this section assume some kind of cyclical process that connects matrix verb with embedded agreement goal via an intermediate step in the left periphery. However, both approaches suffer from empirical and theoretical problems that are either linked to the assumption of LF movement as input to later syntactic process or due to the features that are assumed to be involved in the agreement process. In the next section, I will argue for another proposal, that keeps the idea of a cyclic agreement process similar to Bjorkman & Zeijlstra (2019) but does not involve case features.

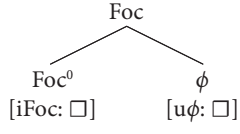
3.4 LDA conditioned by information structure

I propose to keep the idea of Bjorkman & Zeijlstra (2019) of a cyclic agreement process through the left periphery by capitalizing on the idea that *φ*-features can be bundled with information-structural features in the left periphery and that the valuation of the former depends on an agreement process established based on the latter. Concretely, I propose the following structures for the information structural heads in the left periphery, (43) for languages like Tsez in which only topics participate in LDA and (44) for languages in which this is also possible for foci.

(43)



(44)



Following Chomsky (2008) and the idea of feature inheritance, I assume that the agreement features that are manifested in T in English and other languages are actually introduced in C, since C is the relevant phase head, and then only inherited by T. The particular type of feature inheritance is, however, a language specific property (Miyagawa 2010, 2017), so that it comes as no surprise that languages differ exactly in this property, i.e. which types of features are inherited and which

features can be bundled together. Importantly, as lined out in the last chapter, I not only assume that the relevant features are introduced on the same head, but take this a step further and assume that the features can become bundled together on the same head, so that they act as a complex probe that needs to agree with a constituent that can satisfy the needs of all the components of the complex probe.

Assuming that the left periphery of the embedded clause in LDA contexts contains such a head in which φ- and δ-features are bundled together provides the intermediate agreement step necessary to connect the higher verb with the lower DP. The derivation for a language like Tsez, in which topicality of the agreement goal is the decisive factor, proceeds as follows. In a first step, represented in (45), the topic head in the left periphery agrees with the embedded topical DP, based on the [uTop]/[iTop] feature pair. At the same time, this allows the φ-features of the topic head to be valued by the agreed-with DP. In other words, the valuation of the φ-features depends on an agreement relation established by information-structural features.[41] In a second step (46), matrix v with its own set of unvalued φ-features probes in its c-command domain and agrees with the φ features that are now hosted by the topic head in the periphery of the embedded clause.[42] Under the assumption that the verb in the matrix clause moves at least as high as v, these φ-features then end up being spelled out on the matrix verb.

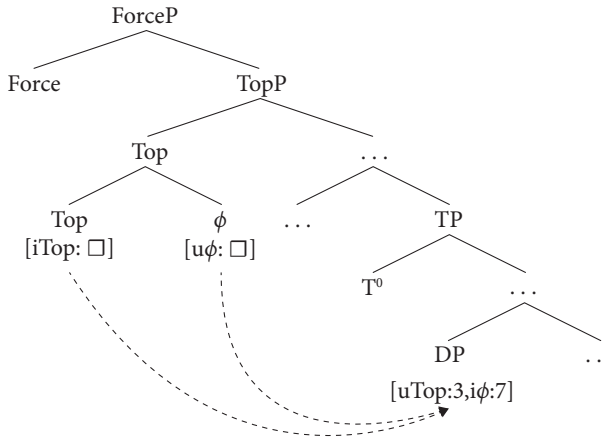
In this proposal, most of the properties of LDA that have been discussed above can easily be accounted for. First, the blocking effect of non-absolutive topics is simply due to the fact that only absolutive arguments can participate in φ-feature agreement. Thus, even though an agreement relation between topic head and embedded non-absolutive topic can be established, the φ-features on the topic head remain unvalued, leading to the spell-out of the default agreement on matrix v. Similarly, under the assumption that φ-features are also present on complementizers, those features provide a closer agreement goal for v than the φ-features of the embedded topic. However, since the complementizer does not carry absolutive case, v cannot agree with it, leading again to the spell out of the default feature value. Appealing to locality can also account for the observation that absolutive wh-elements can lead to LDA. LDA is possible when the agreement goal manages to get high enough in the periphery of the embedded clause. Since wh-elements are usually connected

41. Note that I ignore the impact of the vP phase in the embedded clause here. The simplest solution would be to assume that the topical/focal element in the embedded clause moves into the specifier of a low information-structural projection which is the phase edge of vP. This makes this constituent then easily accessible for agreement with the left periphery of the clause.

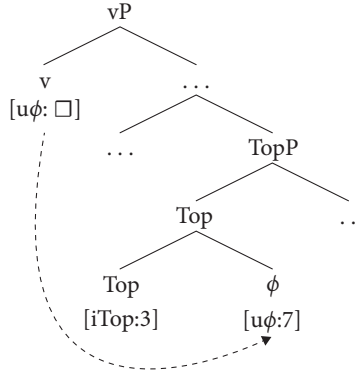
42. In contrast to Bjorkman & Zeijlstra (2019), I only link φ-feature agreement to v and not to absolutive case.

to the left periphery by either movement or agreement, their participation in LDA is expected, as long as they carry absolutive case.[43]

(45)



(46)



Turning to properties of LDA in languages other than Tsez, the generalization that if foci can participate in LDA in a particular language, topics can participate as well follows directly from the dependence on information structure and the fine structure of the left periphery as assumed by Rizzi (1997), as exemplified in (47).

(47) [$_{\text{ForceP}}$ Force [$_{\text{TopP*}}$ Top [$_{\text{FocP}}$ Foc [$_{\text{TopP*}}$ Top [$_{\text{FinP}}$ Fin […]]]]]]

It is generally assumed that, in a left periphery hosting information-structural projections, the focus phrase is sandwiched between two topic phrases. Thus, the presence of a focus phrase always entails the presence of a higher topic phrase. Consequently, if a focus phrase counts a sufficiently local to the higher matrix v,

43. This property of LDA has been exploited by Heck & Cuartero (2012) in their analysis of relative clauses as involving a particular form of LDA.

the topic phrase dominating the focus phrase is necessarily local enough as well so that if foci can participate in LDA, so can topics.

LDA across more than one CP boundary is also expected in this approach. Nothing prevents intermediate topic heads from probing for a topicalized element in their c-command domain. For these heads, the initial topicalized DP in the lowest clause is not accessible since it is not local enough, i.e. separated by at least one CP boundary. However, they can agree with the topic head in the left periphery of the next lower clause. Since this topic head also hosts φ-features which have been valued by the topicalized DP in the lowest clause, the intermediate topic head can also value its φ-features, in effect transmitting the φ-features of the topicalized DP up until v in the highest clause.[44]

Note that this approach predicts that it is impossible for LDA to skip an intermediate clause. Thus, in a structure with three clauses, it is impossible for the verb in the highest clause to show LDA with the topic of the lowest clause if the verb in the intermediate clause does not show LDA as well. Since cross clausal LDA is successive cyclic as well, all intermediate topic heads need to participate in it, otherwise the φ-features of the topic in the lowest clause cannot be accessed by higher verbs. As has been discussed above, this prediction is borne out in Hinuq (17) and cross-clausal LDA cannot skip an intermediate clause.

Lastly, the approach presented in this section is independent of the element in the matrix clause that establishes the actual agreement relation into the embedded clause. In the Nakh-Dagestanian and Algonquian languages, this element appears to be v, whereas in Uyghur it is a D head in the higher clause.

In sum, the present approach appears to be advantageous over the approaches of Polinsky & Potsdam (2001) as well as Bjorkman & Zeijlstra (2019) discussed above in that it easily derives the cross-linguistic properties of long distance agreement without any stipulations that cannot cannot be motivated independently.

3.5 Conclusion

In this chapter, I have presented a successive cyclic approach to long distance agreement that is based on the bundling of φ- and δ-features on heads in the left periphery of the embedded clause. Starting from an extensive typological discussion, I have shown that LDA can be found in various unrelated language families,

44. I ignore the vP here. If vP is indeed a phase, then its periphery might host information structural projections as well which then participate in successive-cyclic agreement. I discuss this in later chapters 4 and 5

namely in Nakh-Dagestanian, Algonquian and Altaic languages, albeit with slightly different properties. A generalization emerged from this discussion, namely that if a language permits LDA based on embedded foci it will also allow LDA based on embedded topics.

In the second part, after discussing previous analyses of LDA, I presented an approach that derives long distance agreement via successive cyclic agreement through the periphery of the embedded clause, thus analyzing LDA in accordance with the PIC, and similar to successive cyclic wh-movement. The nature of the intermediate head in the left periphery was then the main ingredient of the analysis in which I assumed a particular notion of feature inheritance. In addition to either transmitting φ- or δ-features from C to T, both can remain in C bundled together on one head. The valuation of one part of the feature bundle then depended on an agreement relation established based on the other part. More concretely, the head in the left periphery established an agreement relation with the relevant DP based on δ-features which allowed the φ-features of the left-peripheral head to be valued as well. For the second step in this successive cyclic agreement, the φ-features on this head then served as agreement goal for a higher probing head in the matrix clause, v or D. These assumptions, combined with a standard analysis of the left periphery, were able to derive the cross-linguistic properties of LDA.

This has been the first chapter to advance the general theoretical point of the book that information-structural features strongly influence other, φ-related agreement processes in the syntax. Very few additional assumptions are required for the analysis in this chapter, mostly the bundling of φ-features and information-structural features into one complex probe. Based on this one assumption, a straightforward account for long distance agreement can be provided that does neither require upward agreement nor LF movement feeding syntactic movement.

I will explore further cases of syntactic processes being influenced by information-structural agreement. Turning from information structure in the CP to information structure in the vP in the next two chapters, I will first argue in Chapter 4 that a very similar configuration to what is at play in long distance agreement is responsible for the occurrence of object agreement in the Bantu language Swahili. Chapter 5 will then focus on yet another unrelated language, Tagalog, where it will be shown that if the information-structural features in the vP periphery are not bundled with a set of φ-features but with an [EPP] feature, it is possible to derive various different patterns of subject agreement in this Austronesian language.

CHAPTER 4

Object marking in Swahili

4.1 Introduction

The last chapter discussed an effect of information structure on φ-feature agreement in the CP. That such an effect can be found in this area of the clause does not come as a surprise, since many comparable effects have been discussed for the left periphery of the clause. A different periphery, that has received far less attention regarding its information-structural properties, is the vP periphery. If the presence of information-structural heads in the CP is in part due to its status as a phase, similar projections are expected in the vP as well, since the vP is also very often considered to be a phase. In this and the next chapter, I will discuss information-structural effects in the vP periphery and their impact on the rest of the derivation. Two different cases will be discussed, object agreement in Swahili in this chapter,[45] and subject agreement in Tagalog in the next, that show how the effect of information structure in the vP periphery depends on the exact makeup if the heads involved.

In this chapter, I turn to object agreement in Swahili first. In Swahili, a Bantu language spoken predominantly in Tanzania and Kenia, but frequently used as a *lingua franca* in East Africa in general, object marking (OM) on the verb appears to be optional. If it is present, it surfaces as the prefix immediately preceding the verb stem cross-referencing the noun class of the object, with the other prefixes for tense and subject agreement to its left.

(1) Mwanamke a-li-(**ki**)-vunja kikombe.
1.woman 1.S-PST-**7.O**-break 7.cup
'The woman broke the cup.

The optionality of OM is not restricted to Swahili but found in several other Bantu languages (Marten & Kula 2012) and has spawned a lively debate which mostly revolves around two questions.

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45. This chapter first appeared in a shorter version as Mursell (2018). I am very grateful to my informant, Maureen Mwende, who provided all the data for which no reference is given.

1. How can the optionality of the object marker be accounted for?
2. What is the syntactic status of the object marker?

Regarding the first question, the optionality of object marking in Bantu has often been attributed to differential object marking (Woolford 1999; van der Wal 2016). Thus, arguments that are highly animate, specific and/or definite are object marked while those that are low in these properties are not. What counts as high in definiteness for example is determined by a certain scale or hierarchy with the point on the respective hierarchy forcing object marking being subject to cross-linguistic variation (Aissen 2003). In this chapter, I will argue that object marking in Swahili is driven by a specific kind of topicality reflecting Givenness in the discourse, which frequently correlates with definiteness and animacy. Thus, in line with current research on object marking in Bantu languages and in general, this chapter highlights the important role played by information structure (cf. Seidl & Dimitriadis 1997; Bax & Diercks 2012; Sikuku, Diercks, & Marlo 2018).

The second question concerns the syntactic status of the object marker, whether it is best analysed as a clitic or agreement marker. In their seminal paper, Bresnan & Mchombo (1987) discuss object marking in Chicheŵa, arguing that it is best analysed as a clitic incorporated into the verb stem. This assumption is mostly based on the observation that object marking cannot co-occur with an object in its base position and the object consequently needs to be dislocated. However, Bantu languages differ in this respect, and there are other languages like Sambaa (Riedel 2009) that provide evidence for treating the object marker as an agreement marker instead of as a clitic. This is also the position I will argue for in Swahili, where the object marker is most likely based on agreement and not cliticization.

In order to achieve these two goals, arguing that Swahili object marking is agreement and also that it is agreement based on a low topic feature, the chapter is structured as follows. In Section §2, I will give some necessary background on Bantu syntax and the general discussion of object marking in this language family. In Section §3 I turn to Swahili, discussing the previous analyses of object marking, which also helps to introduce contexts where object marking is optional or obligatory, respectively. This will then be followed by the analysis in Section §4, prefaced with some arguments supporting the idea that the object marker in Swahili is based on agreement and not cliticization. Section §5 concludes.

4.2 Background

In this section, I discuss some background on the Bantu languages in general and object marking in particular. As the Bantu languages encompass somewhere around 500 distinct languages, only a very rough introduction can be provided, which will take place in the immediately following subsection. Afterwards, I will briefly give some more details on Swahili, restricting myself to properties relevant for the discussion in this chapter, before turning to a general discussion of object marking in various Bantu languages.

4.2.1 General background

The Bantu languages are an extensive language family that is part of the Niger-Congo phylum. As many of the Bantu languages are closely related and therefore the differentiation between distinct languages and dialects is somewhat difficult, the number of languages belonging to this family given in the literature varies between 440 and 660 languages (Nurse & Philippson 2003: 23). The Bantu languages are the predominant languages spoken in Africa south of a line connecting Nigeria in the west and Kenia in the east, with some exceptions in the south-west of Africa, and have approximately around 250 million speakers.

Many of the languages belonging to this family share certain grammatical characteristics. From a phonological point of view, tone is a very pervasive phenomenon, and a very high number of Bantu languages have tone (97% according to Nurse & Philippson 2003). However, more importantly for this chapter are the morphological and syntactic properties. On the morphological side, Bantu nouns fall into different noun classes, up to 23 but usually somewhere between 12 and 20 classes, with the even numbers being the plural class of the nouns of their immediately preceding odd-numbered class, i.e. noun class 2 being the plural class for noun class 1. Initially, the noun classes were based on semantic similarities between their members, for example noun class 1 containing animates like humans and animals. This semantic classification cannot be upheld nowadays, as, especially through extensive borrowing from other languages, many new words have entered the lexicon which were assigned to various noun classes independent of their meaning. This also had an effect on the singular-plural distinction, as frequently, now one plural noun class serves as plural class for various different singular noun classes. The noun classes are marked via prefixes on the nouns, and usually, the same prefixes are shared by most constituents inside the noun phrase, especially by adjectives and demonstratives.

Turning to verbs and verbal morphology, most Bantu languages have agglutinative verbal morphology with a very limited set of suffixes but many prefix. Affixal information marked on the verb can include tense, aspect, negation, mood, object cross-referencing and subject cross-referencing. The affixes used for subject and object cross-referencing of course depend on the noun class of the respective arguments, but are not from the same paradigm as the noun class prefixes inside the DP, where the same affixes are shared between nouns and other elements like adjectives and demonstratives.

Concerning their sentence structure, Bantu languages overwhelmingly show SVO ordering, allowing pro-drop of subjects as well as objects. The order of elements inside the noun phrase varies much more between languages, with, for example, [N Adj Dem] ordering in Swahili but [Dem N Adj] ordering in Sambaa (Riedel 2009: 25). Left dislocation mostly for information-structural reasons, especially topicality, is possible, but very frequently, at least in wh-questions, in-situ and ex-situ variants are both possible.

4.2.2 Swahili

Swahili (G42) is a Bantu language spoken in East Africa, mostly in Kenya and Tanzania, but also in many other countries in this region, for example Uganda, Mozambique, and DR Congo. The language has 5–10 million L1 speakers, but more than 100 million speakers that use it as *lingua franca* in this region.

Swahili is one of the few Bantu languages that does not have tone, but otherwise shows many typical properties of the Bantu language family. It is highly agglutinative, and shows the expected noun class system, with nouns falling into noun classes that determine subject marking (SM) and object marking (OM) on the verb, as well as the marking of other elements inside the DP. The table in 4.1 gives an overview over some relevant noun classes. The first row shows the noun class and the prefix used on the noun and other elements inside the DP. The rows marked SM and OM refer to the affixes for subject cross-referencing, the subject marker SM, and object cross-referencing, the object marker OM, respectively. As indicated in the table, usually an odd numbered class contains singular nouns, and the immediately following even numbered class contains the corresponding plural nouns.

As described in the previous subsection, the noun classes were based on semantic similarities of their members. Noun classes 1 and 2 contain mostly animate nouns, humans and animals alike, noun classes 7 and 8 used to be the class for inanimate things. Noun classes 9 and 10, which have a nasal as class prefix (indicated as N- in the table), where the exact shape of the nasal is determined by the following sound, have developed into some kind of default class, and many borrowed nouns

Table 4.1 Swahili noun classes

Class		SM	OM
1 m-	1SG:	ni-	-ni-
	2SG:	u-	-ku-
	3SG:	a-	-m-
2 wa-	1PL:	tu-	-tu-
	2PL:	m-	-wa-
	3PL:	wa-	-wa-
3 m-	SG:	u-	-u-
4 mi-	PL:	i-	-i-
5 ji-	SG:	li-	-li-
6 ma-	PL:	ya-	-ya-
7 ki-	SG:	ki-	-ki-
8 vi-	PL:	vi-	-vi-
9 N-	SG:	i-	-i-
10 N-	PL:	zi-	-zi-

were added to them. In addition, certain noun class prefixes can be used as derivational affixes. For example, the class prefix of class 7, *ki-* can be used to derive diminutives of nouns, and the class prefix of noun class 15, *ku-* marks infinitives and verbal nominalizations. One important thing to note is the the subject and object markers for third person singular and plural, the shaded cells in the table above, are the verbal agreement triggered by nouns from class 1 and 2, respectively. Thus, it is impossible to distinguish between third person singular subject agreement and simple agreement for noun class 1. Following the conventions in the literature, I will gloss *a-/-m-* and *wa-/-wa-* as agreement of noun classes 1 and 2, respectively, and not as third person singular/plural agreement.

Syntactically, Swahili clauses usually show a SVO order, with sentence final adverbials and head initial noun phrases. Several affix appear on the verb, in a fixed order and most of them prefixes. A typical example sentence is given in (2), which shows the most frequently occurring prefixes on the verb, subject marking, tense and object marking (Ashton 1944).[46]

46. I want to point out that this is a very simplified presentation of the Swahili facts. For example, it is unclear whether tense and aspect prefixes occupy different, but adjacent positions, as they are usually, but not always, mutually exclusive. In addition, negation, which is also marked as a prefix, interacts both with subject marking and with tense marking, leading to the occurrence of suppletive forms. All these points are not relevant for the discussion in this chapter, and are therefore left aside.

(2) a. Subject SM-TENSE-OM-Verb Object
b. Mwanamke a- li- **zi**- nunua nguo mpya sana.
1.woman 3SG.S- PST- **10.O**- buy 10.dress 10.new yesterday
'The woman bought the new dresses yesterday.'

Suffixal marking is much more restricted than prefixal marking on the verb and frequently involves direct changes to the meaning of the verb. The final vowel of the verb, *-a* in (2) indicates mood, *-a* for indicative and *-e* for subjunctive. Between the final vowel and the verb stem, various affixes can occur. Possible derivational suffixes are the reciprocal *-ana-*, the applicative *-ia-/-lia-*, the causative *-isha-/-lisha-* and the passive *-wa-*. Various phonological process can affect the affixes and the preceding parts of the verb stem, but I will not discuss those here. The examples in (3) provide a brief illustration of the stacking of suffixes, which, similar to the prefixes, needs to follow a fixed order of suffixes.

(3) a. ku-andik-a
INF-write-IND
'to write'
b. ku-andik-wa
INF-write-PASS
'to be written'
c. ku-andik-isha
INF-write-CAUSE
'to cause to write'
d. ku-andik-ish-wa
INF-write-CAUSE-PASS
'to be caused to write'
e. *ku-andik-wa-lisha

The affix at the center of the discussion in this chapter is the object marker, a prefix that, if present, immediately precedes the verb stem. In contrast to subject marking on finite verbs, the object marker has very often been claimed to be optional, not just in Swahili, but in many other Bantu languages. Before discussing some previous analysis of the object marker in Bantu languages besides Swahili, another brief comment on subject agreement is in order. Terming the initial cross-referencing marker on the verb subject marking is a bit misleading, since it is not necessary the subject that determines the agreement. For example, the sentence in (4) (from Maw 1976: 393) is not a passive, even though the translation suggests that.

(4) Chakula ki-me-pika mgeni wetu.
7.food 7.S-PERF-cook 1.guest our
'The food has been cooked by our guest.'

This leads Krifka (1995) to the conclusion that Swahili is a topic prominent language in which all agreement is dependent on topicality. I will not deal with subject agreement in this talk, but cf. Baker (2008) for an analysis of (4) in terms of variable directions of the agreement process.

This concludes this brief overview of Swahili syntax. In the next subsection, I discuss the object marker and some possible analyses of it, in various other Bantu languages.

4.2.3 Object marking in Bantu

Object marking, i.e. the occurrence of a verbal affixe that cross-references the noun class (or person and number of personal pronoun) of the object, is a very pervasive phenomenon in the Bantu languages, and an exhaustive discussion of the topic would fill more than this book, and consequently, I just briefly touch upon some of the more relevant points. Following the introductory discussion of van der Wal (2020) and the overview literature cited therein, in addition to the two questions already mentioned above, i.e. about the underlying factor conditioning object marking and the syntactic status of the object marker, the object marker varies in even more dimensions across Bantu. Thus, several languages allow two or even more object markers, and among the languages that only allow one, there is again variation as to which of the objects can be cross-referenced on the verb, only the highest object (asymmetric object marking) or either object (symmetric object marking). An interesting correlation emerges when those two parameters are taken into account, termed the AWSOM correlation by van der Wal (2020: 206), given in (5), and discussed in detail in her paper.

(5) Asymmetry wants single object marking correlation (**AWSOM**)
Asymmetric languages greatly prefer single object markers.
Languages with multiple object markers are overwhelmingly symmetric.

The analysis of object marking in a particular Bantu language will of course strongly depend on how the parameters are realized in that language. The discussion of object marking has mainly focussed on those languages where only one object can be cross-referenced on the verb. Swahili is such a language, and in addition, it is also asymmetric, meaning only the highest object can be cross-referenced on the verb.

Returning to the questions mentioned in the beginning of the chapter, about the syntactic status of the object marker and the trigger for its occurrence, many different answers have been provided in the literature especially for the former one. Going back to the seminal discussion of object marking in Chichewa by Bresnan & Mchombo (1987), one important diagnostic criterion for the syntactic status of the

object marker has been the (im-)possibility of the object marker co-occurring with the object in situ. In Chichewa, for example, the object marker cannot co-occur with a non-dislocated object. Under a clitic analysis of OM, this can easily be explained as a Principle C effect, and (6) (Chichewa, from Bresnan & Mchombo 1987: 751) exemplifies this. The authors argue that in the base order, the indirect object precedes the direct object and OM is impossible (6a). If the indirect object is extraposed, however, (6b), OM becomes possible. Analysing the object marker as a clitic provides an account for this observation, since it its base position, the indirect object is in the c-command domain of the clitic, which leads to a Principle C violation. Extraposing the indirect object removes it from the c-command domain of the clitic and thus avoids this violation.

(6) a. ??Ndi-ku-fún-á kutí mu-**wa**-páts-é alenje mphâtso.
1SG-2SG-want-FV that 2.S-**2.O**-give-SJ 2.hunters gift
int.: 'I want you to give the hunters a gift.'
b. Ndi-ku-fún-á kutí mu-**wa**-páts-é mphâtso alenje.
1SG-2SG-want-FV that 2.S-**2.O**-give-SJ gift 2.hunters
'I want you to give them a gift, the hunters.'

Interestingly enough, a great deal of variation can be observed in Bantu languages with respect to the co-occurrence of OM and the doubled object in its base position. On the one end of the possible spectrum, Otjiherero completely prohibits the co-occurrence of the two (7), independently of the position of the object.

(7) *Mb-é **vé** mún-ù òvá-nátjè.
1SG.S-PST **2.O** see-FV 2-children
int.: 'I saw the children.' (Marten & Kula 2012: 240)

In contrast to Otjiherero, other Bantu languages, like Swahili and Sambaa (Riedel 2009) allow overt objects in their base positions to co-occur with object markers on the verb. The example in (8), from Sambaa (Riedel 2009: 60), a symmetric multiple object marking language, shows OM for both objects and the locative. Since both objects precede the locative, they most likely have not been extraposed and are in their base positions.

(8) N-za-**ha**-**chi**-**m**-nka Stella kitabu haja.
1SG.S-PERF.DJ-**16.O**-**7.O**-**1.O**-give 1.Stella 7.book 16.DEM
'I gave Stella a book here.'

The same can be observed in Swahili. Since Swahili is an asymmetric single object marking language, only the highest object can be coreferenced on the verb. For this, it is not necessary to dislocate the object, the indirect object precedes the direct object and the locative in (9a). Similarly, in (9b) from Seidl & Dimitriadis

(1997: 384) the co-referenced object precedes the adjunct, suggesting that it has not been dislocated.

(9) a. Ni-me-**m**-pa Juma vitabu vyote vitatut pale.
1SG.S-PERF-**1.O**-give 1.Juma 8.books 8.all 8.three 16.there
'I have given Juma all three books there.' (Riedel 2009: 62)
b. Wote wa-li-**o**-pokea habari hiyo kwa njia mbalimbali …
everyone 2.S-PST-**9.O**-send 9.news 9.this with way various …
'Everyone sent this news in various ways ….'

However, dislocation as a diagnostic for the status of the OM has been disputed in the literature. Henderson (2006: 173) contests the analysis of Chichewa, assuming that the movement of the object is simply triggered by checking of the *φ*-features associated with the object marker, i.e. the object marker is indeed an agreement marker, similar to the analysis to be developed below, but additionally associated with an EPP feature, causing the agreed-with object to move. Similarly, Zeller (2014, 2015) (cf. also Sabel & Zeller 2006) argues for Zulu that even though object marking always involves dislocation, it still needs to be analysed as agreement. He claims that this agreement is based on information structure, more particularly an anti-focus feature and therefore, the dislocation needs to be analysed as A′-movement into a low information-structurally related position. This dislocation is evidenced in (10a) by the disjoint verb form, which usually suggests that the VP has been evacuated, occurring with the object marker. In addition, the object in (10b) occurs following the manner adverbial, which also suggests that the object has been dislocated.

(10) a. U-mama u-*(ya)-**yi**-phek-a i-n-yama.
AUG-1A.mother 1.S-DIS-**9.O**-cook-FV AUG-9-meat
'Mother is cooking it, the meat.' (Zulu Zeller 2015: 22)
b. Si-**yi**-bon-a kahle i-n-kosi.
1PL.S-**9.O**-see-FV well AUG-9-chief
'We are seeing him well, the chief.' (Zulu Zeller 2015: 23)

Consequently, also taking further cross-linguistic research on object agreement outside of Bantu languages into account, several positions can be distinguished in the literature. Recently, many researchers have argued that object agreement in general is based on (incorporated) clitics (Nevins 2011; Kramer 2014; Johns & Kučerová 2017) with some scholars arguing for an intermediate position, allowing both clitic doubling and proper agreement, depending on the language (Oxford 2014; Baker 2016). On the other hand, Riedel (2009) notably argues for the position that all object marking should be considered agreement. However, depending on the analysis of clitics, a clitic-based analysis and an agreement-based analysis do not need to exclude each other. As proposed by Roberts (2010) and further developed

in van der Wal (2016) for object marking in Bantu languages, if clitics are taken to be based on defective goals, the distinction between those two analyses becomes blurred. According to the analysis of van der Wal (2016), certain DPs in Bantu have a separate layer that only hosts person features. If a complete *φ*-probe on v probes for and agrees with this person feature, the feature can only value a sub-part of the *φ*-features of the probe, namely only the person feature. This defective agreement leads to a spell-out of the goal in the position of the probe according to Roberts (2010), which is then re-analysed as a clitic. In this way, the clitic on the verb cross-referencing the object is still based on agreement.

Even though such an analysis might lead to a more uniform analysis of object marking in Bantu in general, in this chapter, I will nevertheless pursue and analysis of object marking in Swahili based on agreement in the more traditional sense, in line with Baker (2016) and Riedel (2009), which suggests that reducing all object marking cross-linguistically to incorporation of clitics cannot be on the right track.

4.3 The trigger for OM

After having focussed more on the syntactic status of the object marker in the last section, in this section, I discuss the trigger for object marking. As the occurrence of the object marker is optional in many languages, its presence has very often been related to a particular interpretive property of the object it cross-references. As this appears to be strongly language specific, I will pay particular attention to optional and obligatory occurrence of the object marker in Swahili in the following two subsections. Nevertheless, a short general introduction is also in order.

The phenomenon that languages mark certain objects but not others is generally known as Differential Object Marking (DOM) and has received widespread attention in the linguistics literature. Cross-linguistically, DOM can take various shapes, and be marked either on the verb or on the object itself. In Spanish, for example, certain nouns in certain contexts need to be marked with *a*. Consider the contrast in (11), where the differential object marker *a* is obligatory in partitive constructions but prohibited in existential clauses, taken from Leonetti (2004).[47]

(11) a. He visto *(a) muchas de esas estudiantes.
I-have seen DOM many of those students
'I have seen many of those students.'

47. I gloss *a* here as DOM for *differential object marker*. Usually, it is glossed as *to* in the literature on Spanish.

b. Había (*a) una enfermera.
There-was DOM a nurse.
'There was a nurse.'

Something very comparable can be observed in the Austronesian language Palauan, where, in the imperfective aspect, *er* marks certain objects. The examples in (12) show that the marker seems to be dependent, among other things, on number (Nuger 2016 via Levin 2019).

(12) a. A Sally a menguiu *(er) se el hong.
DET Sally TOP read.IMPF DOM that LNK book
'Sally is reading that book.'
b. A Sally a menguiu (*er) aike el hong.
DET Sally TOP read.IMPF DOM those LNK book
'Sally is reading those books.'

Languages in which DOM takes place on the verb are equally frequent, and as this is the prevalent pattern in Swahili and other Bantu languages, various examples of DOM on the verb will be given below. The main question in the literature on DOM concerns the underlying trigger for the occurrence of the respective markers, i.e. the question why certain objects receive a particular marking and others do not. In the overwhelming majority of cases, DOM is related to definiteness and/or animacy. This is very often modelled in terms of definiteness and animacy hierarchies (Woolford 1999; Aissen 2003; Levin 2019), which are given in (13) and (14), respectively. These hierarchies are to be understood as implicational hierarchies: in languages that show DOM, if an element on the scale triggers DOM, all elements to the left of it on the scale also trigger DOM.

(13) **Definiteness scale** (Aissen 2003: 437)
Personal pronoun ⟩ Proper name ⟩ Definite NP ⟩ Indefinite specific NP ⟩ Non-specific NP

(14) **Animcay scale** (Levin 2019: 168)
First/Second ⟩ Third Pronoun ⟩ Name ⟩ Human ⟩ Animate ⟩ Inanimate

Frequently, other factors in addition to (13) and (14) influence the occurrence of DOM as well, as shown for example for Palauan in (12), where number also needs to be factored in. Even then, some patterns of DOM remain unaccounted for. To bridge this gap and to provide an analysis of DOM in languages where the objects marked with DOM do not appear to show semantic similarities, Dalrymple & Nikolaeva (2011) propose that DOM can also be determined by topicality, especially by what they call *secondary topicality*. They define *secondary topic* as still carrying some kind of saliency presupposition, similar to their *primary topic*, but as

being less pragmatically salient for the speaker than the primary topic (Dalrymple & Nikolaeva 2011: 57). In light of the theoretical discussion in Chapter 2, I assume that a primary topic corresponds to what is traditionally called an *Aboutness topic*, or at least a topic that is part of the complex topic field in the left periphery of the clause, as introduced by Frascarelli & Hinterhölzl (2007). The secondary topic, on the other hand, I assume to be a topic that encodes *Givenness*, i.e. the counterpart to a low focus position encoding new information focus as discussed in Belletti (2001), encoded in the periphery of vP.

Below, it will be argued that this is exactly the factor that underlies object marking in Swahili. It will be shown in the following two subsections that DOM approaches trying to reduce OM in Swahili to animacy and/or definiteness are not sufficient to account for the observable data. Instead, I will argue that the presence or absence of the object marker in Swahili is best explained as being determined by the object being interpreted as given or not, or in the terms of Dalrymple & Nikolaeva (2011), whether the object is interpreted as being a secondary topic or not. A possible syntactic implementation of this is then presented in the next section.

4.3.1 Optional OM in Swahili

In the literature on Swahili, two factors that have frequently been assumed to force object marking on the verb are definiteness and/or animacy of the object, two of the typical factors determining DOM. However, as I will show in this subsection, neither of the two factors is enough to require the presence of OM (cf. Nicolle (2000) for an overview). Starting with definiteness, Allan (1983) already observed that definiteness cannot be the decisive factor for object marking in Swahili, since it is possible to find examples with clearly definite objects without OM on the verb. In (15), the object noun *motokaa* 'car' is accompanied by a demonstrative *hii* 'this' which shows noun class agreement with the object, and which is responsible for the definite interpretation, but still, OM on the verb is absent. If OM was present in (15), the marker would appear on the non-finite verb *nunua*, between the infinitive prefix *ku-* and the verb stem, as non-finite verbs in Swahili can show object marking.

(15) Hu-wez-i ku-nunua motokaa hii bila fedha nyingi.
NEG.2SG.S-can-NEG INF-buy 9.car this without money many
'You can't buy this car without much money.' (Allan 1983: Example (8a))

Similarly, specificity cannot be the determining factor, since, in the right context, specific objects can occur without the corresponding OM on the verb. In (16a), context forces a specific interpretation of the object, since there is only one specific

university in Dar. Comparably, the nominal object in (16b), *mkate* 'sandwich', is modified by a possessive pronoun *wangu*, meanig it is interpreted as specific, but, in an out-of-the-blue context, does not require OM on the verb.

(16) a. Tu-li-po-kwenda Dar, tu-li-tembelea chuo kikuu.
1PL.S-PST-16.REL-go Dar, 1PL.S-PST-visit university
'When in Dar, we visited the university.' (Allan 1983: ex. 8c)
b. Peter a-me-kula mkate wangu.
Peter 1.S-PERF-eat sandwich my
'Peter has eaten my sandwich.'

Additionally, Wald (1979) shows that the converse does not hold either. He presents several examples in which OM is present on the verb, even though an indefinite interpretation of the referenced object is preferred. In (17a), the object *mzee* 'old lady' is cross-referenced on the verb by an object marker but still interpreted as indefinite. Similarly in (17b), the non-finite verb in the last part of the clause, *piga*, shows object marking cross-referencing the clearly indefinite object *mtu* 'person'.

(17) a. A-ka-**m**-kuta mzee mwangine, ndugu wa yule.
1.S-PST-**1.O**-meet 1.old.one 1.other, sibling 1.GEN that.one
'(and then,) he met another old lady, sibling of the first one.'
b. Na-o mahala wa-na-po-weza ku-toa lile dukuduku ni
with-2 way 2.S-PST-16.REL-can INF-offer 5.that 5.frustration COP
ku-**m**-piga mtu.
INF-**1.O**-hit 1.person
'For them, the way to get the frustration out is to punch someone.'

Turning to animacy, again it is easy to find examples in which animate objects do not trigger OM (18). Noun class 1/2 is usually used to refer to animates, both humans and animals. The noun class for animals switches to 9/10 if the animal is dead. Consequently, both animals in (18) are animate, but still there is no object marker cross-referencing the object *mbuzi* 'goat' on the verb. Corpus examples provided by Maw (1974) (via Nicolle 2000: 683) further corroborate this claim, as shown in (19), where in both cases the clearly animate object *watu* and *binadamu*, respectively, both meaning 'people',[48] are not cross-referenced on the respective verb.

(18) Mbwa a-li-ona mbuzi.
1.dog 1.S-PST-see 1.goat
'The dog saw a goat.'

48. *Binadamu* literally translates to 'son of Adam'. I have no account for the meaning difference between *binadamu* and *mtu/watu*.

(19) a. … ku-saidia watu wetu wa vijiji-ni.
INF-help 2.people our 2.GEN 8.village-LOC
'…to help our people from the villages.'
b. … a-na-tukana binadamu hivi.
1.S-PRS.PROG-insult people thus
'…he is insulting people by doing this.

Similarly, proper names as objects, though very frequently accompanied by an object marker on the verb, do not always require one (Seidl & Dimitriadis 1997: 5), as is shown in the example in (20), in which the object *Stella* is not marked on the first verb.[49]

(20) Rosa a-li-sikia Stella a-ki-zungzuma na chakula mdomo-ni.
Rosa 1.S-PST-hear Stella 1.S-IMPF-talking with 7.food 3.mouth-in
'Rosa heard Stella talking with her mouth full of food.'

Additional evidence for, or rather against, the impact of animacy is provided by a larger corpus study presented in Seidl & Dimitriadis (1997) who show that for 144 animate objects, OM marking was present only 104 times, suggesting a correlation, but not obligatory OM with animate objects.

Lastly in this subsection, the possibility of OM being determined by focus on the object needs to be discussed since Creissels (2004) proposes an analysis along these lines for object marking in Tswana. It is easy to show that this cannot be the correct analysis for Swahili. If the object is modified by a focus sensitive particle and must therefore be interpreted as being in focus, OM is usually not possible.[50] This is shown in the near minimal pair in (21). In (21a) the object, *kipindi hiki* 'this series', is cross referenced in the verb. In (21b), the same object is modified by the focus sensitive particle *pekee* 'only', and object marking on the verb is dispreferred.

(21) a. Ni-na-**ki**-penda kipindi hiki.
1SG.S-PRS.PROG-**7.O**-like 7.series 7.this
'I like this series.'
b. Ni-na-penda ku-angalia kipiki hiki pekee.
1SG.S-PRS.PROG-like INF-watch 7.series 7.this only
'I like watching only this series.'

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49. It is not quite clear if this examples shows what the authors intend it to show, as there is no easy way of determining whether *Stella* is interpreted as the object or the whole clause *Stella … ni* is the object. As I will discuss in more detail in the next chapter, proper names are actually always expected to be part of the Common Ground.

50. It becomes possible in contrastive focus contexts. However, it can be argued that contrastive focus requires a contextually given set with which something can be contrasted, indicating that contrastive focus in a way builds on Givenness. I will get back to this later.

Similarly, object wh-elements, which can occur in their in-situ position, can also not be accompanied by OM on the verb. Under the assumption that wh-elements and their corresponding answers are inherently focussed, it comes as no surprise that this holds for wh-elements as well as their answers (22). Interestingly, d-linked wh-elements behave in the opposite way and even force OM. D-linking is usually achieved by the addition of *vipi* 'which' to the wh-element, while *nani* 'who' can be interpreted as d-linked without *vipi* (something comparable has been argued for in Krapova & Cinque 2005 for Bulgarian) (23).

(22) a. Mwanamke a-li-(*__ki__-)vunja nini?
1.woman 1.S-PST-__7.O__-break what
'What did the woman break?'
b. A-li-(*__ki__-)vunja kikombe.
1.S-PST-__7.O__-break 7.cup
'She broke a cup.'

(23) a. U-li-*(__vi__-)ona vitabu vipi?
2SG.S-PST-__8.O__-see 8.book which
'Which books did you see?'
b. Mwanamke a-li-__mw__-ona nani?
1.woman 1.S-PST-__1.O__-see who
'Who (in particular) did the woman see?'

As expected, the same holds for answers to out of the blue wh-questions and their wide focus answers.

(24) Q: Nini ki-li-tokea?
what 7.S-PST-happen
'What happened?'
A: Ni-me-vunja kikombe.
1SG.S-PERF-break 7.cup
'I have broken the cup.'

Summing up this subsection, OM in Swahili is neither determined by animacy, nor definiteness, nor specificity. As will become clear in section 4, even though they are not sufficient to force OM, all these properties correlate with the presence of the object marker since they are typical properties of given topics.

4.3.2 Obligatory OM in Swahili

While animacy and definiteness do not force object marking, it is possible to identify three contexts in which OM becomes obligatory, namely left-topicalization of the object, pro-drop of the object and applicative constructions. Thus dislocating an

object to the left periphery of the clause requires OM on the verb and also leads to an Aboutness interpretation of the moved object. In the first clause of (25), *maneo haya*, 'these words', is moved to the left periphery from its initial object position, and consequently, object marking on the verb becomes obligatory.

(25) Maneo haya a-li-**ya**-sema kwa sauti kubwa. Rosa a-li-*(**ya**)-sikia.
6.words these 1.S-PST-**6.O**-say with 9.voice 9.big Rosa 1.S-PST-**6.O**-hear
'He said the words loudly. Rosa heard them.' (Seidl & Dimitriadis 1997: 376)

Pro-drop of the object similarly leads to the obligatory presence of OM on the verb. In the second clause of (25), the object pronoun *them* referring to *words* is dropped and therefore presence of the OM of noun class 6 (corresponding to the noun class of *maneo*) on the verb is required. In (26), the second person plural pronoun is dropped and leads to OM of noun class 2 on the verb.

(26) Hao a-li-*(**wa**)-pa uwezo.
2.DEM 1.S-PST-**2.O**-give 2.ability
'He gave them an ability.' (Joswig 1996: 26)

What both these constructions have in common is topicalization of the object, albeit different kinds of topicalization. Pronouns generally pick up referents that are already part of the discourse, i.e. referents which are given (Krifka 2008). Even if object pro-drop in Swahili is not analysed as topic drop (cf. Erteschik-Shir et al. 2013) but analysed as being conditioned by other factors, for example agreement (Rizzi 1986, and many others), the observation remains that they overwhelmingly express given referents. Left peripheral topics, in Swahili as well as in other languages, can fulfil a variety of functions, and they have been linked to expressing Aboutness, Familiarity, and other possible meanings (Frascarelli & Hinterhölzl 2007).

Importantly for the analysis to come in section 4, in line with Rizzi (1997) and Frascarelli (2007), I assume that left peripheral topics are compositional, encoding Aboutness or Familiarity on top of Givenness.[51]

The third context in which OM in Swahili is obligatory are applicatives, and so far, it is not clear why this should be the case. As (27) shows, the requirement for OM with applicatives is so strong, that it is even present in wh-questions. Applicatives without OM seem to be possible but very rare. One example, judged acceptable by my informants, is provided by Joswig (1996: 23) and given in (28).

51. In relation to the analysis to be presented, of course the question arises how Givenness is encoded for subjects.

(27) a. U-li-**m**-pik-i-a nani nyama?
2SG.S-PST-**1.O**-cook-APPL-FV who meat
'For who did you cook meat?'
b. Ni-li-**m**-pik-i-a mtoto wangu nyama.
1SG.S-PST-**1.O**-cook-APPL-FV 1.child my meat
'I cooked meat for my child.'

(28) Tu-li-pit-i-a upande wa kisiwa cha Kupro.
1PL.S-PST-pass-APPL-FV side 12.GEN island 7.GEN Cyprus
'We passed the island of Cyprus.'

Since several issues remain open in the study of applicatives in Swahili (but cf. Peterson 2007 for an analysis of applicatives in terms of high topicality), I will focus on the other two instances of obligatory OM in Swahili. What these two instances have in common is that Givenness of the object seems to be the determining factor. This conclusion also receives support from Seidl & Dimitriadis (1997: 378), who, in their corpus study on OM in Swahili, come to a comparable result, namely that "unfamiliar objects may not be objectmarked". At the same time, based on their corpus data, the authors dismiss the claims that OM in Swahili is based on definiteness and/or animacy, similarly to what has been discussed above. I will capitalize on this observation in the next section, proposing an analysis of OM in terms of a low, vP peripheral topic position that encodes Givenness.

4.4 Analysis

In this section, I sketch an analysis of object marking in Swahili, which crucially relies on information structure. In short, I claim that object marking in Swahili is due to an agreement relation between a vP peripheral topic head with the topical object, whereby this topic position in the vP periphery encodes Givenness. What this amounts to is the claim that information-structural projections in the vP periphery can behave similarly to such projections in the CP periphery. In the last chapter, I argued that Long Distance Agreement is based on information-structural heads in the CP being bundled with φ-features. The analysis for Swahili OM developed in this chapter is based on similar assumptions for the vP periphery.

However, before actually discussing the analysis, I will first discuss the syntactic status of the object marker in Swahili in some more detail. As the analysis crucially relies on its status as agreement marker and not as a clitic, several arguments supporting this assumption will be presented in the next subsection. This discussion will then serve as background for the analysis afterwards.

4.4.1 OM in Swahili is not cliticization

In this subsection, I argue for the status of the Swahili object marker as an agreement affix as opposed to being a clitic, while remaining uncommitted to the concrete implementation of the clitic approach (Big-DP analysis or otherwise).[52] In general, cross-linguistic research into object marking has led several researchers to the conclusion that object marking should generally be analysed as based on cliticization (Nevins 2011; Kramer 2014; Johns & Kučerová 2017), while, at least for Bantu languages, Riedel (2009) suggests the opposite. Of course, even though a uniform analysis of OM holds a conceptual advantage, it might turn out that a uniform analysis of OM is not possible, a position taken for example by Oxford (2014) or Baker (2016). In this section, I show that an analysis of OM in Swahili in terms of agreement is more promising than a clitic-based one, without claiming that this analysis holds for other languages.

Before turning to empirical arguments that support the agreement-based analysis, note that following Preminger (2009, 2014), the case of Swahili OM would constitute a clear example of cliticization. In his seminal work, he argues that what distinguishes cliticization and agreement is the optionality of the former. For clitic doubling, the absence of an appropriate element to be doubled simply leads to the absence of the clitic. Agreement on the other hand is an obligatory process and failure of a probe to find a goal leads to the surfacing of a default form. Taken by itself, this reasoning suggests that OM in Swahili needs to be analyzed as clitic doubling of the object with the clitic afterwards being incorporated into the verb stem, since the absence of an appropriate object does not lead to a default form for the object marker but to its absence. If, however, object marking in Swahili is based on information structure, the optionality of the marker can be explained without assuming a clitic status. As discussed in general in Chapter 2 and again below, information-structural heads are only selected from the lexicon if needed. If the agreement is due to an information-structural head combined with a set of φ-features, then the absence of information-structural marking will lead to a numeration for which the information-structural head is not selected from the lexicon, which in turn will lead to the absence of the object marker in the structure. Thus, if agreement is tied to a head that can be optionally selected from the lexicon, like information-structural heads, then the absence of agreement based on this head cannot be taken to be an indicator of a clitic status of the respective morpheme. Thus, I do not take the optionality of the object marker as a counterargument to an agreement based analysis.

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52. As mentioned above, van der Wal (2016) applies the cliticization proposal of Roberts (2010) to OM in Bantu. This approach is based on agreement between a probe and a defective goal and therefore blurs the distinction between the two types of approaches.

Turning to more empirical arguments, I have already discussed above that the object marker in Swahili can co-occur with objects in their base position (9). Dislocation of the object to avoid a Principle C violation is the main diagnostic used by Bresnan & Mchombo (1987) to argue for the clitic status of the object marker in Chichewa. Since the object does not need to be dislocated for OM to surface in Swahili, this diagnostic suggests an agreement analysis. However, as mentioned as well, dislocation of the object does not seem to be a reliable indicator for the status of the object marker. Consequently, I will discuss diagnostics proposed by Kramer (2014) to discern the status of object marking in Amharic and apply them to Swahili. This discussion will show that those tests that are applicable to Swahili strongly suggest that OM is based on agreement. Before discussing some of her diagnostics, note that she also mentions three properties of the Amharic object marker that suggest it is based on agreement: only one object marker per clause is possible, it seems to attach very low to the verb stem, in the vP area, and it also always cross-references the highest object. Those three properties are also true of the object marker in Swahili, but, as discussed above, there is considerable variation exactly in these three properties in the Bantu languages. For Amharic, however, Kramer (2014) goes on to show that many other properties of the object marker suggest clitic status.

First, it is shown that the object marker in Amharic does not vary according to tense, aspect, mood, or features of v, just as expected of a clitic. The situation is different in Swahili. While the form of the object marker remains the same in all contexts in which it is possible, it always cross-references the noun class of the object, or person and number for pronouns, its general availability depends on sentence mood[53] and voice, a feature linked to v. Thus, while the object marker is easily possible in imperatives in Amharic, the two are incompatible in Swahili. As shown in (29), the imperative usually simply consists of the verb stem. If an object marker is to be included, the subjunctive must be used (30).

(29) a. Soma!
'Read!'
b. Andika!
'Write!'

(30) a. U-**m**-pig-e!
2SG.S-**1.O**-hit-SBJ
'Hit him!'

53. It is important that *mood* here is not the same *mood* represented in the structures below, i.e. indicative or subjunctive, as part of the vP domain, but rather something which is encoded higher in the clause in the C region.

b. M-**ki**-som-e kitabu!
2PL.S-**7.O**-read-SBJ 7.book
'You (all) read the book!'

Furthermore, the Amharic object marker can occur with passives. In Swahili, this is impossible. In (31a), the object marker agrees with the highest object of a ditransitive verb, the indirect object. If the verb is passivized and the indirect object promoted to subject, the object marker cannot agree with the remaining direct object (31b). In fact, the object marker cannot agree at all if the verb is passivized, not even with applicatives (31c).

(31) a. Halima a-li-**m**-pa Fatuma zawadi.
Halima 1.S-PST-**1.O**-give Fatuma 9.gift
'Halima gave Fatuma a gift.'
b. Fatuma a-li-(*i-)p-ew-a zawadi na Halima.
Fatuma 1.S-PST-**9.O**-give-PASS-FV 9.gift with Halima
'Fatuma was given a gift by Halima.'
c. Mkate huu u-li-pik-i-w-a wageni
3.bread 3.this 3.S-PST-cook-APPL-PASS-FV 2.visitors
'This bread was cooked for visitors.' (Murrell 2012: ex. 29a)

Clearly, object marking in Swahili shows behavior expected from agreement markers but not from clitics. It varies according to verbal mood, being absent in imperatives, and also according to voice, just as expected from an agreement marker linked to the vP domain. One possible reason for this dependence of the object marker on sentence mood and voice could be that the projections that make up the vP domain in these instances simply do not include the low topic projection.[54] A further tests concerns the difference in timing between cliticization and agreement, with agreement always preceding cliticization. Thus, while clitics can easily attach to elements that already contain clitics, agreement affixes cannot (Zwicky & Pullum 1983), meaning that after cliticization, a host cannot undergo further agreement processes as a probe. As nearly all the examples in this chapter show, object marking is the prefix closest to the verb stem, and tense/aspect marking as well as subject agreement attach as prefixes afterwards. From this I conclude that object marking does not prohibit the verb to participate in later agreement processes and OM therefore cannot be analyzed as clitic incorporation.

Lastly, Bax & Diercks (2012), in their discussion of object marking in Manyika, use the variability of the position of the object marker as indicator for its clitic status, as shown in (32) and (33). In Manyika, the object marker has a very similar

54. The next diagnostic Kramer discusses concerns the similarities of Amharic OM with definite determiners in this language. This test is not applicable to Swahili, since Swahili lacks definite determiners all together.

distribution compared to OM in Swahili, which leads the authors to argue that it is also based on topicality. They show, however, that in possessive constructions, the object marker must not surface in its usual position directly preceding the verb stem, but postverbally or even attached to the possessive marker/preposition, as shown by the contrasts in (32) and (33).

(32) a. Ndi-na-**(ro)** ruwa iri
1SG.S-with-**5.O** 5.flower 5.this
'I have this flower.'
b. *Ndi-**ri**-na ruwa
1SG.S-**5.O**-with 5.flower
'I have a/the flower.'

(33) a. Nda-i-we na-**wo**
1SG.S-DIST.PST-be with-**3.O**
'I had it.'
b. *Nda-i-**u**-we na
1SG.S-DIST.PST-**3.O**-be with
'I had it.'

Similar data can be replicated in Swahili. However, it becomes obvious that the marker cross referencing the possessee is clearly not drawn from the paradigm of object markers.[55]

(34) a. Ni-ko na ua.
1SG.S-be.at with 6.flower
'I have flowers'
b. Ni-ko na-**yo**.
1SG.S-be.at with-**6.REL**
'I have it.'

(35) Q: (Je,) u-ko na mbwa?
Q 2SG.S-be.at with 1.dog
'Do you have a dog?'
A: Ndio, ni-ko na-**ye**.
yes 1SG.S-be.at with-**1.REL**
'Yes, I have it.'

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55. The status of the marker remains unclear. It appears to be similar to relative clause agreement marker, the reason for which I have glossed it REL, which might suggest a reduced relative clause analysis, even though it is not obvious how such an analysis would look like. Jenneke van der Wal (p.c.) points out that the marker might be a referential form after a preposition, as it contains the Bantu *o-of-reference*, a marker that occurs in various contexts related to reference. Since it is only important for the present analysis that the marker is not an object agreement marker, I leave a detailed investigation to further research.

(36) Q: (Je,) hu-ko na kitabu?
Q 2SG.S-be.at with 7.book
'Do you have a book?'
A: Ndio, ni-ko na-**cho**.
yes, 1SG.S-be.at with-**7.REL**
'Yes, I have it.'

These data suggest that in contrast to Manyika, the position of the object marker in Swahili is not flexible, again suggesting a status as an agreement marker instead of a clitic.

Summing up this section, I have shown that if tests from the literature to distinguish agreement markers from clitics are applied to the Swahili object marker, it behaves consistently as would be expected from an agreement marker. It is dependent on mood, cannot occur in passives due to its close relation to v, and does not close off the verb stem to further agreement processes. Furthermore, its position seems to be restricted to the prefix position closest to the verb stem and it does not show any of the positional flexibility exhibited by the object marker in Manyika. All these results taken together strongly suggest that object marking in Swahili should be analyzed as agreement. To account for its apparent optionality, I have suggested to link this agreement to topicality, more specifically Givenness, of the object. More generally then, it might be the case that for agreement dependent on information structure, simply distinguishing agreement from clitic doubling by the presence of a default form or the complete absence of an agreement marker as suggested in Preminger (2009, 2014) fails to derive the difference.

4.4.2 Agreement based on Givenness

After having argued that the object marker in Swahili can be taken to be based on agreement, in this section, I turn to the analysis of how this agreement comes about. As repeatedly pointed out above, the analysis will be based on the assumption that the periphery of vP in Swahili contains a low topic head, where an unvalued topic feature is bundled with an unvalued set of φ-features. Both features need to agree with the same goal, meaning the features will be valued by a constituent that is both topical and has valued φ-features. This analysis comes as no surprise considering the discussion from the last chapter, where I have argued that a similar configuration but in the CP underlies Long Distance Agreement. Assuming that information-structural projections are present in the CP- and vP-periphery, it is expected that in both positions, comparable effects are possible.

Even though it was already discussed in Chapter 2 when presenting the general theoretical background, I want to stress again that the low topic position

is interpretationally distinct from the high topic positions in the CP. While the high positions encode topical information like Aboutness, Familiarity or even Contrastivity (Frascarelli & Hinterhölzl 2007), the low topic position merely encodes Givenness, the complement of new information, for which a low focus position has been proposed, again contrasting with high focus positions that encode other types of foci. A very general claim to this effect can already be found in Kallulli (2000), who argues that given elements are simply marked [-focus] and constitute the complement of new information. More concretely, for Bantu, Zeller (2014, 2015) employs an anti-focus feature for the object marking in Zulu, which might also be rephrased in terms of Givenness. Since then, more fine grained analyses of topic and focus have been discussed, but I assume that, at least for vP internal information structure, this claim holds: topics in the vP are interpreted as given, in contrast to new information marked by focus. Bax & Diercks (2012) capitalise on this idea when discussing object marking in Manyika, and their proposal was discussed in the last subsection.

I assume that OM in Swahili is conditioned by topicality, more specifically Givenness, of the object. This object agrees with a vP peripheral topic head which, due to it also carrying unvalued φ-features, surfaces as an agreement morpheme on the verb. For the syntactic derivation in general, I follow Julien (2002), Riedel (2009), and van der Wal (2009) in assuming two different ways of how verbal affixes are combined with the verb stem. Suffixes are attached to the verb stem by head movement, i.e. the verb moving up through projections of all those heads that appear as suffixes on the verb, mostly derivational heads like Voice, Causative, and others. Prefixes, on the other hand, are combined with the verb stem via phonological merger. This means that the verb is combined with these prefixes only at PF. While the suffixal heads obey the mirror principle (Baker 1985), i.e. the head closest to the verb stem is the most deeply embedded, the prefixal heads correspond to the actual order of the projections in the syntax. This makes it possible to determine the position of the verb with respect to the object marker in Swahili: since the object marker is, under all circumstances and in all constructions it can occur in, the prefix closest to the verb stem, the final position of the verb will be the head immediately dominated by the head containing the object marker, i.e. the head immediately below the vP peripheral topic head.[56]

The prefixal heads, I take to encompass Aspect/Tense and a dedicated head for subject agreement. For the suffixal, derivational heads that are combined with the

56. This is just one option. Another viable alternative would be to simply assume that all the affixal heads are inherently specified for either being a prefix or a suffix, as proposed in Harley (2013). This does not affect the analysis, though, as it still requires the same order of projections as proposed below.

verb by the verb moving through them, I assume the ordering in (37). Conforming to the mirror principle, the highest of those projections hosts the suffix furthest removed from the verb stem and serves as the final landing site of the verb moving up through the tree.

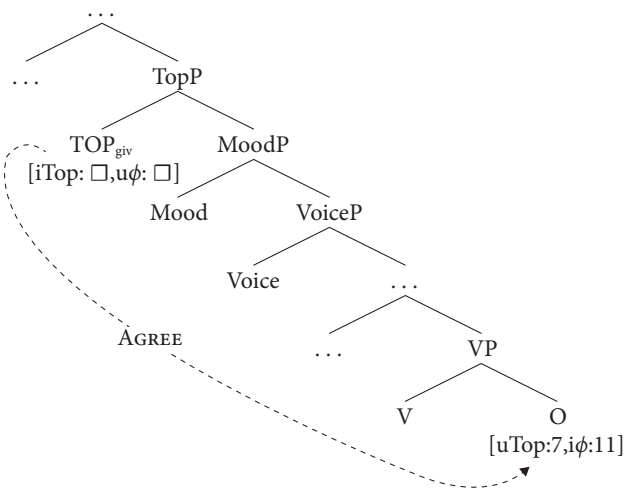
(37) [$_{\text{MoodP}}$ Mood [$_{\text{VoiceP}}$ Voice [$_{\text{Appl1P}}$ Applicative1 [$_{\text{CausP}}$ Causative [$_{\text{Appl2P}}$ Applicative2 [$_{\text{VP}}$ …]]]]]]

Based on corpus data, Ngonyani (2016) shows that the applicative morpheme can precede or follow the causative, suggesting two different applicative heads. The highest of the projections in (37), the assumed final landing site of the verb, is termed *Mood* by Julien (2002), since it frequently encodes the indicative-subjunctive distinction in different Bantu languages, but is, for example, also affected by negation in the present tense in Swahili. Due to this, and other complications, Riedel (2009) rather assumes that this head encodes aspect. This is, however, also a problematic assumption for Swahili, so that I leave this matter open here, and simply use the label provided by Julien (2002) without being committed to the actual content. Another question that arises from (37) is where the subject is initially merged. It could very well be one of the higher projections of (37), for example the specifier of MoodP or VoiceP, or there could be a different projection within this domain responsible for introducing the subject. Since this discussion is not directly relevant for the goal of the chapter, I leave this matter open as well.

Concretely, I assume the following steps in the derivation. As discussed in the theoretical background in Chapter 2, information-structural features and the constituents they mark are combined in the numeration. For Swahili, this means that when the object is selected from the lexicon to be placed in the numeration, a valued but uninterpretable topic features is also selected, a topic feature encoding Givenness, and this feature is combined with the object, so that the object carries a set of valued φ-features and a valued, uninterpretable Givenness-topicality feature. Selecting this uninterpretable topic feature from the lexicon has the effect that its interpretable counterpart is also added to the numeration, i.e. the selection of an uninterpretable valued topic feature automatically leads to the selection of an interpretable unvalued topic feature. This interpretable topic feature in the numeration will later on project the topic phrase in the vP periphery Top$_{\text{giv}}$, meaning it will be the head of the topic phrase, and merged in the appropriate position due to the Hierarchy of Projections that is hardwired into the system in one way or the other. In Swahili, this topic head Top$_{\text{giv}}$ not only carries the unvalued but interpretable topic feature [iTop: ❑], but also a set of unvalued and uninterpretable φ-features [uφ: ❑], and is scheduled to be merged immediately domination the MoodP.

Once the selection of elements from the lexicon into the numeration is completed, the object is merged, carrying a Givenness-topic feature as well as a set of φ-features. The derivation proceeds, the VP is built, followed by the vP area, that encompasses (some of) the projections in (37).[57] At the end of the vP phase, the topic head Top_{giv} is merged, and it does not only carry an unvalued but interpretable Givenness feature but also a set of unvalued φ features. Due to being unvalued, these features probe, and, since valuation of the φ-features depends on the valuation of the topic feature, agree with the object marked for Givenness (38).

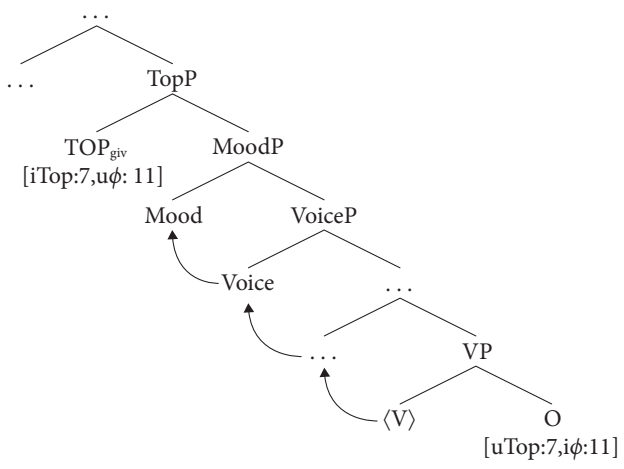
(38)



At some point, the verb starts moving up, moving through all suffixal heads and incorporating them. All prefixes are not merged with the verb stem by the verb moving through them but by phonological merger later at PF, (39). The last suffixal head on the verb is used to encode verbal mood, usually indicative *-a* or subjunctive *-e*, often simply glossed as *Final Vowel*, and thus I assume that the verb moves up to Mood, but nothing in this analysis depends on the exact nature of the head the verb ends up in, as long as the next higher head is the topic head. It is necessary that the TopP immediately dominates the final landing site of the verb since the object marker is the prefix closest to the verb stem, as discussed above.

57. I assume that the vP, similarly to the CP in the sense of Rizzi (1997), corresponds to several projections, for which vP is just a cover term. Alternatively, one could assume that there still is a dedicated vP projection in that area, possibly responsible for introducing the subject (cf. Ramchand 2017).

(39)



Once the vP phase is completed and spelled-out, the derivation continues. As already alluded to in footnote 47, the actual projections in the higher phase are strongly theory-dependent, as it is unclear whether tense (T) and aspect (Asp) need to be treated as different projections, whether subject agreement is actually in spec-TP or higher and how all these projections interact with negation. Fortunately, the focus of this chapter is the lower phase.

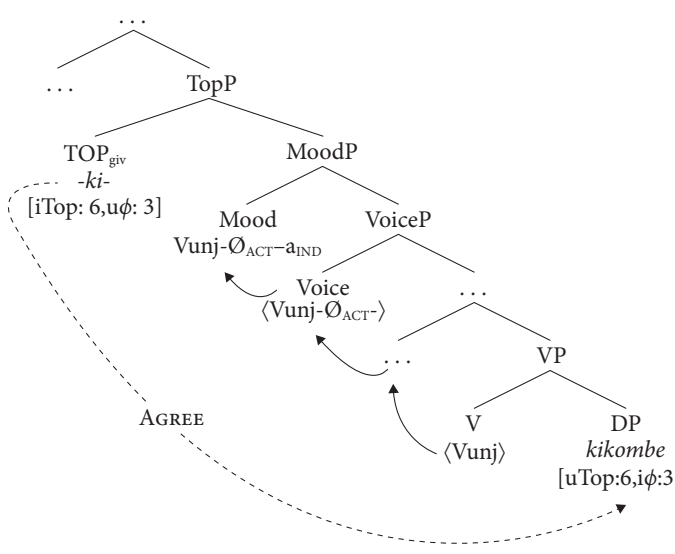
Consider the example in (40), repeated from (1), with slightly modified glossing to more closely represent parts of the derivation of the vP sketched in (41).

(40) Mwanamke a-li-(**ki**)-vunj-Ø-a kikombe.
1.woman 1.S-PST-**7.O**-break-ACT-IND 7.cup
'The woman broke the cup.'

The object *kikombe* is selected from the lexicon and placed in the numeration and due to being a noun, it carries a set of valued *φ*-features, [i*φ*:3]. In addition, a valued but uninterpretable Givenness topic-feature, [uTop:6] is also selected from the lexicon, placed in numeration and there combined with the object. The selection of this uninterpretable topic feature leads to the automatic selection of an interpretable unvalued topic feature from the lexicon, which is also placed in the numeration. In Swahili, this topic feature, which will end up projection the topic head, is combined with an unvalued set of *φ*-features, Top$_{giv[iTop: \square,u\varphi: \square]}$. Due to the Hierarchy of Projections, this topic head will be merged directly dominating the MoodP. Initially, the object is merged as complement to V, carrying its set of *φ*-features and its Givenness-topic feature. The verb moves through the *Voice* into the *Mood* head, and above the *Mood* head, the low topic head encoding Givenness is merged. It acts as a probe and agrees with the object due to the Givenness feature,

also valuing its *φ*-features in the process. These features are then spelled-out the the object marker *ki* for noun class 7.

(41)



Note that the agreement process of the topic head in the vP periphery and the given object is essentially only constrained by locality: the topic head will agree with the closest DP carrying a Givenness feature and *φ*-features, as long as no phase barrier intervenes. This suggests that for verbs taking sentential complements, it should be possible, under the right circumstances, for the matrix verb to show object agreement with the subject of an embedded clause. This is indeed the case in ECM constructions in Swahili, in which the matrix verb can optionally cross reference the noun class of the subject of the embedded verb. Further investigation is required, but I suspect that this is due to the fact that ECM clauses lack certain projections in their left periphery, making them smaller than finite declarative sentences (however, note that the ECM clause is not non-finite but in the subjunctive) and therefore allowing agreement into them.[58] The possibility of OM into ECM clauses is shown in (42). The matrix verb *taka* 'want' shows object agreement with the subject of the embedded clause, *mbwa* 'dog', which in turn agrees as subject of the embedded clause with the embedded verb *ruke* 'jump'.

58. These constructions require an overt subject in the embedded clause, since pro-drop in ECM or Control contexts is simply impossible (Li & Thompson 1989). Thanks to Daniel Hole (p.c.) for bringing this to my attention.

(42) Ni-na-**m**-taka mbwa a-ruk-e
1SG.S-PROG-**1.O**-want 1.dog 1.S-jump-CONJ
'I want the dog to jump.'

Furthermore, under the analysis presented above, object agreement on the verb has a special status compared to the other prefixes for tense/aspect and subject agreement, given that the latter type of prefixes are clearly outside the vP. Interestingly, object marking behaves differently from tense/aspect and subject marking across Bantu, with the object marker forming the so-called *macrostem* together with the verb stem, a unit important for phonological processes like tone assignment or reduplication (Hyman 2009; Downing 2009). But there are also syntactic indicators of the special status of the object marker compared to the other prefixes. It is generally assumed that Swahili disallows monosyllabic verb stems to be inflected for tense or subject agreement (43a), and these stems keep the infinitive prefix *ku-* so that they are bisyllabic at the moment the tense/aspect marker attaches (43b).

(43) a. *A-me-la.
1.S-PRF-eat
int.: 'He has eaten.'
b. A-me-ku-la.
1.S-PRF-INF-eat
'He has eaten.'

This restriction, however, is more complex. Altering the verb via suffixes, for example with the subjunctive (44a) and certain aspectual prefixes, like *-ki-* expressing simultaneousness (44b), allow the *ku-* prefix to be dropped.

(44) a. A-l-e.
1.S-eat-SBJ
'He should eat.'
b. A-ki-la …
1.S-SIM-eat
'When he eats …'

Most importantly for the matter at hand, object marking on the verb also allows the *ku*-prefix to be dropped, (45).

(45) Simba a-me-**ni**-la.
lion 1.S-PRF-**1SG.O**-eat
'The lion has eaten me.'

What sets object marking apart from other prefixes in the approach just presented is the place in the derivation at which object marking occurs. While subject agreement and tense/aspect-marking are clearly T related, I have argued that object

agreement happens during the vP phase. Thus, I assume that the restriction is not on monosyllabic stems but more a restriction on required complexity of the verb, and one that holds at the end of the vP phase. If the stem is evaluated as complex enough at the end of the vP phase, there is no need for the *ku-* prefix, otherwise the prefix needs to be present for further affixation to the stem. I leave the exact nature of this constraint to future research.

Based on the theoretical assumptions presented in the previous sections, the analysis of OM in Swahili as agreement with a low topic which encodes Givenness easily captures the apparently optional distribution of the marker. If the object is not marked as given, the respective topic head is simply not selected from the lexicon and does not project. This leads to the absence of the object marker without causing any other complication for the rest of the derivation. In addition, this analysis also derives the behavior of object marking in ECM contexts and the curious distinction among prefixes between the object marker on the one side and tense/aspect and subject agreement prefixes on the other.

4.4.3 Interaction of OM with other processes

Object marking in Swahili takes place in the vP based on a low topic feature. This information-structural dependent operation is independent of other processes that happen later in the derivation. I have already discussed two of these operations that involve the periphery of the CP, topicalization and wh-questions. Objects topicalized to the left periphery require object marking. This is shown again in the first sentence of (46), repeated from (25) above. *Maneo haya* 'these words' is topicalized to sentence initial position and the object marker on the verb is obligatory. Note that this type of topicalization does not merely express Givenness of the topic but Aboutness or other, left peripheral, topic information.

(46) Maneo haya a-li-**ya**-sema kwa sauti kubwa. Rosa a-li-***(ya)**-sikia.
6.words these 1.s-PST-**6.O**-say with 9.voice 9.big Rosa 1.s-PST-**6.O**-hear
'He said the words loudly. Rosa heard them.' (Seidl & Dimitriadis 1997: 376)

Data like (46) appear to suggest that left-peripheral topicality is compositional, i.e. an Aboutness topic is build on top of Givenness, which is expected, as it has long been assumed that Givenness, or, rather, information status, is its own information-structural dimension (Schwarzschild 1999; Krifka 2008; Mursell & Repp 2019). The second interaction of OM with left peripheral processes discussed above was the interaction with wh-questions. While OM is generally not possible in out-of-the-blue object questions and their corresponding answers, as wh-elements cannot be given and part of the common ground, OM becomes obligatory in d-linked wh-questions, as shown in (47) repeated from (22) above. Again, this is

expected, as d-linked wh-elements refer to an element of a set already established in the Common Ground, meaning a set that is already given.

(47) a. U-li-*(**vi**-)ona vitabu vipi?
2SG.S-PST-**8.O**-see 8.book which
'Which books did you see?'
b. Mwanamke a-li-**mw**-ona nani?
1.woman 1.S-PST-**1.O**-see who
'Who (in particular) did the woman see?'

It is not only possible to ask for an element out of an already established set but also to contrast an element with another member of a set already present in the Common Ground. In these contrastive focus contexts, object marking is again obligatory. The explanation is similar to (47): For contrast to be possible, the set with which something is contrasted needs to be already established in the common ground, meaning the set counts as already given. Thus it is conceivable that in (48a), the set of clothing one can buy is already established in the CG, and, correspondingly, the set of things with human-like appearance in (48b) and of dishes in (48c), respectively.

(48) a. Si-ku-nunua shati, ila ni-li-**i**-nunua nguo.
NEG.1SG.S-NEG.PST-buy shirt, but 1SG.S-PST-**9.O**-buy 9.dress
'I didn't buy a shirt, but I bought a dress.'
b. Si-ku-ona nyani, ili ni-li-**m**-ona mvulana.
NEG.1SG.S-NEG.PST-see pavian, but 1SG.S-PST-**1.O**-see 1.boy
'I didn't see a monkey but I saw a boy.'
c. Mwanamke ha-ku-vunja sahani, ili a-li-**ki**-vunja
woman NEG.1.S-NEG.PST-break plate, but 1.S-PST-**7.O**-break
kikombe.
7.cup
'The woman didn't break a plate, but she broke the cup.'

These data follow directly from analysing the object marker as being based on agreement with an element that is analysed as given. Interestingly, very similar data can be found in the completely unrelated language Tagalog, which will be discussed in the next chapter.

Lastly, I briefly want to discuss the relation between object marking and NPIs in Swahili. As pointed out by Riedel (2009), object marking can cross-reference NPIs in object position, which is unexpected in light of the claim of Giannakidou (1998) that NPIs cannot be topicalized to the left periphery and therefore cannot be topical (49).

(49) a. *Anyone, I didn't see.
b. *Anything, I didn't see.

The examples in (50) and (51) show that object markers can agree with NPIs in object position in Swahili. That the objects are indeed NPIs is shown by the ungrammatical examples lacking the negation.

(50) a. Si-ku-**mw**-ona mtu yeyote
NEG.1SG.S-NEG.PST-**1.O**-see 1.person 1.any
'I didn't see anyone.'
b. *Ni-li-**mw**-ona mtu yeyote
1.SG.S-PST-**1.O**-see 1.person 1.any
int.: 'I saw anyone.'

(51) a. Si-ku-**ki**-ona kitu chochote
NEG.1.SG.S-NEG.PST-**7.O**-see 7.thing 7.any
'I didn't see anything.'
b. *Ni-li-**ki**-ona kitu chochote
1.SG.S-PST-**7.O**-see 7.thing 7.any
int.: 'I saw anything.'

However, taking data from English and German into account, it seems to be possible to topicalize NPIs as part of larger constituents or even by themselves (Hoeksema 2000), with the NPI boldfaced in the following examples. The German examples in (52) and (53) contain an NPI as part of the constituent that occupies the sentence initial position. This position, spec-CP or *prefield* in more traditional analyses, is usually associated with a topical constituent. The English examples in (54) and (55) show something comparable: a constituent containing an NPI has been topicalized into the left periphery of the clause, preceding the subject.

(52) Ein rebellischer oder **auch nur** undisziplinierter Soldat bin ich
a rebellious or even only undisciplined soldier was I
nie gewesen.
never been
'I was never a rebellious or undisciplined soldier.'(Richter & Soehn 2006: 429)

(53) **Einen Hehl** hat Hans aber noch nie daraus gemacht, dass er …
a secret has Hans but still never of.it made, that he …
'Hans never made a secret of it that he …' (Richter & Soehn 2006: 429)

(54) [That she might have known **anything** about the murder beforehand], I really don't believe. (D'Angio 2007: 20)

(55) Tony claimed that he'd been to Belfast but that he actually **ever** has been, I don't believe. (Peter Smith, p.c.)

The relation between NPIs and topicality needs to be investigated further. However, I believe that the data just discussed show that the general claim that NPIs cannot be topical does not hold. If a more fine-grained distinction between different types of topics is taken into account, it might turn out that specific subclasses of topical elements can never be NPIs with element simply marked for Givenness possibly not being subject to this restriction.

4.5 Conclusion

In this chapter, I have discussed object marking in Swahili and focussed on two related questions, namely how the optionality of the object marker can be derived and to which kind of syntactic element, agreement marker or incorporated clitic the object marker belongs.

Concerning the first question, I have shown that proposals that account for the presence of the object marking by appealing to specificity, animacy, or definiteness scales fail, since neither definite, nor specific, nor animate objects obligatorily trigger object marking on the verb, even though those properties often correlate with object marking. I have argued that instead, it is topicality that determines the presence or absence of the object marker. If the object is interpreted as Given in the discourse, a property encoded by a low topic head in the *v*P periphery, then object marking occurs on the verb. This correctly derives cases in which object marking in Swahili is obligatory, namely if the object is further topicalized to the left periphery or an object pro-noun is pro-dropped.

Since the analysis of OM in Swahili is based on agreement linked to low topic features, the object marker on the verb should behave like an agreement morpheme and not like a clitic. Using tests suggested by Kramer (2014) to determine the status of the object marker in Amharic, I have shown that the object marker in Swahili shows a distribution more likely associated with an agreement morpheme than with a clitic. Additionally, the positional flexibility of the object marker in Manyika, which is used to argue for it to be a clitic by Bax & Diercks (2012), is absent in Swahili, and a relative clause agreement marker is used in Swahili in those position, in which the Manyika object marker surprisingly surfaces in non-pre-verbal position.

Despite the issues I left open due to space reasons or simply due to the lack of data, I believe that an analysis of the object marker in Swahili being based on agreement with a low Givenness topic is on the right track, especially when the remarkably similar data from Tagalog in the next chapter are taken into account. This further supports the view that information structure plays an important role in the grammatical marking of object (Dalrymple & Nikolaeva 2011), suggesting that

differential object marking and differential object agreement are, at least in some languages, dependent on the information structural status of the object (Iemmolo & Klumpp 2014).

In the context of the general claim of this book, the chapter extends the discussion of the interaction between information structure and *φ*-feature agreement beyond the periphery of the CP to the vP. Following the assumption that information-structural features are not only present in the CP, but also in the vP, with differences in interpretation between the two, it is expected that similar processes involving CP-peripheral information-structural heads can also be found in the vP. This is exactly what I have argued here. Long distance agreement, discussed in the last chapter, involves a topic- or focus-head in the CP bundled with *φ*-features. Such a head can also be found in the vP in Swahili, being the locus of object agreement.

Information-structural heads in the CP are not always bundled with *φ*-features, they can also trigger movement due to the presence of an [EPP] feature. In the next chapter, I discuss what happens when a low information-structural head in the vP hosts an [EPP] feature, when discussing *ang*-marking in the Austronesian language Tagalog.

CHAPTER 5

Subject marking in Tagalog

5.1 Introduction

In the last chapter, it was argued that an information-structural head in the periphery of the vP, when bundled with φ-features, is responsible for the presence of object agreement in the Bantu language Swahili. The conclusion emerged from the discussion that object agreement in Swahili is not optional, as has often been claimed, and also not determined by properties like definiteness, animacy or specificity of the object. Instead, the presence of object agreement was determined by the information-structural status of the object, being present when the object is interpreted as given, and absent if not.

In this chapter,[59] I turn to an unrelated language, the Austronesian language Tagalog, and I will argue that a similar topic head in the periphery of the vP has a strong impact on Tagalog clause structure, albeit in a very different way when compared to Swahili. In general, Austronesian languages, spoken throughout the Philippines, Taiwan, Malaysia, Indonesia, and Madagascar, are best known for their extremely rich voice system whereby the thematic role of the subject of the sentence is reflected by a verbal affix (see Reid & Liao 2004 and Kaufman 2009 for an overview). Interestingly, constituents with various thematic roles can end up determining the morphology of the verb, meaning that the role of the subject cannot only be filled by agents or patients, but also by such typologically unusual voices as the instrumental and locative voice. Importantly, all voices[60] in this type of system are considered equally marked (Himmelmann 1991), so that it appears to be difficult to argue for a particular configuration as underlying the different agreement possibilities of the verb. Consequently, the alignment system of these types of languages has been the focus of many studies, in so generating a number of accounts that are still under scrutiny.

Here, I will add to this discussion, arguing that verbal agreement in Tagalog is determined by the information-structural property of the agreed-with element.

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59. This chapter first appeared in shorter version as Mursell & Tan (2019). Jennifer Tan is a native speaker of Tagalog and provided all the examples for which no direct references is given. Independent of their origin, all examples where checked by several other Tagalog native speakers.

60. The possible voices are: actor, theme, locative, benefactive, instrumental, and causative.

In other words, the element that becomes the subject of the clause and consequently determines verbal agreement does so because it is interpreted as given in the discourse. As I will discuss in this chapter, Tagalog, similar to Swahili, contains a low topic projection at the edge of the vP which encodes Givenness. As the head of this projection is not bundled with ϕ-features as in Swahili but contains a movement-triggering feature like [EPP], it causes movement into its specifier. The constituent that undergoes this movement is afterwards the highest element in the vP, and consequently the closest agreement goal for the verb in T, and therefore provides the appropriate features for the verb.

This chapter then adds another argument for the existence of low information-structural projections and their possible syntactic impact. In addition, this chapter also shows that the effects such low information-structural heads can have varies, depending on the exact composition of the head. While in Swahili, the low topic head is bundled with ϕ-features, in Tagalog it is bundled with an [EPP] feature. The former configuration is expected, following Miyagawa's idea of Strong Uniformity, but so is the latter, as it is well-known that the presence of an [EPP] feature on a particular head is a language specific property. The small difference between these two configurations leads to a significant difference in the overall syntax. Combined with ϕ-features in Swahili, the low topic head surfaces as object agreement on the verb, combined with an [EPP] feature, the head causes movement that subsequently determines subject agreement.

To support this argument, the chapter is structured as follows. I will first present some more background on Tagalog syntax and the data in question in Section §2. Section §3 then presents previous accounts for subjecthood in Tagalog, which can be grouped in various categories, case based accounts, information-structural proposals, and structural accounts. Afterwards, in Section §4, I present my analysis, based on a movement-triggering topic head in the vP periphery. Section §5 then discusses some consequences and predictions of the account and Section §6 concludes.

5.2 Tagalog background

Tagalog belongs to the Western Malayo-Polynesian branch of the Austronesian family, spoken in the Philippines with roughly 24 million speakers in the world. Like its relatives in so-called 'Philippine-type languages' (i.e., Cebuano, Kapampangan, Palawan, Ilocano, etc.), it is a predicate and head initial language with relatively free word order[61] well-known for its complex voice system and its peculiar way of verbal

61. Consequently, the surface order does not necessarily reflect the underlying word order discussed in the analysis section.

agreement. In particular, in Tagalog, different constituents can serve as subjects, which are marked by the subject marker *ang* (or *si* for person names) and whose thematic role determines verbal morphology (pace Schachter 1976, 1996; Naylor 1995, who reject the subjecthood of the *ang* phrase). The sentences in (1) exemplify this voice system in Tagalog. In (1a), the actor/agent is marked by *ang*, which is reflected in the verbal agreement via the infix *-um-*; in (1b) marking the patient/theme with *ang* is manifested in the verb with the infix *-in-* and a null suffix; in (1c) the locative *ang* phrase triggers *-in-* and the suffix *-an*, and in (1d) the beneficiary triggers the prefix *i-* and the infix *-in-* (adapted from Rackowski & Richards 2005: 2).

(1) a. B⟨um⟩ili **ang bata** ng tela sa palengke.
⟨PERF.ACTOR⟩buy SUBJ child GEN cloth OBL market.
'**The child** bought cloth at the market.' ACTOR

b. B⟨**in**⟩ili-∅ ng bata **ang tela** sa palengke.
⟨PERF⟩buy-THEME GEN child SUBJ cloth OBL market.
'The child bought **the cloth** at the market.' THEME

c. B⟨**in**⟩ilih-**an** ng bata ng tela **ang palengke**.
⟨PERF⟩buy-LOC GEN child GEN cloth SUBJ market.
'The child bought the cloth **at the market**.' LOCATIVE

d. **I**-b⟨**in**⟩ili-∅ ng bata ng tela sa palengke **ang nanay**.
BENEF-⟨PERF⟩buy GEN child GEN cloth OBL market SUBJ mother.
'The child bought the cloth at the market **for his mother**.' BENEFACTIVE

If the notion of subject is understood as the element that triggers verbal agreement, then (1) clearly shows that different constituents can become the subject of the clause in Tagalog, and I will refer to the examples in (1) as actor-subject sentences, theme-subject sentences, locative-subject sentences, and benefactive-subject sentences, respectively. This of course raises many interesting questions regarding the traditional notion of subject, especially regarding its connection to case and thematic role. Very frequently, at least in nominative-accusative languages, subject is equated with the argument receiving nominative case, which is in turn reserved for the argument that occupies the highest position in the vP in transitive clauses, which is also very often linked to a particular thematic role, namely that of agent or actor. On the other hand, the lower argument in the vP, the object, is very often associated with accusative, if no lexical case is enforced by the verb, and the thematic role of patient or theme. The idea that particular syntactic positions are associated with specific thematic roles goes back to the Uniformity of Theta-Assignment Hypothesis (UTAH) of Baker (1988) and the assumption that case is very often tied to certain structural configurations is an underlying assumption of most generative syntactic frameworks, most prominently in Dependent Case Theory (Marantz 1991; McFadden 2004; Bobaljik 2008).

Taking the *ang*-marked phrase to be the subject of the different sentences in (1) calls most of these assumptions into question, with the exception of subjects being responsible for verbal agreement. Thus, in (1) the notion of subject does not seem to be tied to a particular thematic role nor to a specific syntactic position, at least on the surface. These considerations directly impact the treatment of case in Tagalog, as will become clear in the next sections, and with it the analysis of what has usually been called *case markers* in Tagalog, i.e. the particles *ang, ng* and *sa* in (1). The tables below show the glossing I follow for the distribution of (non-)pronominal markers in Tagalog, adapted from Sabbagh (2014), based on case. However, as will become clear in the next sections, terming them case markers is problematic for several reasons, which holds especially for *ang*.

Table 5.1 Non-pronominal case

	GEN	OBL	SUBJ
COMMON N	*ng*	*sa*	*ang*
PERSON N	*ni*	*kay*	*si*

Table 5.2 Pronominal case

	GEN	OBL	SUBJ
1SG	*ko*	*akin*	*ako*
2SG	*mo*	*iyo*	*ka*
3SG	*niya*	*kanya*	*siya*
…	…	…	…

Generally speaking, while *ang* may mark any argument role, allowing for any constituent to become the subject of the sentence, the oblique *sa* is used mostly for goals, beneficiaries, locations, and definite object, and *ng* seems to be used elsewhere, that is, for possessors, actors, instruments, and indefinite objects (Kroeger 1993). Crucially, I will continue to refer to *ang* (*si* with person names) as the 'subject marker', even though it will become clear in the analysis that this use of *subject* is rather different from some more traditional uses of the label subject. I will also not use the label 'nominative', and in examples where *ang* is glossed as NOM taken from the literature, I have changed the glossing to SUBJ.

I will argue in this chapter that *ang* marks an element as *given* in the left periphery of the vP. The verb, which has moved to T, then agrees with this element, as it is the highest XP in the verb's c-command domain, and consequently the given element determines verbal agreement, meaning that *subject* in this chapter is to be understood as the element structurally closest to T, in a position derived by movement based on agreement of information structural features. Consequently, even

the rather neutral gloss as subject marker for *ang* is inappropriate, but I will stick to it to not impose too much of the analysis in this chapter on the data.

Before turning to the analysis, however, I want to discuss previous approaches to subjecthood in Tagalog.

5.3 Previous accounts

As mentioned above, a great deal of the literature on Tagalog, and by extension, Austronesian languages, has attempted to provide an analysis for the pattern in (1). The *ang* phrase has been given many different labels in the literature: 'nominative', 'absolutive', 'specifier', 'trigger', 'focus', 'topic', etc., none of which has gone undebated. This section briefly summarizes the most widespread proposals, focussing mainly on their respective shortcomings.

5.3.1 Case-based accounts

Early grammars of Tagalog, written by missionaries, whose grammar knowledge was heavily influenced by Latin traditional terminology, described its system as nominative-accusative, rendering the *ang* phrase as the one taking nominative case, the *sa* phrase as locative/dative, and the *ng* phrase as accusative. Such an approach was later taken up by various authors (Bloomfield 1917; Bell 1978; Maclachlan & Nakamura 1994), with especially Guilfoyle, Hung, & Travis (1992) and Kroeger (1993) inspiring many subsequent studies on Tagalog and other Austronesian languages. In a nominative-accusative approach, actor-subject sentences are equivalent to active sentences and patient/theme-subject sentences correspond to passive sentences, which presupposes some kind of transformational relation to their active counterparts. As pointed out by Schachter & Otanes (1972), Shibatani (1988), and Foley (1998), this is problematic, since in Tagalog all of the sentences in (1) are considered equally syntactically unmarked, unlike active/passive pairings, in which by default the active voice is taken to be the unmarked one. In addition, in the patient/theme-subject sentences, none of the other arguments becomes optional, as is the case with the nominative subjects of active clauses in their passive counterparts, where they can be dropped and optionally added with a *by*-phrase. For illustration, consider the active-passive pair from English in (2), where the passive sentence is clearly more marked than the active one, and the subject of the active clause becomes an optional *by*-phrase in its passive counterpart.

(2) a. Paul kicked the ball.
b. The ball was kicked (by Paul).

Other works such as those of Cena (1977), Payne (1982), De Guzman (1988), Nakamura (1996), or Aldridge (2004), departed from nominative-accusative system, and instead assumed an ergative or ergative-like analysis, whereby *ang* phrases are considered absolutive and two different *ng* markers are assumed: an ergative marking one with Actor DPs and an oblique marking one with Patient DPs. This approach was particularly prominent in the 1980s in relational frameworks (Gerdts 1988), lexicase grammar (De Guzman 1988), and in a discourse-functional perspective (Payne 1982). In such an ergative analysis, the patient/theme-subject sentences are actually the unmarked ones, with the actor-subject sentences being derived by an antipassive operation. Similar criticism to the one for nominative-accusative systems applies here as well: No particular construction can be seen as more basic with the others somehow derived from it. Additionally, again, no argument is rendered optional by the antipassive operation, as is usually the case in languages that actually show ergative-absolutive systems with antipassives. Again, for illustration's sake, consider the pair of sentences in (3), from Labrador Inuit, an ergative-absolutive language (from Smith 1982: 164, via Polinsky 2017: 310). The active clause (3a) contains two obligatory arguments, the ergative (subject) and the absolutive (object). In the antipassive counterpart (3b), the object is demoted and marked with an oblique case, while the subject receives absolutive case.[62]

(3) a. Anguti-up annak taku-janga.
man-ERG woman.ABS see-3SG.S.3SG.O.PRS
'The man sees the woman.'
b. Anguti (anna-mik) taku-juk.
man.ABS woman-INST see-3SG.S.PRS
'The man sees (a woman).'

I will not discuss these accounts or the motivations behind them further, and the interested reader is referred to the references cited above. It is important to note that, in general, appealing to case marking to account for the verbal agreement pattern in Tagalog is problematic, both in a nominative-accusative system and in an ergative-absolutive system. It is also problematic to relegate case marking fully to the verb, i.e. to assume that all the cases are basically lexical cases determined by the verb, since different arguments can be marked 'subject' of the same verb and trigger agreement without producing structures that are any kind of more marked than

62. The difference between passives and antipassives thus refers to which argument is demoted. In passives, the subject is demoted to an oblique argument that can be contained in an optional *by*-phrase and the underlying object is promoted and receives nominative case. In antipassives, the object is demoted, and the subject promoted instead, receiving the more unmarked absolutive case.

others. The same argument can be made against a treatment of the data in (1) in the framework of Dependent Case (Marantz 1991; McFadden 2004; Bobaljik 2008), in which, again, variation in subjecthood for individual verbs is not predicted.

5.3.2 Topic and focus

Other approaches to Tagalog basic argument structure reduce the different agreement patterns to variations in information structure, to notions such as focus and topic. One of the most famous and well-cited examples of such an analysis is the seminal work of Schachter & Otanes (1972). The authors referred to a so-called 'focus system' that is unique to Philippine-type languages, according to which focus is the feature that determines the semantic relationship between a verb and the agreed-with *ang* phrase. Under this account, the *ang* phrase is the most prominent argument and is in focus. This assumes that the different sentences in (1) are to be labeled 'actor-focus', 'object-focus', 'directional-focus', etc. However, as shown by Kroeger (1993) and Naylor (1995), assuming a standard definition of focus as element introducing alternatives, such an approach is untenable. If the *ang* phrase is considered a focussed element, it would be expected to provide new information in its most common usage. One of the standard environments that involves focus is that of question-answer pairs. When answering a wh-question, the questioned element is not expected to be known by the hearer, and so it is crucially new information. Yet, (4) shows that it is possible to find perfectly acceptable answers to the wh-question in (4a) where *ang* does not necessarily mark the focussed constituent: in (4b) the *ang*-phrase refers to the element being questionned, but in (4c) the *ang*-phrase refers to the child that was already mentioned. Hence, the *ang* phrase is neutral with respect to focus.[63]

(4) a. Ano-ng b⟨in⟩ili ng bata?
what-CLEFT ⟨PERF.THEME⟩buy GEN child
'What did the child buy?'

b. B⟨in⟩ili ng bata **ang tela**.
⟨PERF.THEME⟩buy GEN child SUBJ cloth
'The child bought the cloth.'

c. B⟨um⟩ili **ang bata** ng tela.
⟨PERF.ACTOR⟩buy SUBJ child GEN cloth
'The child bought the cloth.'

63. The cleft marker, i.e. a true marker of focus, may be realized as *ang* or *-ng* after vowels. I take this alternation as basic evidence that the clefting marker cannot be the same *ang* being examined here. This will be discussed in some more detail later on.

Likewise, in line with Shibatani (1988), Richards (2000) proposes that *ang*-marking involves topicalization. Again, assuming a very general definition of topic as what the sentence is about (Aboutness topic), whether previously mentioned or assumed in discourse, this hypothesis is questionable, as standard pragmatic topichood tests do not straightforwardly support this view. For instance, the context set up in (5a) makes *Juan* the expected topic of the answer, which would then be expected to get *ang*-marked, which is indeed what happens in (5b). Importantly, however, it is not always the case that an apparent Aboutness topic is *ang*-marked. This is shown in the completely acceptable answer to (5a) in (5c), where *spouse* is *ang*-marked instead of *Juan*. As a matter of fact, (5b) and (5c) even allow dropping the pronoun, as indicated by the parentheses.

(5) a. Ano-ng nangyari kay Juan?
what-CLEFT happened OBL Juan
'What happened to Juan?'

b. Iniwanan **(siya)** ng kanya-ng asawa.
left SUBJ.3SG GEN his-LNK spouse
'His spouse left him.'

c. Iniwanan (niya) **ang kanya-ng asawa**.
left GEN.3SG SUBJ his-LNK spouse
'He left his spouse.'

Finally, within the lexicalist framework, Latrouite (2011) and subsequent work, argues that *ang*-marking cannot be reduced to a single factor and is the result of three independent dimensions, information structure (topic and focus), referentiality (specificity and animacy), and event-structural prominence. While I will not discuss her proposal in more detail, the influence of both information structure and referentiality on *ang*-marking will be discussed independently in this chapter.

5.3.3 Structural accounts

While the accounts presented in the last subsection, based on case or information structure, of course also assume that *ang*-marking results in a particular structure, the structure is not responsible for creating a particular configuration for *ang*-marking but merely a result of it. In this subsection, I discuss proposals that take the opposite approach, assuming that independently motivated differences in structure feed *ang*-marking, by giving preference to a specific argument that then ends up being marked by *ang*.

Subjects as complements in Malagasy

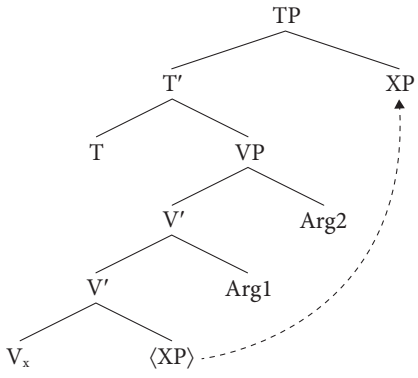
Sabel (2011, 2018) proposes a syntactic analysis for Malagasy, a related Austronesian language spoken in Madagascar that shows close structural similarities to Tagalog. Malagasy has a rather rigid word order, with the subject, the element that determines verbal agreement, in sentence final position and the finite verb sentence initially.[64] While the subject that determines verbal agreement is not marked by an additional particle like *ang* in Tagalog, but needs to occur in a fixed position, the other syntactic similarities nevertheless warrant some discussion of Sabel's approach.

(6) a. Manasa ny lamba amin' ny savony ny reny.
PRS.ACTOR.wash the clothes with the soap the mother.NOM
b. Sasan' ny reny amin' ny savony ny lamba.
PRS.THEME.wash the mother with the soap the clothes.NOM
c. Anasan' ny reny ny lamba ny savony.
PRS.INSTR.wash the mother the clothes the soap.NOM
'The mother washes the cloth with the soap' (Sabel 2018: 1)

Sabel proposes that the different sentences in (6) are based on different underlying structures, in contrast to most other proposals that assume that the underlying structure remains constant. It is assumed that the element that ends up as the surface subject is initially merged as complement of the verb in all cases, as it is selected by the verb due to the particular voice morphology. The other arguments are then merged as specifiers in the VP, in an order determined by their thematic role. This approach amounts to assuming that θ-roles are not linked to fixed syntactic positions (UTAH of Baker 1988) and also requires a more lexicalist approach to syntactic derivations (Chomsky 1970), as the verb selects a particular argument as its complement due to an already present voice morphology. The argument that is initially selected as a complement by the verb then moves to the rightward specifier of T, and becomes the rightmost and structurally highest argument in the clause. The structure, from Sabel (2018: 9) is given in (7), with XP being the argument that is selected by the verb as its complement, and V_X representing the verb with a particular voice morphology (X = ACTOR, THEME, INSTRUMENTAL, etc.).

64. The examples are all from Sabel (2018). I have adjusted the glosses slightly to be in line with what is used in this chapter. Sabel uses the terms *Actor Trigger (AT), Theme Trigger (TT)*, etc. to refer to the particular morphology on the verb. In addition, he uses the term *circumstantial* for what I have glossed *instrumental* here. The changes are merely for convenience.

(7)



As the 'subject' then is the highest element in the TP, it is expected to be similar to Tagalog, that only the subject can be extracted, for example moved to spec-CP in wh-questions. This expectation is borne out, as Sabel (2018: 3) shows. In both examples in (8), the verb shows actor-voice morphology, meaning that in both instances the actor has moved to spec-TP. From there, the argument move on to spec-CP when a wh-question is formed. At the same time, it is impossible to extract any other argument to spec-CP.

(8) a. [$_{CP}$ Iza no [$_{TP}$ manasa ny lamba amin' ny savony ⟨iza⟩]]
who FOC PRS.ACTOR.wash the clothes with the soap
'Who washes the clothes with the soap?'

b. *[$_{CP}$ Inona no [$_{TP}$ manasa ⟨inona⟩ amin' ny savony
what FOC PRS.ACTOR.wash with the soap
ny reny]]
the mother
int.: 'What does the mother wash with the soap?'

In addition to making the correct predictions for extraction from the TP, I want to discuss two further arguments Sabel adduces to support his analysis, interactions of wh-elements with quantifiers and extraction from arguments, respectively. Starting with the former, it has been observed for English that the interaction between wh-words and quantifiers in questions can lead to different readings. Consider (9), where on its way to spec-CP, the wh-element crosses the quantifier. This has an effect on the interpretation, in that in addition to the *single-answer* (SA) reading, a *pair-list* (PL) reading becomes possible.

(9) What did everyone buy ⟨what⟩ for Max?
SA: What is the thing x such that everyone bought x for Max?
PL: For each person y, what thing did y buy for Max?

If, however, the wh-word does not cross the quantifier when moving to spec-CP, i.e. when the c-command relation between wh-word and quantifier are the same before and after wh-movement, the PL reading is unavailable, as shown in (10).

(10) Who bought ⟨who⟩ everything for Max?
SA: Who is the person x such that y bought everything for Max?
PL: *For each thing y, who bought y for Max?

The decisive point for the PL reading based in (9) and (10) seems to be that the wh-word moves across the quantifier. In Malagasy, according to Sabel (2018: 6), the PL reading is always available in questions.

(11) Iza no manasa ny lamba tsirairay amin' ny savony?
who FOC PRS.ACTOR.wash the clothes each with the soap
'Who washed every shirt with the soap?'
SA: Who is the person x such that x washed every shirt with the soap?
PL: For each shirt y, who is the person that washed y with the soap?

(12) Inona no sasan' ny reny tsirairay amin' ny savony?
what FOC PRS.THEME.wash the mother each with the soap
'What did every mother wash with the soap?'
SA: What is x such that every mother washed x with the soap?
PL: For every mother y, what did y wash with the soap?

The reason for the presence of the SA as well as the PL reading in Malagasy becomes immediately clear when looking at the structure in (7). As the wh-element that ends up in spec-CP is initially merged as complement of V, in the lowest position possible, and then first moves to spec-TP before moving on to spec-CP, every wh-element necessarily crosses any potential quantifier on its way to spec-TP, creating the necessary configuration for the presence of the PL reading in addition to the SA reading. Note that there is a potential confound, in that the movement when crossing the quantifier is movement to spec-CP in English but movement to spec-TP in Malagasy. If the former is taken to be A′ and the latter to be A movement, it is unclear if the similar behavior is due to movement in both cases. I do not discuss this further.

The second argument in favor of Sabel's analysis comes from extraction from DPs. It is an old observation that there exists an asymmetry between extraction from complements and extraction from non-complements. This is reflected in the definition of *Barrier* in (13), based on Huang (1982) and Sabel (2002), from Sabel (2018: 8).

(13) **Barrier**
Extraction is impossible from non-complements – possible from complements.

As all subjects are initially merged as complements in Malagasy, it is expected that extraction from DPs is possible if this DP is the one agreeing with the verb. This prediction is borne out. The example in (14a) shows that it is not possible to extract from the theme if this theme does not agree with the verb, meaning the theme is presumably not merged initially as complement to the verb. If the theme agrees with the verb, extraction becomes possible (14b).

(14) a. *(An) Iza no nividy [⟨iza⟩ tamin ireo boky
ACC which FOC PST.ACTOR.buy P these books
ireo] Rabe?
these Rabe
int.: 'Which of these books did Rabe buy?'

b. Iza no novidin Rabe [⟨iza⟩ tamin ireo boky ireo]?
which FOC PST.THEME.buy Rabe P these book these
'Which of these books did Rabe buy?'

Both these arguments, the availability of PA readings and the possibility of extraction from subject DPs, suggest that the argument that determines verbal agreement is merged very low in the structure and subsequently moves to a higher position. Taken together with the observation that the subject argument is also the only one that can be moved further to spec-CP, it appears that Sabel's analysis for the syntax of Malagasy is on the right track. However, I will not adopt this analysis for Tagalog, as it does not take into account the interpretative properties of the subject. As these properties have played a central role in the discussion of the Tagalog data, the theory needs to be able to account for them. In addition, assuming that the different surface orders are based on different underlying structures requires a significant modification of the general architecture that is assumed. While it is of course a viable option, I want to at least explore a theory that requires less significant overall changes to rather well-established principles. Nevertheless, the phenomena observed for Malagasy by Sabel need to be tested for Tagalog, something which I hope to do in future work.

Rackowski (2002) and movement to the vP-edge

A more promising syntactic proposal to account for *ang*-marking in Tagalog is provided by Rackowski (2002). According to her, *ang*-marking is directly linked to specificity – concretely, actor subjects are obligatorily specific while non-*ang*-marked elements are usually non-specific. The examples below, adapted from Rackowski (2002: 76), appear to show that when the actor is *ang* marked (15), it is impossible to have the interpretation indicated in (ii), whereby it receives an unspecific/indefinite reading, nor the interpretation given in (iii), in which the

theme receives a specific reading.[65] When the patient/theme is *ang* marked, (16), it is impossible to have an interpretation like (ii), where it is only the actor that gets a specific interpretation and not the theme.

(15) Mag-lu~luto **ang lalaki** ng adobo para sa asawa.
PERF.PAG.ACTOR-CONTEMP~cook SUBJ man GEN adobo for OBL spouse
i. 'The man will cook adobo for his spouse.'
ii. *'*A* man will cook adobo for his spouse.'
iii. *'The man will cook *the* adobo for his spouse.'

(16) Lu~lutu-in ng lalaki **ang adobo** para sa asawa.
CONT~cook-theme GEN man SUBJ adobo for OBL spouse
i. 'The man will cook *the* adobo for his spouse.'
ii. *'The man will cook adobo for his spouse.'

In light of the examples above, the author proposes an analysis of *ang*-marking and verbal agreement triggered by specificity. Concretely, she assumes that Tagalog sentences are TPs with the verb moving up to T, which carries a set of unvalued ϕ-features that turn it into an active probe, probing its c-command domain for a valued counterpart of the ϕ-feature set. These valued features are provided by the highest DP in T's c-command domain which is active due to an unvalued case feature. When Agree between T and this DP takes place, T can value its ϕ-features while at the same time the DP receives a value for its unvalued case feature from T. This valued case feature is then spelled out as *ang/si*.[66] Two different scenarios need to be distinguished in this approach, agreement with the external argument and agreement with an internal argument.

(17) a. K⟨um⟩uha {**siya/ang babae**} ng talong.
⟨PERF.ACTOR⟩take SUBJ.3SG/SUBJ woman GEN eggplant
'She/the woman took an eggplant.'
b. K⟨in⟩uha {niya/ng babae} **ang talong**.
⟨PERF.THEME⟩take GEN.3SG/GEN woman SUBJ eggplant
'She/the woman took the eggplant.'

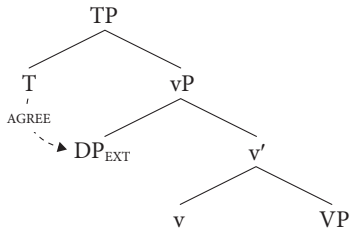
If the external argument is to determine verbal agreement as in (17a), no additional movement is required since the correct configuration is already given. The external

65. On the *pag*-morpheme in *(m)agluluto*, which has been characterized as a lexical causative, see Rackowski (2002: 88–92), who claims it is conditioned by the presence of a [+EPP] feature.

66. Note that the agreement that surfaces on T is not really ϕ-agreement but reflects the thematic role of the *ang*-marked phrase.

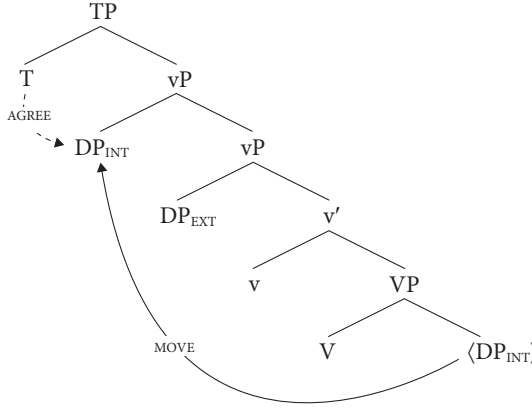
argument occupies the highest position in the vP and therefore serves as agreement goal for the probing T (18).

(18)



Concerning agreement with the internal argument (17b), an additional movement step is necessary: In its base position, the internal argument is merged as complement to V, which makes it too distant to serve as agreement goal for T; consequently, the internal argument needs to be moved into the vP-peripheral position above the external argument, so it can serve as closest agreement goal for T, as is shown in (19).

(19)



Rackowski (2002) refers to this movement as 'object shift', which she links to specificity, i.e. a particular interpretation suggested already by Chomsky (2001), based on the Mapping Hypothesis of Diesing (1992). According to this hypothesis, only arguments that introduce free variables (i.e., indefinites) are allowed to remain in the VP. These variables are then bound by an existential quantifier that is introduced at the end of the VP derivation (existential closure) and which leads to an indefinite, non-specific interpretation of those DPs. On the other hand, all indefinites that are interpreted as specific need to evacuate the VP before existential closure applies. This type of movement is well-known from North-Germanic languages, and is illustrated for Icelandic below. Taking *ekki* 'not' to mark the edge of the VP, the contrast between (20) from Thráinsson (2001) and (21) from Diesing & Jelinek (1995)

suggests that specific objects need to precede the negation (20), while non-specific objects need to remain below negation (21).

(20) Nemandinn las bokkina ekki.
students.DET.NOM read book.DET.ACC not
'The students didn't read the book.'

(21) a. Hann las ekki baekur.
he read not books
'He didn't read books.'
b. ?*Hann las beakur ekki.
he read books not
'He didn't read books.'

Rackowski (2002) now assumes that it is such a VP-evacuating movement to escape existential closure that leads to the observed behavior in Tagalog. The internal specific argument shifts above the external argument and is therefore closer to T for agreement.[67] Consequently, only non-specific internal arguments can be objects of actor-subject sentences while only specific internal arguments can become the subject of theme-subject sentences. With this account, it is unproblematic to derive the patterns in (1), and it also provides a simple solution to the question regarding the case system in Tagalog. Object shift takes place independently from case, but at the same time changes the configuration in such a way that, if agreement with T is tied to nominative case, case assignment is impacted. Since what was initially the direct object is now the highest argument in the vP, it will receive nominative case via agreement with T, and consequently, Rackowski (2002) and subsequent work (Rackowski & Richards 2005) take *ang* to be the nominative case marker.[68]

This analysis also makes certain predictions about extraction from the vP in Tagalog. An XP agrees with T because it is the highest XP in the vP phase. Since extraction from the vP necessarily proceeds through the phase edge, it is expected that extracted XPs always determine agreement on the verb. This can be seen in (DP-)wh-questions which are formed by clefting the wh-element. This is discussed extensively in Rackowski & Richards (2005), and I will come back to this later. However, note already that in (22), the wh-element itself is not *ang*-marked, even

67. The difference between North-Germanic object shift and the shift in Tagalog is that the former does not influence agreement on T, i.e. which element serves as subject of the clause. According to Rackowski, this is due to differences in the timing of agreement in the different languages. I ignore this complication in the discussion here.

68. In such patient/theme-subject sentences, this requires the patient/theme, to not have received accusative case from *v*. The authors do not discuss this.

though it determines the agreement on the verb. If *ang* really was a nominative case marker for the former highest element in the vP, this is unexpected.[69]

(22) a. Sino-**ng** k⟨um⟩ain ng kanin?
who-CLEFT ⟨PERF.ACTOR⟩eat GEN rice
'Who ate rice?'
b. Ano-**ng** k⟨in⟩ain ng bata?
what-CLEFT ⟨PERF.THEME⟩eat GEN child
'What did the child eat?'

While the analysis of Rackowski (2002) has many advantages compared to previous accounts by introducing a movement step that is triggered independently from case, it will turn out that specificity alone cannot be the factor that underlies *ang*-marking.

Specificity does not equal ang-marking

Recent literature (e.g., Merchant 2006; Sabbagh 2014, 2016) notes that, despite previous attempts of describing *ang* as a specificity marker (e.g. Himmelmann 1991, et seq., or Rackowski 2002), it is not always specificity that determines verbal agreement. Therefore, even though the proposal of Rackowski (2002) has many advantages over previous approaches to *ang*-marking, more is need to fully account for the available data.

The discussion about the correct analysis crucially revolves around the interpretative status of the *ang*-phrase. Already in Foley & Van Valin (1984) it was claimed that the *ang*-phrase is necessarily referential and usually definite. As Tagalog does not have definite or indefinite articles, *ang*-marking instead is used to express this. Support for this interpretation of the *ang*-marked phrase comes from the work of Collins (2016, 2017, 2019), who also shows that bare internal arguments in Tagalog that receive *ang*-marking are interpreted as definite. External arguments, on the other hand, do not need to be *ang*-marked to be interpreted as definite. This is shown by the minimal pair in (23) from Collins (2019: 1371), where the interpretation of genitive marked *fish* in (23a) switches from indefinite to definite when marked with *ang* as in (23b).

(23) a. B⟨um⟩ili ng isda sa tindahan **ang** **lalaki**.
⟨PERF.ACTOR⟩.buy GEN fish OBL store SUBJ man
'The man bought (a) fish at the store.'
b. B⟨in⟩ili-∅ ng lalaki sa tindahan **ang** **isda**.
⟨PERF⟩buy-THEME GEN man OBL store SUBJ fish
'The man bought the fish at the store.'

69. The *-ng* seen in (22) is the cleft marker, in its full form homophonous to the *ang* under discussion. I will also discuss this in some more detail later.

Despite clear cases like (23), Collins nevertheless argues against treating *ang* simply as a marker of definiteness, based on observations concerning quantified noun phrases marked by *ang*. Consider, for example, the pair in (24) in the context provided, from Collins (2019: 1380). The context is set up in a way that does not support a definite analysis of the *ang*-marked element in (24a). However, if the object is accompanied by a quantifier as in (24b), *ang*-marking of the object is felicitous.

(24) Context: The teacher is running a seminar in which six students signed up.

a. #I-p⟨in⟩asa ng guro ang mag-aaral.
THEME-⟨PERF⟩.pass GEN teacher SUBJ student
'The teacher passed the student.'

b. I-p⟨in⟩asa ng guro ang isa-ng mag-aaral.
THEME-⟨PERF⟩.pass GEN teacher SUBJ one-LK student
'The teacher passed one student.'

Of interest in (24b) is the quantifier *isa-ng*. The glossing in (24b), taken directly from Collins (2019), shows that *isang* can actually be analysed compositionally, as consisting of *isa* 'one' and the linker *ng*, which resembles the genitive marker. If it is assumed that *ng* can carry genitive related meaning,[70] *isang* can also be translated as 'one of', suggesting a translation of (24b) is *The teacher passed one of the students*. This point is extremely important, as, already slightly foreshadowing the analysis, *ang*-marking in (24) is felicitous, if the *ang*-marked constituent is a member of an already familiar set.d.

This observation can be related to a long-standing debate about the role familiarity plays in the definition of definiteness. Following the introductory discussion in Jenks (2018), two main approaches to definiteness can be distinguished, those that base definiteness on uniqueness (Russell 1905; Kadmon 1990; Hawkins 1991), and those that base definiteness on familiarity (Strawson 1950; Kamp 1981; Heim 1982). Collins argues against a familiarity based view of definiteness, i.e. against treating the *ang*-marked phrase in (24b) as definite because of its familiarity, based on the well-known argument that nouns can be definite without having been previously mentioned or being inferable from the context. Thus, NPs like *the sun*, superlatives, and other comparable noun phrases do not need to be previously mentioned to be interpretable as definites. In this chapter, I will follow Roberts (2003) instead, who analyses all definites as being familiar, albeit based on two different types of familiarity. Whereas explicitly previously mentioned nouns are assumed to be *strongly familiar*, elements whose existence is entailed by the (local)

70. The linker is taken to signal a process related to predicate modification, i.e the combination of two elements of type ⟨e, t⟩. In English, one way of expressing this meaning is by *of*, which is in turn related to genitive case. This, of course, does not mean that linker and genitive case should be equated. For more discussion of the linker, see Sabbagh (2009) and Scontras & Nicolae (2016).

context of interpretation are *weakly familiar*. Slightly re-interpreting local context as Common Ground (CG, Stalnaker 2002), this means that all those elements are compatible with *ang*-marking whose existence is entailed by the Common Ground of the respective conversation. This will be at the heart of the analysis to be presented in the next section.

Returning to the discussion of the relation between *ang*-marking and definiteness, while the *ang* phrase tends to be translated in the literature with the English article *the*, that is, with a definite interpretation, it has also been pointed out by other authors besides Collins that definite arguments do not necessarily require *ang*-marking. As specificity can be taken to indicate a sub-type of definiteness (von Heusinger 2002), it follows that neither definiteness nor specificity are sufficient to analyze all possible contexts of *ang*-marking. (25a), taken from Bloomfield (1917: 154) showcases that the *ang* phrase is not always definite, as the interpretation in (ii) is impossible. (25b) has a definite interpretation, but it is not specific, as the speaker clearly has no specific reference in mind upon uttering the sentence. Moreover, more than one argument may be specific in the sentence, yet only one can be *ang*-marked in each clause (25c). Therefore, neither a 'specific' nor 'definite' determiner label is accurate for *ang*.

(25) a. K⟨in⟩uha niya **ang isa-ng aklat**.
⟨PERF.THEME⟩take 3SG.GEN SUBJ one-LNK book
i. '(S)he took a (certain) book.'
ii. *'(S)he took the one and only book.'

b. H⟨in⟩a~hanap ko **ang pari**, kung sino man yon.
⟨THEME⟩-cont~look.for 1SG.GEN SUBJ priest if who ever that
'I am looking for the priest, whoever that may be.'

c. *K⟨in⟩uha **si Pablo ang aklat**.
⟨PERF.THEME⟩take GEN Pablo SUBJ book
Intended: 'Pablo took the book.'

Sabbagh (2014, 2016) discusses this extensively with specific reference to the analysis in Rackowski (2002). Adopting the Definitiness Hierarchy by Aissen (2003) in (26) as starting point, he shows that *ang* does not necessarily mark the most definite argument in the sentence.

(26) DEFINITENESS HIERARCHY (Aissen 2003: 437)
pro > proper name > definite NP > indefinite specific NP > non-specific

For instance, in (27a), the actor is marked genitive, even though it is a proper name and is definitely higher on the scale than definite NPs. The same holds for (27b), where the object is specific due to the accompanying genitive, yet it does not get *ang*-marked. As for the donkey sentence in (27c), the referentiality/specificity of *noodles* is left open, but it is still marked by *ang* regardless.

(27) a. In-ubos **ni** Pablo **ang** **pansit**.
PERF.THEME-finished GEN Pablo SUBJ noodles
'Pablo finished the noodles.'

b. K⟨um⟩ain **ang** **aso** ng kanin ko.
⟨PERF.ACTOR⟩eat SUBJ dog GEN rice 1SG.GEN
'The dog ate my rice.'

c. Kung may pansit at tinapay sa bahay, sigurado-ng naubos
if EXIS noodles and bread OBL home surely-LNK finished
na ni Pablo **ang** **pansit**.
already GEN Pablo SUBJ noodles
'If there are noodles and bread at home, Pablo will have surely finished the noodles already.'

Importantly, while Rackowski (2002)'s assumptions about the relation between specificity and *ang*-marking do not hold in general, they are valid for pronominal and proper names as theme arguments. Thus, these two classes of themes always require *ang*-marking and consequently determine verbal agreement.[71]

(28) a. T⟨in⟩ingnan **si** **Pedro** ng babae.
⟨PERF.THEME⟩look SUBJ Pedro GEN woman
'The woman looked at Pedro.'

b. K⟨in⟩aon **siya** ng babae.
⟨PERF.THEME⟩pick.up SUBJ.3S GEN woman
'The woman picked him/her up.'

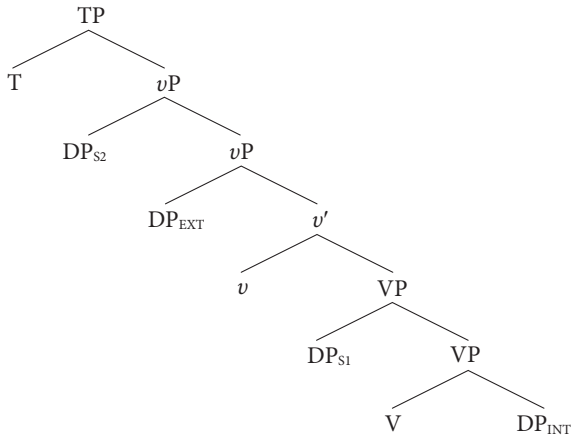
Combining all these observations leads to a less than ideal situation. Sticking to the idea of specificity-driven *ang*-marking, the structure of Tagalog clauses seems to require two positions the internal arguments can move to: first, they can move to a position just outside the vP to get their specific interpretation and escape existential closure (DP_{S1} in 29); second, there needs to exist a high position at the vP edge that is obligatorily targeted by proper names and pronouns as well as those specific themes that end up receiving *ang*-marking (DP_{S2} in 29). This second, higher position is the agreement goal for T.

Since specificity triggers movement into the lower of the two positions, the question arises what triggers the movement to the higher, vP peripheral position. In the next section, I will argue that this movement is actually driven by information-structural properties of the moved element. Building on the idea of familiarity of the *ang*-marked element just discussed, I will propose that, similar to Swahili discussed in the previous chapter, a dedicated head in the periphery of vP encodes Givenness in Tagalog. This head then triggers movement into its specifier,

71. Sabbagh also discusses the option of OBL marking of the pronominal or proper name theme.

so that the moved element is the closest element to T, undergoes agreement with it, and therefore receives *ang*-marking.

(29)



5.4 Analysis

Before turning to the structural analysis of Tagalog *ang*-marking in this section, I will first discuss the information-structural property that causes this movement in some more detail, i.e. the Givenness of the *ang*-marked element.

5.4.1 Ang-phrase as given

The analysis will be based on the assumption that the *ang*-phrase is interpreted as given in the discourse. I take a definition of 'given' as that which is known to both speaker and hearer and so belongs to the Common Ground (CG, Stalnaker 2002). If something is not explicitly given by having previously been mentioned in the discourse, *ang*-marking is still felicitous if this element can be accommodated into the Common Ground based on the current discourse, which corresponds to *weak familiarity* as described in Roberts (2003). Taking into account the Givenness Hierarchy from Gundel, Hedberg, & Zacharski (1993) in (30a), all the cognitive statuses in the scale conform to different environments with which *ang* is perfectly compatible. (30b) provides an illustration of the hierarchy for English pronouns and determiners.

(30) Givenness Hierarchy (Gundel et al. 1993)
   a. in focus > activated > familiar > uniquely identifiable > referential > type identifiable
   b. *it* > *this, that, this* N > *that* N > *the* N > indefinite *this* N > *a* N

As I have shown in several examples above, and as will be shown in the examples below, all these degrees of Givenness in the discourse may be *ang*-marked. Starting with the answer constituent to a wh-question, (31) shows that in response to (31), the respective constituent in the answer is *ang*-marked (31), suggesting that *ang*-marking is compatible with focus. This does not come as a surprise, as Givenness, i.e. information status, and focus are two independent information-structural categories that can overlap but do not have to (Schwarzschild 1999; Krifka 2008; Mursell & Repp 2019). To emphasize this point, consider the examples in (32), again a question-answer pair, in which an element that is explicitly mentioned in the question, i.e. is given, still is the focus in the corresponding answer.[72] For the concrete example in (31), this requires that *tela* 'cloth' is either previously mentioned in the discourse or somehow the expected answer to the question.

(31) Q: Ano-ng b⟨in⟩ili ng bata?
what-CLEFT ⟨PERF.THEME⟩buy GEN child
'What did the child buy?'
A: B⟨in⟩ili ng bata **ang tela**.
⟨PERF.THEME⟩buy GEN child SUBJ cloth
'The child bought the cloth.'

(32) Q: Who came to the party, Frank or Chase?
A: [FRANK]$_F$ came to the party.

(33) contains an activated (i.e., partly based on preceding sentences) and familiar *ang* phrase (i.e. previously mentioned in discourse or known to the hearer via encyclopedic knowledge). In this example, the *ang*-marked phrase in the second sentence is what Roberts (2003) would call *strongly familiar*.

(33) B⟨in⟩ili ng bata **ang tela**. **Ang tela** ay maganda.
⟨PERF.THEME⟩buy GEN child SUBJ cloth SUBJ cloth TOP beautiful
'The child bought the cloth. The cloth was beautiful.'

(34)'s *ang* phrase is uniquely identifiable (i.e. with a unique referent) and is referential (i.e. evident from the context that the speaker intends to refer to some specific entity), and, lastly, the type identifiable use in (35) (i.e., the addressee can associate a representation of the type of entity described by the expression), provided it occurs

72. An element can count as given in various ways, some more compatible with also being in focus than others. An in-depth discussion of this topic is beyond the scope of this chapter, so I refer the interested reader to the relevant literature, for example Baumann & Riester (2012, 2013), Selkirk (2008), and the references cited therein. The combination of Givenness an focus will play a role again later when discussing contrastive focus contexts in Tagalog.

with the quantifier *isang* 'one of'. The two examples thus show a *weakly familiar ang*-phrase.

(34) B⟨in⟩ili ng bata **ang tela**-ng ito.
⟨PERF.THEME⟩buy GEN child SUBJ cloth-LNK this
'The child bought this cloth.'

(35) K⟨in⟩uha niya **ang isa-ng aklat**.
⟨PERF.THEME⟩take 3SG.GEN SUBJ one-LNK book
'(S)he took one of the books.'

However, one context where *ang* as a Givenness marker is not expected to occur is in existential predicates where new items are being introduced into the context. This prediction is borne out, as (36) shows, and already extensively discussed in Sabbagh (2009).

(36) May (*ang) tinapay sa bahay.
EXIS SUBJ bread OBL home
int.: 'There is bread at home.'

This treatment of the *ang*-marked constituent implies that in out-of-the-blue contexts, where no constituent may be considered given and no existential sentence is used, the hearer is forced to accommodate the existence and identifiability of the referent marked by *ang*. Hence, in Example (37), the hearer is expected to accommodate a given cat's existence and identifiability. If its referent is not identifiable because it is still not in the CG, it is perfectly acceptable for the hearer to reply with a *Hey, wait a minute!* (HWAM) utterance like the one in (37). Following the assumption of the HWAM diagnostic from Shanon (1976), whereby presupposed content may be targeted by the hearer with HWAM replies (i.e. 'Hey, wait a minute, I didn't know that *x*'), the new informative presupposition is accommodated and incorporated into an updated CG.[73]

(37) Context: You rent a house for the weekend, and the owner tells you his cat often comes by. You catch a glimpse of the cat when you enter the house. After a while in, you say:
A: H⟨in⟩a~hanap ko **ang pusa**.
⟨PERF.THEME⟩-CONT~look.for GEN.1SG SUBJ cat
'I am looking for the cat.'

73. Note that I am effectively suggesting that *ang* may be semantically considered a presupposition trigger, along the lines of *ang*-marking of a given *x* as assuming it is known to hearer and speaker, which again is related to the debate whether uniqueness or familiarity is more important for definiteness. I leave this matter for future research.

B: Teka lang, hindi ko alam na may pusa dito.
wait only not GEN.1SG know COMP EXIS cat here
'Wait a minute, I didn't know there was a cat here.'

In contrast to (37), if the cat is not marked by *ang*, as in (38), it is not expected to be known and subsequently accommodated by the hearer. Correspondingly, the HWAM reply in (38) is infelicitous, because *ng* does not impose a presupposition that any given cat does indeed exist.

(38) A: Nag-ha~hanap ako **ng** **pusa**.
PERF.MAG.ACTOR-CONT~look. SUBJ.1SG GEN cat
for
'I am looking for a cat.'
B: #Teka lang, hindi ko alam na may pusa dito.
wait only not GEN.1SG know COMP EXIS cat here
'Wait a minute, I didn't know there was a cat here.'

In what follows, I present a syntactic analysis of *ang* and discuss the predictions of a Givenness account. Unsurprisingly, the analysis to be presented for *ang*-marking strongly resembles the analysis for Swahili object marking presented in the last chapter, as I assume that the same syntactic head is involved in the two processes. However, due to the presence of an additional [EPP] feature on the relevant head in Tagalog, it influences subjecthood, i.e. agreement with T, and does not surface as object agreement. While I do not discuss it further, this suggests, at least in this analysis, a structural relation between differential object marking (Aissen 2003; Dalrymple & Nikolaeva 2011) and the less well-studied differential subject marking (Aissen 1999; Aikhenvald, Dixon, & Onishi 2001).

As will become clear, I follow the seminal insight of Rackowski (2002) that the element determining verbal agreement first moves to the left edge of the vP. However, I argue that this movement is related to information structure, Givenness, which accounts for the close relation to specificity and makes predictions for further information structural interactions that will be discussed afterwards.

5.4.2 Subject agreement as determined by Givenness

Based on the data presented in this chapter, and against the general background discussed in Chapter 2, as well as the more particular arguments about object marking in Swahili from the last chapter, the analysis for *ang*-marking in Tagalog is rather straightforward. I stick to the fundamental insights of Rackowski (2002) and Sabbagh (2014) that the verb in T agrees with the highest element in its c-command domain, and this element then determines verbal morphology and itself receives

the *ang*-marker. In contrast to those approaches, however, I assume that the movement into the position just below T is movement into an information-structural projection in the vP periphery, a projection that is used to encode Givenness, i.e. the complement of new information. More concretely, it is assumed that the vP periphery hosts information-structural projections in Tagalog, based on the analytical parallels discussed in the last sections. In the case at hand, the vP periphery in Tagalog hosts a topic projection that encodes Givenness, i.e. a head, projecting a phrase, that has an unvalued topic feature for given topics, Top_{giv}. This topic feature acts as a probe and agrees with an element that carries the valued counterpart, and in addition, due to an [EPP] feature on the Top_{giv} head, the head forces its agreement goal to move to its specifier.[74] As this element is then the highest element in the vP, specifically, it occupies the phase edge of vP, it is the closest element to T and serves as agreement goal for probing T. As the verb has moved to T, this is equivalent to saying that the XP attracted by Top_{giv} to its specifier determines the verbal agreement.

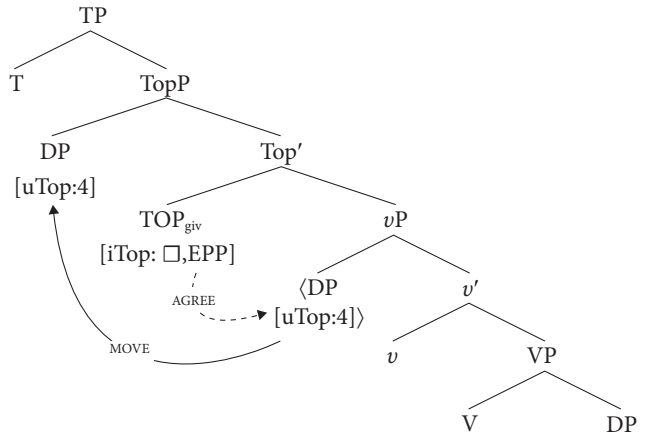
For concreteness, consider the structure in (40) first. (40) exemplifies a case in which the agent/actor is responsible for verbal agreement, i.e. a sentence similar to (1a), repeated in (39) for convenience.

(39) B⟨um⟩ili **ang bata** ng tela sa palengke.
⟨PERF.ACTOR⟩buy SUBJ child GEN cloth OBL market.
'The child bought cloth at the market.'

In this case, I assume that the subject carries a Givenness topic feature. It agrees with the topic head in the left periphery of the vP and moves to the specifier of that projection. When T is merged in the derivation, the subject in the phase edge of vP is the closest possible agreement goal for probing T and therefore determines verbal agreement. Note that the analysis differs significantly from Rackowski (2002) in this point, as for her, external arguments do not need to move to determine verbal agreement. In the next section, I will discuss effects of this movement to the vP edge, which apply to external and internal arguments alike, supporting this assumption. In addition, assuming that the topic agreement attracts the agreement goal to its specifier in all cases without exceptions appears to be a more straightforward assumption. *Ang*, being a proclitic, will then precede the argument that has agreed with TOP.

74. I assume a dedicated [EPP] feature here for convenience. In the end, the exact type of movement-triggering feature is not relevant to the analysis.

(40)

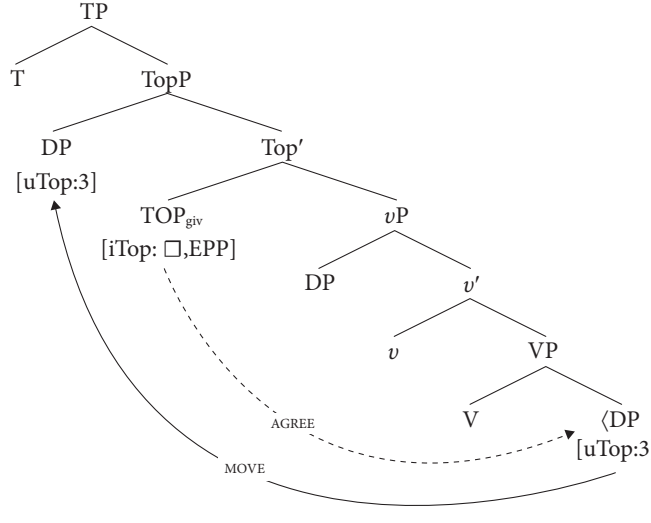


The analysis of internal arguments determining verbal agreement is not much different. Consider the example in (41), repeated from (1b).

(41) B⟨in⟩ili-∅ ng bata **ang tela** sa palengke.
⟨PERF⟩buy-THEME GEN child SUBJ cloth OBL market.
'The child bought the cloth at the market.'

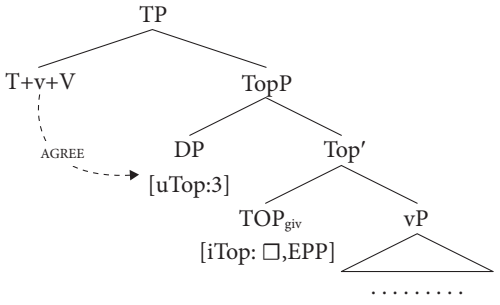
In these cases, it is not the external argument that carries the topic feature for Givenness, but the internal argument. It is therefore targeted for agreement by the probing topic head in the periphery of the vP and subsequently moves to the specifier of this low information-structural projection (42).

(42)



Independently of the argument status of the agreement goal (internal or external), this argument will then be the closest argument to T and subsequently determine verbal agreement via T agreeing with this moved element.[75] This is shown in the structure in (43).

(43)



Comparing this analysis to the ones proposed by Rackowski (2002) and Sabbagh (2014) discussed above, the similarities and differences become apparent. In general, the argument that determines verbal agreement is the highest element in T's c-command domain in all accounts. However, in the account from this chapter, the reason an element is moved to the position immediately below T is due to information structure, particularly a specific kind of topicality, Givenness. An element carrying the appropriate kind of topic feature moves into the specifier of this low information-structural projection, which is at the same time the phase edge of the vP phase.[76] In the next section some consequences arising from the two properties of this position, its relation to information structure and its status as phase edge, will be presented.

75. I purposely do not discuss the nature of the feature(s) for which T agrees with the moved element. It is usually assumed that T agrees with the subject in ϕ-features. However, based on the data from (1) and native speaker intuition, it is actually the thematic role that determines the verbal morphology. This in turn makes it necessary to treat thematic roles as syntactic features (for approaches see Bošković & Takahashi 1998; Hornstein 1999; Manzini & Savoia 2002). Many problems are connected to such an approach, and a discussion would be far beyond the scope of this chapter. In addition, this problem is not unique to this account and orthogonal to the claim I want to make in this chapter.

76. I will not discuss additional derivations, for example for locative arguments receiving *ang*-marking, as the derivations would only differ insignificantly from the ones discussed above.

5.5 Predictions and consequences

In this section, I will discuss some predictions made by the analysis from the last section, stemming from the reliance on information-structural movement inside the vP on the one hand and movement into the phase edge of the vP on the other. Before doing so, however, note that the analysis has no problem deriving the basic patterns discussed above. In addition, the frequent correlation between *ang*-marking and specificity follows from the account as well, simply from general considerations of information structure. Being given relates to being part of the CG, importantly for speaker and hearer. Once an element is introduced into the CG, future references to it are usually specific (for Tagalog, c.f. for example Sabbagh 2014). Items that can be assumed to always be part of the CG are proper names (possibly by accommodation) and pronouns, exactly those elements that seem to require *ang*-marking in nearly all contexts.

Turning to concrete predictions the account makes, it is expected to interact with other information-structural processes that target higher projections in the clause, i.e. information-structural movement to the CP. This becomes apparent with the interaction with topicalization to the left periphery, achieved by fronting the topic and marking it with the particle *ay*, shown for agents in (44a) and themes in (44b).

(44) a. **Ang babae** ay k⟨um⟩ain ng talong.
SUBJ woman TOP ⟨PERF.ACTOR⟩eat GEN eggplant
'As for the woman, she ate eggplant.'

b. **Ang talong** ay k⟨in⟩ain ng babae.
SUBJ eggplant TOP ⟨PERF.THEME⟩eat GEN woman
'As for the eggplan, the woman ate it.'

An important difference exists between the *ay*-topicalization of vP internal material on the one hand and vP external material on the other. Material internal to the vP, arguments and low adjuncts, can only be topicalized if they have been *ang*-marked before, i.e. *ay*-topicalization of arguments will always target the *ang*-marked argument (45a). No such restriction exists for vP external adjuncts. If such an adjunct is topicalized, a different vP internal element needs to be *ang*-marked, *talong* in (45b) and the 1SG pronoun in (45c) for which a suppletive form is used.

(45) a. *Ng talong ay k⟨um⟩ain **ang babae**.
GEN eggplant TOP ⟨PERF.ACTOR⟩eat SUBJ woman
int.: 'As for the eggplant, the woman ate it.'

b. Sa umaga ay k⟨in⟩ain ng babae **ang talong**.
OBL morning TOP ⟨PERF.THEME⟩eat GEN woman SUBJ eggplant
'As for the morning, the woman ate eggplant.'

c. Pag-dating ko sa Pilipinas ay pupunta **ako**
PAG-arrive GEN.1SG OBL Philippines TOP will.go SUBJ.1SG
sa Baguio.
OBL Baguio
'Upon arriving to the Phillippines, I will go to Baguio.'

This restriction directly follows from the proposal discussed in the last section. The position in which *ang*-marking takes place, the TopP on the edge of the vP is also the phase edge of the vP. Thus, all elements that are to be moved out of the vP necessarily move through this projection. Consequently, only vP elements that have been *ang*-marked, i.e. moved to the phase edge of vP, can be moved further up in the structure. Lower elements of the vP cannot move out, as the edge of the phase is occupied by the *ang*-marked constituent and movement out of the vP obligatorily proceeds through this position. No such restriction exists for higher adverbials. Since these adverbials are merged outside the vP they do not need to escape it. At the same time, this requires another element inside the vP to be *ang*-marked, so that the [EPP] requirement of the low topic head is fulfilled and T has an appropriate agreement goal.

Sabbagh (2014) discusses an interesting interaction between *ay*-topicalization and the *ang*-marking of proper names/pronouns, which, in the analysis presented her, highlights the role different constraints play in Tagalog syntax. Remember that in general, proper names and pronouns require *ang*-marking as they are always part of the CG. At the same time, extraction from the vP and *ang*-marking require use of the same position, the edge of vP. Thus, it is expected that proper names and pronouns can remain without *ang* exactly in those contexts in which a different constituent is extracted from the vP due to *ay*-topicalization. The data in (46) exemplify that.

(46) a. Wala-ng na-nood sa iba-ng mesa dahil lahat
NON.EXIS-LNK PERF.ACTOR-watch OBL other-LNK table because all
ay na-nood **kay Rubilen**.
TOP PERF.ACTOR-watch OBL Rubilen
'No one was watching the other table because everyone was watching Rubilen.'

b. Ngunit si Jonathan na anak ni Hari-ng Saul ay
but SUBJ Jonathan LNK son GEN king-LNK Saul TOP
nag-mahal **kay David** bila-ng isa-ng kapatid.
PERF.ACTOR-love OBL David as-LNK one-LNK sibling
'But Jonathan, the son of King Saul, loved David like a brother.'

(Sabbagh 2014: 40b-c)

The sentences in (47) showcase the impossibility of *ang*-marking proper names in this construction, given that a different element is extracted (i.e. *lahat* 'all' in (47a), *si Jonathan na anak ni Haring Saul* 'Jonathan the son of king Saul' in (47b)).

(47) a. *Wala-ng na-nood sa iba-ng mesa dahil lahat
NON.EXIS-LNK PERF.ACTOR-watch OBL other-LNK table because all
ay nanood **si** **Rubilen**.
TOP PERF.ACTOR-watch SUBJ Rubilen
int.: 'No one was watching the other table because everyone was watching Rubilen.'

b. *Ngunit si Jonathan na anak ni Hari-ng Saul ay
but SUBJ Jonathan LNK son GEN king-LNK Saul TOP
nag-mahal **si** **David** bila-ng isa-ng kapatid.
PERF.ACTOR-love SUBJ David as-LNK one-LNK sibling
int.: 'But Jonathan, the son of King Saul, loved David like a brother.'

Again, this comes as no surprise, and simply shows that *ang*-marking and extraction from vP require use of the same position. For (47), it could then be argued that oblique marking of the proper name or pronoun is a last resort mechanism, as they need case for the derivation to converge.

The question now arises what happens if something is extracted from the vP that is incompatible with *ang*-marking. In other words, what happens if an element that cannot be marked as given needs to move through the phased edge of vP? The case in point are wh-questions in Tagalog. Argument wh-questions are formed by clefting the wh-element in the left periphery. Importantly, there are no *ang*-marked constituents in wh-questions, as shown by the impossibility of *ang*-marking the bolded constituents in (48c) and (48d). I will discuss the cleft marker *-ng*, which, in its full form is homophonous to *ang*, presently.

(48) a. Ano-**ng** k⟨in⟩ain ng babae?
what-CLEFT ⟨PERF.THEME⟩eat GEN woman
'What did the woman eat?'

b. Sino-**ng** k⟨um⟩ain ng talong?
who-CLEFT ⟨PERF.ACTOR⟩eat GEN eggplant
'Who ate eggplant?'

c. *Ano-ng k⟨um⟩ain **ang** **babae**?
what-CLEFT ⟨PERF.ACTOR⟩eat SUBJ woman
Intended: 'What did the woman eat?'

d. *Sino-ng k⟨in⟩ain **ang** **talong**?
who-CLEFT ⟨PERF.THEME⟩eat SUBJ eggplant
Intended: 'Who ate eggplant?'

Similar to the case of pronouns and proper names discussed above, the syntax has to deal with conflicting requirements. On the one hand, the wh-element needs to be extracted from the vP, while, on the other hand, the wh-element is incompatible with being *ang*-marked, as wh-elements cannot be part of the CG. The examples in (48) show how this conflict is resolved: the wh-element moves through the phase edge of vP, which is made evident by the verbal morphology being determined by the wh-element. At the same time, it blocks *ang*-marking of other constituents, since it moves through and therefore blocks the required position on its way to the left periphery.

Clefting in general shows the same behavior as clefting in wh-questions (49): The clefted element is extracted from the vP through the phase edge into the left periphery, it is responsible for the verbal morphology, and it is followed by the cleft marker *ang*. In contrast to clefted wh-elements however, the clefted constituent is compatible with *ang*-marking and can therefore be optionally marked with *ang*. Thus, clefts can contain two occurrences of *ang*, which are analysed as two completely different elements. The first *ang* present in (49) (but absent in (48)) is the *ang*-marker at the center of the discussion in this chapter. The second *ang*-marker, present in both (48) and (49) only marks clefts and is therefore different from the Givenness-marking *ang*. The two pieces of evidence that support this analysis are first that only the cleft-*ang* can be reduced to *-ng* when preceded by a vowel, as shown in (48), and second that both *ang*-markers can co-occur, as shown in (49) (contra Rackowski & Richards 2005). It is important to note that *ang*-marking the clefted constituent is the only possible marking, and even if it is not marked, *ang*-marking of another constituent is impossible (49e).

(49) a. **Ang**/*ng babae ang k⟨um⟩ain ng talong.
SUBJ/GEN woman CLEFT ⟨PERF.ACTOR⟩eat GEN eggplant
'It is the woman who ate eggplant.'

b. **Ang**/*ng talong ang k⟨in⟩ain ng babae.
SUBJ/GEN eggplant CLEFT ⟨PERF.THEME⟩eat GEN woman
'It is eggplant that the woman ate.'

c. **Ang**/*ng/*sa mangkok ang k⟨in⟩ain-an ng babae.
SUBJ/GEN/OBL bowl CLEFT ⟨PERF⟩eat-LOC GEN woman
'It is in the bowl that the woman ate.'

d. **Ang**/*ng/*sa kutsara ang p⟨in⟩ang-kain ng babae.
SUBJ/GEN/OBL spoon CLEFT INSTR⟨PERF⟩eat GEN woman
'It is with the spoon that the woman ate.'

e. *__Talong__ ang b⟨um⟩ili ang babae.
eggplant CLEFT ⟨PERF.ACTOR⟩ SUBJ woman
Int.: 'It is eggplant that the woman bought.'

This restriction again follows directly from the proposal of the last section. The clefted constituent needs to move out of the vP through the phase edge, the position in which *ang*-marking takes place. As the clefted constituent is compatible with being given (in contrast to wh-elements), *ang* can surface, since focalization is compatible with Givenness, as discussed above. Independent of the occurrence of the Givenness marker, however, the clefted constituent will always block *ang*-marking of another constituent, since extraction always proceeds through the phase edge of vP and therefore prohibits *ang*-marking of other constituents.

The observation that wh-elements must not be *ang*-marked and clefted constituents are optionally marked so, is also the reason why I do not gloss *ang* as nominative NOM case in contrast to much of the available literature. Restricting the presence of a nominative case marker in such a way as made necessary by the data above seems to me to be incompatible with an analysis in terms of case in the first place, so that simply glossing *ang* as subject marker SUBJ is justified. Note that this of course also casts doubt on glossing other markers like *ng* and *sa* as case markers, genitive and oblique case, respectively.

The optional occurrence of *ang*-marking for the clefted constituent is predicted to have an effect on the interpretation. This is indeed the case and *ang*-marking in combination with clefting leads to a contrastive focus interpretation, suggesting that a contrastive interpretation requires Givenness to a certain extent. Thus, the example in (50) is only possible in a context in which, for example, a grocery list is in the common knowledge of both speaker and hearer and one element from the list is contrasted with others.

(50) **Ang talong** ang b⟨in⟩ili ng babae.
SUBJ eggplant CLEFT ⟨PERF.THEME⟩eat GEN woman
'It is (the) eggplant that the woman bought.'

These data are strikingly similar to cases of contrastive focus in Swahili I have discussed in the last chapter. I argued that in Swahili, object agreement is determined by the information-structural property of Givenness of the object, i.e. if an object is interpreted as given, object agreement surfaces on the verb. In contrastive focus contexts, this object agreement is obligatory. The example in (51), repeated from the previous chapter, shows this for Swahili. The object marker (in bold) agrees with the noun class of the object.

(51) Si-ku-nunua shati, ila ni-li-**i**-nunua nguo.
NEG.1S.S-PST.NEG-buy 5.shirt but 1SG.S-PST-**9.O**-buy 9.dress
'I didn't buy a shirt, I bought a dress.'

The obligatory occurrence of an element that expresses Givenness in contrastive focus contexts suggest an intimate relation between the two information-structural notions. One speculative way to connect the two properties would be to assume that for contrast, the set with which something is contrasted has to be established in the Common Ground first. Thus, contrast will involve elements already given in the CG, providing an explanation for the occurrence of Givenness markers in contrastive focus contexts. This requires much further work that is not part of this book, and I consequently leave the matter open for now.

The last point I want to briefly mention in this discussion is the interaction of *ang*-marking and negative quantifiers like *no one/nobody*. It is sometimes argued that negative quantifiers and NPIs make bad topics, as one could argue that the empty set cannot be part of the CG (Giannakidou 1998). Be that as it may, interestingly, the negative existential in Tagalog, *wala*, is incompatible with *ang*-marking, even though it can determine the verbal morphology (52).

(52) a. Hindi s⟨in⟩abi ni Maria na **(*ang) wala-ng**
not ⟨PERF.THEME⟩say GEN Maria C SUBJ NON.EXIS-LNK
k⟨um⟩ain ng isda sa bahay.
⟨PERF.ACTOR⟩eat GEN fish OBL house
'Maria didn't say that anybody ate fish at home.'

b. **(*Ang) wala-ng** k⟨um⟩ain ng isda sa bahay.
SUBJ NON.EXIS-LNK ⟨PERF.ACTOR⟩ GEN fish OBL house
'Nobody ate fish at home.'

In sum, the points raised in this section provide further arguments supporting the analysis of *ang*-marking as being determined by the information-structural property of Givenness.

5.6 Conclusion

In this chapter, I have argued that subject marking in Tagalog, i.e. *ang*-marking, is actually determined by information structure, more specifically by Givenness. The vP hosts an information-structural projection for Givenness in its left periphery, and this projection is at the same time the phase edge of the vP. A given vP-internal constituent is singled out and moves to the specifier of this projection. Due to this movement into the highest projection in the vP, this constituent becomes the closest agreement goal to probing T and consequently determines verbal morphology and is marked by *ang*. I have shown that this approach makes the right predictions when it comes to additional operations that move elements into the left periphery of the clause. Thus, topicalization and clefting can only target the element that has

first moved into the vP phase edge. This element is frequently the one marked with *ang*, but even if its meaning is incompatible with being given, like it is the case for wh-elements, it will still always be the element that determines verbal morphology.

This analysis is strongly reminiscent of what I have proposed for Swahili object marking in the last chapter, with an information-structural projection in the vP periphery having a significant impact on the syntactic derivation. However, where the low topic head in Swahili was analysed as a bundle of ϕ- and δ-features, and therefore led to the surfacing of an agreement morpheme, the head in Tagalog is not bundled with ϕ-features but with a movement-triggering feature [EPP]. Due to this, the low topic head in Tagalog does not impact agreement directly as the corresponding head in Swahili, but only indirectly, by changing the element that is available for agreement with T. That particular heads obligatorily trigger movement in one language but not in another is well-known, and therefore the difference between Swahili and Tagalog is not unexpected.

In general then, this chapter provides another argument for the status of information-structural features as genuine syntactic features. While not bundled with ϕ-features as in the cases of Long-Distance Agreement from Chapter 3 or object agreement in Swahili from Chapter 4, the impact of information structure in Tagalog is visible in that it significantly affects the structure of the clause. At the same time, the analysis presented here shows the variability of information-structural effects on the syntax, depending on the exact featural make-up of the relevant information-structural heads.

In the last three sections, I have discussed information-structural effects in the peripheries of phases, in the periphery of CP in Chapter 3, and in the periphery of vP in Chapter 4 and in this one. There is a third position, in which information-structural markers are observed frequently cross-linguistically, namely as focus- or topic-markers adjacent to the constituent they mark. Following from the discussion until now, it is expected that these markers can interact with or have an impact on ϕ-features similar to what has been discussed for the phasal peripheries. In the next section, I turn to such a case, focus marking in Lavukaleve, adding yet another argument in favor of the syntactic impact of information-structural features.

CHAPTER 6

Focus particles in Lavukaleve

6.1 Introduction

So far, I have discussed syntactic effects of information structure in the peripheries. In the CP, I showed how the presence of a head consisting of a bundle of δ- and ϕ-features allows for Long Distance Agreement, which can be thought of as successive-cyclic agreement. In the vP, I argued that a low topic head that encodes Givenness can have various effects. In Swahili, this head bundled with a set of ϕ-features led to the occurrence of the object agreement prefix, while in Tagalog, this head combined with a movement-inducing feature directly influenced with argument agrees with the verb. As discussed in Chapter 2, the theoretical background, the peripheries of CP and vP are likely candidates for the presence of information-structural features, as they are usually considered to be phases, which in turn are connected to the discourse.

Another instance where information-structural features play a role, especially focus, is of course in focus marking. Many languages, like German and English, mark focus mostly by intonation, with dislocation to the left periphery being a secondary option to convey additional information like contrastiveness. In other languages, this dislocation is accompanied by some morphological marking. Following Issah (2019), in Dagbani, for example, a Mabia language from northern Ghana, the left dislocated focus is followed by a particle (*kà* or *ń*) that marks the constituent as contrastively focussed. The particle is analysed as the spell-out of the foc-head in the left periphery and its form distinguishes between local subjects (*ń*) and other fronted constituent (*kà*). The data in (1) (from Issah 2019: 13) exemplify this. In addition to ex-situ focus marking (1a and 1b), in-situ marking is also possible, and in this case, no over particle occurs (1c).

(1) a. Yà kà bíhí máá dí-r-í zùŋò?
Where FOC children DEF eat-IMPF-CJ today
'Where have the children eaten today?'

b. Dáà ní kà bíhí máá dí-r-í zùŋò.
market LOC FOC children DEF eat-IMPF-CJ today
'The children are in the market today.'

c. Bíhí máá dí-r-í lá dáà ní zùŋò.
children DEF eat-IMPF-CJ PRT market LOC today
'The children ate in the market today.'

In addition to morphological marking of ex-situ foci, overt markers can also occur with focus in-situ. The examples in (2) from Gùrúntùm contain the focus marker *à* that marks the following constituent as in focus. The focus marker can occur in-situ or ex-situ (Hartmann & Zimmermann 2009: 1346).

(2) a. Á kãã mài tí bà pánì?
FOC what REL 3SG PROG carry
'What is he carrying?'
b. Tí bà pán-á máa.
3SG PROG carry-FOC water
'He is carrying water.'

Similar to information-structural features in the CP and vP peripheries, it is now expected that morphological focus markers should also interact with *φ*-features, in that they show *φ*-feature agreement with the constituent that they mark as in focus. This expectation is borne out in the Papuan language Lavukaleve. In this language, the focus marker, which is directly adjacent to the constituent it marks, shows *φ*-feature agreement (full person, number, and gender agreement) with the focussed constituent. Two examples for this are given in (3).[77] In (3a) the particle marks the third person singular masculine object *fish* as in focus, and shows the respective agreement. In (3b), the third person singular feminine subject is marked as in focus. In addition to the focus particle narrowly marking a constituent as in focus, sentences in Lavukaleve often contain a sentence final focus marker (EFOC in 3) that also agrees with the focussed constituent and encodes contrastive or emphatic focus. I will discuss the syntax of Lavukalave in more detail in section § 6.2 and the focus markers in section § 6.3.

(3) a. Aira la **fo'sal** **fin** o-u-m hin.
woman.F SG.F.DET fish.M 3SG.M.FOC 3SG.S-eat-SG.M 3SG.M.EFOC
'The woman ate **a fish**.' (ex. 476)
b. **Aira** **la** **feo** fo'sal na a-u-a
woman.F SG.F.DET 3SG.F.FOC fish.M SG.M.DET 3SG.M.O-eat-SG.F
heo.
3SG.F.EFOC
'**The woman** ate the fish.' (ex. 477)

77. All examples, if not marked otherwise are taken from the Lavukaleve grammar of Terrill (2003). The example numbers after the examples refer to her example numbering.

The focus particles are not only used to mark narrow constituent focus, but also wide focus, i.e. predicate focus and sentence focus, respectively. In both cases, the focus particle is sentence final, but agrees with a different constituent. In cases of sentence (vP) focus, the sentence final focus particle agrees in *phi*-features with the subject (4a), and in predicate (VP) focus, the focus particle agrees in ϕ-features with the object (4b).

(4) a. **Ma-talu o-fi me-v fiv.**
3PL.POSS-word.F 3SG.F.O-hear HAB-PL 3PL.F.FOC
'**They would obey their word**.' (ex. 455)

b. Ali na **aira la o-le-a feo.**
man SG.M.DET woman.F SG.F.DET 3SG.S-see-SG.F 3SG.F.FOC
'The man **saw the woman**.' (ex. 444)

Independent of the concrete syntactic analysis, focus marking in Lavukaleve presents direct evidence for the assumption that information-structural features can interact syntactically with ϕ-features. In narrow focus marking, the focus particle agrees in ϕ-features with the focus, and in wide focus constructions, this agreement even appears to take place across some distance. As will become clear in this chapter, however, narrow constituent focus in (3) and wide focus in (4) require slightly different analyses. Concretely for wide focus contexts, the agreement suffix immediately preceding the sentence final focus particle will play an important role.

The chapter is structured as follows: After the introduction, I will discuss the Lavukaleve language in more detail in Section §2, focussing on the syntax, to provide some background for the subsequent discussion. In Sections §3, I then examine narrow constituent focus marking in more detail, before I turn to wide focus constructions in Section §4. Section §5 then sketches an analysis before I conclude in §6.

6.2 Lavukaleve

Lavukaleve is a Papuan language spoken on the Russel Islands in the Solomon Islands with roughly 1700 speakers. Papuan in this context is only used to indicate Lavukalve is not an Austronesian language, the language family mostly spoken on the Solomon Islands. There are three other non-Austronesian languages in the area, but whether they are related or all isolates is still under debate (Stebbins, Evans, & Terrill 2018). Out of these three languages, one, Bilua, also has agreeing focus markers, that show gender agreement (*feminine* vs. default) with the focussed constituent (Obata 2003).

Following the description in Terrill (2003), Lavukaleve is a rather strict SOV language. A typical OV clause with an adjunct (*for you*) and a pro-dropped subject is given in (5). While not discussed in the grammar, I will assume that the consistent OV structure indicates right-headed verbal projections throughout, with the verb moving at least up to T. This will become clear when discussing wide focus constructions in §4.

(5) Kini ngo-ham fo'sal vo-a-kuru.
ACT 2SG-for fish.PL 3PL.O-1SG.S-hit
'I'll go catch some fish for you.' (ex. 323)

The language overwhelmingly follows a NOM-ACC pattern,[78] meaning that subjects of transitive and intransitive clauses behave similarly, in contrast to objects in transitive clauses. While Lavukaleve does not mark case, this can be seen on the agreement affixes that co-index the arguments on the verb. Thus, in the intransitive clause in (6a) and the transitive clause in (6b), the same subject triggers the same subject agreement affix on the verb (*-o-*). When the same noun phrase is used as direct object in an transitive clause, it triggers the relevant object agreement affix (*a-*), which is distinct from subject agreement (6c). As the examples in (6) also show, the object agreement prefix linearly precedes the subject agreement prefix on the verb.

(6) a. Ali na o-kiu.
man(M) SG.M.DET 3SG.S-die
'The man died.'
b. Ali na mola ga e-o-le.
man(M) SG.M.DET canoe(N) SG.N.DET 3SG.N.O-3SG.S-see
'The man saw the canoe.'
c. Aira la ali na a-o-le.
woman(F) SG.F.DET man(M) SG.M.DET 3SG.M.O-3SG.S-see
'The woman saw the man.'

The paradigms for the subject and object agreement affixes are given in Table 6.1 and Table 6.2, respectively.

In general, if an object is present in the clause, the occurrence of object agreement is obligatory. The situation is different for subjects, for which, in the default case, verbal agreement is optional. The position and general occurrence of agreement markers is also heavily dependent on the focus structure of the clause, as in cases of wide focus constructions, the presence of certain agreement affixes becomes obligatory in different positions. As this section is merely meant to present

78. The only exception are third person subjects in adverbial clauses which follow an ERG-ABS pattern.

Table 6.1 *Subject* prefix (243)

	SG	DU	PL
1EXCL	a-	le-	e-
1INCL	a-	me-	me-
2	ngo-, ne-	mele-	me-
3	o-	lo-	ma-

Table 6.2 *Object* prefix (243)

	SG	DU	PL
1EXCL	nga-	le-	e-
1INCL	nga-	me-	me-
2	ngo-	mele-	me-
3MASC	a-	la-	vo-
3FEM	o-	lo-	vo-
3NEUT	e-	le-	vo-

some background on Lavukaleve syntax, I postpone a discussion of these constructions to Section §4.

It is also important to note that Terrill (2003: 233) alludes to the possibility that the agreement affixes are actually not agreement markers but pronominal prefixes that, as clitics, attach to the verb. In contrast to this, I will follow Hamann (2010) in analyzing them as proper agreement markers, for two main reasons. First, independent personal pronouns are not sensitive to the distinction between internal and external arguments, in contrast to the verbal affixes. Second, it is possible to cross-reference personal pronouns on the verb, which is expected under an agreement approach but not under a clitic analysis. The relevant example is given in (7) from Terrill (1999: 243). In the nominalized adjunct clause (note the determiner *na*), the first dual exclusive occurs as independent pronoun and as affix on the verb.

(7) Aka ta a-na el le-fele-m na …
then time(M) 3SG.M.O-in 1DU.EX 1DU.EX-return-SG.M SG.M.DET …
'Then when we came back …'

Turning to tense marking, two different tenses can be marked on the verb via suffixation, present and future. The present tense marker agrees in number with the subject (8a). Importantly, every argument can only ever be marked once as an affix on the verb, and consequently, the presence of the present tense suffix prohibits the occurrence of a subject agreement prefix (8b). The paradigm for the present tense marker is given in Table 6.3.

(8) a. Vasia-a? Iru-nu.
be.where-SG.F sleep-PRES.SG
'Where is she? She's sleeping.' (ex. 564)
b. *O-iru-nu.
3SG.S-sleep-PRES.SG
int.: 'She's sleeping.'

The second tense that can be marked on the verb by a suffix is the future tense, which does not interact with agreement marking, and is marked by *-re*, as shown in (9) from Terrill (1999: 297).[79]

Table 6.3 Present tense marker (244)

SG	-nu-∅
DU	-nu-l
PL	-nu-v

(9) Mola e-hoa-e e-na fi
canoe(M) 3SG.N.O-poke.through-NMLZ 3SG.N.O-in 3SG.N.FOC
va'var a-hai-re.
talking 1SG.S-do-FUT
'… I will talk about building canoes.'

The last point that needs to be mentioned in this section is the habitual auxiliary. As the name indicates, it is used to express habitual events and always occurs together with the main verb. If the habitual auxiliary is present, subject marking becomes obligatory and marking takes place on the habitual auxiliary and not on the main verb (10). Similar to the present tense affix, subject marking on the habitual auxiliary blocks affixal subject marking anywhere else in the clause, as every argument can only be marked once as an affix.

(10) Vala sia-re lako ngo-me?
how do-NF cry 2SG-HAB
'Why are you crying?' (ex. 715)

The habitual auxiliary is compatible with future marking in certain contexts, but incompatible with the present tense marker. The reason for the latter is that, as mentioned above, the present tense affix agrees with the subject, while the habitual

79. Tense marking in Lavukaleve is optional. Even in appropriate contexts, present or future tense markers can be absent, and are actually prohibited in various context. Based on this, Terrill (2003: 324) argues against a zero past tense marker, and past is then only indicated by the appropriate adverbs.

auxiliary also requires subject marking on the auxiliary. As every argument can only be cross-referenced once by an affix, it is impossible for the present tense affix to co-occur with the habitual auxiliary. As the subject prefixes of the habitual auxiliary differ from the ones for lexical verbs, the paradigm for the subject agreement marked on the habitual auxiliary is provided in Table 6.4.

Table 6.4 Habitual auxiliary *subject* prefixes (244)

	SG	DU	PL
1EXCL	la-	le-	le-
1INCL	la-	me-	me-
2	ngo-	mele-	me-
3	lo-	lo-	ma-

This concludes the discussion of basic Lavukaleve syntax. To sum up, the language exhibits SOV word order with the verb showing obligatory object agreement and optional subject agreement in the odering AGR_O-AGR_S-V. Two tenses are marked via suffixes on the verb. One of the two, the present tense affix, shows agreement with the number of the subject, the other, the future-tense suffix, is invariable. Lastly, the main verb can be followed by the habitual auxiliary. If this is the case, subject marking on the auxiliary is obligatory, and the main verb only shows object agreement. Importantly for the discussion to come, every argument can only be cross-referenced by one affix. Consequently, the present-tense suffix is mutually exclusive with the habitual auxiliary, and both are mutually exclusive with subject agreement on the main verb.

Lavukaleve has another possibility to express agreement with either the subject or the object, the so-called Agreement Suffix. This suffix is a fundamental component of wide focus constructions and interacts in complex ways with the rest of the agreement system. I postpone the discussion of the agreement suffix to Section §4, when discussing the wide focus construction in more detail. But first, I will turn to the marking of narrow focus in Section §3.

6.3 Narrow focus

In this section, I discuss narrow focus constructions in Lavukaleve, i.e. cases in which an argument, and adjunct, or a non-finite verb are in focus, but not the VP or vP. In short, narrow focus is marked by a particle directly adjacent to the focussed constituent, and the particle shows ϕ-feature agreement with the focussed constituent if possible. If agreement is not possible, the focus marker shows default agreement, which is third person singular neuter in Lavukaleve.

The language has three sets of focus particles, each showing nearly a full paradigm of person, number and gender marking. The three different focus markers are *meo, feo*, and *heo*, following the convention in Terrill (2003) to cite them in their third person singular feminine form. The particle *meo* is restricted to polar questions and I will not discuss it here, since this chapter only deals with focus in declarative clauses. One of the possible environments for the occurrence of the second marker, *heo*, namely content questions, will also not play a role in this chapter. In contrast, a different environment in which this marker occurs will be relevant for the discussion below, its occurrence in so-called echo focus or emphatic focus constructions. The third focus marker *feo* has the widest distribution, as it is the default marker, and it is used in all cases of focus marking except where a more specific focus marker like *heo* or *meo* is warranted. For completeness, the paradigms of all three focus markers are given in Tables 6.5–6.7.

Table 6.5 *Meo* paradigm (271)

	SG	DU	PL
1EXCL	mongai	moel	moe
1INCL	mongai	momel	mome
2	minu	mimil	mimi
3MASC	min	minal(a)	miv
3FEM	meo	meol	miv
3NEUT	mi	migel	miv

Table 6.6 *Heo* paradigm (271)

	SG	DU	PL
1EXCL	hongai	hoel	hoe
1INCL	hongai	homel	home
2	hinu	himil	himi
3MASC	hin	hinal(a)	hiv
3FEM	heo	heol	hiv
3NEUT	hi	higel	hiv

Table 6.7 *Feo* paradigm (271)

	SG	DU	PL
1EXCL	fongai	foel	foe
1INCL	fongai	fomel	fome
2	finu	fimil	fimi
3MASC	fin	final(a)	fiv
3FEM	feo	feol	fiv
3NEUT	fi	figel	fiv

The particle *feo* is used to mark narrow focus on constituents in declarative clauses. The particle immediately follows the focussed constituent and agrees with it in ϕ-features, if possible. It does not have any other effect on the syntax of the clause. The examples in (11) present a near minimal pair exemplifying this.

(11) a. Ngai sa vo-liki-re a-lei.
1SG bananas(PL) 3PL.O-want-NF 1SG.S-exist
'I want bananas.' (ex. 473)

b. Ngai **totonga** **feo** o-liki-re a-lei.
1SG **money(F)** **3SG.F.FOC** 3SG.F.O-want-NF 1SG.S-exist
'I want **money**.' (ex. 474)

Unfortunately, the simple case as presented in (11b) occurs only very rarely. Instead, in nearly all cases of narrow argument focus, the clause contains a second, clause final focus particle from the *heo* class. This second focus marker is added to express a stronger, more contrastive type of focus, so that the marker is glossed as EFOC for emphatic focus. The focus marker necessarily agrees in ϕ-features with the first, argument-adjacent focus marker, and is therefore fundamentally different from the sentence-final focus marker in wide focus contexts discussed in the next section. Similar to this wide focus, however, the EFOC marker requires the presence of the so-called Agreement Suffix on the verb. This suffix, which will also be discussed in more detail in the next section, cross-references the focussed argument on the verb and replaces the usual prefixal agreement.

This situation is shown in (12), a case of narrow focus on the subject. In addition to the narrow focus marker *feo* directly following the subject, the sentence also contains the sentence final focus particle *heo*, which also agrees with the subject. The presence of *heo* requires the agreement suffix on the verb, *-a* in this instance, which replaces the standard subject agreement prefix *-a-*.

(12) **Aira** **la** **feo** fo'sal na a-u-a heo.
woman(F) **SG.F.DET** **3SG.F.FOC** fish(M) SG.M.DET 3SG.M.O-eat-SG.F 3SG.F.EFOC
'**The woman** ate the fish.' (ex. 477)

In addition to narrow focus on arguments, it is also possible to focus on adjuncts, shown in (13a) for a locative and in (13b) for a temporal adverbial. As the focussed constituents do not host any ϕ-features, the focus marker surfaces in its default form, third person singular neuter *fi*.

(13) a. Ngai koi **ika** **fi** a-lei tasi-n ka.
1SG also **there** **3SG.N.FOC** 1SG.S-exist sea-LOC LOC.EMPH
'… I'll be right **there** in the sea.' (ex. 486)

b. **Two o'clock ku mail fi** fele-re e-vo.
two o'clock like a.bit 3SG.N.FOC return-NF 1PL.EX-come
'**At almost two o'clock** we came back.' (ex. 489)

Interestingly, it is also possible to use *feo* to mark narrow focus on non-finite verbs but not on finite ones. Focus marking of finite verbs would require sentence final focus constructions, which are reserved for predicate and sentence focus, respectively. When *feo* marks narrow focus on a non-finite verb, it again appears in its default form, as shown in (14), where it marks a non-finite verb that occurs together with the habitual auxiliary.

(14) oiva kini nego-re mi **ngoa fi** ma-me
other.PL ACT float-NF PRT **stay 3SG.N.FOC** 3PL.S-HAB
'… they **stayed** there floating …' (ex. 495)

Narrow focus marking in Lavukaleve does not show any surprising behavior. The particle from the *feo* paradigm follows the focussed constituent and agrees with it in ϕ-features if possible, and surfaces in its default form if not. In addition to arguments, adjuncts and non-finite verbs can be marked as in focus as well, but not finite verbs. In the next section it will become clear that wide focus marking is significantly more complex than narrow focus marking. Similar to this section, the next section will present the relevant data, before I turn to the analysis for both types of focus marking in Section §5.

6.4 Wide focus

Wide focus, in contrast to narrow focus, is the focus marking of either the VP or the vP, sometimes also called predicate focus and sentence focus, respectively. These two cases in their typical form are shown in (15), repeated from (4) above. In (15a), the whole clause is marked as in focus, while in (15b), only the predicate is in focus.

(15) a. **Ma-talu o-fi me-v fiv**.
3PL.POSS-word.F 3SG.F.O-hear HAB-PL 3PL.F.FOC
'**They would obey their word**.' (ex. 455)
b. Ali na **aira la o-le-a feo**.
man SG.M.DET woman.F SG.F.DET 3SG.S-see-SG.F 3SG.F.FOC
'The man **saw the woman**.' (ex. 444)

Both examples in (15) involve a sentence final focus marker from the *feo* paradigm, but the two particles differ in their agreement target. For sentence focus, the focus particle seems to agree with the subject of the whole sentence, and in predicate focus, the particle agrees with the ϕ-features of the object. Another shared property

of both examples in (15) is that the sentence final focus particles require the presence of the so-called Agreement Suffix, which agrees with the focussed argument and replaces the normal prefixal agreement marker. Thus in (15a), the agreement suffixes agrees with the subject (*-v*) and in (15b), the agreement suffix agrees with the object (*-a*).

As I will argue in the next section, it is actually the agreement suffix in these cases that does most of the work in wide focus contexts and the focus particle is simply adjoined to the highest appropriate ϕ-feature host. Since the Agreement Suffix plays such an important role in these constructions, I will discuss it in more detail first, before I turn to more data for the wide focus constructions.

6.4.1 The agreement suffix

The agreement suffix is a mostly verbal suffix that occurs in four distinct environments. In those instances where it is attached to the verb, it competes with the standard prefixal agreement of the argument it cross-references, meaning that if the Agreement Suffix agrees with a particular argument, there is no prefixal agreement cross-referencing the same argument. The whole paradigm of the Agreement Suffix is given in Table 6.8, which shows that this suffix differs significantly from the agreement prefixes, in that it does not mark a number distinction and in that the third person singular neuter form is zero.

Table 6.8 Agreement suffix (244)

	SG	DU	PL
MASC	-m	-mal	-v
FEM	-a	-aol	-v
NEUT	-∅	-gel	-v

The environments in which the Agreement Suffix occurs are given in (16), with some data provided immediately below. While a comprehensive analysis of the distribution of the Agreement Suffix might shed more light on the syntax of Lavukaleve, it is far beyond the scope of this chapter. Consequently, only the last occurrence in (16d) will play a role when presenting the analysis in the next section.

(16) Environments for the Agreement Suffix:
   a. In relative clauses it agrees with the head of the relative clause.
   b. In intransitives, it agrees with the subject for a stative/resultative reading.
   c. Inside the DP, it attaches to all adjectives and agrees with the head noun.
   d. In wide focus constructions, it agrees with the object for predicate focus, and with the subject for sentence focus.

Relative clauses in Lavukaleve are head internal and basically show exactly the same syntax as main clauses, except that they are followed by a definite determiner and the verb inside the relative clause hosts the Agreement Suffix, which agrees with the head of the relative clause. An example is given in (17), where the finite verb, *continue*, hosts prefixal subject agreement and the Agreement Suffix agrees with the head of the relative clause, the feminine *part*. In the following three examples, (17), (18), and (19), bold face indicates the agreement suffix.

(17) [RC lafa o-na fale-re o-me-**a** la] o-na
part.F 3SG.F.O-in stand-NF 3SG.S-continue-**SG.F** DET.SG.F 3SG.F.O-in
'In the place where she was standing.' (ex. 388)

In intransitive clauses, the Agreement Suffix can be used to derive a stative/resultative reading. In this instance, it agrees with the subject and replaces the prefixal subject agreement, which is used in active contexts. Nearly all intransitive predicates can be used in either reading. The two examples in (18) show this for the intransitive predicate *fall/jump*. In (18a), after a sentence initial relative clause (*vula … na*), the finite verb *e'rau* is marked with the Agreement Suffix, so that the verb is understood as *fall*. In contrast, in (18b), the same verb is marked with the usual subject agreement prefix, so that it is understood as *jump*.

(18) a. Vula-nun ta aka tulako-m na hano lifa-re
come-DUR just then small.one-SG.M SG.M.DET then stumble-NF
e'rau-**m**.
fall/jump-**SG.M**
'Coming, the small one then stumbled and fell.' (ex. 417)

b. gaikoko na a-na aige o-ke foa-re,
canoe(M) SG.M.DET 3SG.M.O-in anchor(F) 3SG.F.O-drop go.down-NF
a-e'rau.
1SG.S-fall/jump
'… I drop the anchor from the canoe, I jump out.' (ex. 418)

Inside the noun phrase, the Agreement Suffix attaches to every adjective and agrees with the head noun. In (19), all adjectives actually agree with the head noun *man*, but both *rua* 'big' and *roa* 'one' are irregular adjectives with their own inflectional paradigms. In addition, the adjective *hungry* is expressed as a complex phrase, of which the head *mea* carries the Agreement Suffix.

(19) Ali rua folufolu-**m** keaki me-**m** roa a-le-**m**
man(M) big.**SG.M** fat-**SG.M** hungry ME-**SG.M** one.SG.M 1SG.S-see-**SG.M**
fin.
3SG.M.FOC
'I saw a big fat hungry man.' (ex. 408)

Lastly, in wide focus constructions, the Agreement Suffix either agrees with the subject for sentence focus, or the object for VP/predicate focus. I discuss more data for wide focus constructions in the next subsection, but the two pieces of data in (20) exemplify this pattern. In (20a), all pronouns have been dropped and the sentence only consists of the verb and the sentence final focus particle. As the translation makes clear, the Agreement Suffix on the verb, following the negation *-la-*, agrees with the plural subject of the clause. In combination with the sentence final focus particle, the whole sentence is interpreted as being in focus. In (20b), the subject pronoun has been dropped, but the feminine object *thing* is expressed. The Agreement Suffix on the verb agrees with the object, and in combination with the sentence final focus particle, which also agrees with the object, the sentence is interpreted with focus on the VP. Note that in both cases, the Agreement Suffix replaces the prefixal agreement affix. This is most obvious in (20b), since the expression of object agreement in transitive clause is obligatory. However, similar to all other cases discussed above, every argument can only be agreed with once. Consequently, if the Agreement Suffix agrees with a particular argument, no other agreement with the same argument is possible.

(20) a. **A-lai-la-v fiv.**
3SG.M.O-tell-NEG-PL 3PL.FOC
'**They didn't tell him.**' (ex. 396)

b. **Mina lo-veneri-a feo** koi.
thing.F 3DU.S-ask.for-SG.F 3SG.F.FOC also
'The two [boys] **asked for something** again.' (ex. 435)

6.4.2 More data on wide focus constructions

In this subsection, I present some more data on wide focus constructions. As frequently mentioned in this chapter, wide focus constructions contain a sentence final focus particle, usually from the *feo* paradigm, in addition to the finite verb hosting the Agreement Suffix. Both the focus particle and the agreement suffix agree with the same element, the subject in sentence focus constructions and the object in predicate focus constructions. The examples in (21) illustrate this with a minimal pair. It is important to note that according to Terrill (2003: 279), predicate focus is the most frequently encountered type of focus in her corpus, and therefore the most pragmatically unmarked. Sentence focus, in contrast, is highly marked and always requires and appropriate context, otherwise it is rejected by speakers of the language.[80]

80. In the grammar, the example in (21a) is marked as ungrammatical. However, the discussion surrounding it makes it clear that the sentence is a grammatical example of sentence focus, and only marked ungrammatical because no context was provided.

(21) a. **Ali na aira la o-le-m fin.**
man(M) SG.M.DET woman(F) SG.F.DET 3SG.F.O-see-SG.M 3SG.M.FOC
'**The man saw the woman.**' (ex. 458)

b. Ali na **aira la o-le-a feo.**
man(M) SG.M.DET **woman(F) SG.F.DET 3SG.S-see-SG.F 3SG.F.FOC**
'The man **saw the woman.**' (ex. 457)

In the sentence focus construction (21a), both the Agreement Suffix and the sentence final focus marker agree with the subject. Because the Agreement Suffix agrees with the subject, the normal subject agreement prefix is blocked. In (21b), the Agreement suffix and the sentence final focus marker agree with the object. Similarly to (21a), the Agreement Suffix agreeing with the object blocks the otherwise obligatory object agreement prefix.

In intransitive clauses, no object is available as agreement target, and consequently, all wide focus constructions with a sentence final particle express sentence focus. This means that predicate focus in intransitives, similar to narrow focus on the finite verb, cannot be expressed. The example in (22) shows an intransitive clause with sentence focus, where both the agreement suffix and the sentence final focus particle agree with the subject.

(22) O. **Tutu-m hina-ri fele-la-m fin.**
oh **grandparent-SG.M MOD.PROX.SG.M-PSNV return-NEG-SG.M 3SG.M.FOC**
'Oh. **This old man hasn't returned.**'

Furthermore, as Lavukaleve has a zero copula, clauses that do not contain an overt verb are possible. Nevertheless, focus marking is possible, and theoretically, both arguments can be agreed with, meaning sentence focus and predicate focus can be distinguished. As Terrill (2003: 287) points out, however, in practice, this is very difficult to distinguish, as both elements of the copular clause usually have the same set of ϕ-features. Two examples where it is possible to distinguish predicate focus from sentence focus in non-verbal clauses are given in (23), in which (23a) shows agreement with the first argument of the zero copula, i.e. sentence focus, and (23b) shows agreement with the second argument of the zero copula, i.e. predicate focus.

(23) a. **E ngo-tulac tin foe.**
1PL.EX 2SG-children(PL) only 1PL.EX.FOC
'**We're just your children.**' (ex. 466)

b. foiga **ma-langiov hiv.**
PN.NTRL.SG.N **3PL.POSS-names(PL) 3PL.EFOC**
'… that was **their names.**' (ex. 468)

As last point of this section, I briefly return to cases of narrow focus that contain a second, sentence final focus marker for emphasis. The examples in (24) are repeated from (3) above.

(24) a. Aira la **fo'sal** **fin** o-u-m hin.
woman.F SG.F.DET fish.M 3.SG.M.FOC 3SG.S-eat-SG.M 3SG.M.EFOC
'The woman ate **a fish**.' (ex. 476)

b. **Aira** **la** **feo** fo'sal na a-u-a
woman.F SG.F.DET 3SG.F.FOC fish.M SG.M.DET 3SG.M.O-eat-SG.F
heo.
3SG.F.EFOC
'**The woman** ate the fish.' (ex. 477)

Terrill (2003: 298) argues at length that the sentence final focus particles in (24) do not indicate sentence or predicate focus, but merely add emphasis to the narrowly focussed arguments. Nevertheless, they require the presence of the Agreement Suffix, similar to the focus markers in wide focus contexts as discussed in this section. I will argue in the next section that this is due to the fact that the ϕ-features with which the focus particle agrees with need to be provided by the constituent it adjoins to. This requires the presence of the Agreement Suffix for sentence final focus particles in any case, even in cases like (24) where they do not encode wide focus.

This concludes the more empirically oriented part of this chapter. In the next section, I will present a sketch of an analysis, which takes the focus markers to be lexically specified bundles of ϕ- and information-structural features, while the agreement suffix is actually a syntactic combination of a set of ϕ-features with a focus feature. Before that, I will summarize the conclusions to be drawn from the data at the beginning of the next section.

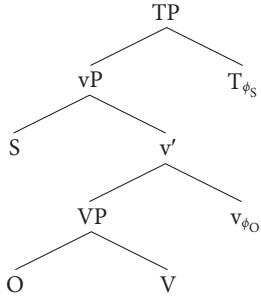
6.5 Analysis

This section presents a possible analysis of focus marking in Lavukaleve. I will discuss narrow focus constructions and wide focus constructions separately, as they involve some distinct processes and the latter is syntactically much more complex than the former. In short, it will be argued that focus particles can adjoin to various constituents, as long as this constituent hosts a focus feature. The ϕ-features expressed by the focus marker need to be provided by the constituent it adjoins to. For narrow focus, either the arguments the focus particle adjoins to provide ϕ-features, or the particle surfaces in its default form. In wide focus contexts, the

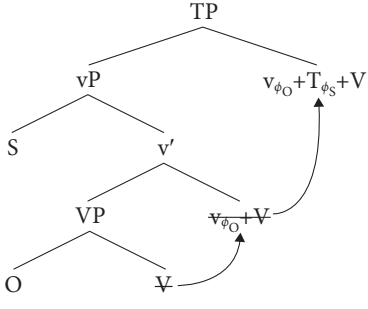
particle adjoins to FocP, with the Agreement Suffix in the foc-head providing the ϕ-feature and the focus feature.

Before tackling the analysis of focus marking, I want to briefly summarize the main points of the preceding discussion. Lavukaleve is an SOV language with prefixal obligatory object and optional subject agreement. Structurally, this can be represented as follows, with object agreement in v, subject agreement in T and the verb moving from V via v to T.

(25)



(26)



The derivation in (26) is not unproblematic, as the ordering of the agreement morphemes on the verb does not directly reflect the underlying syntactic structure and is therefore not compatible with the Mirror Principle of Baker (1985). There are of course alternatives analyses possible, for example to assume head movement with subsequent excorporation or long head movement into T (Roberts 2010) and then combining the agreement morphemes with the verb on PF (as proposed, for example, in by Julien 2002 for Bantu). Another option, which I will allude to again later, might be to assume that all the agreement takes place in T, with the same head probing for the subject and and the object. For now, I simply assume that the affixes on the verb are re-ordered on PF to reflect the ϕ_O-ϕ_S-V_{fin} ordering in simple main clauses.

The assumption that subject agreement is encoded in T receives some support from its interaction with present tense marking and the habitual auxiliary. Remember that the present tense suffix agrees with the subject and blocks the occurrence of the prefixal subject agreement affix. One possible way to analyse this is

to assume that the present tense suffix is actually the spell-out of a feature bundle consisting of the tense feature and the ϕ-features in T valued by agreement with the subject. The relevant examples are given again in (27), repeated from (8) above.

(27) a. Vasia-a? Iru-nu.
be.where-SG.F sleep-PRES.SG
'Where is she? She's sleeping.' (ex. 564)

b. *O-iru-nu.
3SG.S-sleep-PRES.SG
int.: 'She's sleeping.'

Something comparable holds for the habitual auxiliary. If it is present, subject agreement is necessarily expressed on the auxiliary and not on the main verb, which can only host the object agreement prefix. This follows from the assumption that the auxiliary is merged in T. An example, repeated from (10), is given in (28).

(28) Vala sia-re lako ngo-me?
how do-NF cry 2SG-HAB
'Why are you crying?' (ex. 715)

The second important point from the general discussion above I want to stress, and which is already implicit in the examples in (27) and (28), is that in every clause, agreement with the arguments can only take place once. Thus, if the present tense suffix is present, normal subject agreement is blocked. If the habitual auxiliary is present and marks subject agreement, the main verb can only mark object agreement. Most importantly for the discussion to come, the same holds for the Agreement Suffix. Whichever argument is cross-referenced by the Agreement Suffix cannot be cross-referenced on the verb again with an agreement prefix. This suggest that theses processes, prefixal agreement, present tense and habitual auxiliary, as well as the Agreement Suffix, all make use of the same set of ϕ-features. In other words, for every argument, there is only one set of unvalued ϕ-features in the derivation.

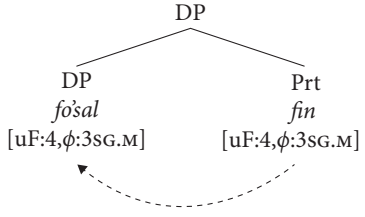
With these slightly more formalized background assumptions in place, I turn to cases of narrow focus marking in the next subsection.

6.5.1 Narrow focus marking

If a constituent is to be marked as in focus, the focus marker is adjoined to this constituent and shows ϕ-feature agreement with it. If the constituent does not host a set of valued ϕ-features, the particle surfaces in its default form, third person singular neuter. Consider the example in (29), ignoring the agreement suffix and the final emphatic focus marker. The trivial structure of the particle adjoined to the DP is given in (30) with the indicated agreement.

(29) Aira la **fo'sal** **fin** o-u-m hin.
woman.F SG.F.DET fish.M 3.SG.M.FOC 3SG.S-eat-SG.M 3SG.M.EFOC
'The woman ate **a fish**.' (ex. 477)

(30)



If the marker does not find an appropriate agreement goal, it surfaces in its default form, as shown in (31), repeated from (13a).

(31) Ngai koi **ika** **fi** a-lei tasi-n ka.
1SG also **there** **3SG.N.FOC** 1SG.S-exist sea-LOC LOC.EMPH
'… I'll be right **there** in the sea.' (ex. 486)

The focus marker appearing in its default form due to the failed agreement process is actually expected in such an agreement approach. As argued extensively in Preminger (2014), one of the hallmarks of agreement is that it is fallible. Instead of leading to a crash of the derivation, failing agreement processes for ϕ-features can instead lead to the presence of default forms, which is exactly what takes place in Lavukaleve.[81]

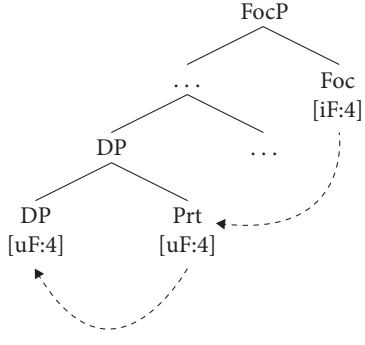
Of interest are cases where the focus marker is adjoined to a constituent that contains a potential ϕ-feature host but still surfaces in its default form. Unfortunately, the only examples discussed in the grammar are prepositional phrases, in which the complement of the preposition is a noun. In (32), for example, the PP contains a feminine noun, but the focus particle still shows default third singular neuter agreement. This might be due to PPs being islands and therefore impenetrable to agreement in Lavukaleve, but more work, and more data, is needed to provide a proper analysis.

(32) …, aka **fofo** **tula-a** **o-na** **fi** …
then **basin(F)** **small-SG.F** **3SG.F.O-in** **3SG.N.FOC**
'… then **into a small basin** …' (ex. 484)

81. Importantly, this is different from the ϕ-features combined with information-structural heads in the peripheries of vP and CP. These ϕ-features are simply absent if no information-structural projection is there to host them. This is due to the way these features are combined, as discussed in Chapter 2. The focus particle here, on the other hand, are bundles of ϕ-features and a focus feature already present in the lexicon.

In the analysis presented here, the focus particle itself does not do much syntactic work. It is adjoined to the focussed constituent and receives its ϕ-features via agreement from this constituent. Thus, there is at least one agreement relation based on ϕ-features established. In addition, it might be argued that the particle also carries an unvalued focus feature that agrees with the focussed constituent. On the other hand, it appears to be unlikely that the focus marker itself is the spell-out of a low or high focus head with the focussed constituent in its specifier, as this would require various movement processes to derive the appropriate relations, for which there is no evidence in the language. In addition, in Chapter 2, I have argued that only interpretable features are able to project phrases. If the focus particle here was actually the head of a low focus phrase, it would be necessary to assume different types of focus particles, those with interpretable focus features and those with uninterpretable ones. Instead, I assume that the focus particle in addition to its unvalued ϕ-features also carries an unvalued, uninterpretable focus feature, and agreement with the focussed constituent also values the focus feature. Later on, the focus head in the left periphery of the clause, with its unvalued but interpretable focus feature, probes and agrees with the focussed constituent/particle, thus providing the interpretable instance of the focus feature. This is schematized in (33), where I leave out the ϕ-feature agreement from (30) for readability.

(33)



6.5.2 Wide focus marking

On the one hand, the analysis of wide focus marking to be suggested in this subsection is similar to the analysis for narrow focus marking, in that the focus particle is adjoined to a constituent that can provide ϕ-features and has a focus feature. On the other hand, it is more complex, as the constituent the focus particle is adjoined to is not the VP or vP, i.e. the focus as such, but the FocP, where the head of the FocP is actually the spell-out of the Agreement Suffix.

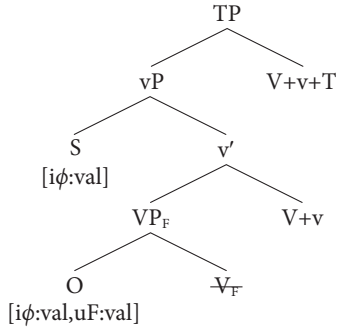
Before going into the details, I want to briefly address and dismiss the most obvious alternative analysis. For narrow focus constructions, I have argued that the focus particle is adjoined directly to the focussed constituent. Applying this to wide focus constructions would mean that for predicate focus, the focus particle is right-adjoined to the VP, and for sentence focus it is right-adjoined to the vP. In principle, this is a possibility, since all the relevant projections are right-headed and therefore the actual height of the rightmost element is difficult to determine. However, considering the positions of other elements in the clause, especially the position of the verb, makes this analysis highly unlikely. As the sentence final focus particle has all other constituents to its left, it would require the verb to stay low in predicated focus constructions, inside the VP, and move higher, into the vP in sentence focus contexts. However, the verb in predicate focus constructions can still show subject agreement, which requires a c-command, or at least a spec-head relation between the verb and the subject, which is impossible if the verb stays inside the VP. Furthermore, such an analysis would make the position of the verb dependent on the type of focus expressed, inside the VP in V for predicate focus, but in v for sentence focus. Again, this is problematic, as the position of the verb might vary depending on the clause type, as in English declaratives and interrogatives, but not depending on the size of the focus. Consequently, I dismiss the account that analyses the focus particle as adjoined to VP and vP for predicate focus and sentence focus, respectively.

Returning to the analysis to be argued for in this chapter, three components play a role in the analysis of wide focus constructions in Lavukaleve, Focus Projection, the Agreement Suffix, and the adjunction of the focus marker. Starting with Focus Projection, as discussed in the theoretical background in Chapter 2, I follow Selkirk (1995a) in assuming that focus can project. In English, this refers to the observation that a focus accent on the direct object, for example, cannot only license narrow focus on the object, but also focus on the whole VP. Selkirk derives this by having the VP inherit the focus feature from the complement of the verb (via the head). I take this to be a syntactic process, so that the F feature is actually syntactically visible on the VP. Comparably, I assume that in sentence focus constructions, the whole vP, including the subject, is in focus, meaning that all the elements inside the vP host a focus feature.[82] This is structurally represented in (34) for VP/predicate focus and (35) for vP/sentence focus. Note already that the two structures differ

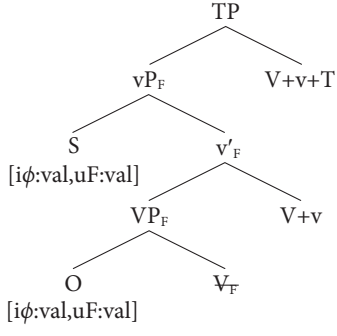
82. Two remarks are necessary here. First, Sentence focus might involve focus on the TP and not on the vP. This is an important question, but not relevant for the analysis to be presented, and therefore, I leave it aside. Second, Selkirk argues that even if focus projects from the object up to the vP level, the subject does not receive a focus feature. For the subject to be interpreted in focus in English, it needs to receive a secondary accent. As the focus marking in Lavukaleve is distinctly different from English, I ignore this complication here, but a possible solution would be to assume that it simply receive a second focus feature, similar to the secondary accent.

with respect to the highest element that has a focus feature in addition to ϕ-features. For VP focus, this is the object, for vP focus, it is the subject, both times indicated by [iϕ:val, uF:val].

(34)



(35)



The second ingredient of the analysis is the Agreement Suffix. As discussed above, it occurs in several environments, among them in wide focus contexts, attaches as a suffix to the verb, and agrees with either the object in predicate focus, or the subject in sentence focus, as seen again in (36, from 21 above). Especially in light of the structures in (34) and (35), this can be phrased differently: The Agreement Suffix agrees with the highest argument in its c-command domain, that hosts a set of valued ϕ-features and a valued focus feature.

(36) a. **Ali na aira la o-le-m fin.**
man(M) SG.M.DET woman(F) SG.F.DET 3SG.F.O-see-SG.M 3SG.M.FOC
'**The man saw the woman**.' (ex. 458)

b. Ali na **aira la o-le-a feo**.
man(M) SG.M.DET **woman(F) SG.F.DET 3SG.S-see-SG.F 3SG.F.FOC**
'The man **saw the woman**.' (ex. 457)

I have argued above that the finite verb moves up to T in Lavukaleve and agreement is usually expressed as a prefix. This suggests that the Agreement Suffix occupies a head above T, and is attached to T on PF under adjacency (see Harley 2013, for an argument that this operation is independently needed). The most likely candidate

for such a high head above T is an information-structural head, the head of the focus phrase.

The reason why φ-features can be found in C is to Strong Uniformity, as proposed by Miyagawa (2010, 2017), and feature inheritance. As discussed in the beginning of this book in Chapter 2, information-structural (δ) features and φ-features are relevant in all languages, they differ only in which features are inherited from C by T and which features remain in C. I have argued in the preceding chapters that in addition to being merged in the same position, the features also can be bundled, so that the valuation of one type of feature is dependent on the other type. For example, in Chapter 3, I argued that a bundle of φ- and δ-features in the left periphery of certain embedded clauses in several Nakh-Dagestanian and Algonquian languages is what underlies Long-Distance Agreement. The data in Lavukaleve can be analysed in a similar manner.

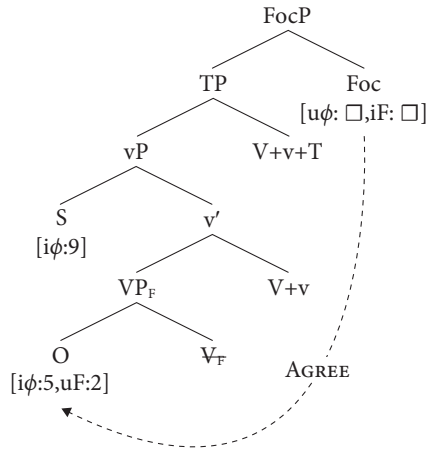
If no wide focus is to be encoded, the ϕ-features initially merged in C in Lavukaleve are inherited by T, where they agree with their respective arguments and are realized as prefixal agreement on the verb.[83] In contrast, in wide focus constructions, one set of ϕ-features remains in C and is bundled with a focus feature to form a complex probe, the Agreement Suffix. This probe will agree with the closest element in its c-command domain that fulfils the requirements of both of the components of the complex probe: The agreement goal needs to host a valued set of ϕ-features and a valued focus feature. Combining this with the discussion surrounding the structures in (34) and (35), the Agreement Suffix in C will agree with the object in predicate focus constructions, and with the subject in sentence focus constructions.

The respective structures are given in (37) and (38). In (37), the unvalued but interpretable focus feature [iF: □] on the focus head is bundled with an unvalued, uninterpretable set of ϕ-features [uϕ: □] and is consequently probing for a goal that hosts a valued set of ϕ-features and a valued focus feature [iϕ:5, uF:2]. As discussed above, this is the object in predicated focus constructions, and consequently, the feature bundle in the focus head agrees with the object and surfaces as Agreement Suffix on T expressing the ϕ-features of the object. In (38), it is not the object, but the subject that is the highest argument hosting valued set of ϕ-features and a valued focus feature. Thus, the feature bundle in Foc agrees with the subject and the Agreement Suffix surfaces on T agreeing with the subject. In both structures, the respective AGREE-relations are indicated, but the feature values have not yet been transmitted to the Agreement Suffix in the focus head, so its features are still represented as unvalued. Also not that in both cases, the valued focus feature

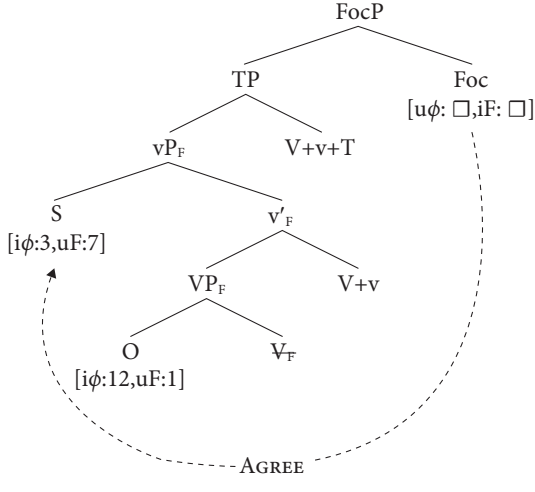
83. I assume here that both the ϕ-features for object and subject are merged in C and inherited by T, meaning T probes for both the subject and the object. Alternatively, v could inherit the ϕ-features for object agreement from T. The analysis requires all ϕ-features to be merged in C.

introduced on the argument, the object in (37) and the subject in (38) projects to the next higher maximal projection, the VP and vP, respectively.

(37)



(38)



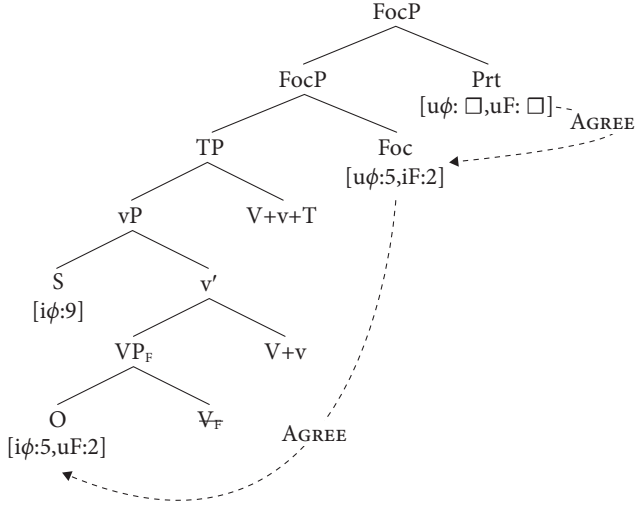
This approach to deriving the Agreement Suffix has the advantage of being able to account for the fact that agreement with an argument can only be expressed once, simply by basing the standard prefixal agreement and the Agreement Suffix on the same set of *ϕ*-features, albeit in different positions, T for the former and C, bundled with focus, for the latter. A possible alternative would be to assume that the *ϕ*-features are flexible regarding the position in which they are merged and with which elements they can be combined. Such a set of *floating ϕ*-features has recently been proposed by D'Alessandro (2020) for topic agreement in the Italian dialect of Ripano, and for person agreement in Sanzhi Dargwa (Nakh-Daghestanian, Russia) by Forker (2016). While it might be interesting to compare the different approaches, basing the behavior of the Agreement Suffix on feature inheritance, a process that

has been independently argued to exist, appears to be more restrictive, and overall much more in-line with what was proposed in the preceding chapters.

The last component of the analysis involves the focus particle and its adjunction site, and simply carries over from the the discussion of the marking of narrow focus. The focus particle is adjoined to a projection that hosts a valued set of ϕ-features and a valued focus feature. Due to the presence of the Agreement Suffix in Foc, which can provide valued ϕ-features and valued focus feature because of previous agreement, the focus particle is adjoined to FocP. Consequently, the focus marker only has indirect access to the ϕ-features it displays in the end. Because the Agreement Suffix has previously agreed with the highest constituent in its c-command domain that hosts valued ϕ- and focus features, and the focus marker agrees with the Agreement Suffix for the same types of features, the focus particle will always show agreement for the same features as the Agreement Suffix, while keeping the generalization that the features of the focus particle are always valued by the constituent it adjoins to.

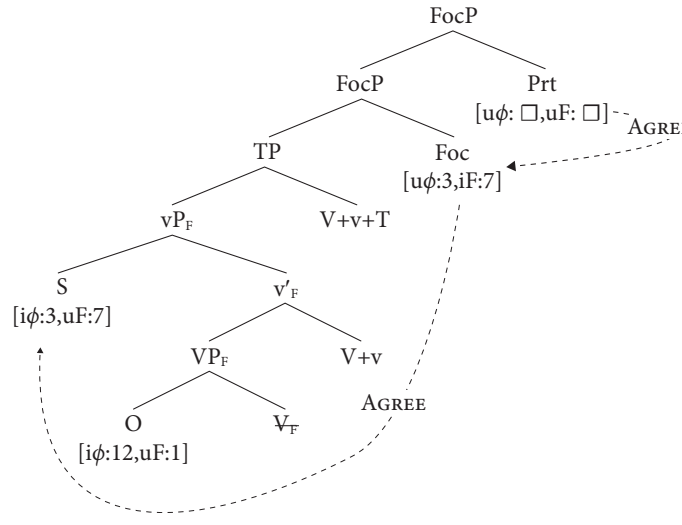
Structurally, this is represented in (39) for predicate focus, and (40) for sentence focus. After the Agreement Suffix in Foc has agreed with the respective highest argument with a focus feature, the object in (37) and the subject in (38), the appropriate values for the ϕ-feature and the focus feature are transmitted. Subsequently, the focus particle is merged as adjunct to FocP, probes for and agrees with the Foc-head.

(39)



As the structures in (39) and (40) make clear, in wide focus contexts, the connection between the focus particle and its original ϕ-feature host is only an indirect one, mediated by the focus head, hosting the Agreement Suffix, serving as intermediate agreement step. I have argued for such indirect agreement involving one, or potentially more, intermediate agreement steps above in Chapter 3 for long

(40)

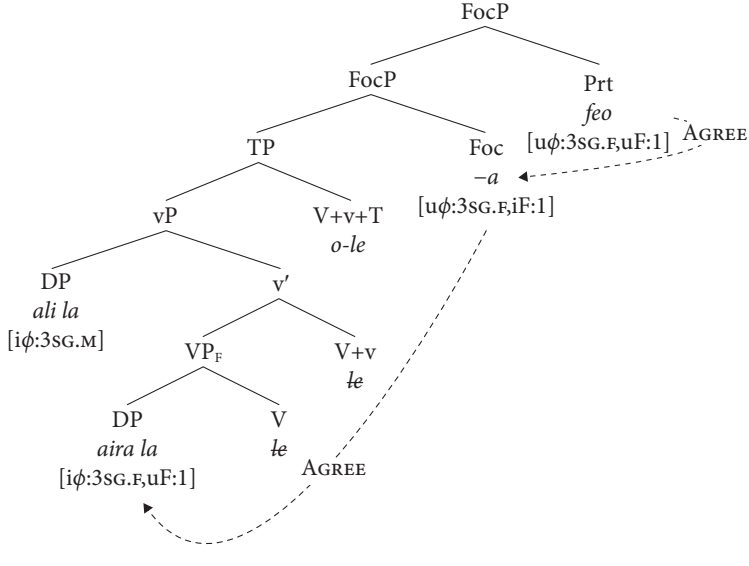


distance agreement. What is more, in the two chapters to come, Chapters 7 and 8, comparable stepwise agreement relations will also play a role when analyzing association with focus.

A less abstract example for predicate focus, the structure for the sentence in (41) is presented in (42).

(41) Ali na **aira la o-le-a feo**.
man(M) SG.M.DET **woman(F) SG.F.DET 3SG.S-see-SG.F 3SG.F.FOC**
'The man **saw the woman**.' (ex. 457)

(42)



Tentative support for this analysis, especially for the role of the Agreement Suffix as mediating head in the left periphery, comes from the other occurrences of the Agreement Suffix. While a full discussion is beyond the scope of this chapter, note that it is possible to analyze the other instances of the Agreement Suffix as appearing at the edge of certain phrases. This can be observed most clearly in relative clauses, in which the Suffix appears after the finite verb but before the complementizer-like determiner that marks the relative clause as relative clause, and agrees with the head of the relative clause. In (43), for example, it appears as *-a*, showing agreement for SG.F, i.e. with the feminine head of the relative clause, *place*, suffixed to the verb in the relative clause but preceding the determiner *la*. An analysis that takes the agreement suffix to agree with the ϕ-features of the head of the relative clause based on an underlying feature like [REL] seems feasible.

(43) [$_{RC}$ lafa o-na fale-re o-me-**a** la] o-na.
part.F 3SG.F.O-in stand-NF 3SG.S-continue-**SG.F** DET.SG.F 3SG.F.O-in
'In the place where she was standing.' (ex. 388)

The other two occurrences of the Agreement Suffix do not concern the periphery of the clause, the CP, but other, lower projections, the vP and DP/NP, respectively. With intransitive verbs, the use of the Agreement Suffix signals a stative/resultative reading, shown in (44) from (18a) above. Relating this to the analysis for unaccusatives in languages like German and English, which also frequently display such a reading, it might be possible to argue that the Agreement Suffix in the periphery of vP triggers the movement of the single argument of the verb from its underlying object position to its surface subject position (see Perlmutter 1978 and Burzio 1986 for the origins of an analysis of unaccusatives in this manner).

(44) Vula-nun ta aka tulako-m na hano lifa-re
come-DUR just then small.one-SG.M SG.M.DET then stumble-NF
e'rau-**m**.
fall/jump-**SG.M**
'Coming, the small one then stumbled and fell.' (ex. 417)

Lastly, the Agreement Suffix is also used on all adjectives inside the DP showing agreement with the head noun, shown in (45) from (19) above. In this case, the analysis crucially depends on the analysis of the general DP structure, but, for example, under the assumption that the adjectives are adjoined to NP, one might again argue that the agreement suffix in the periphery of NP helps to establish a relation between the adjuncts and the head of the NP.

(45) Ali rua folufolu-**m** keaki me-**m** roa a-le-m
man(M) big.SG.M fat-**SG.M** hungry ME-**SG.M** one.SG.M 1SG.S-see-SG.M fin.
3SG.M.FOC
'I saw a big fat hungry man.' (ex. 408)

This analysis requires further refinement, especially with respect to the role of the Agreement Suffix, which, unfortunately requires additional data not provided in the grammar of Terrill (2003). Nevertheless, and independent of the actual analysis, focus in Lavukaleve directly interacts with ϕ-features. Under the assumption that ϕ-features are transmitted via agreement, and this being dependent on information-structural properties like focus, these focus features need to be part of syntax of this language.

6.6 Conclusion

In this chapter, I have discussed a third case in which information structural features interact with ϕ-features. After Long Distance Agreement in the CP periphery in Chapter 3, Givenness marking in the vP periphery in Chapters 4 and 5, the interaction of focus markers with ϕ-features is not unexpected, as focus markers are the third, cross-linguistically widely attested element where information-structural features are visible in the syntax.

In Lavukaleve, a language spoken on an island in Papua New Guinea, focus is marked by particles that adjoin directly to a constituent that is marked in focus and then also provides ϕ-features to the agreeing focus particle. I have argued that due to shared ϕ-features, the focus markers can be seen as lexically bundled sets of unvalued ϕ-features and an unvalued focus feature. If the focus particle is adjoined to an element that cannot provide any ϕ-features, the particle surfaces in its default form, which further supports an agreement analysis, following Preminger (2014). In cases of narrow constituent focus, the focus particle is therefore directly adjoined to the focussed constituent and agrees with it in ϕ-features or shows default third person singular neuter agreement.

Syntactically more complex are cases of wide focus, when either the whole VP (predicate focus) or the whole vP (sentence focus) are marked in focus. In these constructions, the focus particle is sentence final and agrees in ϕ-features with the object for predicate focus, and with the subject in sentence focus. In addition, a special Agreement Suffix occurs on the finite verb that agrees with the same constituent as the focus marker and blocks the occurrence of normal prefixal agreement with

the argument it agrees with. I provided arguments in favor of an analysis in which the Agreement Suffix occupies the head of the FocP and agrees in ϕ-features with the respective argument. I argued that the Agreement Suffix needs to be analysed as a syntactically created bundle of unvalued ϕ-features and an unvalued focus feature. In contrast to the focus markers, which were analysed as lexical bundles of ϕ- and focus features, the Agreement Suffix is due to a syntactic combination of these features in C.

Following the idea of feature inheritance, ϕ- and δ-features are merged in C in Lavukaleve, and in case of wide focus, the relevant unvalued ϕ-feature set (subject for sentence focus, object for predicate focus) remains in C, more specifically Foc, and is bundled with an unvalued focus feature. This complex feature bundle then probes for an element that hosts both a valued set of ϕ-features and a valued focus feature. Due to focus projection, this will be the subject in sentence focus constructions and the object in predicate focus constructions. The Foc-head is subsequently spelled out as the Agreement Suffix. In a last step, the focus particle is adjoined to FocP, as the head of Foc, hosting the Agreement Suffix, now contains a valued set of ϕ-features and a valued focus feature, fulfilling the requirement the focus particle has on its adjunction site.

In general, information-structural information mostly surfaces in three different areas. In the CP periphery, in the vP periphery, and as either topic or focus marker on a constituent in-situ. It is expected that in all three environments, interactions with ϕ-features are possible, under the assumption that information structural features are genuine syntactic features. In the last 4 chapters, I have argued that these expectations are borne out.

In the next two chapters, I turn to a slightly different phenomenon. In addition to their occurrences in the peripheries and as focus markers, focus features are also at the heart of another phenomenon, so-called Association with Focus. This phenomenon will receive a syntactic account in the next two chapters, one that again crucially depends on agreement of focus features.

CHAPTER 7

Association with focus – general discussion

7.1 Introduction

In the last chapters, I have discussed several cases in which information-structural features influence ϕ-feature agreement, either because particular heads host a bundle of ϕ- and δ-features, or because information-structural processes bring about configurations that feed ϕ-feature agreement. In this chapter[84] and the next, I will turn to a different phenomenon that, while not related to ϕ-feature agreement, still can be argued to involve agreement relations based on information-structural features, namely association with focus.

The phenomenon of association with focus concerns the interaction of a so-called focus sensitive particle (FP) like *only* with the focused constituent. Focus, which is generally marked by intonation in English and German, has traditionally been analysed as a pragmatic phenomenon related to the way the information of an utterance is packaged (Chafe 1976), indicating the presence of alternatives to the element in focus (Rooth 1985; Krifka 2008). Thus, focussing different constituents of a sentence does not change its truth conditions, even though each example answers a different question under discussion, consequently being appropriate in a different context.

(1) a. [PEter]$_F$ gave Mary a kiss.
b. Peter gave [MAry]$_F$ a kiss.
c. Peter gave Mary [a KISS]$_F$.
True in all worlds in which Peter gave Mary a kiss

If, however, a focus sensitive particle like *only* is part of the sentence, different placements of the focus accent can change the truth conditions of the sentence (cf. Rooth 1985; Zimmermann & Onea 2011), meaning that in combination with certain focus sensitive particles, focus can have a semantic effect.

(2) a. Peter gave **only** [MAry]$_F$ a kiss.
→ true in all worlds in which Mary was the only one kissed by Peter
b. Peter gave Mary **only** [a KISS]$_F$.
→ true in all worlds in which the only thing Peter gave to Mary was a kiss

---

84. This chapter first appeared, in a significantly different version as Mursell (2016).

It is very important to point out that focus particles do not form a uniform class at all, and can be distinguished in many different ways. For example, as already discussed in Horn (1969), the two particles *only* and *even* differ significantly with respect to their contribution to the meaning of the sentence they occur in. While the contribution of *only* is part of the assertion of the clause (3), *even* contributes to the presupposition, leaving the assertion unchanged (4).[85]

(3) Only Muriel voted for Hubert.
   a. Assertion: Nobody except Muriel voted for Hubert.
   b. Presupposition: Muriel voted for Hubert.

(4) Even Muriel voted for Hubert.
   a. Assertion: Muriel voted for Hubert.
   b. Presupposition: Someone else besides Muriel voted for Hubert.

(Horn 1969: 106)

A second possible way to distinguish different focus sensitive elements is discussed at length in Beaver & Clark (2008). The authors categorize not just focus sensitive particles but all focus sensitive elements in general (see also Partee 1991) into three different categories, depending on how the focus-sensitivity of each item comes about. Most focus sensitive particles, including *only*, conventionally associate with focus, meaning that focus-sensitivity is part of their lexical meaning. In contrast to conventional association with focus, the authors recognize two other categories of association with focus, namely *quasi* association and *free* association. The first category includes items like negation and describes the interaction between focus sensitive item and focus as being based on implicatures. The second category includes many types of quantificational adverbs, for example *always*, for which focus restricts the domain of quantification.

In this chapter and the following one, I will focus on only one focus sensitive particle, namely *only*. Consequently, I will not discuss other types of association with focus, nor will the type of contribution of different focus sensitive particles play a role. While parts of the analysis to be presented here might be generalized to other cases of association with focus, the wide variety of phenomena grouped together under the term Association with Focus, makes a uniform analysis for all the different cases questionable. Nevertheless, restricting the discussion to *only* is justified, in that it is the most frequently discussed focus sensitive particle in the literature, and therefore its behavior is rather well described. In addition, the intention of this chapter is to show how the idea of agreement between information-structural

85. While not addressed by Horn, *even* in (4b) is usually also taken to indicate that it was unlikely for Muriel to vote for Hubert.

features can be applied to other cases in which such features play a role, and not to present a comprehensive discussion of focus sensitivity.

One property of focus sensitive items, including *only*, that will be relevant in this chapter is that such items do not need to be adjacent to the focussed constituent. The sentences in (5a) and (5b) have more or less similar meanings. This property has played an important role in developing a theory of focus sensitive items that can account for their syntactic and semantic behavior, and I will discuss how different approaches deal with (5) when presenting the various approaches to association with focus in this chapter.

(5) a. Peter gave only $[\text{MAry}]_F$ a kiss.
b. Peter only gave $[\text{MAry}]_F$ a kiss.

In addition to the actual placement of the focus accent, the size of the focus domain also plays an important role for the meaning contribution of focus sensitive particles. To illustrate the point, consider the sentence in (6), that can serve as answer to both questions in (6a) and (6b), respectively.

(6) Frank only ate the COOkie.
a. What did Frank eat?
b. What did Frank do?

Under the assumption that in the answer, the constituent corresponding to the wh-constituent of the question is in focus, (6) is ambiguous with respect to its focus structure. As answer to to (6a), only the object, *the cookie*, is in focus, while as answer to (6b), the whole VP is in focus. In both cases, the focus accent falls onto the direct object. In other words, focus on the direct object licenses differently sized focus domains.

Two major approaches to account for this observation are available, and in this chapter and the next, I will following Selkirk (1995a) in assuming that focus, more specifically the focus feature, is able to project and focus marking in one position can lead to differently sized focus domains. The rules for focus projection are given in (7) and (8).[86]

(7) **Basic Focus Rule**
An accented word is F-marked.

(8) **Focus Projection**
a. F-marking of the head of a phrase licenses F-marking of the phrase.
b. F-marking of an internal argument of a head licenses the F-marking of the head.

86. However, see Büring (2006, 2016) for an extensive discussion of focus projection.

The alternative account is presented by Schwarzschild (1999), and takes the idea of *Givenness* as its starting point. F(ocus)-marking then can only apply to elements that are not given, with the important restriction that F-marking is avoided as much as possible. This is summarized in the two constraints in (9) (Schwarzschild 1999: 156).

(9) a. *Givenness*: If a constituent is not F-marked, it must be GIVEN.
b. *AvoidF*: F-mark as little as possible, without violating *Givenness*.

Even though Schwarzschild's theory based on *Givenness* has certain advantages over Selkirk's idea of focus projection, especially when it comes to focus marking/*Givenness* of complex constituents, I still opt for the latter approach. The reason for this is that an agreement based account of association with focus requires the presence of and access to focus features in the syntax. As Selkirk's theory is ultimately based on syntactic structure, it is more compatible with such an account. I leave work on how a syntactic account of association with focus is compatible with Schwarzschild's idea of focus marking to the future.

Focus projection has important consequences for association with focus, since the meaning contribution of *only* does not depend on the (focus-)accented word but on the focus domain, shown in (10), where the continuation indicates the relevant set of alternatives.

(10) a. John **only** gave Mary [a PREsent]$_F$, and not a kiss.
b. John **only** [gave Mary a PREsent]$_F$, and did not invite her for dinner.

Similar to the observation mentioned above that the focus particle does not need to be adjacent to its associated focus, the recognition that focus projection plays an important role in association with focus has had a profound influence on the theories developed to account for the phenomenon, as will become clear in this chapter.

The theory to be presented in this chapter will be a syntactic theory. I will therefore start by discussion early syntactic approaches to association with focus in section §7.2. These early syntactic approaches assumed LF movement of the focussed constituent into the complement position of *only*. This assumption was picked up and criticized by Rooth (1985, 1992), who in turn then developed the semantic theory of alternative semantics to deal with association with focus, and I will discuss Rooth (1985) in section §7.3, including a severe problem and subsequent modification of his approach by Kratzer (1991). Afterwards, in section §7.4, I will turn to a different semantic account, the structured meaning approach of association with focus developed by Klein & von Stechow (1982), Jacobs (1983), von Stechow (1991) and Krifka (1992), which, if combined with LF movement, overcomes several problems of alternative semantics. In section §7.5 I present my

syntactic proposal to association with focus which is based on agreement and ultimately can be considered an updated version of the structured meaning approach. It will be shown how this syntactic account derives the behavior of association with focus discussed in the previous sections, while at the same time avoiding some of the well-known problems of other approaches. Section §7.6 concludes.

7.2 Syntactic analyses of association with focus

In this section, I discuss the early syntactic analysis of association with focus given in Chomsky (1976). In this analysis, *only* always needs to be adjacent to its associated focus. If this configuration is not given on the surface, the focus is moved on LF into the complement position of *only*. This is shown by the corresponding surface structure and LF structure in (11).

(11) a. SS: [$_{VP}$ **only** [$_{VP}$ introduced [BILL]$_F$ to Sue]]
b. LF: [$_{VP}$ **only** [$_{VP}$ Bill$_1$ λt$_1$ [$_{VP}$ introduced t$_1$ to Sue]]

Evidence for this analysis comes from weak cross-over effects (WCO), a typical property of A′-movement, shown with wh-movement in (12). In (13), the same effect is visible for association with focus. If not in focus, (13a), *his* and *John* can be interpreted as referring to the same individual. However, as soon as *John* is focused, the co-referential reading becomes unavailable. Chomsky claims that this is due to movement of *John* across the pronoun into a position adjacent to the focus particle, which produces the typical WCO configuration (13c).

(12) $^{?*}$[Which student]$_1$ does his$_1$ professor dislike t$_1$?

(13) a. I claimed that his$_1$ friends like John$_1$.
b. $^{*?}$I **only** claimed that his$_1$ friends like JOHN$_{F,1}$.
c. LF: I **only** [John$_1$ λt$_1$ [claimed his$_1$ friends like t$_1$]]

The biggest problem of such an approach was already pointed out by Jackendoff (1972) and Anderson (1972), namely that association with focus is apparently not restricted by islands. Since covert movement is supposed to be subject to the same restrictions as overt movement (Longobardi 1991), this is unexpected. Thus, a focus particle can easily associate with a focus inside a relative clause (14a), or with a focus inside a prepositional phrase (14b).

(14) a. Peter **only** talked to the man who had mentioned [SUE]$_F$.
b. The police **only** arrested the man with the [RED]$_F$ hat.

This problem led to a shift from syntactic to semantic theories of association with focus, the alternative semantics theory of Rooth (1985) being a direct consequence of it. A different route was taken by Drubig (1994), who, in order to account for the data in (14), claimed that when the focus is contained inside an island, it is actually the whole island that moves covertly, not just the focused constituent. Evidence for this assumption comes from two observations. First, in languages that overtly move foci, like Hungarian, the whole island containing the focus is moved (Drubig 1994: 6).

(15) a. He **only** invited [ex-convicts with RED_{F} shirts].
b. Ö [czak [PIROS]$_{\text{F}}$ inges volt foglyokat]$_{\text{i}}$ hivolt meg t_{i}.
he only red.shirt with former convicts invited.he PERF
'He only invited ex-convicts with red shirts.'

Second, in wh-in-situ languages like Japanese in (16), when the wh-element is part of an island, the answer must at least contain the whole island (Drubig 1994: 8).

(16) Q: Mary-wa [[John-ni nani-o ageta] hito-ni] atta-no?
Mary-TOP John-DAT what-ACC gave men-DAT met-Q
'What$_{\text{i}}$ did Mary meet [the man [who gave to John t_{i}]]?'
A: *Konpyunta desu.
computer it.is
'(It is) a computer.'
A′: [Konpyunta-o ageta] hito desu.
computer-ACC gave men it.is
'(It is) the man (who) gave a computer.'

That islands seem to restrict association with focus is also visible in English in that island boundaries restrict possible long distance association patterns. Thus, as discussed in the introduction to this chapter, both sentences in (17) have a similar meaning.

(17) a. Paul **only** gave Mary [a KISS]$_{\text{F}}$.
b. Paul gave Mary **only** [a KISS]$_{\text{F}}$.

When an island boundary intervenes between focus sensitive particle and focused constituent, long distance association becomes impossible, and the focus particle associates with the whole island that contains the focus, leading to meaning differences due to the different alternative sets. Thus, in (18a), *only* necessarily associates with the whole island, leading to the interpretation that *the man who mentioned Sue* is the only person Peter talked to. In contrast, (18b), in which *only* narrowly associates with *Sue*, is interpreted in a way that the man Peter talked to mentioned only one person, and that was Sue. This contrasts with (17), in which both examples

can have the meaning related to narrow association with the direct object, namely that the only thing that Paul gave to Mary was a kiss.

(18) a. Peter **only** talked to [the man who mentioned SUE]$_F$.
b. Peter talked to the man who mentioned **only** [SUE]$_F$.

Cases of focus particles associating with foci contained in islands are therefore no counter-argument against a syntactic, LF movement based theory of association with focus. Other problems remain, of course, most importantly that LF movement of the focussed constituent requires *tucking-in* the moved LF-moved constituent between *only* and the syntactic complement of *only*. This counter-cyclic movement violates well-known constraints of contemporary and previous syntactic theory, for example the Extension Condition,[87] and is consequently not necessarily a desired operation. If LF movement of the focussed constituent is replaced by AGREE, as I will argue section § 7.5, the syntactic approach to association with focus becomes much less problematic.

In contrast to the syntactic account presented in this section, the semantic account to be discussed next, the Alternative Semantics account developed by Rooth (1985, 1992) is not concerned with syntactic restrictions like island-sensitivity of certain association patterns, simply because syntactic structure plays a very minor role in such an approach. Even though I will not adopt the Alternative Semantics account of association with focus, a discussion of it is warranted, as it remains the most well-known account of association with focus.

7.3 Alternative semantics

In this section, I discuss the approach of Alternative Semantics (AS) towards association with focus, developed in Rooth (1985, 1992), focussing on Rooth (1985). In general, AS can be seen as a semantic proposal to deal with the apparent island insensitivity of association with focus. The basic assumption of AS is that focus particle and focused constituent are connected only indirectly, via the alternatives introduced by the focus. These alternatives are passed on to the next larger constituent until *only* is reached, independent of any syntactic restrictions like island boundaries.

More concretely, Rooth assumes that every syntactic node comes with two different meanings, an ordinary semantic meaning $[\![\alpha]\!]^o$ and a focus semantic meaning $[\![\alpha]\!]^f$. If an element is focused, the focus semantic meaning is a set of contextually

87. The Extension Condition in its strong version is usually taken to mean that the syntactic structure can only be extended at the root. It is never explicitly defined by Chomsky, but discussed in various formulations, for example in Chomsky (2000: 136–137).

restricted[88] alternatives of the same semantic type. If a constituent is not focussed, its focus semantic meaning is equal to its ordinary semantic meaning. The alternatives introduced by the constituent in focus are then inherited by the constituent containing the focused element. This inheritance continues until the syntactic sister of the focus particle is reached. The syntactic sister constituent of the focus particle will then have two different meanings, its ordinary semantic meaning as well as its focus semantic meaning which is a set of similar expressions to the ordinary semantic meaning only differing in the position of the focused element, due to inheriting all the alternatives introduced by the focus. For the example in (19), taken from Büring & Hartmann (2001), the derivation of the ordinary semantic value of *only*'s syntactic sister is given (20), and the derivation of the alternative semantic value is given in (21).

(19) John **only** introduced $[\text{BILL}]_{\text{F}}$ to Mary.

(20) a. $[\![\text{Bill}_F]\!]^o$ = bill
b. $[\![\text{introduce}]\!]^o$ = introduce
c. $[\![\text{introduce Bill}]\!_F]^o$ = [introduce(bill)]
d. $[\![\text{Mary}]\!]^o$ = mary
e. $[\![\text{introduce Bill}_F \text{ to Mary}]\!]^o$ = [introduce(bill)(mary)]

(21) a. $[\![\text{Bill}_F]\!]^f$ = ALT(bill)
b. $[\![\text{introduce}]\!]^f$ = {introduce}
c. $[\![\text{introduce Bill}_F]\!]^f$ = {[introduce(y)]| y∈ALT(bill)}
d. $[\![\text{Mary}]\!]^f$ = {mary}
e. $[\![\text{introduce Bill}_F \text{ to Mary}]\!]$ = {[introduce(y)(mary)]| y∈ALT(bill)}

Adverbial *only*[89] takes two arguments, $[\![\text{VP}]\!]^o$ and $[\![\text{VP}]\!]^f$. Thus, it combines the ordinary semantic meaning of the VP with its focus semantic meaning, with the only difference being that the latter is a set of propositions that differ from the former with respect to the focused constituent. Adverbial *only* in (22) relates the two arguments in a way that states that the property expressed by the VP holds of x and that any other property out of the alternatives to the VP which holds of x is equal to the property expressed by the VP.

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88. The question of how to restrict the set of alternatives in the context is an important one, but orthogonal to the discussion in this chapter, and therefore left open.

89. It is important to note that the semantics for *only* given in (22) restricts it to an adverbial position. As discussed above, *only* cannot only be adjoined to VP but to other constituents as well. Therefore, in Rooth (1985) and subsequent work, *only* is defined as *type flexible*, meaning it can attached to constituents of various syntactic types, as long es their type ends in ⟨t⟩. I will not discuss this in detail here, as it is not relevant for the present discussion.

(22) Adverbial *only*:
$[\![\text{only [VP]}]\!] = \lambda x[[\![VP]\!]^o(x) \wedge \forall P \in [\![VP]\!]^f [P(x) \rightarrow P = [\![VP]\!]^o]]$

(23) $[\![\text{only introduce BILL}_F \text{ to Mary}]\!] =$
$\lambda x[\text{introduce(bill)(mary)(x)} \wedge \forall P \in \{[\text{introduce(y)(mary)}] \mid y \in \text{ALT(bill)}\}$
$[P(x) \rightarrow P = [\text{introduce(bill)(mary)}]]$
'Bill was introduced to Mary and for all other alternatives to Bill of people being introduced to Mary it holds that if someone was introduced to Mary, then it was Bill.'

Importantly, as (22) and (23) show, the focus particle only has indirect access to the alternatives of the focused constituents, namely via the alternatives of its syntactic complement. This has two important consequences: First, as already discussed, the syntactic structure of the complement of *only* does not matter. The alternatives generated by the focus are passed on compositionally, independent of the actual syntactic structure. This implies that syntactic islands should not restrict possible patterns of association with focus, in contrast to the data discussed in the last section. Second, it is predicted that if the syntactic complement of *only* contains several foci, adverbial *only* is unable to distinguish between them, since it only operates on the focus semantic value of its whole complement. Both these predictions will turn out to be false, as I will discuss later when presenting the structured meaning approach to association with focus. Before that, however, the next subsection presents another problem of the AS account, and a possible solution to it, as discussed in Kratzer (1991).

Kratzer (1991)

Kratzer discusses data like in (24), which show that an indirect connection between focus particle and associated focus via the alternatives of the complement of the focus particle is problematic. The context introduces the alternatives in (24), and based on the alternatives, the elliptical sentence in (24a) is uttered. As the non-elliptical counterpart in (24b) shows, the utterance contains two foci.[90] In the following, Δ indicates the ellipsis site.

90. This analysis is problematic in several ways. It is questionable, whether the elided part in B′ does indeed contain a focus. In a theory like the one proposed by Schwarzschild (1999), sentence internal constituents would be able to serve as antecedents for deaccenting. Consequently, it would be expected that the main focus actually falls on *you* in the second clause since it is contrasted with an element in the first clause.

(24) What a copycat you are! You went to Block Island because I did, and you went to Tanglewood because I did.
   a. No, I **only** went to TANGlewood$_F$ because you did Δ.
   b. No, I **only** went to TANGlewood$_F$ because you went to TANGlewood$_F$.

According to the theory of Alternative Semantics of Rooth just presented, the following alternatives to (24b) are predicted, since both foci are completely independent of each other and can thus vary independently.

(25) a. I went to Block Island because you went to Block Island.
   b. I went to Block Island because you went to Tanglewood.
   c. I went to Tanglewood because you went to Block Island.
   d. I went to Tanglewood because you went to Tanglewood.

However, as pointed out by Kratzer (1991), (24a) is interpreted only as involving (25a) and (25d) as alternatives, due to the interpretation of the elided material. This problem cannot be solved without additional assumptions, as Alternative Semantics crucially depends on the foci being independent and *only* only being able to access the alternatives of its direct syntactic complement. Kratzer (1991) solves this problem by assuming that the focused constituents are replaced by distinguished variables which are then unselectively bound by the focus sensitive particle. By co-indexing the two foci in (24a), they are replaced by the same variable at LF, which forces them to co-vary, generating the correct set of alternatives (25a) and (25d).

(26) I **only** went to TANGlewood$_{F,1}$ because you went to TANGlewood$_{F,1}$

Thus, the relation between different foci turns out to be a problem in Rooth's account, and several further developments of Kratzer's argument can be found in the literature, for example in Wold (1996) and Reich (2004), but will not be discussed here. Instead, I turn to a different semantic approach to association with focus, Structured Meaning. As will become clear in the discussion, Structured Meaning assumes a much more direct connection between focussed constituent and focus sensitive particle, and the account is therefore much more sensitive to syntactic structure and consequently much better suited to serve as background for a syntactic approach to association with focus.

7.4 Structured meaning

An alternative approach to association with focus and the contribution of focus in general is the structured meaning approach (Klein & von Stechow 1982; Jacobs 1983; von Stechow 1991; Krifka 1992). In this approach, it is assumed that the contribution of focus is to separate the clause into a background part and a focus part, so that the meaning is not a simple proposition, but a structured proposition, a triple, as it also contains the alternative set A. The focus part corresponds to a variable in the background part, which is bound by lambda abstraction. Thus, applying the background to the focus provides the ordinary semantic structure. Note however that, even though focussing different elements leads to different structured meanings, applying the background to the focus leads to the same meaning in all cases.[91]

(27) [PEter]$_F$ kisses Sue.
   a. **focus**: peter
   b. **background**: $\lambda x[kiss(X, sue)](X)$
   c. **structured meaning**: $\langle peter, A, \lambda X[kiss(X, sue)]\rangle$

In (27) as such, the partitioning into focus and background does not have any semantic effect. However, if a focus sensitive particle like *only* is introduced, the partitioning has an effect, due to the semantics of the focus sensitive particle in (28). The particle takes three arguments, the focus, F, the set of alternatives generated by the focus A, and the background, B, where the background corresponds to its scope with a variable in the position of the focussed constituent. Note how this strongly contrasts with the AS approach: In the AS approach, *only* takes its syntactic complement as argument, or rather, the ordinary semantic meaning of its complement and its focus semantic meaning. In the SM approach, the particle directly accesses the focussed constituents, as it is one of the three arguments of the particle, the others being its scope, which is its syntactic sister, and the set of alternatives. The meaning of the sentence in (29) is given in (29b), with the intermediate step in (29a).

(28) $only\ (\langle F, A, B\rangle) = \lambda x \forall y \in A[B(y)(x) \rightarrow F = y]$

(29) John only introduced BILL$_F$ to Sue.
   a. $only\ (\langle bill, A, \lambda x[introduce(sue)(x)]\rangle)(john)$
   b. $\forall y \in A[introduce(sue)(y)(john) \rightarrow y = bill]$
   'For every alternative y to Bill it holds that if John introduced y to Sue then y = Bill.'

91. I use the notation of Krifka (2006), which differs slightly from the notation in Krifka (1992). Krifka (2006) additionally includes the set of alternatives, A, in the structured meaning.

When (27) and (29) are compared, two kinds of foci can be distinguished. The focus in (29) has a direct impact on the actual truth conditions, due to its interaction with the focus sensitive particle by which it is bound. In (27) however, due to the lack of any interacting element, the focus seems to be without any effect. This observation has led to a fundamental distinction between these types of foci, the focus in (29) traditionally being called *bound focus*, while the one in (27) is referred to as *free focus*. The assumption that the focus in (27) is without any effect is of course misleading. Depending on the position of the focus, the utterance is appropriate in different contexts; it answers a different question under discussion. To encode this effect, Jacobs (1984) assumes that focus is always bound, and in cases in which no overt focus sensitive operator is present, it is the illocutionary type operator, or illocutionary force, binding the focus. A sentence like (30a) has the structured meaning (30b), in which ASS represents the illocutionary force ASSERT (Jacobs 1984: 33).

(30) a. $[\text{PEter}]_F$ besucht Gerdas Schwester.
Peter visits Gerda's sister
'Peter visits Gerda's sister.'
b. ASS($\langle \lambda Peter, A, x.x[visit(x, g.sister)]\rangle$)

Similar to (29b), what is claimed in (30b) is that the partitioning of the proposition into focus and background parts has an effect only due to the properties of the assertion (ASS) operator scoping over the background-focus structure. The effect this has is formalized in (31) (Krifka 1992: 20). When an assertion is taken to be a modification of the common ground (Stalnaker 2002), it becomes obvious that its partitioning into focus and background does not affect the meaning proper of the ASS operator, since the whole proposition (B(F)) is added to the common ground. What it does affect, however, are the felicity conditions of the operator. This interaction with the felicity conditions accounts for the context dependency of the structured meanings: If a certain focus-background structure is uttered in an unsuitable context, answering a different question under discussion than the current one, the utterance is not wrong in the truth conditional sense but infelicitous.

(31) ASSERT($\langle F, B\rangle$) maps a common ground c to a common ground c′, where c′ is the intersection of c with the set of possible worlds for which B(F) is true, i.e. $c' = c \cap \text{B(F)}$
Felicity conditions (among others):
a. $c' \neq c$ (asserting B(F) makes a difference in CG)
b. $c' \neq \varnothing$ (the truth of B(F) must not be already excluded by c)
c. There are X, with $X \approx F$ and $X \neq F$, such that B(X) could have been asserted with respect to c. That is, it would have changed c, $c \cap [B(X)] \neq c$, it would not be excluded by c, $c \cap [B(X)] \neq \varnothing$, and would have yielded a different output context, $c \cap [B(X)] \neq c \cap [B(F)]$.

For Krifka (1992), this interaction takes place on a purely pragmatic level since the ASSERT operator is neither accessible in the syntax nor is it affecting the semantics of the utterance. Similarly, Jacobs (1984) delegates this interaction to the level of illocutionary semantics. If, however, illocutionary force is taken to be encoded in the syntax, in the form of a functional head in the high extended left periphery (Rizzi 1997), then modification of this head inside the syntax becomes possible. In the following, I will simplify this significantly and assume that the ASSERT-operator, or rather the effect of modification by focus of the operator, is encoded in the focus head in the left periphery of the clause, the extended CP.[92]

Naturally, clauses containing a focus sensitive particle like *only* also host a speech act operator like ASSERT in their left periphery. Consequently, recursive structured meanings are possible, in which the structured meaning introduced by *only* can itself serve as one of the arguments of the the ASSERT operator, as discussed by Jacobs (1984) and Krifka (2006). The general theoretical representation for this is given in (32).[93]

(32) ASSERT(⟨F',(only⟨F, B⟩)⟩)

It is also possible to account for the observation that association with focus is sensitive to syntactic restrictions, to syntactic islands. As discussed above, it is impossible for a focus particle outside a particular syntactic island to associate directly with a focus contained inside the island and only the whole island can serve as associated focus. Thus, as discussed at length by Drubig (1994), in (33) only (33b) is a possible association pattern, while (33a) is not.

(33) a. #Mary only met the man who was wearing a red $[\text{HAT}]_{\text{F}}$ (not with a red shirt).
b. Mary only met [the man who was wearing a red $\text{HAT}]_{\text{F}}$.

The approach of Alternative Semantics cannot account for the contrast in (33) as focus is only accessed via the alternatives of the syntactic complement of *only*,

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92. The more complex approach would assume another agreement relation between the illocutionary force as highest projection in the extended CP and all the other information structural projections hosted there, for which I have argued elsewhere (Egg & Mursell 2017). In addition, there is a growing amount of work on even more discourse related projections in the left periphery of the clause, see Coniglio & Zegrean (2012), Heim, Keupdjio, Lam, Osa-Gómez, & Wiltschko (2014), and Wiltschko (2014) for discussion. Ultimately, all the different projections determine the appropriateness of an utterance in a particular context and need to be connected somehow.

93. Jacobs (1984) assumes that *only* (⟨*α, β*⟩) serves as background for the ASSERT operator, and this is also the structure given in (32). For the account developed below, a better representation would involve *only* (⟨*α, β*⟩) actually being the focus of the ASSERT operator. I do not discuss this in anymore detail and leave the intricate differences between these two options to future research.

which makes (33a) a possible association pattern. In the Structured Meaning theory, however, focus is accessed directly and therefore an account for the contrast is possible, especially when the SM account is combined with LF movement of the focussed constituent or the island containing it.

It has been a long-standing question, how the focus particle is able to access the focus directly in SM approaches, and Krifka (2006) argues that this direct access is based on LF movement. Concretely, just as in older syntactic approaches to association with focus, the focussed constituent moves on LF into the complement position of the focus particle. As LF movement is subject to similar restrictions as overt movement, if the focus is inside an island, it cannot move into the appropriate position adjacent to *only*. Instead, the whole island containing the focussed constituent moves in those instances, making the whole island the associated focus of *only*. To make this explicit, consider first the example in (34), repeated from (29) and slightly revised to include the LF that serves as input for the semantic computation.

(34) John only introduced BILL_{F} to Sue.
SS: John only $[_{\text{VP}}$ introduced BILL to Sue]
LF: John only [[BILL]$_{\text{i}}$ [introduced t_{i} to Sue]]

In contrast to the structurally simple example in (34), the sentence in (35), repeated from (33) with the relevant representations added, contains a focus inside an island. As discussed, in these cases the whole island moves on LF and consequently serves as input for the F-variable in the meaning of *only*.

(35) Mary only met [the man who was wearing a red HAT]$_{\text{F}}$.
SS: Mary only $[_{\text{VP}}$ met $[_{\text{DP}}$ the man who was wearing a red HAT]]
LF: Mary only [[the man who was wearing a red HAT]$_{\text{i}}$ [met t_{i}]]

In addition to the syntactic arguments in favor of (35) given by Drubig (1994) and discussed above, Wagner (2006) also provides a semantic argument. Wagner observes that *only* licenses NPIs in its scope but not in its restrictor (the focussed constituent), which is shown in (36) (Wagner 2006: 301).[94]

(36) a. Only [JOHN]$_{\text{F}}$ ⌜ate any kale⌝.
b. *Only [any STUdents]$_{\text{F}}$ ⌜ate kale⌝.

In the SM approach just discussed, it is now expected that if the focus is contained inside a syntactic island, no NPIs are licensed inside the island. The simple reason

94. I follow the notation in Wagner (2006)and indicate what he discusses as *scope* of *only* with ⌜…⌝.

for this expectation is that the whole island serves as associated focus for *only*, or as its restrictor in Wagner's terminology. As no NPIs are licensed in the restrictor, no NPIs should occur in the island. This expectation is born out, as shown in (37) (Wagner 2006: 313).

(37) *Mary only ⌜gave a book to John [because BILL gave any book to him]$_F$⌝.

Summing up, the Structured Meaning approach to association with focus appears to be generally much more compatible with a syntactic analysis of the phenomenon than the Alternative Semantics approach, due to the sensitivity to syntactic structure of the former and the absence of such sensitivity in the latter. However, from a syntactic perspective, the same fundamental problem remains when compared to the older syntactic LF movement account of Chomsky (1976), namely the the LF movement of the focussed constituent into a position adjacent to only violates several restrictions on movement. The syntactic analysis presented in section §7.5 will be closely modelled after the SM account, but replacing LF movement with agreement, so that no problematic movement is required.

Before turning to my analysis, however, one important question needs to be discussed, namely how the SM approach can deal with the *Tanglewood* cases discussed above. I will turn to this in the next subsection.

SM and *Tanglewood*

In a recent paper, Erlewine & Kotek (2018) present their LF movement analysis of the association with focus data introduced by Kratzer (1991). While the two authors argue explicitly against an account in the SM framework just discussed, I will show that their arguments against a SM treatment of the data in questions does not go through.

As a reminder, Kratzer (1991) discussed examples like (38), in which a focus in the main clause serves as antecedent for an elided focus in the *because*-clause. As Kratzer points out, this type of example is problematic in the AS account, since it predicts all the possible focus alternatives given in (39), due to the fact that the two foci can vary independently. However, the only two alternatives generated are (39a) and (39d).

(38) What a copycat you are! You went to Block Island because I did, and you went to Tanglewood because I did.
   a. No, I **only** went to TANGlewood$_F$ because you did Δ.
   b. No, I **only** went to TANGlewood$_F$ because you went to TANGlewood$_F$.

(39) a. I went to Block Island because you went to Block Island.
b. I went to Block Island because you went to Tanglewood.
c. I went to Tanglewood because you went to Block Island.
d. I went to Tanglewood because you went to Tanglewood.

Kratzer proposes to enhance Rooth's theory by indexing the foci, so that both foci in (38) receive the same index and therefore co-vary. Note that the SM account as presented above cannot account for (38–39) either, as again, there is no way to enforce co-variation of the two foci.

Erlewine & Kotek (2018) take a different approach towards data like (38) and their account is based on two main assumptions: First, there is no actual focus in the second clause but simply a free variable (which is actually much more consistent with theories of focus, as mentioned in footnote 7). Second the focussed constituent in the main clause moves into the complement position of *only*. This movement, similar to QR, leads to the adjunction of a λ-binder below *only* which simply binds the variable in the base position of the focussed constituent as well as the free variable in the second clause. The representation for this is given in (40) from Erlewine & Kotek (2018: 448). The first occurrence of x in (40) is the trace of the LF movement of *Tanglewood* into the complement position of *only*, the second occurrence is a free variable.

(40) only ([Tanglewood]$_F$) (λx. I [$_{\text{antecedent}}$ go to x] because you [$_{\text{ellipsis}}$ go to x])

This analysis carries over to examples in which the focus and the free variable are contained inside islands as discussed in Kratzer (1991: 831). As discussed above, in such cases, it is the whole island containing the focus that moves, as shown with the LF in (42) for the example in (41a).

(41) You always contact every responsible person before me.
a. No, I only contacted [the person who chairs [the Zoning Board]$_F$] before you did Δ.

(42) only ([the person who chairs [the Zoning Board]$_F$]) (λx. I [$_{\text{antecedent}}$ contact x] before you [$_{\text{ellipsis}}$ contact x])

Importantly in (42), the variable x is restricted similarly in both cases, the one introduced by movement in the antecedent and the free one in the ellipsis site, namely to ranging over individuals chairing organizations. This becomes relevant when Erlewine & Kotek (2018: 451) start to argue that their approach is superior to Kratzer's co-indexation idea. Consider the context and example in (43), under the indicated reading.

(43) Our son speaks Spanish, French, and Mandarin. At one point we hired a nanny that happened to speak French, but that wasn't why we hired her. Another time, we hired a nanny that spoke Mandarin, but that too was a coincidence …
#We only hired [$_{island}$ a nanny that speaks [Spanish]$_F$] because our son does Δ.
intended reading: 'Spanish is the only language x such that we hired a nanny that speaks x because our son speaks x.'

Kratzer predicts the intended reading of (43) to be possible, contrary to what is observed. Co-indexing the two foci should ensure that they co-vary, both representing the same value of the alternative set A = {French, Mandarin, Spanish}, as this system was explicitly designed to enforce identity of different foci independent of syntactic restrictions. In addition, it is also not possible to account for the absence of the intended reading in a SM account. As Krifka (2006: 7) points out, SM can handle cases like (38a) only by assuming that *only* associates with both foci, and it is not clear why this would be possible for (38a) but not for (43). In contrast, (43) is predicted by Erlewine & Kotek (2018), based on the incompatibility of the variable introduced by the focus movement and the free variable in the ellipsis site. Consider the LF structure corresponding to (43) in (44).

(44) only ([a nanny that speaks [Spanish]$_F$])(λx. we hire x because our son [$_{ellipsis}$ speak x])

In (44) it becomes obvious that the variable introduced by focus movement ranges over different nannys, while the free variable in the ellipsis site, as object of the verb *speak*, ranges over different languages. Consequently, the λ-binder introduced by the covert movement of the island containing the focus cannot bind both variables at the same time, making the intended reading impossible.

In contrast to what is argued in Erlewine & Kotek (2018: 458) I do not assume that (43) is a problem for the SM approach, because the unavailability of the desired reading is not due to problems of variable binding but due to restrictions and ellipsis antecedents. Following the argument in Bassi & Longenbaugh (2019), who in turn base their argument on Hardt & Romero (2004), it is assumed that the VP in the relative clause containing the focus does not provide a possible antecedent for the ellipsis, due to the lack of the appropriate structural relation.[95] This becomes obvious when similar cases without association wit focus are considered, for Example (45), from Bassi & Longenbaugh (2019: 7).

95. This is a strong simplification of their argument. Based on Hardt & Romero (2004), the authors argue that c-command between antecedent and ellipsis site needs to hold in the relevant discourse tree, which it does not, due to the position the relative clause is merged under the CAUSE relation.

(45) ??We hired a nanny [who speaks Spanish] because our son does ~~speak Spanish~~.

The other arguments that Bassi & Longenbaugh (2019) present against Erlewine & Kotek (2018) are intended to show that focus movement combined with subsequent binding of two variables by the λ-binder introduced by focus movement is not superior to Kratzer's account of co-indexation, without explicitly dismissing a movement account. Above, it was argued based on Drubig (1994) and Wagner (2006) that there is a significant amount of independent evidence for movement of the focussed constituent, so that it can be concluded that a SM approach is compatible with the data presented in this section.

One important question that remains is how to treat the occurrence of focus inside the ellipsis. Erlewine & Kotek (2018) do not assume that the ellipsis actually contains a second focus, but simply a free variable that is bound by the same λ-binder as the variable introduced by focus movement. This approach ensures identity between the two values of the variable without any co-indexation or the focus particle having to associate with both elements at the same time. However, this requirement is too strong. The λ-binder enforces complete identity of the variables, but cases of bound pronouns show that in addition to strict identity, sloppy identity is possible as well (47).

(46) A: What did you do over the summer? I was extremely busy visiting tons of people.
B: I always take you as an example, but didn't do that much, …
I only visited [my SISter]$_F$ because you did Δ.

(47) a. Strict reading: I only visited my sister because you visited **my** sister.
b. Sloppy reading: I only visited my sister because you visited **your** sister.

Consequently, the assumption of Erlewine & Kotek (2018) makes the wrong prediction, the variable in the ellipsis site cannot (always) be bound by the same λ-binder as the variable created by focus movement. As the strict/sloppy ambiguity is a typical property of elided pronouns, I will assume that the interpretation of the ellipsis site is due to general constraints on ellipsis, namely an identity condition between the elided constituent and its antecedent.[96] Thus, the interpretation of the elided element will always depend on its antecedent, which in the case of focus alternatives predicts that the focus and the corresponding element in the ellipsis will correspond to the same alternative, deriving the data discussed by Kratzer (1991) and Erlewine & Kotek (2018).

96. I remain uncommitted to the particular formulation of the identity condition, as as long as it involves a semantic component. A semantic identity condition still allows for a strict/sloppy identity ambiguity (Tancredi 1992). See Merchant (2019) for an overview.

I conclude that a Structured Meaning approach towards association with focus is able to account for all the association data encountered so far. In addition, it has also become clear that association with focus is sensitive to syntactic structure, concretely to islands. The SM account as presented by Krifka (2006) acknowledges this and consequently assumes LF movement, restricted similarly to overt movement, of the focussed constituent into a position adjacent to only. When combined with certain assumptions about ellipsis, the SM account is also able to derive the various complex association patterns discussed by Kratzer (1991) and Erlewine & Kotek (2018). In the next section, I will present an alternative analysis, in which the sensitivity to syntactic structure will not be accounted for by LF movement but by AGREE between focus features.

7.5 Agreement-based association with focus

In this section, I will develop a syntactic approach to association with focus which is based on agreement. Before turning to the proposal, however, I briefly summarize the main points that have emerged from the discussion above. First, association with focus is sensitive to syntactic structure in that foci contained in island restrict association patterns. Second, Structured Meaning approaches to association with focus appear to be better suited to account for the data, as the semantics of focus sensitive particles in this system directly accesses the focussed constituent. If combined with the idea of LF movement of the focussed constituent, this can account for the impact of syntactic structure. Third, in addition to the focus sensitive particle, the focus head in the CP periphery of the clause also interacts with the focus, and if a focus particle is present, it is part of this interaction.[97]

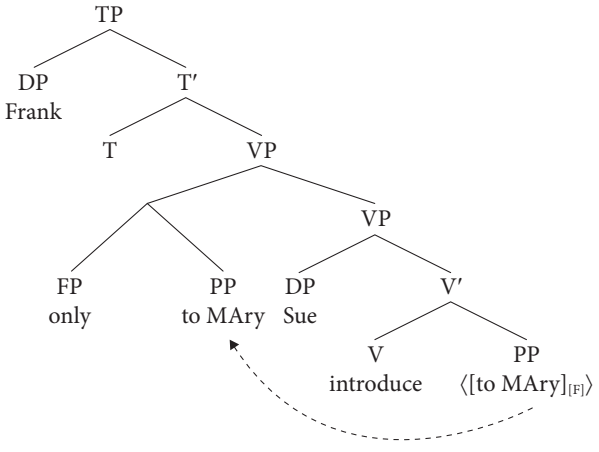
The assumption of LF movement of the focussed constituent is problematic from a syntactic point of view. On the one hand, it is argued that this movement is subject to similar restrictions as overt movement, i.e. islands, on the other hand, the movement violates several well known syntactic constraints. As the structure in (49) shows, the movement violates the extension condition (it does not extend the tree and the root node), and the landing site does not c-command the base position of the moved element.

(48) Frank only introduced Sue to [MAry]$_F$.

97. If the idea of moving the focus part in a structured meaning account into a position adjacent to the operator is taken seriously, this would actually require the whole string starting with *only* to move on LF into a position adjacent to the Foc-head in the left periphery. As far as I know, no proponent of the SM account has argued for this.

It also needs to be pointed out that this type of LF movement is fundamentally different from QR, another instance of LF movement. While QR has a detectable semantic effect in that it creates different scope possibilities for quantifiers resulting in different readings, focus movement simply serves to create the correct structural configuration for the focus particle to be interpreted, meaning it does not have a detectable semantic effect by itself.

(49)



From a theoretical perspective, since AGREE (Chomsky 2000, 2001) is a necessary part of the computational system, covert movement is unnecessary in most cases, especially in those in which it only serves to create a particular kind of structure and does not have any semantic effect by itself. This is exactly what is proposed in the next subsection, an account of association with focus that involves the focussed constituent, the focus particle and the focus head in the left periphery of the clause, and connects them via AGREE instead of LF movement.

7.5.1 Agreement based association with focus

In this subsection, I outline my approach to association with focus based on syntactic agreement of focus features. I assume that all elements that participate in the agreement process on which association with focus is based do so due to unvalued focus features. The feature configurations of the respective elements are given in (50).

(50) **Feature configurations**[98]
- a. Focussed XP: [uF:val]
- b. FP:[uF: □]
- c. Foc: [iFoc: □]

98. □ indicates that the feature is initially unvalued.

Following Pesetsky & Torrego (2007) I assume that possible feature configurations are not restricted to valued interpretable and unvalued uninterpretable features, respectively, but that all combinations of valued-unvalued and interpretable-uninterpretable are possible, as discussed in Chapter 2. I assume that the focused element carries a valued but uninterpretable focus feature [*uF:val*]. This focus feature is part of narrow syntax (*pace* Fanselow & Lenertová 2011; López 2009, following Jackendoff 1972 and others) and most likely assigned to an element in the numeration (Breul 2004; Aboh 2010). Furthermore, this feature is able to project (Selkirk 1995a) so that certain feature placements can lead to ambiguities. Even though assuming that the focus feature on the focused element is uninterpretable despite being in the position in which focus is marked, might seem counterintuitive, it follows from its actual contribution. As discussed above, focussing different elements in the same sentence does not change its truth conditions so that the focus feature as such does not seem to have any semantic impact, leading to the assumption that it is uninterpretable. Phonologically, on the other hand, the feature does have an impact, since, at least in languages like English or German, it leads to a specific accent pattern.

For the focus feature of the focus sensitive particle, I assume that it is an unvalued uninterpretable instance of the focus feature, [*uF*: □]. Being unvalued makes the feature active as a probe. I assume that the feature is uninterpretable as its truth-conditional impact is due to the semantics of the focus particle and not due to the focus directly. The uninterpretable focus feature of the FP simply enables the particle to establish the necessary connection with the focussed constituent for a successful interpretation.

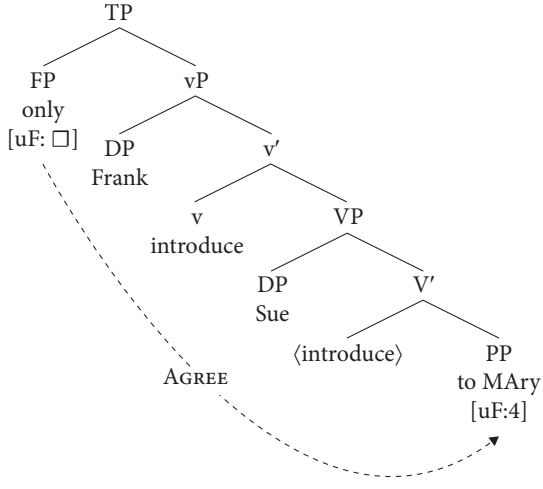
In addition to the focus features of the focused constituent and the focus sensitive particle, one more focus feature is involved in the agreement process, the focus feature of the *Foc* head in the left periphery, following Rizzi (1997). The focus feature of the head of the FocP in the left periphery is the position in which the focus, without any focus sensitive particle, has a semantic/pragmatic impact in modifying the speech-act operator as discussed above, following Jacobs (1984). The feature is therefore interpretable, but unvalued, as the value is provided by the focussed constituent. The selection of the uninterpretable valued focus feature that is combined with the focussed constituent automatically triggers the selection of this interpretable unvalued focus feature (see Zeijlstra 2014 for a general discussion of this based on learnability). The interpretable focus feature ends up projecting the focus phrase in the CP, which reflects the insight of Rizzi (1997) that information structural projections are only projected when needed.

A sample derivation for the sentence in (51) is provided below. Initially, the focussed DP is merged in its base position inside the *vP*, carrying a valued but uninterpretable focus feature. After the *vP* is built, the focus sensitive particle is

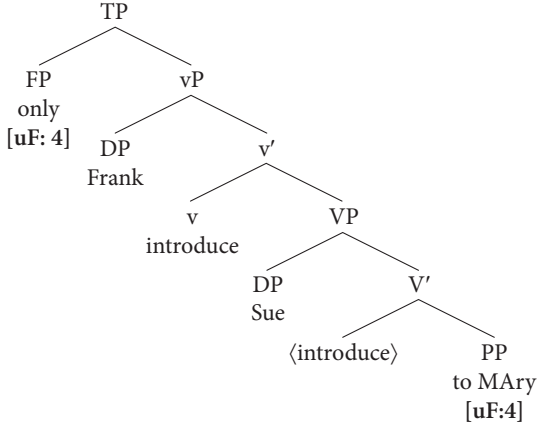
merged as an adjunct to the *vP* and, due to carrying an unvalued interpretable focus feature, probes in its c-command domain for a valued instance of the focus feature and agrees with the focus feature on the focused element.[99]

(51) Frank only introduced Sue to [MAry]$_F$.

(52)



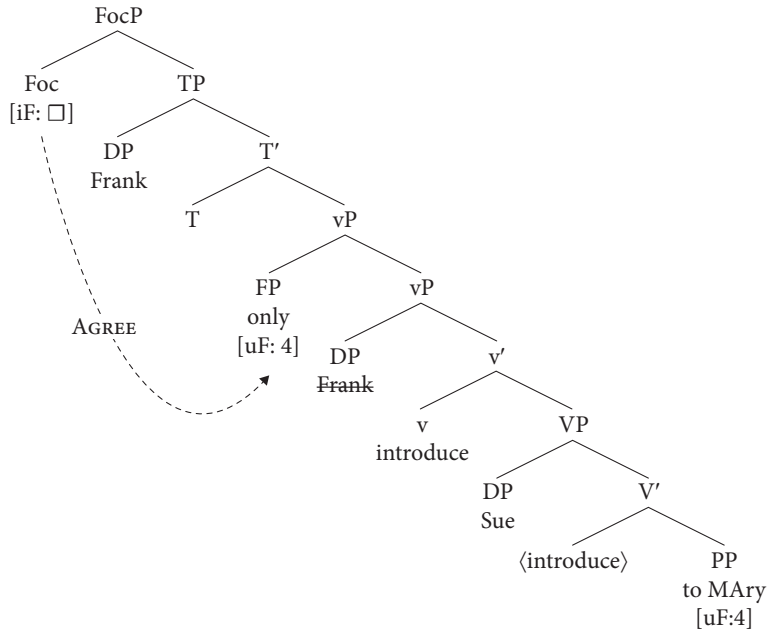
(53)



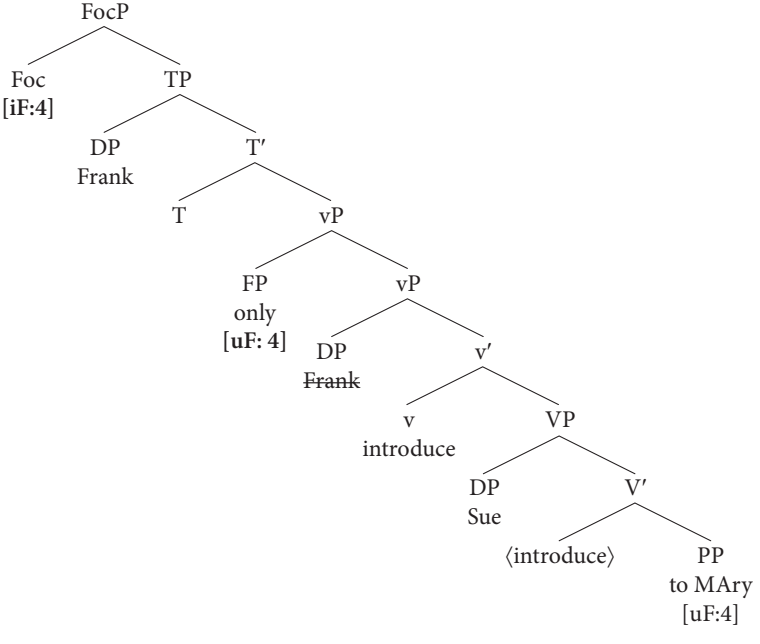
After the usual derivational steps have taken place, most importantly subject movement to spec-TP, the focus head in the left periphery of the clause is merged, and, as discussed above, carries an unvalued but interpretable focus feature. Due to this feature, the head probes and agrees with the valued but uninterpretable focus feature of the focus particle, as this is the closes focus feature in its c-command domain, as shown in (54) and (55).

99. Thus, the focus sensitive particle takes two arguments, its syntactic complement and the focused constituent, following the structured meaning approach to focus.

(54)



(55)



Agreement provides a simple way to ensure that the focus particle and the focus head have direct access to the meaning of the focussed constituent, as required by a Structured Meaning account of association with focus. The operation of AGREE

is one of the key components of syntactic structure building, and, as I have argued extensively in several chapter of this work, information-structural features also participate in agreement relations. Consequently, agreement provides a much more natural way to connect focus particle, focus head and focussed constituent than syntactically questionable LF movement.

The island sensitivity of association with focus also follows directly from this approach. Remember that when the focus is contained inside an island, the whole island associates with the focus particle (Drubig 1994), as discussed in section above, and shown again in (56).

(56) a. *Peter **only** talked to the man who had mentioned [SUE]$_F$.
b. Peter **only** talked to [the man who had mentioned SUE]$_F$.

Even though it still remain unclear what turns certain constituents into islands, what is clear is that agreement is subject to the same locality restrictions as movement (*pace* Bošković 2007), and consequently, the focus particle cannot agree with a focus inside an island. The data seem to suggest that instead, the focus particle agree with the whole island, as the island then serves as associated focus. This presupposes that the island has a FocP in its periphery which is accessible from outside the island and whose focus head serves as agreement goal for the focus sensitive particle.[100] I have argued in Chapter 3 that information structural projection in the edge of CPs can serve as agreement goal for higher probes, so a similar assumption about the periphery of islands might be reasonable.

All in all, the proposal in this section might appear like a trivial modification of the Structured Meaning account of Krifka (2006). Nevertheless, the analysis presented here achieves several goals, disposing of syntactically questionable LF movement and replacing it with the standardly assumed AGREE operation. Especially in light of the discussion in the previous chapters, syntactic agreement relations based on information-structural features are expected to occur in cases where information-structural information plays a role in different, non-adjacent positions in the syntactic structure.

Before closing this chapter, I want to briefly discuss a recent comparable proposal by Quek & Hirsch (2017), pointing out some important differences.

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100. This is again somewhat simplified. As I argued in the older published version of this chapter (Mursell 2016), and alluded to in footnote (9), an illocutionary operator might be present in the left periphery and participating the the agreement relations. Connecting this with an operator movement account of factive complement clauses as proposed by Haegeman & Ürögdi (2010) and Haegeman (2012) might be a possibility to account for the presence of information structural information in the periphery of islands.

7.5.2 Split only: Quek & Hirsch (2017)

Based on the observation that both sentences in (57) have a very similar interpretation and the ambiguity of (58, their ex. 4),[101] Quek & Hirsch (2017) present a theory for *only* comparable with what I have argued for in the last section.

(57) a. John only learned [SPAnish]$_F$.
b. John learned only [SPAnish]$_F$.

(58) Your are required to learn only [SPAnish]$_F$.
a. The requirement is that you learn only Spanish.
b. The only requirement is that you learn Spanish.

The two authors now propose the structure represented in (59) to account for this. They assume that the contribution of *only* is split across two heads, one adjacent to the focussed constituent and one directly dominating the vP. They represent the operator meaning as operator feature [ONLY], of which the lower head carries an interpretable but valued instance and the higher head carries an unvalued but interpretable one.

(59) $[_{TP}$ John$_i$ $[$Op$_{[iONLY()]}$ $[_{vP}$ t$_i$ learned $[$F$_{[uONLY(+)]}$ $[_{DP}$ one language$]]]]]$

The two heads enter into an agreement relation, by which the lower head values the operator feature on the higher head, represented here by the shared value +.

(60) $[_{TP}$ John$_i$ $[$Op$_{[iONLY(+)]}$ $[_{vP}$ t$_i$ learned $[$F$_{[uONLY(+)]}$ $[_{DP}$ one language$]]]]]$

Importantly, even though both heads can be phonologically realized as *only* as long as it is only one in English, the interpretation is always provided by the higher head, Op in (59) and (60). This proposal is remarkably similar to the approach I have developed above: The interpretable instance of the relevant features is not the focus itself, as the focus host an uninterpretable but valued feature, and simply provides the value for the interpretable instance of the feature higher in the structure. In addition, both features are connected by agreement.[102] Besides several minor differences, the most important variation between their account and the one presented in this chapter is the position of the interpretable instance of the feature. As can be seen in (59) and (60), the two authors assume that the interpretable feature is part of a head directly above the vP. The main reason for this assumption is that they claim

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101. I discuss cases like this in more detail in the next chapter.

102. Quek & Hirsch (2017) situate their account in the Alterative Semantics tradition. From a purely semantic perspective, agreement between the two features is not necessary in their account.

that *only* can be inserted on PF either into the position of the higher or the lower relevant head, so that the different positions of *only* visible in (57) directly follow from the position of the heads. In contrast, I assumed that the interpretable instance of the focus feature is in the left periphery of the clause, on the focus head in the CP domain. The theoretical reason for this was the assumption that the interpretable instance of the focus feature is selected as soon as the uninterpretable instance is selected and combined with the focussed constituent. This interpretable instance of the feature then ends up projection the FocP in the left periphery, making it possible to account for the optional presence of a FocP depending on whether or not the clause contains a focus.

In addition to this theoretical reason, there is also an empirical reason to assume such a high position for the interpretable focus feature. As I will discuss in some more detail in the next chapter, focus particles usually take widest scope. However, as soon as another scope-bearing element is present, the particle is restricted to surface scope with respect to the other scoping element. To illustrate this, consider the examples in (61) and (62) from Jacobs (1983: 14). In both cases the reading indicated corresponds to the surface scope and is the only reading possible.

(61) a. Peter wollte nur mit jemandem FLIRten.
Peter wanted only with somebody flirt
'Peter only wanted to flirt with someone.'
b. It was only the case that Peter wanted to FLIRT with someone.

(62) a. Peter wollte mit jemandem nur FLIRten.
Peter wanted with someone only flirt
'Peter only wanted to flirt with someone.'
b. There is someone with whom Peter only wanted to FLIRT.

While a position directly dominating vP for the interpretable instance might be compatible with the observation that FPs usually take widest scope, it is incompatible with the data in (61). If the interpretable instance of the feature was directly above the vP, it should be possible to move the lower quantifier above *only* via QR, as QR targets at least spec-TP (Stefan Hinterwimmer, p.c.). Consequently, an interpretable feature directly above the vP predicts ambiguity with respect to scope when *only* c-commands another quantifier. This is not the case as shown by (61). This suggests that the assumed position of the interpretable feature of Quek & Hirsch (2017) is too low, which in turn supports the analysis presented in the last section.

7.6 Conclusion

In this chapter, I have extended the idea of agreement of information-structural features to association with focus. Previously, I have discussed various cases in which information-structural features in one way or the other influence ϕ-feature agreement. This is different for association with focus, as no ϕ-features play a role. Instead, I used agreement to provide the focus sensitive particle with direct access to the focussed constituent. This is a necessary component of Structured Meaning approach to association with focus, which is superior to the Alternative Semantics approach, due to the sensitivity to the syntactic structure of the former, as I have argued extensively above. Combining the SM account with the idea of Drubig (1994) that when focus is contained inside an island, the whole island is treated as the focussed constituent, lead to the assumption that in cases where *only* associates with a focus inside an island, it as actually the whole island that moves on LF into a position adjacent to *only*.

In the approach I developed, LF movement was replaced with AGREE, as this provided the same effect, direct access of the FP to the focussed constituent, without the problems that come with the assumption of LF movement to create the structure necessary for interpretation. The agreement process involves three distinct instances of the focus feature. The focused constituent carries a valued but uninterpretable focus feature, which serves as agreement goal for the focus sensitive particle that probes because it carries an unvalued uninterpretable focus feature. Lastly, the focus head, the head of the FocP in the left periphery of the clause carries an interpretable but unvalued focus feature, probes, and agrees with the now valued uninterpretable focus feature of the focus sensitive particle.

I argued that this account, taken together with standardly assumed ideas of ellipsis, is also sufficient to account for the so-called *Tanglewood*-cases introduced into the discussion by Kratzer (1991) and that more complicated data involving ellipsis as presented by Erlewine & Kotek (2018) cannot be taken as counter-evidence to a Structured Meaning account of association with focus. Lastly, I briefly compared the account to a similar proposal by Quek & Hirsch (2017), arguing based on data from quantifier raising that a high interpretable instance of a focus feature is preferable to a lower one.

Analyzing association with focus as based on agreement of information-structural features has various interesting effects. It offers, for example, a possible alternative analysis to intervention effects, also based on agreement. The typical configuration for an intervention effect is given in (63), with a concrete example from German in (64) (Beck 2006).

(63) *[Q_i [… [intervener XP_F [… wh-phrase$_i$ …]]]]

(64) *Wem hat **nur** [PEter]$_F$ was gegeben?
whom has only Peter what given
int: 'Whom did only Peter give what?'

If a focus sensitive particle and its associated focus intervene between the wh-licensing head in the left periphery and a low, in-situ wh-element, the structure cannot be interpreted as a wh question. However, interpretation of the low wh-element as indefinite rescues the structure. Beck's analysis of this phenomenon is semantic, with *only* basically closing off the alternatives provided by the low wh-element. However, if it is assumed that the licensing relation between left peripheral head and wh-element involves an agreement relation based on focus features (Breul 2004; Haida 2007), the intervention effect can be analysed as a Relativized Minimality effect (Rizzi 1990; Starke 2001), as *only* simply provides a closer, valued instance of a focus feature. More work on a syntactic analysis of intervention effects is needed.

Another possibly fruitful research to pursue from here is to investigate focus sensitive particles corresponding to *only*, i.e. exclusive particles/markers, and compare their behavior to the English one. Especially after the discussion in the previous chapters, it is expected that exclusive particles should be able to interact with the ϕ-features of their associated constituent. A case in point is discussed in Hartmann & Zimmermann (2007) for Hausa, where the exclusive particle is sensitive to the gender of the associated constituent, and is realized as *cee* for feminine singular associated elements and *nee* in all other cases.

The brief outlook on possible future research closes this chapter. The next chapter will also be concerned with association with focus, but more specifically with German, where the discussion of AwF has mostly revolved around the question of possible adjunction sites for the particles.

CHAPTER 8

Association with focus in German

After having discussed association with focus in general in the last section, arguing for a syntactic approach mostly based on data from English, this section will be concerned with this phenomenon in German. As will become clear in this section, association with focus in German differs in interesting and non-trivial ways from association with focus in English. The approach to be developed here closely follows the one outlined in Büring & Hartmann (2001), combining it with the general idea of association as based on an agreement relation of focus features laid out in the last section. In brief, the main differences between German and English when it comes to AwF are the possible adjunction sites of the focus sensitive particles. While in English, FPs can be adjoined to various different kinds of constituents, their adjunction in German is mostly restricted to extended verbal projections (EVPs). I will briefly explore reasons for this difference at the end of the chapter. The main part of the discussion, however, will be concerned with defending the analysis of Büring & Hartmann (2001) against recent and not so recent criticism and showing that despite the differences in adjunction sites, an agreement-based analysis similar to the English one developed in the last section can be applied to the German data.

In order to achieve all this, after a short introduction, I will start by presenting the theory of Büring & Hartmann (2001), going through the arguments they adduce in favour of their *adverbial only* analysis of association with focus. At the end of this section, I will pay particular attention to FPs adjoined to CPs and argue that their initial approach is not in need of modification, contrary to what they discuss in the paper. Even though the focus is on the approach of Büring & Hartmann (2001) in this chapter, in Section §3 two alternative proposals, Bayer (1996) and Sudhoff (2010), will be discussed briefly. Against this background, in §4, I will then discuss the criticism of the approach by Büring & Hartmann presented in Reis (2005), showing that most of her points do not withstand closer scrutiny. A second, more recent, critical paper will be discussed in Section §5, namely the discussion of reconstruction effects with AwF presented in Smeets & Wagner (2018). Similar to the discussion around Reis (2005), the paper by Smeets & Wagner (2018), while making very valid points, does not actually contain convincing arguments against the approach of Büring & Hartmann (2001). After this discussion, a syntactic analysis of association with focus in German will be presented in Section §6, closely following the analysis for English from the last chapter, speculating on why

extended verbal projections might be preferred adjunction positions compared to adjunction to other projections. I will finish the section by returning to English in §7, arguing that a more careful look at the English data is necessary, as several adjunction restrictions that hold for German also seem to be valid in English. Section §8 concludes this chapter.

8.1 Introduction

Similar to English, German hosts a large number of different focus sensitive particles and adverbs, which have received a considerable amount of attention in the literature over the last 50 years. Many older works take a more descriptive approach towards the topic, mostly collecting all the possible environments and uses of the particles (Altmann 1976, 1978; König 1991a, b, 1993), while some more theoretical works can also be found (Jacobs 1983, 1986; Bayer 1996).

As this chapter is not intended to present a comprehensive overview over previous research on focus particles in German, I will not discuss older descriptive literature and will also be selective about the older theoretical literature I discuss. The interested reader is referred to the excellent summary in Sudhoff (2010). As the approach of Büring & Hartmann (2001) draws significantly from Jacobs (1983, 1986) this will naturally be part of the discussion in the next section. Section §4 will also feature a short discussion of Bayer (1996), as his monograph provides one of the few competing proposals to Büring & Hartmann (2001) for association with focus in German that are worked out in enough detail that a comparison is possible.

After having restricted the background literature, a delineation of the empirical scope of this chapter is also in order. Similar to the last chapter about association with focus in English, the discussion of association with focus in German will concentrate on *nur*, the German counterpart to 'only'.[103] The exclusion of other FPs in German has two main reasons. First, much of the theoretical literature on AwF in German focusses on *nur*, warranting a similar restriction here. The second reason is simply the reason of space. As this chapter is meant as an illustration of how an agreement-based account of information structure can be applied to account for phenomena involving focus, exemplifying this for one focus particle appears to be

103. It is important to note that *nur* and 'only' are not completely equivalent. There is at least one use of 'only' that is not shared by *nur*, namely the DP-internal use of 'only' with the approximate meaning of 'the single'. This can be seen in (i).

(i) sein einziger Freund
his only friend
'his only friend'

sufficient for the argument. In addition, it is very unlikely that all focus particles behave alike, which is already confirmed by the different contributions of 'only' and 'also' (semantic and pragmatic, respectively), as well as in the detailed study of Beaver & Clark (2008). Consequently, while I of course hope that certain generalizations will carry over to other focus particles and focus sensitive elements (for a similar account for Discourse Particles, see Egg & Mursell 2017), this is in no way guaranteed, and much more work is needed.

In the following discussion, I will, parallel to Büring & Hartmann (2001) not only exclude other focus particles, but also exclude certain types of data containing *nur* that have been discussed in the literature, namely data in which *nur* follows its associated element, like (1).

(1) PEter nur ging ins Kino.
Peter only went to.the cinema
'Only Peter went to the cinema.'

The reason for the exclusion of this type of data is that all of my informants, on whose intuitions most of the judgments in this chapter are based, judge uses of *only* like (1) either ungrammatical or extremely archaic. In addition, initial corpus data from the DeReKo corpus (Das Deutsche Referenzkorpus 2020) suggest that the majority of cases of post-posed *only* involve co-occurrence with a numeral like (2), which in turn suggests that the pattern is not fully productive anymore.[104]

(2) Vier Stunden nur hat das Seminar gedauert.
four hours only has the seminar lasted
'The seminar lasted for only four hours.'

Of course, again more work on this topic is needed, as the differences in grammaticality might be due to various reasons, for example dialectal variation. I am aware that dismissing data like (2) from the discussion also removes an important argument against the analysis of Büring & Hartmann (2001), as it is impossible to provide an analysis of (2) compatible with what they propose. However, as I do not claim to develop a theory of association with focus that holds for all languages and variation

104. The exact search-term used was `(MORPH(N) /+w1 nur) /+w1 (MORPH(V -INF -PCP) %-w1:1 (, ODER .))`, intended to collect all occurrences of post-posed *only* in the prefield (spec-CP) as this is the position most frequently discussed in the literature. The search produced 4889 hits which were manually checked and reduced to 262. Out of these 262 relevant occurrences, the pattern in 2 accounted for 141 or 53,8% of the hits. The second most frequent pattern involved was "Warum nur … ?" (*Why only … ?*) with 31 hits (11,8%), which was also judged acceptable by my informants. In total, out of the 262 relevant examples, only 18 can be analysed as genuine cases of XP-*nur*-V_{fin}. Even though the patterns discovered in the corpus warrant further investigation, the occurrence of post-posed *nur* in overwhelmingly fixed construction justifies an exclusion of this pattern from the general discussion of AwF in this chapter.

is easily possible and expected (see for example the difference between German and English), I feel confident in excluding data like these from the discussion.

Additionally, I will also exclude cases of stressed focus particles from the discussion, following many authors (but see Reis & Rosengren 1997 and Krifka 1998a for a discussion of stressed *auch* 'also', and Reis 2005 for a general discussion of this). Stressed FPs come in different variants, either carrying the main stress of the utterance themselves (3a), or receiving some type of secondary stress (3b).

(3) a. weil Peter AUCH kooperierte
because Peter also cooperated
'because Peter also cooperated' (Reis 2005: 460)

b. NUR MaRIA liebt KEIner.
only Maria loves nobody.NOM
'Only Mary was loved by nobody.' (Reis 2005: 478)

I will leave cases like (3a) aside as they appear to require a completely different analysis from the one built on the unstressed occurrences of the focus particles. This is of course not uncontroversial and again leads to the exclusion of certain theories, but as this type of data is not discussed in the works relevant here, I will follow the same approach. Data like (3b) will not be considered because in these instances, the focus particle and its associated constituent receive a type of intonation that is usually characteristic of contrastive topics (Büring 2003; Krifka 2008). Since contrastive topics arguably behave very differently from other information structural categories, their behavior does not help to shed light on the topic under discussion.

After having restricted the scope of this chapter considerably, a brief introduction to the data under consideration is in order, and some justification for why it is worthwhile to treat association with focus in German separately from the same phenomenon in English. Remember that in English, focus sensitive particles can be adjoined to various types of projections in different positions. This is shown in (4), where, under standard assumptions about English syntax, the FP is adjoined to the subject in spec-TP in (4a), the vP in (4b), to the indirect object in spec-VP in (4c), and to the direct object as the complement of V in (4d).

(4) a. Only FRANK has given Mary a present.
b. Frank has only given MAry a present.
c. Frank has given only MAry a present.
d. Frank has given Mary only a PREsent.

At first glance, FPs in German behave similarly. Consider the examples in (5), focussing on (5b), in which the FP seems to be adjoined to the indirect object similar to (4c).

(5) a. Nur FRANK hat Maria ein Geschenk gegeben.
only Frank has Maria a present given
'Only Frank has given Mary a present.'
b. Frank hat nur MaRIa ein Geschenk gegeben.
c. Frank hat Maria nur ein GeSCHENK gegeben.

However, the parallel behavior is only superficial. While the FP is rather uncontroversially attached to the DP in the English Example (4c), the attachment site is not easy to decide for the German case. Verbal projections below the CP (i.e. VP, vP and TP at the very least) are right-headed in German, so that (5b) is actually compatible with both structures in (6). In (6a), the FP is not attached to the indirect object DP in spec-VP but to the whole VP, while in (6b), the FP is attached directly to the DP, parallel to (4d). Linearly, the strings do not differ.

(6) a. [$_{CP}$ … [$_{VP}$ nur [$_{VP}$ MARIA ein Geschenk gegeben]]]
b. [$_{CP}$ … [$_{VP}$ [$_{DP}$ nur [$_{DP}$ MARIA]] ein Geschenk gegeben]]

That in German, similar to English, FPs can adjoin to VP is evidenced in (7). The FP is associated with the verb but not adjacent to it. For the necessary c-command relation between FP and associated element to be given, the FP must be adjoined to the VP (Büring & Hartmann 2001: 242).

(7) (…) weil man den Wagen nur in die Garage FAHren darf
because one the car only into the garage drive may
'… because you may only drive the car into the garage'

Based on the data just presented, two classes of analyses can be distinguished in the literature for association with focus in German. On the one hand, there are analyses that assume a more or less parallel behavior of FPs in English and German, and according to these analyses, it is possible to adjoin the FP to different types of projections, verbal or nominal. Proponents of such an analysis are for example Bayer (1996), Reis (2005), Sudhoff (2010), and Smeets & Wagner (2018) and I will call these types of analyses *m(ixed)-analyses*. On the other hand, certain analyses assume that adjunction of FPs is much more restricted in German than in English and only possible to extended verbal projections. This position is defended in Jacobs (1983, 1986) and Büring & Hartmann (2001), and I will refer to these analyses as *a(dverbial only)-analyses*.

In this chapter, I will argue for an a-analysis along the lines of Büring & Hartmann (2001), not just because a more restrictive theory of FP adjunction seems to be conceptually more appealing but also because such a theory is better equipped to handle the empirical facts of association with focus in German. In order to do so, I will first present the account of Büring & Hartmann (2001) in the next section.

8.2 AwF in German – Büring & Hartmann (2001)

In this section, I will start out by presenting the a-theory of Büring & Hartmann (2001) and the arguments they use to support their approach. Many of their syntactic arguments are based on Jacobs (1983) and those will be presented first, before I turn to the semantic arguments added by the two authors: the so-called *absence of ambiguity* argument and, afterwards, the important *no reconstruction* argument. This will then be followed by a subsection on some of the apparent problems of the approach, discussing, in turn, the justification for their idea of *Closeness*, the V3 problem, and lastly the behavior of argument CPs. The last point is especially important, as it leads the authors to a significant change to the approach discussed presently. However, I will argue, that this change is actually not necessary when taking a closer look at the data. The section will end with a brief discussion of other possible occurrences of focus particles.

8.2.1 The a-theory of Büring & Hartmann (2001)

The particle theory to be discussed in this section is given in (8).

(8) **The particle theory** (Büring & Hartmann 2001: 236)
   a. For any node α marked F in a phrase marker P, let the set of f-nodes of α consist of all nodes β in P such that
      i. β is an EP (extended projection) of some V γ
      ii. β is a maximal projection
      iii. β dominates α or is identical to α
      iv. there is no EP β' of γ such that β dominates β' and β' meets (8a–ii) and (8a–iii)
   b. A FP must be left-adjoined to an f-node of its focus.

Informally, (8a) defines a set of nodes, so-called *f-nodes*, onto which adjunction of the focus particle is permitted. Possible f-nodes need to fulfil four requirements as laid out in (8a), which I will briefly discuss here to make (8) more transparent, with a more in-depth discussion following in the subsequent subsections.

Property (8a–i) of f-nodes is the most controversial in this theory, as it restricts adjunction of FPs to extended verbal projections of a verb. Extended verbal projections (EVPs) for Büring & Hartmann are VP, TP, and CP, to which at least vP needs to be added.[105] I have nothing to say on this topic and simply follow Büring

105. Note that it is controversial to include CP in the list of extended verbal projections, since, even though it is on the same projection line as other verbal categories like TP, it has often been claimed that CPs have some nominal properties, in that they, for example, can trigger agreement. Thanks to Peter W. Smith (p.c.) for bringing this point to my attention.

& Hartmann in their assumption. Arguments in favor of (8a–i) will be presented in the following subsection. The next property of f-nodes, (8a–ii), restricts possible adjunction sites to maximal projections. I will not review their discussion on the prohibition of adjunction to non-maximal projections here and simply assume that in current syntactic theory, adjunction to non-maximal projection is prohibited independently and does not need to be justified. Property (8a–iii) is the well-known c-command condition between a FP and its associated focus, that states that (at least at some point in the structure) the focus particle needs to c-command its focus. And lastly, (8a–iv) requires the focus particle to be adjoined to the f-node that is as close to the focus as possible. This property has become known as *Closeness*, and I will discuss it explicitly at a later point.

After having introduced the a-theory of Büring & Hartmann (2001), I will now turn to arguments in favor of (8a–i), the assumption that FPs can only adjoin to extended verbal projections, in the next subsection.

8.2.2 Arguments for adjunction to EVPs

In this section, I will first discuss some syntactic arguments supporting the idea of adjunction to EVPs going back to the seminal work of Jacobs (1983), and afterwards turn to two more semantic arguments added by Büring & Hartmann (2001) to further support (8).

Jacobs (1983) presents two syntactic arguments in favor of FP adjunction to EVPs, the first one concerned with the absence of clear cases of nominal FP adjunction, the second concerned with the observation that FP and associated focussed DP do not form a constituent, even when adjacent. As shown above, adjunction of focus particles to DP-arguments of the verb is usually ambiguous between adjunction to the DP and adjunction to an extended verbal projection, due to the right-headed nature of these EVPs. There are contexts, however, where adjunction unambiguously targets the DP, namely when the DP is not an argument to the verb, but an argument to a preposition or another DP. Unsurprisingly, adjunction of FPs in these contexts leads to ungrammaticality.

Starting with cases of DPs as arguments to other DPs, consider the examples in (9). Certain nouns, mostly relational nouns like *father* or deverbal nouns like *driver* take other noun phrases as arguments. It is impossible to adjoin FPs to these nominal arguments.

(9) a. *der Bruder nur des GRAfen
the brother only of.the count
'the brother of only the count' (Büring & Hartmann 2001: 233)

b. *der Fahrer nur des WAgens
the driver only of.the car
'the driver only of the car'

Cases like (9) clearly show that as soon as the FP is unambiguously adjoined to a DP, the structure becomes ungrammatical. The same holds for NPs inside complex DPs, for example in constructions with the so-called *Saxon Genitive*. As shown in (10), the adjunction site as again unambiguously nominal, and the structure ungrammatical.

(10) *Peters nur Haus
Peter.GEN only house
'Peter's only house'

A second environment for which this behavior has already been observed by Jacobs (1983: 42) are DPs as complements to prepositions. Again, in these instances, adjunction is adjunction to a DP and cannot be analysed as adjunction to an extended verbal projection, and the structure is ungrammatical.

(11) *Luise wurde von nur ihrem ARZT vor dem Rauchen gewarnt.
Luise was by only her doctor against the smoking warned
'Luise was warned only by her doctor against smoking.'

While it would of course be possible for a mixed account of association with focus in German to simply stipulate that FPs are banned from environments like (9) and (11), these restrictions follow naturally from any type of a-theory, making such a theory better suited to account for the observable data.

A second argument supporting an a-analysis comes from the observation that even if the FP is associated with a DP argument of the verb and adjacent to it, those two do not form a constituent, and cases in which the FP is forced into constituency with its associated DP, the structure is ungrammatical or extremely degraded. Turning to the first part of the argument first, Jacobs (1983: 43–44) presents two pieces of data supporting the non-constituency of FP and adjacent associated FP. The example in (12) shows that in certain cases, the associated DP can be moved to the prefield in German, leaving the FP behind, which would be surprising if the two elements formed a constituent. While Jacobs presents an example with *auch* 'also', this is equally possible with *only*.[106]

106. Cases like (12) are very restricted in German, and moving the associated element is often not possible, see for Example (i). These exceptions appear to be related to a contrastive interpretation of the fronted constituent. For now, these cases will be disregarded in the following discussion but commented upon again in Section §6. For an extensive discussion of backwards

(12) a. Ihrem ARZT hat Luise auch ein Auto vermacht.
her doctor has Luise also a car bequeathed
'Luise has bequeathed also her doctor a car.' (Jacobs 1983: 43)
b. Der MENSCH interessiert ihn nur, (nicht die Arbeit).
the human interests him only not the work
'Only the human interests him, not the work.'

Similarly to the no-nominal adjunction argument presented above, if the FP is forced to unambiguously adjoin to a nominal argument of the verb, the structure becomes ungrammatical. This can be seen in (13), in which adjoining the FP to the second conjuncts leads to degraded acceptability. The judgements given are from Jacobs (1983: 45), while I would rate the sentence as ungrammatical.

(13) ??(dass) Peter und nur Luise sich in Straßburg trafen
that Peter and only Luise self in Straßburg met
'that Peter and only Luise met in Straßburg'

Jacobs extends this discussion also to FPs adjoined to CPs, whose discussion I will postpone to the next subsection, where CPs will be treated in more detail. Similarly, more environments like (13) will be discussed in the next subsection when tackling the V3 problem created by an a-analysis of FP adjunction.

To these more syntactic arguments, Büring & Hartmann (2001) add one semantic argument, the absence of reconstruction effects for FPs apparently adjoined to A′-moved constituents. In general, constituents that have been A′-moved are reconstructed for their interpretation, meaning that they are not interpreted in their derived position but in their base position. Consider the English example in (14). For the sake of the subject binding the anaphor (Principle A of the Binding Theory), the wh-phrase containing the anaphor needs to be interpreted below the subject, very likely in its base position as object. Thus, movement of wh-phrases to the spec-CP is A′-movement in English.

(14) [Which picture of himself$_1$]$_i$ does Frank$_1$ like t$_i$?

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association of *even* in English, the reader is referred to Erlewine (2014). In addition, the contrast between (12) and (i) might be related to a general subject-object asymmetry in German in that movement of the object to spec-CP is generally more marked than movement of the subject to spec-CP.

(i) *?Ein AUto hat er nur gekauft, kein Motorrad.
a car has he only bought not.a motorbike
'He only bought a car, not a motorbike.'

Applying the same test to topicalization (*Vorfeldbesetzung*) in German shows that again, the moved phrase must be interpreted low, at least lower than the subject in (15). In this example, under the strongly preferred interpretation, the quantified subjects binds the (variable of the) possessive pronoun. For this binding relation to be established, the subject needs to c-command the preposed object, meaning for interpretation the object is reconstructed. Similar to English above, this suggests that movement to spec-CP is A′-movement in German.

(15) [Seine$_1$ Frau]$_i$ liebt jeder Mann$_1$ t$_i$.
his wife.ACC loves every man
'Every man loves his wife.'

Now consider an example comparable to (15, from Büring & Hartmann 2001: 261) but with a focus particle as sentence-initial element.

(16) [Nur ein Bild von seiner$_1$ FRAU]$_i$ besitzt jeder Mann$_1$ t$_i$.
only a picture of his wife possesses every man
'Every man only possesses a picture of his wife.'

First note that the element in the prefield in (16) contains a possessive pronoun with the strong preferred interpretation of being bound by the quantified subject, similar to (15). To achieve this interpretation, reconstruction of the topicalized constituent into a position below the subject is necessary. The question that arises concerns the behavior of the focus particle in sentence-initial position. If the FP is attached to the DP in the prefield, as predicted by the m-theory, it should be able to reconstruct together with the DP. If the FP is attached to the CP, as predicted by the a-theory, only the DP should be able to reconstruct but not the FP. Carefully considering the possible readings of (16), given in (17), suggests the latter option. The FP is not interpreted below the quantified subject, meaning it does not reconstruct together with the topicalized DP, as predicted by the a-theory, and incompatible with the m-theory.[107]

(17) a. LF: only _ possesses every man$_1$ [a picture of his$_1$ wife]
'The only person every man possesses a picture of is his wife.'
b. *LF: _ possesses every man$_1$ [only a picture of his$_1$ wife]
'Every man only possesses a picture of his wife.'

In this subsection, I presented three arguments in favor of an adverbial-only analysis of AwF in German. The two syntactic arguments from Jacobs (1983) were

107. This of course presupposes an analysis of (16) as a V3 structure, something I will discuss in the next subsection.

concerned with the prohibition on unambiguous nominal adjunction and the lack of constituency, even if the FP is directly adjacent to its associated DP, respectively. The semantic argument added by Büring & Hartmann (2001) showed that against the predictions of the m-theory, a focus particle does not reconstruct together with its associated DP, meaning that the two elements do not form a constituent, even when directly adjacent and preceding the finite verb. In the next subsection, I discuss three arguments against the adverbial-only analysis presented by Büring & Hartmann (2001) and possible answers to these arguments.

8.2.3 Problems of the a-analysis

After finishing the last subsection with a semantic argument in favor of an a-analysis, this subsection commences with a semantic argument against such an analysis. Afterwards, I will discuss one important consequence of the a-analysis presented above, namely that German clauses with a focus particle in sentence-initial position need to be analysed as V3 clause, before turning to the behavior of argument CPs.

The first argument that has been adduced against an a-analysis of AwF is concerned with (apparent) quantifier raising of the FP, for which the FP needs to form a constituent with its associated DP. This argument goes back to the observation of Taglicht (1984) that if a FP+DP_{Foc} sequence occurs in a non-finite embedded clause in English, the FP can either take narrow scope in the embedded clause or wide scope above the matrix verb. This is exemplified in (18) from Büring & Hartmann (1995: 63) with the two readings given below the example, the narrow scope reading in (18a) and the wide scope reading in (18b).

(18) They were advised to play only Rock'n Roll.
   a. They were advised not to play anything but Rock'n Roll.
   b. The only advise they received was to play Rock'n Roll.

The ambiguity in (18) is due to the possibility of QR of the FP and its associated DP. For the narrow scope reading, no QR takes place (or only to the left edge of the embedded clause) and the FP is interpreted below the matrix verb. For the wide scope reading, the focus particle and the DP raise via QR into the matrix clause and adjoin to the TP, subsequently having the matrix verb in their scope.[108] For German, as discussed in Büring & Hartmann (1995, 2001), von Stechow (1991: 810) observes a similar ambiguity in examples like (19).

108. This problem finds a different explanation in the account presented in this chapter.

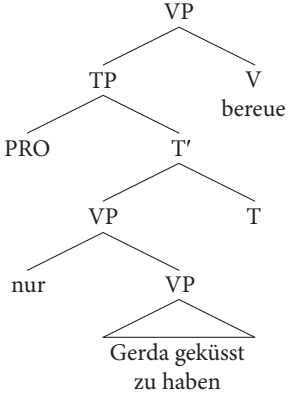
(19) (weil) ich nur GERda geküsst zu haben bereue
(because) I only Gerda kissed to have regret
'because I regret to have kissed only Gerda'
a. I regret that the only person I kissed was Gerda.
b. Only for Gerda do I regret to have kissed her.

The example in (19) again contains a FP with an associated DP inside a non-finite embedded clause. And again, the sentence is ambiguous. In the narrow scope reading, (19a), the FP takes scope inside the embedded clause, while in the wide scope reading (19b), it scopes above the matrix verb. Under a QR analysis of such data, this is only possible if the FP and its associated DP form a constituent which can then undergo QR, an assumption incompatible with an a-theory of AwF in German. In addition, von Stechow (1991) notes that when extraposed, the wide scope reading disappears, so that the examples in (20) lack the reading (19b).

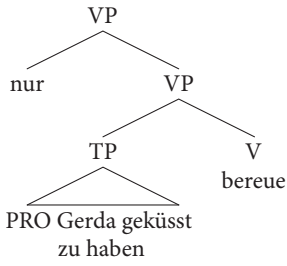
(20) a. (weil) ich es t_{TP} bereue [$_{TP}$ nur GERda geküsst zu haben]
because I it regret only Gerda kissed to have
'because I regret to have only kissed Gerda'
b. I regret that the only person I kissed was Gerda.
c. *Only for Gerda do I regret to have kissed her.

Discussing (19) first, the ambiguity can be accounted for without recourse to LF quantifier raising, and is simply due to the OV structure of German. The string in (19) is compatible with two adjunction sites for the FP, either the embedded VP, resulting in a narrow scope interpretation (21), or the matrix VP, resulting in a wide scope interpretation (22).

(21)



(22)



When the non-finite embedded clause is extraposed, and the FP is extraposed together with the clause, the sentence in (19) is disambiguated to the meaning represented by (21), as the FP is necessarily adjoined to the extraposed clause and cannot be part of the matrix clause due to the lack of the appropriate c-command relation in this position. A similar disambiguation is expected when the non-finite complement clause is topicalized in the matrix clause, and indeed, (23) shows that in this case, again only the narrow scope reading is possible.

(23) a. [$_{TP}$ nur GERda geküsst zu haben] bereue ich
only Gerda kissed to have regret I
'I regret to have only kissed Gerda'
b. I regret that the only person I kissed was Gerda.
c. *Only for Gerda do I regret to have kissed her.

Thus, the German data can be accounted for without the assumption of QR of a potential [$_{DP}$ FP DP] constituent, and the ambiguity of (19) does not constitute a counter-argument to the a-analysis of Büring & Hartmann (2001). At the same time, QR appears to be a valid explanation for the English case in (18), as in English, FP adjunction to DPs is possible. When presenting the analysis in Section §6, I will argue that QR is not needed in English either, contrary to Büring & Hartmann (2001).

A second problem for the a-analysis, the crucial problem that has often led to the outright dismissal of such an approach, is that it abandons the well-established V2 property of German declarative main clauses. As discussed at the end of the last subsection, sentence-initial FPs cannot be analysed as being adjoined to the constituent immediately preceding the finite verb, due to the prohibition of adjunction to DP, but must be analyzed as being adjoined to the CP, effectively as a second constituent preceding the finite verb.

Going back to, as far as I know, the works of den Besten (1983) and Thiersch (1978), the V2 property has been one of the cornerstones of Germanic syntax: in finite main clauses, only one constituent can precede the finite verb. In more modern terms, it is assumed that the finite verb in declarative main clauses moves to C, and only one position is available preceding it, namely spec-CP. However, there are several empirical and theoretical arguments showing that in certain cases, the V2 property is not without exceptions.

On the empirical side, several pieces of data suggest that more than one constituent can precede the finite verb in main clauses. Müller (2003, 2005) provides enough examples from corpora that the presence of V3 cannot be discounted as an accident but needs to be considered a viable possibility in German syntax. Importantly, the examples in (24) cannot easily be analyzed as vP/VP topicalization, and might show genuine cases of V3.

(24) a. [Zum zweiten Mal] [die Weltmeisterschaft] errang Clark 1965 …
for.the second time the championship gained Clark 1965 …
'Clark gained the championship for a second time in 1965 …'
b. [Die Kinder] [nach Stuttgart] sollst du bringen.
the kids to Stuttgart should you bring
'You should bring the kids to Stuttgart.'

Furthermore, Frey (2004) and Shaer & Frey (2004) discuss cases of V3 in which the sentence-initial full DP is co-referenced by a different element later in the clause, either by d-pronoun immediately following it (what they call *Left Dislocation*, 25a) or by a different element later in the clause (*Hanging Topic Left Dislocation*, 25b).

(25) a. Den Kaffee$_1$, den$_1$ trinkt Klaus gerne.
the coffee, it drinks Klaus gladly
'The coffee, Klaus drinks it gladly.'
b. Den Klaus$_1$, Peter hat ihn$_1$ gestern getroffen.
the Klaus Peter has him yesterday met
'Klaus, Peter met him yesterday.'

In addition to examples like (24) and (25), several other cases of complex prefields in German have been discussed in the literature, very often under the topic *Vorvorfeld* ('preprefield') (see, for example, Günthner 1999). Another, slightly different, instance of complex prefields is represented by so-called *weil-V2* clauses. In this type of clause, with an example in (26), the complementizer *weil* 'because', which is assumed to be in C, is followed by a V2 clause, which usually is analysed as having the finite verb in C (cf. Antomo & Steinbach 2010 and Reis 2013).

(26) Ich schaue morgen den neuen Star Wars, weil ich will den
I watch tomorrow the new Star Wars because I want it
unbedingt im Kino sehen.
badly in.the cinema see
'I'm going to watch the new Star Wars tomorrow because I really want to see in the cinema.'

Even though the analyses for these phenomena are far from clear, they at least show that the finite verb in German main clauses can be preceded by more than one constituent.

A third empirical argument in favor of [FP DP_{Foc} V_{fin}] being cases of V3 is presented by Büring & Hartmann (2001: 246). If a sequence of [FP DP_{Foc}] can occupy the prefield but not the assumed base position of the topicalized element, then [FP DP_{Foc}] cannot be a constituent, the FP was merged later, and thus the sentence needs to be analysed as V3. As already discussed above, FPs cannot be adjoined DP internally (27b). However, if a PP complement of a noun is topicalized, a focus particle can be adjoined (27a). This requires a V3 structure.

(27) a. Nur [$_{PP}$ vom GRAfen]$_i$ habe ich [$_{DP}$ jeden Sohn t_i] bewundert.
only of.the count have I every son admired
'I admired only the count's every son.'

b. *Ich habe [$_{DP}$ jeden Sohn nur vom GRAfen] bewundert.
I have every son only of.the count admired
'I admired only the count's every son.'

From a more theoretical perspective, it is well-established at least since Rizzi (1997) that the CP can host more than one information-structurally relevant projection. As the discussion of V3 in German in the context of this chapter involves exclusively V3-structures created by information-structurally marked elements, i.e. focus particles and their associated foci, the presence of V3 structures is not surprising.

The last problem for the a-analysis of Büring & Hartmann (2001) I want to discuss concerns the behavior of FPs adjoined to CPs and an apparent argument-adjunct asymmetry in this construction. This problem is also acknowledged by the authors and leads them to modify their a-analysis, given in (8a), significantly.

To sketch the problem, the a-theory so far predicts that sentence-initial FPs adjoined to CPs are ambiguous. On the one hand, it should be possible to adjoin them to the matrix CP, creating V3 structures as discussed above. On the other hand, because the CP is also an extended verbal projection in their definition of the term, attachment to the CP in the prefield should also be possible, contrasting topicalized CPs with other topicalized constituents. However, according to Büring & Hartmann (2001: 264), the latter option is out, as confirmed by the reconstruction data in (28). If the FP was indeed attached to the CP in the prefield, it should reconstruct together with it. That the CP reconstructs is evidenced by the subject quantifier in the matrix clause binding the subject variable of the embedded CP. Nevertheless, it is impossible for the FP to take low scope (28c).

(28) a. Nur [$_{CP}$ dass er$_1$ MarijuAna raucht]$_i$ versucht jeder$_1$ t$_i$ zu
only that he marijuana smokes tries everybody to
verheimlichen.
hide
'Everybody only tries to hide that he smokes marijuana.'

b. LF: only _ tries everybody$_1$ PRO to [that he$_1$ marijuana smokes] hide
The only thing that everybody tries to hide is that they smoke marijuana.

c. *LF: _ tries everybody$_1$ PRO to [only that he$_1$ marijuana smokes] hide
Everybody tries to only hide that they smoke marijuana.

Interestingly, looking at extraposed CPs, it appears to be the case that FPs can adjoin to adjunct CPs (29b), but not to argument CPs (29a).

(29) a. *Jeder versucht zu verheimlichen, nur dass er
everybody tries to hide only that he
MarijuAna raucht.
marijuana smokes
'Everybody only tries to hide that they smoke marijuana.'

b. Karl hat seine Fenster mit Styropor verklebt, nur damit er seine
Karl has his windows with styrofoam glued only so-as he his
Ruhe hat.
peace has
'Karl has glued his windows shut with styrofoam, just so that he has his peace.'

Büring & Hartmann (2001) hardwire this distinction into their a-analysis, and turn from restricting FP adjunction to extended verbal projections to restricting the adjunction to non-arguments. The updated (and their final) particle theory is given in (30), note the change in (30a–i).

(30) **The particle theory, version 2** (Büring & Hartmann 2001: 266)

a. For any node α marked F in a phrase marker P, let the set of f-nodes of α consist of all nodes β in P such that
   i. β is a non-argument
   ii. β is a maximal projection
   iii. β dominates α or is identical to α
   iv. there is no EP β' of γ such that β dominates β' and β' meets 30a–ii and 30a–iii

b. A FP must be left-adjoined to an f-node of its focus.

The advantage of an a-theory like (30) is that it apparently correctly rules out other cases of FPs adjoined to CP arguments, for example as arguments to nouns (31a) or adjectives (31b) (Büring & Hartmann 2001: 267).

(31) a. *[$_{DP}$ die Behauptung [nur [$_{CP}$ dass MARtha gekommen ist]]]
the claim only that Martha came is
'the claim (only) that Martha came'
b. *Ich bin [$_{AP}$ froh [nur [$_{CP}$ dass MARtha gekommen ist]]].
I am glad only that Martha came is
'I am glad (only) that Martha came.'

As will become clear when discussing the criticism of this a-theory in Reis (2005), relativizing the adjunction sites of FPs to non-arguments instead of extended verbal projections creates more problems than it solves. Instead, I want to focus on some data that seem to suggest that FPs actually can be attached to argument CPs, meaning (30a) presents an unnecessary modification of (8a). Ungrammatical cases of FPs adjoined to CPs improve significantly if the complementizer of the associated CP is stressed, and not a constituent lower in the embedded CP. In these cases, it is necessary to provide an appropriate context, as the alternatives induced by focus on the complementizer are much more restricted than focus alternatives of other elements.

(32) Context: We were at a party yesterday, and Frank was telling people stories about marijuana. But because it was so noisy, it was difficult to understand what he was saying, sometimes it sounded like he does not like smoking marijuana at all, sometimes it sounded like he does like it. Fortunately, Bill was closer to Frank the whole evening, and when I tell Bill about it the next day he says:
B: Frank hat den ganzen Abend erzählt, nur DASS er gerne
Frank has the whole evening told only that he likes
Marijuana raucht.
Marijuana smoke
'Frank told everybody the whole evening.'

If a more contentful complementizer is chosen, [$_{CP}$ FP CP] structures improve even further, as more alternatives to the complementizer are evoked.

(33) Frank wollte wissen, nur OB Maria heute überhaupt noch kommt,
Frank wanted know only if Maria today at.all still comes
nicht WANN sie kommt.
not when she comes
'Frank wanted to know only if Maria is coming at all today, not when she is coming.'

I will discuss the contrast between (32) and (29a) in detail when presenting the analysis in Section §3.6, and it will turn out that the culprit responsible for the ungrammaticality of (29a) is *Closeness* and not its argument status. For now, it suffices to emphasize that (32) and (33) show that FP adjunction to argument CPs is possible, and therefore (30a) should not be dependent on the argument-adjunction distinction, but the adjunction sites should remain restricted to EVPs.

In this subsection, I have discussed and dismissed three counter-arguments against the a-analysis of Büring & Hartmann (2001). Starting with cases of apparent QR, I have shown that the different scope possibilities of FPs in non-finite complement clauses does not presuppose the existence of [FP DP] constituents in German, in contrast to English. This was followed by the V3 property of German clauses that host a focus particle in sentence-initial position, and based on theoretical and empirical arguments, I have argued that this simply needs to be accepted as a property of German, just as Jacobs (1983) and Büring & Hartmann (2001) did. Lastly, I focussed on the behavior of FPs adjoined to CPs, more concretely, on the argument-adjunct asymmetry displayed by this pattern. I hope to have shown that there actually is no asymmetry, if a proper focus structure compatible with *Closeness* is considered. The most important consequence of this discussion is that the a-theory does not need to be relativized to the adjunct-argument distinction (30a), as argued for at the end of Büring & Hartmann (2001). Instead, I will assume that the appropriate restriction concerns adjunction to extended verbal projections as close to the focussed constituent as possible.

8.3 Two alternative accounts

In this section, I will discuss two alternative proposals, the mixed account of Bayer (1996) and the a-theory of Sudhoff (2010). I will keep this discussion short, as it is not supposed to present a comprehensive discussion of possible alternatives, but only to show that other approaches will focus on different subsets of data and how they account for the restrictions that follow naturally from the a-theory of Büring & Hartmann (2001). Another second reason for keeping this section short is that there are actually not many worked out m-theories of AwF in German.

8.3.1 Bayer (1996)

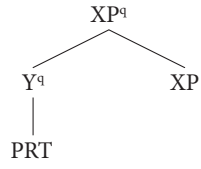
The first approach I discuss in this section is the m-approach of Bayer (1996). Bayer restricts the adjunction of FPs to maximal projections except IP/TP in English. His generalization (Bayer 1996: 13) is given in (34).

(34) Particles like *only, even* or German *nur, sogar, auch*, etc. may not attach to categories which are incompatible with the feature [+max], and to categories which are not headed by a virtually free morpheme (IP in English).

Importantly for him, FPs are syntactic heads that take their associated constituent as argument, i.e. they subcategorize, but at the same time they do not project their own phrase and also do not assign θ-roles. Thus, structurally, a particle Y combined

with a maximal projection XP looks like the structure given in (35), where the superscript *q* indicates that the features of the particle modify the features of the XP somehow by percolating up to the XP level. An analysis like (35) then can easily derive cases of post-posed particles, simply by assuming that the associated constituent moves around the FP (35).

(35)



(36) $[_{XP}\ XP_i\ [_{XP}\ \textsc{prt}\ t_i]]$

This structure is problematic for various different reasons. First, it is completely unclear what a non-projecting head is, and Bayer (1996) does not discuss this issue but refers the reader to Rothstein (1991). Second, moving the associated constituent around the FP seems highly questionable, as again the structural configuration after the movement is not clear. In (36) I have simply labeled the structure XP again, which would suggest that XP somehow moves into its own specifier since the particle cannot project any type of structure.

Bayer (1996: 54) excludes cases of FPs adjoined to complements of prepositions due to restrictions on (LF-)movement from this position in general, assuming that movement from the complement of a preposition is ungrammatical in German but grammatical in English. This is due to English allowing preposition stranding in overt syntax and on LF, while this is impossible in German. While this might be a possible explanation to exclude P-FP, cases of DP internal FPs require a different stipulation to be excluded. Consider the data in (37), repeated from (27) above.

(37) a. Nur [$_{PP}$ vom GRAfen]$_i$ habe ich [$_{DP}$ jeden Sohn t_i] bewundert.
only of.the count have I every son admired
'I admired only the count's every son.'

b. *Ich habe [$_{DP}$ jeden Sohn nur vom Grafen] bewundert.
I have every son only of.the count admired
'I admired only the count's every son.'

The examples in (37) show that while a FP cannot be attached to a PP that serves as complement to a noun, attachment of the FP is possible when the same complement is extracted to spec-CP. Thus a ban on extraction cannot be the source for the ungrammaticality of (37). This approach is also problematic from a typological perspective, as it forces Bayer (1996: 102) into a position to assume that languages can have preposition stranding in overt syntax but not on LF, or the other way around.

I will not discuss his approach further, and the reader is referred to the appendix of Büring & Hartmann (2001), in which they discuss further problems of Bayer's approach, especially with reconstruction. The criticism Bayer levels towards the account of Jacobs (1983) mostly revolves around the problematic assumption of V3 structures already discussed above, and an apparent misunderstanding of the *Closeness* condition, Jacob's *Prinzip der Maximalen Spätstellung*.

8.3.2 Sudhoff (2010)

A second alternative proposal I want to mention briefly is presented by Sudhoff (2010). The author ultimately assumes an account similar to the a-approach of Büring & Hartmann (2001) in that focus particles usually adjoin to VP. In addition, he allows focus particles to adjoin to other types of constituents if these are contrastively focussed.

Many of the advantages of the a-account of Büring & Hartmann (2001) carry over to Sudhoff's account, due to their large set of shared assumptions. Therefore, I will only discuss one of the exceptions he permits in his theory, i.e. the adjunction of FPs to other types of constituents if these constituents are contrastively focussed. In order to support his assumption, Sudhoff (2010: 138–144) presents several examples taken from the DeReKo corpus (Das Deutsche Referenzkorpus 2020). The DeReKo corpus contains 46.9 billion tokens and Sudhoff discusses 20 representative sentences supposedly supporting his approach. Unfortunately, it is impossible to judge the validity of his claims as he does not discuss the absolute number of relevant cases found nor does he provide any statistical evaluation of the occurrences of FPs adjoined to constituents other than EVPs. Claiming that 20 examples instantiate four patterns that are excluded by the analysis of Büring & Hartmann (2001) appears to be difficult to support when related to a corpus size of 46.9 billion tokens. In addition, it is well-expected that the larger the size of a corpus, the more likely ungrammatical patterns can be found, which makes a statistical evaluation even more important. Just taking one of his examples reproduced in (38), neither I nor other informants judge it grammatical.

(38) Schluderei und Unachtsamkeit nur der Firmen?
sloppiness and inattentiveness only the.GEN companies.GEN
'sloppiness and inattentiveness only of the companies'

Furthermore, the DeReKo corpus is a corpus of written German and is not annotated for information structure. Thus, even if examples like (38) are judged grammatical, it is not clear that they actually involve a contrastively focussed constituent.

Despite this criticism, it might very well be the case that focus particles adjoined to contrastively focussed constituents behave differently from other focus particles. These occurrences, however, are neither in the scope of the discussion in Büring & Hartmann (2001) nor in the scope of the discussion here. Already foreshadowing the discussion of contrastive topics in the next section, it is well-known that contrastive focus behaves very differently from non-contrastive focus (see for example Issah 2019 for an example of a clear case of an in-situ-ex-situ difference, or Repp 2016 for all the different variants of contrast). Thus, even if FPs really adjoined to focussed constituents other than EVPs, this is at least not unexpected under the current approach.

This cursory overview already concludes the discussion of alternative approaches to AwF. The subsection of course cannot do justice to the monograph-long discussions in Bayer (1996) and Sudhoff (2010), but hopefully at least the directions of their arguments have become clearer. In the next section, I return to the approach of Büring & Hartmann (2001), or rather the criticism leveled against it in Reis (2005).

8.4 The criticism of Reis (2005)

In her paper, Reis (2005) provides a thorough critical discussion of Büring & Hartmann (2001). As her criticism has led to a general sceptical attitude towards the approach proposed by Büring & Hartmann, and to an a-theory to AwF in general, I want to discuss the points Reis raises in some more detail, hopefully to show that most of her criticism is not substantiated. Consider again the a-theory proposed by Büring & Hartmann (2001), repeated in (39).

(39) **The particle theory** (Büring & Hartmann 2001: 236)
   a. For any node α marked F in a phrase marker P, let the set of f-nodes of α consist of all nodes β in P such that
      i. β is an EP (extended projection) of some V γ
      ii. β is a maximal projection
      iii. β dominates α or is identical to α
      iv. there is no EP β' of γ such that β dominates β' and β' meets (39a–ii) and (39a–iii)
   b. A FP must be left-adjoined to an f-node of its focus.

As discussed in the last section, the theory predicts that cases with sentence-initial focus particles need to be analysed as V3 structures. This has often been considered the most problematic result of such an a-theory, but I have presented arguments

that this is actually to be expected with information-structurally marked constituents. Consequently, the existence of V3 structures does not constitute a waterproof argument against such an analysis.

The second part of the theory Reis takes issue with is the *Closeness* condition in (39a–iv). *Closeness* is necessary to exclude cases like the following.

(40) a. *Gestern hat nur Rufus [dem MÄDchen] Blumen geschenkt.
yesterday has only Rufus the girl flowers given
'Rufus gave only the girl flowers yesterday.'
(Büring & Hartmann 2001: 237)

b. *Nur Peter kooperiert mit der PoliZEI.
only Peter cooperates with the police
'Peter cooperates only with the police.' (Reis 2005: 465)

In (40a), the closest EVP dominating the focus is the VP, while the focus particle is adjoined to TP, under the standard assumption that the subject in such a case is in spec-TP. This violates the *Closeness* condition and therefore the structure is excluded. Similarly, in (40b), the closest EVP the FP could adjoin to is again the VP, but the FP is actually adjoined to the CP, violating *Closeness* and therefore causing ungrammaticality.

The *Closeness* condition is intimately connected to scrambling. In cases like (41), in which the focus particle is directly adjacent to the verb, it is still the VP that serves as adjunction site for the FP as the theory requires that it adjoins to a maximal projection. This in turn means that all the other elements that have initially been merged in the VP have been scrambled out of it.

(41) a. … weil Peter Maria nur KÜSSte
because Peter Maria only kissed
'… because Peter only kissed Maria'

b. weil Peter Maria$_i$ [$_{VP}$ nur [$_{VP}$ t$_i$ KÜSSte]]

It is important to point out that the a-theory of Büring & Hartmann (2001) does not require the direct object to scramble out of the VP in (41). Even if the object was not scrambled out of the VP, the VP would still be the closest possible adjunction site for the FP. Nevertheless, scrambling of *Maria* is of course required in (41), and scrambling of non-focussed elements out of the VP is a strong preference in general, which serves to keep non-focussed elements out of the c-command domain of the FP. Importantly, scrambling is independent of the particle theory. While it is not clear how scrambling needs to be analysed theoretically (see for example Haider & Rosengren 1998), it usually serves to place old, or already known, elements before new elements (this is already discussed in Behaghel 1932,

via Müller 2014; Lenerz 1977, and Molnár 1993). As expected in (41), the proper name *Maria* scrambles out of the VP into a higher position, as proper names are usually assumed to be part of the Common Ground or easily accommodated. If it is assumed that scrambling targets a position at the left edge of the vP (Diesing 1992 and Molnárfi 2002, et seq.) and VP is the closest possible adjunction site for the FP, then scrambling will always move elements out of the c-command domain of such low FPs.

Since scrambling is not enforced by the approach under discussion, it is predicted that elements that cannot scramble out of the VP will always intervene between a focus particle and a focussed verb. Büring & Hartmann (2001: 242) show that this prediction is borne out. For example, AP arguments do not scramble, and they intervene between FP and focussed verb (42). In addition, wh-indefinites do not scramble either, and they intervene between FP and focus as well (43).

(42) a. … weil sie sich nur traurig FÜHLT
because she self only sad feels
'… because she only feels sad'
b. *… weil sie sich traurig nur FÜHLT

(43) a. … weil Petra nur wen KÜSSte
because Petra only someone kissed
'… because Petra only kissed someone'
b. *… weil Petra wen nur KÜSSte

In addition to cases in which an element cannot be scrambled out of the VP, which are not really deviations from the *Closeness* condition, there are some proper exceptions to it which are of a semantic nature. As *only* interacts with other quantifiers in that changing their scopal relations also results in a change of meaning, it is expected that the presence of other quantifiers can lead to a proper violation of the *Closeness* condition. This fact is already acknowledged in Jacobs (1983) and Büring & Hartmann (2001). The example in (44) is constructed in a way that the presence of a subject quantifier actually forces the FP to adjoin to the TP, which is not the closest EVP to the focussed verb. Importantly, (44a) is not the only option, and (44b) is also possible, but only with a change in meaning.

(44) a. Gestern wollte nur jeder mit Frank SPREchen.
yesterday wanted only everybody with Frank speak
'Yesterday, everybody only wanted to talk to Frank.'
b. Gestern wollte jeder mit Frank nur SPREchen.

Against this background, Reis (2005) discusses cases of AwF in German that apparently violate *Closeness* and therefore cast doubt on the a-approach of Büring &

Hartmann (2001). In (45) (Reis 2005: 470), the FP can, according to her judgments, attach above or below the PP object.[109]

(45) a. Ich habe nur darin/in dem Buch geLESen.
I have only therein/in the book read
'I've only read in it/the book.'
b. Ich habe darin/in dem Buch nur geLESen.

Even if (45a) is judged as acceptable, which is questionable, the FP is still attached to the closest EVP dominating the focus in (45). The only difference is that in (45a), the PP argument has not been scrambled out of the VP, while scrambling has taken place in (45b). Consequently, in both cases in (45), *Closeness* is not violated, as *Closeness* is independent of scrambling. At the same time, the question remains why scrambling is absent in (45a). My intuition is that this is due to different focus domains in (45), as in (45a), the prepositional object is interpreted as part of the focus domain which prevents scrambling, while in (45b) it is not.

Lastly, concerning this point, I want to discuss the apparent surprise of Reis (2005: 470) that FP and associated focus can only be non-adjacent in sentence medial position, but not in the prefield, as examples like (46) will always be ungrammatical.

(46) *Nur Peter kooperierte [mit der PoliZEI].
only Peter cooperated with the police
'Peter cooperated only with the police.'

The ungrammaticality of (46) should not be surprising at all. The adjunction position of the FP in the prefield, adjoined to spec-CP, will only ever be compatible with a focussed constituent in spec-CP. For all constituents below C, the closest

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109. Reis contrasts examples like (45) with examples like (i), in which such an optionality does not exist, and in which, she claims, the FP cannot be adjacent at all to the focussed constituent.

(i) a. Er wollte nur ein bisschen in den GARTen gehen.
he wanted only a little.bit in the garten go
'He only wanted to go into the garden for a bit.'
b. *Er wollte ein bisschen nur in den GARTen gehen.

Again, the contrast between (45) and (i), and the ungrammaticality of (ib) is not due to *Closeness* or any other part of the particle theory, but completely independent of it. In its most salient reading, *ein bisschen* in (ia) provides a temporal modification for the complex predicate *in den Garten gehen*, for which other complex predicates as alternatives are excluded. In (ib), this interpretation changes, and *in den Garten* is not treated as part of the predicate anymore, and other places are invoked as alternatives, and not other predicates. This somehow seems to lead to ungrammaticality. While the exact source of this restriction is unclear, it is more complex than discussed by Reis and not a counter-argument to the a-theory of Büring & Hartmann (2001).

adjunction site will at least be TP, if not even lower. Thus, (46) behaves just as expected in the a-approach of Büring & Hartmann (2001).

The second point criticized extensively by Reis (2005: 474) is the decision by Büring & Hartmann (2001) to relativize the adjunction sites of the FP with respect to the argument/non-argument status of the constituent the FP adjoins to. Reis is right in claiming that this move creates more problem than it solves, especially when looking at other constituents that can serve either as arguments or as adjuncts. She provides the examples in (47) and (48), in which independently of the argument/adjunct status, the structures are ungrammatical or degraded (the judgments are hers, for me the structures are all ungrammatical).

(47) a. ?das Warten nur auf Godot
the waiting only for Godot
'only the waiting for Godot'
b. ?das Warten nur auf dem Bahnhof
the waiting only at the station
'only the waiting at the train station'

(48) a. ?*der Autor nur des Erfolgsbuchs
the author only the.GEN bestseller.GEN
'only the author of the bestseller'
b. ?*der Autor nur des Springerverlags
the author only the.GEN Springer.Publishing.House.GEN
'only the author of the Springer Publishing House'

As discussed above, it is not necessary to move away from relativizing FP adjunction to extended verbal projections. Consequently, the data in (47) and (48) show the expected behavior. As all examples involve adjunction to non-EVPs, all the examples are ungrammatical (in my judgment) or degraded (in Reis' judgment).

The last point of Reis' critical evaluation is her discussion of the *no reconstruction* argument from Büring & Hartmann (2001), with the relevant example in (16), repeated for convenience in (49). Even though the DP in the prefield is reconstructed below the subject quantifier, the FP takes widest scope.

(49) [Nur ein Bild von seiner$_1$ FRAU]$_i$ besitzt jeder Mann$_1$ t$_i$.
only a picture of his wife possesses every man
'Every man only possesses a picture of his wife.'

Reis (2005: 478) argues that reconstructed readings with *jeder* are hard to get in any case, so that a more appropriate test would be reconstruction below a negative quantifier, as these make reconstructed readings easier in general. Using *keiner* as a test case, she claims that with a particular intonation, reconstructed readings are possible. Thus, she argues that the examples in (50) and (51) consistently produce

the readings in (52), with the (b) examples having readings in which *nur* is interpreted below *keiner*, i.e. reconstructed.

(50) a. Nur MaRIA\ liebt keiner.
only Maria loves no.one
'Nobody loved only Mary.'
b. /NUR MaRIA liebt KEI\ner

(51) a. Nur FLEISCH\ aß niemand.
only meat ate no.one
'Nobody ate only meat.'
b. /NUR FLEISCH aß NIEmand\.

(52) a. *only* > NEG
*NEG > only
b. NEG > only
**only* > NEG

Accepting the claim that informants consistently get the reconstructed readings for the (b) examples, it should be noted that those examples show a fundamental intonational difference to their respective (a) counterparts. While the fronted constituents in the (a) examples show the German focus intonation, the examples in (b) show the so-called hat-contour that is typical for contrastive topics (Büring 2003, 2016). While contrastive topics can be argued to contain a focus or focus feature (Krifka 1998b, 2008), topics behave radically different from foci, and contrastive topics even more so (see for example the discussion in Rizzi 1997). Even though I do not want to speculate on the actual analysis of cases like (50) and (51), it comes as no surprise that contrastive topics can behave in ways simple foci cannot, and consequently, the reconstructed readings of these examples cannot serve as counter-evidence to the *no reconstruction* argument of Büring & Hartmann (2001). In the next section, I will discuss a more serious challenge to this argument which has been raised by Smeets & Wagner (2018).

While Reis (2005) discusses other problematic cases,[110] in this section, I have summarized her three main arguments against the a-theory of Büring & Hartmann (2001). I have shown that all her counter-examples can be explained independently of association with focus and thus do not present actual problems for the a-theory.

110. She also discusses FPs following their associated focus as well as some examples with DP internal FPs. I do not discuss those here, as mentioned at the beginning of the chapter.

8.5 Reconstruction and Smeets & Wagner (2018)

In a more recent paper, Smeets & Wagner (2018) revisit the discussion about reconstruction and association with focus and present data that suggest that in some cases, the FP and its associated constituent in spec-CP do indeed reconstruct, which suggests constituent status of the [FP DP] structure, which in turn is incompatible with the a-approach of Büring & Hartmann (2001).

It can be observed that in German, long-distance topicalization obligatorily reconstructs.[111,112] Variable binding (53) and Principle C effects (54) show this.

(53) a. *Jeder Student$_1$, denkt seine Mutter$_1$, ~~jeder Student~~$_1$ hat eine
every student thinks his mother has a
gute Chance.
good chance
int.: 'His mother$_1$ thinks that every student$_1$ has a good chance'

b. Ihr Sohn$_1$, denkt jede Mutter$_1$, ~~ihr Sohn~~$_1$ hat eine gute Chance.

(54) a. *Paul$_1$, dachte er$_1$, ~~Paul~~$_1$ hat keine Chance.
Paul thought he has no chance
int.: 'He$_1$ thought Paul$_1$ has no chance.'

b. Er$_1$, dachte Paul$_1$, ~~er~~$_1$ hat keine Chance.

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111. Smeets & Wagner (2018) attribute this observation to Stefan Keine (p.c.).

112. It is important to note that there is an alternative analysis for the data in this subsection that makes the whole discussion superfluous. As Reis (1995, et seq.) has argued extensively, cases like (ia) (from Reis 1995: 28) need to be analysed as parenthetical construction (ib) and not as long-distance extraction (ic).

(i) a. Wo glaubst du wohnt sie seit der Trennung?
where think you lives she since the split.up
'Where do you think she lives since they split up?'

b. [Wo$_i$ [glaubst du] wohnt sie t$_i$ seit der Trennung]?

c. [Wo$_i$ glaubst du, t$_i$ wohnt sie t$_i$ seit der Trennung]?

Due to space reasons, I cannot discuss arguments in favor of this analysis, but if such an approach turns out to be on the right track, then the data from Smeets & Wagner (2018) discussed in this section do not show any unexpected behavior at all. In this light, it would be interesting to investigate cases like (ii), where extraction takes place across a complementizer and is therefore probably really long-distance. However, I cannot discuss the scope possibilities of (ii) here, since in my dialect, (ii) is ungrammatical.

(ii) Nur Jan, dachte Maria wieder, dass durchgefallen ist.
only Jan thought Maria again that failed is
'Maria thought again that only Jan has failed.'

In the rest of this section, I will nevertheless assume a long-distance extraction analysis, so that I am able to refute the argument of Smeets & Wagner (2018) based on assumptions similar to theirs.

In (53a), the topicalized element of the matrix clause *jeder Student* is not interpreted in this position, but below the subject of the matrix clause *seine Mutter*. If *Jeder Student* was interpreted in its surface position, it should not have any problems binding the possessive pronoun in the subject. But since this binding relation is impossible, as evidenced by the ungrammaticality of (53a), the element in spec-CP of the matrix clause is interpreted in a lower position, to which it obligatorily reconstructs for interpretation. That this is indeed the source of the ungrammaticality can be seen in (53b), in which the relation is reversed and the sentence grammatical.

A similar point can be made with the examples in (54). If *Paul* was interpreted in its surface position in spec-CP of the matrix clause in (54a), no problem with any Binding Principle should arise. However, the sentence is ungrammatical, which can be accounted for by assuming that *Paul* is interpreted below the matrix subject, i.e. it reconstructs to a lower position, which then leads to a Principle C effect. Again, that this is the source of the problem in (54a) is shown by the grammaticality of (54b), where pronoun and R-expression are simply switched. In both cases, the most likely position targeted by reconstruction is the specifier of the embedded CP. Based on the data in (53) and (54), it is impossible to decide which position is targeted by reconstruction. The reconstructed position is necessarily below the matrix subject, but it is not clear whether reconstruction targets the spec-CP position of the embedded clause or the base position of the topicalized element, i.e. its initial argument position in the embedded clause. For the data in (53) and (54), the answer to this question is only of secondary importance, but it becomes pressing when considering association with focus in combination with long-distance movement.

An interesting conflict arises when long distance movement is combined with association with focus. On the one hand, following Büring & Hartmann (2001), I have argued above that in cases of association with focus, only the associated element in spec-CP reconstructs, but not the FP preceding this element. On the other hand, long distance movement always reconstructs, at least to spec-CP of the embedded clause. Smeets & Wagner (2018) now adduce the datum in (55), which clearly shows that the focus particle is not interpreted in the surface position but at least below *wieder* 'again'. The authors take this as evidence that the focus particle reconstructs, which requires [FP DP] to form a constituent so that both elements can reconstruct. This is not compatible with the a-approach of Büring & Hartmann (2001).

(55) a. Nur Jan, dachte Maria wieder, ist durchgefallen.
only Jan though Maria again is failed
'Maria thought again that only Jan has failed.'

b. Surface Scope impossible:
*It is only the case that Maria thought again that Jan had failed.

c. Reconstructed reading possible:
Maria thought again that only Jan had failed.

At this point, however, it becomes necessary to investigate in more detail into which position the [FP DP] sequence supposedly reconstructs. If it reconstructs into its base position, the datum in (55) can be taken as a legitimate argument in favor of the constituent status of [FP DP], which would pose a serious challenge to any a-theory. If however [FP DP] is interpreted in a somewhat medial position, in spec-CP of the embedded clause, a possible explanation might not necessarily involve a [FP DP] constituent, in turn then not constituting a problem for the a-theory.

To investigate this hypothesis, I constructed sentences in which the object of an embedded clause was topicalized to spec-CP of a main clause and which at the same time contained a subject with a quantifier in the embedded clause. My informants agree with the reading that the focus particle is interpreted below *wieder* 'again' in the matrix clause but above the subject *jeder Mann* of the embedded clause.

(56) a. Nur ein Bild von seiner Frau_1, dachte Maria wieder, besitzt
only a picture of his wife thought Maria again possesses
jeder Mann_1.
every man
'Mary thought again that every man only possesses a picture of his wife.'

b. Surface Scope impossible (only > wieder > ∀):
*It is only the case that Mary thought a gain that every man possesses a picture of his wife.

c. Lowest scope impossible (wieder > ∀ > only):
*Mary thought again that every man only possesses a picture of his wife.

d. Medial scope possible (wieder > only > ∀):
Mary thought again that the only person every man possesses a picture of is his wife

The readings suggest that somehow, [FP DP] form a constituent for movement from spec-CP of the embedded clause to spec-CP of the matrix clause, but not for reconstruction into the original argument position of the DP. This is surprising both for the claim of Smeets & Wagner (2018) that FPs can reconstruct in general as well as for the a-approach of Büring & Hartmann (2001) that does not expect reconstruction at all.

A possible explanation for the data in (56) needs to carefully consider the processes at play in the derivation of the structure as well as the distribution of focus features. Based on the discussion in the last chapter, I assume that for association with focus, three different focus features play a role. The focussed constituent carries a valued but uninterpretable focus feature, the focus particle as well as the Foc head in the left periphery carry an unvalued but interpretable focus feature, respectively. In examples like (56), the process that moves the DP from spec-CP of the embedded clause to spec-CP of the matrix clause is topicalization. Thus, for this movement,

and consequently for the whole matrix clause, focus does not play a role, thus the matrix CP in (56) does not project a FocP in its left periphery.

In the next section, when presenting the actual analysis for association with focus in German, I will argue that in (56), the FP is indeed merged in the matrix clause, adjoined to the matrix CP, due to the constraint that the FP needs to c-command the part of its associated focus on the surface that contains the focus accent (some kind of surface c-command requirement), as already stated by Büring & Hartmann (2001) as part of their a-theory (39a–iii). At the same time, the focus feature that the FP agrees with and which is responsible for the interpretation is the focus feature of the focus head in the FocP of the embedded clause. Thus, forced by the nature of the features involved, the FP is merged in the matrix clause (surface c-command requirement), but interpreted in the FocP of the embedded clause (uninterpretable features are deleted when agreeing with an interpretable counterpart). The exact derivation will become more clear in the next section.

To summarize, while the data by Smeets & Wagner (2018) seem to suggest reconstruction of the FP together with its associated DP, this reconstruction is actually only an illusion. The FP is merged adjoined to the matrix clause but interpreted adjoined to the embedded clause due to the features involved. Consequently, the apparent long-distance reconstruction data in (56) are not a counter-argument to the a-approach of Büring & Hartmann (2001).

8.6 AwF in German based on agreement

In this section, I will present the actual structural analysis of association with focus in German, which will be very similar to the analysis presented in the last chapter for English. I will argue, as above, that association with focus is based on agreement of focus features and actually contains at least two agreement relations, one between the focus particle and its associated focus, and another one between the focus particle and the next higher focus head.[113]

As discussed in the last chapter, I assume the more liberal agreement system of Pesetsky & Torrego (2007). Most importantly, I follow their assumption that features can be based on all four logically possible combinations of the valued-unvalued property and interpretable-uninterpretable property, as discussed in the theoretical background in Chapter 2. To be more precise, I assume the following feature configurations for the elements involved.

113. A rather similar proposal, but based on different properties of the focus particle, can be found in Hole (2015).

- **Focus**
  The focussed constituent carries a valued but uninterpretable focus feature. Valued, as it provides the actual focus, but uninterpretable as a focus by itself does not affect the truth conditions.
- **Focus Particle**
  The focus particle carries an unvalued and uninterpretable focus feature. It is unvalued because the value is provided by the focussed constituent, and uninterpretable since the semantic impact is not due directly to the focus but due to the semantics of the focus particle.
- **Head of the FocP**
  The head of the focus phrase in the left periphery carries an unvalued but interpretable focus feature. It is unvalued since, similar to the focus particle, it receives a value from the focus constituent. It is interpretable because it is the position in which the effect of focus becomes noticeable when no focus particle is present, by leading to a modification of the speech act operator, following Jacobs (1983).[114] In addition, it can be assumed that the head of the focus phrase only contains an interpretable focus feature and nothing else, meaning that the focus feature itself projects the focus phrase. Only interpretable features are able to project phrases.

In the standard case, the derivation proceeds as follows. An uninterpretable but valued focus feature is selected and combined with a constituent in the numeration (Aboh 2010). The selection of an uninterpretable focus feature automatically triggers the selection of an interpretable counterpart (Zeijlstra 2014), and this interpretable counterpart will end up projecting the FocP, i.e. it can be conceived of as being equivalent to the focus head. In this way, if no focus feature is selected, a FocP will not be projected, in line with Rizzi (1997). As outlined above, the focus head carries an interpretable, but unvalued focus feature. The derivation continues according to the established principles, and, at some point, the focus sensitive particle is merged, carrying an uninterpretable and unvalued focus feature. The merger of the focus particle is subject to the two constraints discussed above: it needs to c-command the focussed constituent (39a–iii), and it needs to be adjoined to a maximal projection that is an extended projection of the verb (30a–i). Due to its unvalued focus feature, the FP probes its c-command domain for a valued counterpart of the feature and establishes an agreement relation with the focussed constituent. This agreement step is represented in the structure in (58).[115]

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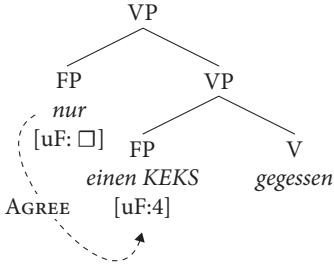
114. See also Zeijlstra (2014) for an acquisition-related explanation on the interplay of interpretable and uninterpretable features

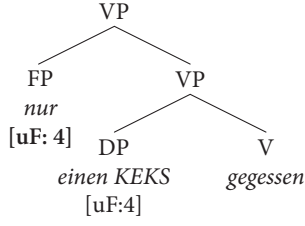
115. Of course, the focus feature of the focussed constituent can project if the focus domain is larger than the one focussed constituent (Selkirk 1995a).

(57) Peter hat nur einen KEKS gegessen.
Peter has only a cookie eaten
'Peter has eaten only a cookie.'

(58)



(59)



Again, the derivation continues with the standardly assumed operations, e.g. movement of the finite verb to C, movement of a constituent to spec-CP, until the Foc head is merged. Remember that the focus head is simply the interpretable focus feature that was automatically selected when its uninterpretable counterpart was placed in the numeration. Similarly to the FP, due to its unvalued focus feature, the Foc head probes its c-command domain for a valued counterpart of the feature and consequently agrees with the FP, which in turn has agreed with the focussed constituent. This is represented in (60).[116,117]

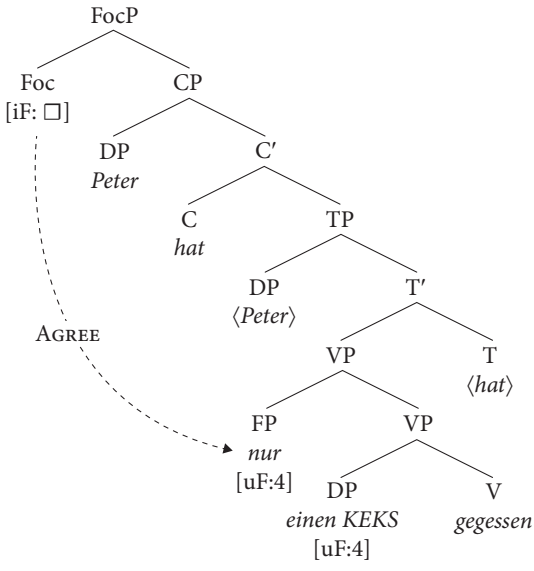
Note that the same valued feature is now shared between the focussed constituent, the focus particle and the focus head, as indicated by the shared number. In the terminology of Pesetsky & Torrego (2007), the same focus feature is present in three instances, two of them are uninterpretable and one of them interpretable. The

116. I ignore vP here, and merge the subject directly in spec-TP.

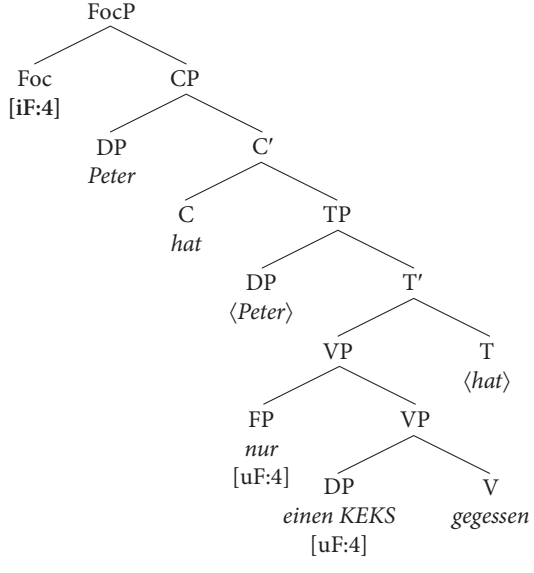
117. This analysis also raises the question of how contrastive focus is to be treated. Very frequently, contrastive focus requires movement of the focussed constituent into the left periphery in German and many other languages. This could be encoded in several ways. One option would be to assume that in cases of focus fronting, the head of the focus phrases carries an additional [EPP] feature that attracts the focussed constituent, with the contrastive or mirative interpretation being derived by implicature (Bianchi et al. 2016; Cruschina 2019). Alternatively, fronting of contrastive foci might target a dedicated contrastive (focus) projection, similar to what has been claimed for contrastive topics (Frascarelli & Hinterhölzl 2007). This requires further investigation which I leave to future work on the topic.

question arises whether there is evidence that in addition to the semantic impact of the focus in combination with the FP, there is evidence for a second, higher position, in which the focus can have a semantic effect.

(60)



(61)



In general, if no other scope-taking elements are present, focus particles take sentence scope, but when another scope-taking element is present, they take surface scope, which has already been pointed out by Jacobs (1983) for German and Taglicht (1984) for English. The slightly modified examples in (62) and (63) with

their accompanying paraphrases from Jacobs (1983: 14) show what is meant by the focus particle being interpreted with widest scope (62) or with surface scope below a quantifier (63).

(62) a. Peter wollte nur mit jemandem FLIRten.
Peter wanted only with somebody flirt
'Peter only wanted to flirt with someone.'
b. It was only the case that Peter wanted to FLIRT with someone.

(63) a. Peter wollte mit jemandem nur FLIRten.
Peter wanted with someone only flirt
'Peter only wanted to flirt with someone.'
b. There is someone with whom Peter only wanted to FLIRT.

In addition to (62) and (63), also consider (64), which shows that if *only* c-commands another scope-taking element, again only surface scope is possible.

(64) a. Gestern hat nur MaRIa jeden getroffen.
yesterday has only Maria everyone.ACC met
'Yesterday, everyone met only Mary.'
b. wide scope of *only*: Only Mary met everyone yesterday.
c. wide scope of *everyone*: *Everyone was only met by one person yesterday, Mary.

The different positions in which the focus particle can take scope are exactly as expected in the account just presented. The wide scope reading is due to the interpretable focus feature in the left periphery as part of the focus head, which is the highest relevant head in the structure, with everything else in its scope. In the structured meaning account introduced in the last chapter, the whole clause modulo the focussed constituent serves as background to the illocutionary operator, which makes *only* the highest scope-taking element in the background.

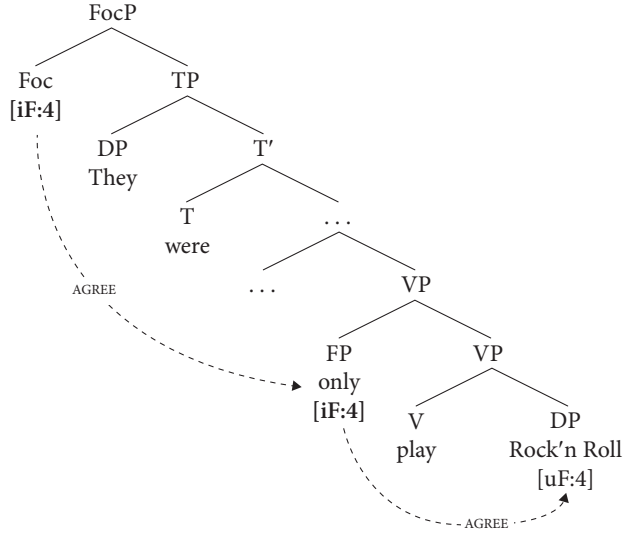
For cases in which *only* co-occurs with other scope-taking elements in the same clause, it is important to remember that *only* and its associated constituent do not form a quantifier that can participate in QR. At the same time, due to its semantics, *only* is itself a scope-taking element. This has two interesting consequences that account for the data in (63) and (64), respectively. First, *only* cannot be raised above a c-commanding quantifier, as it cannot QR itself, which is shown in (63). Second, quantifiers c-commanded by *only* cannot QR above *only* as this would fundamentally alter the meaning of the sentence and *only* itself cannot QR above the raised quantifier to establish the initial c-command relationship again (see the treatment of QR and the associated ambiguities in Heim & Kratzer 1998: 197). Consequently, due to its inability to participate in quantifier raising, *only* is restricted to surface scope when other scope-taking elements are present.

The involvement of a focus head in the CP is further supported by data like (18), repeated in (65).

(65) They were advised to play only Rock'n Roll.
  a. They were advised not to play anything but Rock'n Roll.
  b. The only advise they received was to play Rock'n Roll.

In (65) the focus particle can take scope in different positions, either inside the embedded clause (65a) or in the matrix clause (65b), and again an explanation based on the focus feature is possible. In the narrow scope reading, the focus particle is simply interpreted in the lower clause.[118] For the wide scope interpretation, (65b), it is again the focus feature of the Foc head that is evaluated. However, under the assumption that non-finite clauses represent smaller structures than finite clauses and consequently lack a CP layer, the relevant Foc head in (65) is the focus head of the matrix clause. If the focus feature is interpreted in this position, the FP takes scope over the whole sentence, resulting in the wide scope reading of (65b). This situation is represented in the structure in (66).

(66)



The same explanation can be applied to the German data in (67), repeated from (19) above. It is actually not necessary to assume two different adjunction positions

118. This requires that the verb is interpreted in the c-command domain of the focus particle. As discussed above, verb movement seems to be able to reconstruct for the inclusion of the focus domain, and if verb movement from V to v is assumed for English, V is situated below the FP. One possible explanation for this might be that verb movement is a PF phenomenon (Chomsky 1995).

for the two different readings, as the interpretation follows from either interpreting the lower interpretable focus feature on the focus particle for the reading in (67a), or interpreting the high interpretable focus feature on the Foc-head for the reading in (67b).[119]

(67) (weil) ich nur GERda geküsst zu haben bereue
(because) I only Gerda kissed to have regret
'because I regret to have kissed only Gerda'
a. I regret that the only person I kissed was Gerda.
b. Only for Gerda do I regret to have kissed her.

Turning to more complex cases of association with focus, consider first cases of FPs adjoined to argument CPs. In contrast to Büring & Hartmann (2001), I argued above that association with argument CPs is possible. Consider the contrast between (68) on the one hand, and (69) and (70) on the other, repeated from (29a), (32), and (33), respectively.

(68) *Jeder versucht zu verheimlichen, nur dass er MarijuAna raucht.
everybody tries to hide only that he marijuana smokes
'Everybody only tries to hide that they smoke marijuana.'

(69) Context: We were at a party yesterday, and Frank was telling people stories about marijuana. But because it was so noisy, it was difficult to understand what he was saying, sometimes it sounded like he does not like smoking marijuana at all, sometimes it sounded like he does like it. Fortunately, Bill was closer to Frank the whole evening, and when I tell Bill about it the next day he says:
B: Frank hat den ganzen Abend erzählt, nur DASS er gerne
Frank has the whole evening told only that he likes
Marijuana raucht.
Marijuana smoke
'Frank told everybody the whole evening that he likes to smoke Marijuana'

(70) Frank wollte wissen, nur OB Maria heute überhaupt noch kommt,
Frank wanted know only if Maria today at.all still comes
nicht WANN sie kommt.
not when she comes
'Frank wanted to know only if Maria is coming at all today, not when she is coming.'

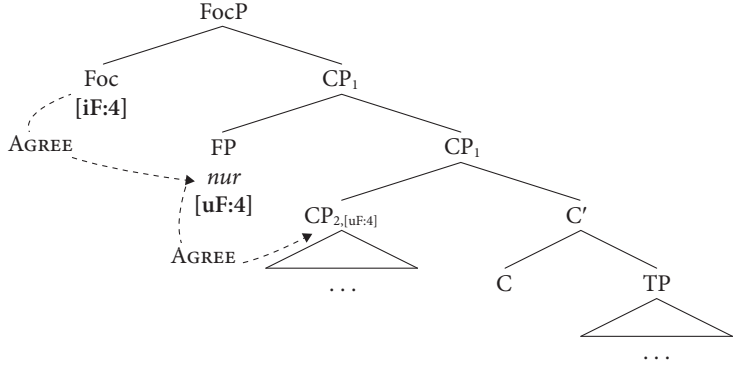
---

119. In this sense, the sentence is truly ambiguous in the theory presented here, while in the approach of Büring & Hartmann (2001) it is not, since the different readings are caused by different structures.

On the surface, the data in (68) to (70) show that while a focus particle cannot be adjoined to a CP that contains a focus on the direct object, the FP can be adjoined when the complementizer of the CP is focussed. Very informally, this seems to suggest that the focus somewhere low in the CP is not close enough to the FP adjoined to the CP, but if the focus is moved higher in the CP, to the complementizer, then the focus particle can be adjoined to the CP.

Two factors play a role in this pattern, the left periphery of the CP and *Closeness*. As discussed above, CPs that contain a focussed constituent also contain a focus head in the left periphery, as the selection of an uninterpretable focus feature from the lexicon always leads to a selection of an interpretable counterpart that will end up projecting the FocP in the left periphery of the CP. This focus head plays an important role when it comes to *Closeness*, as the focus particle needs to be attached to the focus as close as possible in relation to the relevant focus head. Consequently, if a FP is to be attached to a particular CP, *Closeness* will be evaluated with respect to this particular CP. Consider the two structures in (71) and (73). While they do not differ on the surface, the attachment sites of the focus particles are distinct. In (71), the focus particle is attached to the matrix CP which in turn has a CP in its prefield. The whole prefield CP is focus-marked (due to focus projection from the direct object) and the focus particle is attached as close to the focus as possible in the matrix CP.

(71)



In (71), the focussed CP in spec-CP of the matrix clause is evaluated as focus of the matrix clause. This means that the whole CP_2 is the agreement target of *only* and the relevant focus head for the interpretation is the focus head of the matrix clause. The attachment site of *only* is restricted by *Closeness* relativized to the matrix clause: in the matrix clause, *only* needs to adjoin to the CP-argument as close as possible, meaning it is adjoined to the matrix CP. This is the structure Büring & Hartmann (2001: 264) discuss, repeated in (72) from (28). This structure only has the reading

with *only* taking wide scope and the CP_2 being reconstructed into its base-position, simply because *only* and CP_2 do not form a constituent and therefore CP_2 behaves like any other constituent in the prefield.

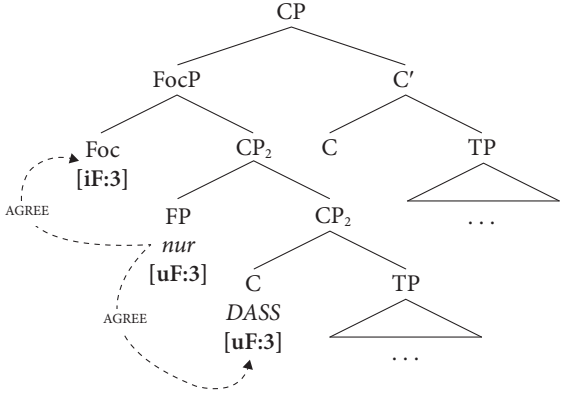
(72) a. Nur [$_{CP}$ dass er$_1$ MarijuAna raucht]$_i$ versucht jeder$_1$ t$_i$ zu
only that he marijuana smokes tries everybody to
verheimlichen.
hide
'Everybody only tries to hide that he smokes marijuana.'

b. LF: only _ tries everybody$_1$ PRO to [that he$_1$ marijuana smokes] hide
The only thing that everybody tries to hide is that they smoke marijuana.

c. *LF: _ tries everybody$_1$ PRO to [only that he$_1$ marijuana smokes] hide
Everybody tries to only hide that they smoke marijuana.

If the FP is to be attached to the CP-argument itself, CP_2 in (71), it invariably becomes a part of this CP. This in turn changes the calculation of *Closeness* significantly. While in (71) and (72) *Closeness* was calculated in the matrix clause, now only the CP-argument is relevant. In other words, in (71) and (72) the FP is adjoined to the matrix CP and is therefore as close as possible to the focussed constituent in spec-CP. In (73) however, for the FP to be attached directly to the CP argument (CP_2), the focus inside CP_2 needs to be in C and not lower, as otherwise lower adjunction-sites like TP would be required for FP, due to *Closeness* being evaluated with respect to CP_2.

(73)



The structures in (71) and (73) also show how this approach can account for the extraposition data. As shown above in (69) and (70), extraposing a FP-CP sequence requires focus on the complementizer of the extraposed CP. Based on the two structures in in (71) and (73), this follows from the assumption that in (73), FP and

extraposed CP form a constituent, while they do not in (71). As only constituents can be extraposed, this difference in behavior is expected.[120]

This only leaves the long-distance reconstruction data in need of an analysis. The only additional assumption to be able to account for such cases is the assumption that the focus particle can never take scope outside the CP/FocP in which the focus has been merged. Related to the features, this means that the focus feature of the focus particle can never be interpreted above the interpretable focus feature of the relevant FocP; in other words, the focus feature of the Foc head closes off the scope possibilities. There might be various reasons for this restriction, but most importantly, to me, it relates to the contribution of focus to a particular utterance. Focus is always interpreted as being part of a particular utterance, or, in a more structural sense, being part of a particular CP. Thus, it might be possible to extract a focussed constituent and move it to a higher clause, however, the contribution of the focus will always be restricted to the clause it was initially merged in.[121]

Against this background, consider again the sentence (56a), repeated in (74), with the indicated reading.

(74) a. Nur ein Bild von seiner Frau_1, dachte Maria wieder, besitzt
only a picture of his wife thought Maria again possesses
jeder Mann_1.
every man
'Mary thought again that every man only possesses a picture of his wife.'

b. Surface Scope impossible (only > wieder > ∀):
*It is only the case that Mary thought again that every man possesses a picture of his wife.

---

120. I need to point out that this explanation does not account for why adjunct clauses in general are compatible with FPs adjoined to them, independent of which element in the adjunct clause is focussed (29b). This might be due to various reasons, and I can only speculate here. Adjunct clauses are islands, which suggests a left periphery different from argument CPs. A different explanation might be that adjuncts are late-merged and if they are accompanied by a FP, the FP is late merged as well. For space reasons, I leave the answer to this question open.

121. This can be encoded in different ways. It might be possible to assume an additional projection involved in focus agreement, in the highest projection in the clause, ForceP or even some kind of speech act projection that provides the upper end of the agreement chain and which encodes the contribution the focus makes towards the discourse. I have explicitly argued for something along these lines in Egg & Mursell (2017) and such projections are also frequently assumed in other work, for example Wiltschko (2014). An alternative would be to assume that the interpretable focus feature of the Foc head and the interpretable focus feature of the FP are really not the same type of feature, and then relate this difference to the different behaviors.

c. Lowest scope impossible (wieder > ∀ > only):
Mary thought again that every man only possesses is a picture of his wife.
d. Medial scope possible (wieder > only > ∀):
Mary thought again that the only person every man possesses a picture of is his wife

As already discussed above, I assume that the focussed constituent is merged in the embedded clause, and, after the derivation has reached the FocP in the embedded clause, the head of the FocP probes and agrees with the focussed constituent. The result of this agreement is that the focussed constituent is invariably interpreted in the FocP of the embedded clause. Later on, this focussed constituent is extracted and topicalized in the matrix clause. As this movement is long-distance topicalization, no focus features or focus projections in the matrix clause are involved. Lastly, the focus particle is merged, based on the requirements discussed. It needs to c-command the part of the focussed constituent overtly that contains the focus accent, meaning it has to be merged after long-distance topicalization has taken place, and it also needs to adjoin to an extended verbal projection, which will necessarily be the CP of the matrix clause, as the focussed constituent is in the specifier of this clause. Even though the focus particle then agrees with the focussed constituent with respect to the focus feature, interpretation in this high position is impossible, since it cannot outscope the relevant focus head, in this case the focus head of the embedded clause.

Two questions remain open, the first involving the occurrence of focus particles attached to APs. DP-internal focus particles are possible if these FPs are attached to APs, as shown in (75, from Büring & Hartmann 2001: 274).

(75) eine nur an KUNST interessierte Studentin
a only in art interested student.F
'a student only interested in art'

The argument that the FP is indeed adjoined to the AP and not to the PP involves extraposing the PP, similarly to the extraposed CP cases discussed above. In predicative APs, the PP can be extraposed, as shown in (76b). In (77), it becomes clear that the FP cannot be extraposed together with the PP, suggesting that FP and PP do not form a constituent.

(76) a. Die Studentin sollte [$_{AP}$ [$_{PP}$ an Kunst] interessiert] sein.
the student.F should in art interested be
'The student should be interested in art.'
b. Die Studentin sollte [$_{AP}$ interessiert t_{PP}] sein [$_{PP}$ an Kunst].

(77) *Die Studentin sollte [$_{AP}$ interessiert t_{PP}] sein [$_{PP}$ nur [$_{PP}$ an KUNST]].
the student.F should interested be only in art
'The student should be interested only in art.'

It remains unclear what the restrictions for FP adjunction to AP are. When considering unmodified APs, FP adjunction leads to differences in grammaticality, depending on the adjective.

(78) a. ein nur MIttelmäßiger Student
an only mediocre student
'an only mediocre student'
b. *eine nur ROte Tasche
a only red bag
'an only red bag'

As already noted in Taglicht (1984) for English, it might be possible to relate the possibility of FP adjunction to whether the adjective introduces some kind of scale or not, with FP adjunction possible in the former but not in the latter case. This of course raises the question whether the introduction of a scale is the underlying property that makes FP adjunction possible in the first place, as verbs can also often be analyzed as introducing a scale (Karen De Clercq, p.c.). How this in turn then relates to the presence of information-structural projections remains unclear, and I will not discuss this further here but leave the topic of AP-adjoined FPs to future research. These considerations aside, however, the behavior with respect to extraposition show parallels to the behavior of FPs adjoined to CPs, so that for now, I assume a similar explanation is possible.

The second question not addressed so far concerns the pervasive difference between the adjunction-sites of focus particles in German and English. While English allows for adjunction to DPs (but see Section §7 for some qualifications), German only allows adjunction to EVPs, as argued extensively in this chapter. The underlying reason for this difference that I want to argue for is functional in nature and a result of the historic development of focus particles combined with other properties of the respective languages, like scrambling.

Concretely, I follow König (1991b) in that focus particles are on a grammaticalization path from, historically, being members of major word classes to becoming more and more functional elements. Two phases in this process involve the adverbial phase and the particle phase. In German, the focus particles actually still seem to be focus adverbials, a name also commonly used to refer to them, while in English they are proper focus particles. With this distinction also comes a distinct syntactic behavior. While focus adverbials behave like adverbials in adjoining to EVPs, focus particles are less restricted and can be adjoined to elements of various categories. The reason why this distinction between German and English is observable is, I assume, the possibility of scrambling in German.

Focus particles/adverbials have the strong preference to be as close to the focus as possible and not have non-focussed constituents intervening between the

FP and the focus. In German, when the FP is adjoined to the VP, this can usually be achieved by scrambling, i.e. moving the non-focussed element out of the c-command domain of the FP. Scrambling is not possible in English (arguably due to the VO property), so for the FP to be adjacent to the focussed element without any intervening elements, the FP needs to adjoin directly to the focussed XP. At the same time, it remains unclear, how and why scrambling takes place. Analyzing it following Molnárfi (2002, et seq.) is the approach most compatible with the analysis presented here, as he assumes that elements that scramble do so because they carry an anti-focus feature and are therefore moved to a position outside the VP, probably into an anti-focus projection, which could be argued to be a topic projection encoding Givenness, as discussed above in Chapters 4 and 5. The presence of such a low topic projection might then be taken as the fundamental difference between German and English, enabling scrambling and therefore FP adjunction to EVPs in German but not in English. This discussion is very highly speculative, and much more research is necessary to settle these issues. I hope to discuss those topics in the future.

In this section, I presented my analysis of association with focus in German. Similar to the analysis for English in the last chapter, I assume an agreement relation between the focus head in the CP domain, the focus particle and the focussed constituent. This agreement relation provides the means to analyze the data discussed in this chapter and can be used to account for the readings generated by FPs. At the end of the section, I briefly speculated about FPs adjoined to APs and the underlying reason for why FPs should be restricted to being adjoined EVPs in German. In the next section, I return to some English data.

8.7 Adjunction of FPs in English

In this section, I return to some English data, mostly to point out that FP-adjunction is not as free as it is often presented in the literature. Thus, so far, I have presupposed the adjunction structure given in (79).

(79) Frank has eaten [$_{DP}$ only [$_{DP}$ a COOkie]].

However, already Taglicht (1984) and Rooth (1985) admit that there are many problematic cases, namely FPs adjoined to DPs that are complements of prepositions (80),[122] even though non-native speakers frequently disagree with these judgments (Bayer 1996).

122. Especially for Rooth, this is surprising since his theory explicitly allows for this.

(80) a. ?At the party, John spoke to only Mary.
b. *The children play in only the common.
c. *The library is closed on only Sunday.
d. *They joked about even the flood.

The same holds for DPs with a possessor. While these cases have a grammatical reading where *only* corresponds to something like 'single' (German *einzige*), they are ungrammatical under the focus particle reading, as seen in (81).

(81) #Frank's only house

This could be taken as evidence that the structure of (79) is actually not as presented above but as given in (82).

(82) Frank has [$_{vP}$ eaten$_i$ [$_{VP}$ only [$_{VP}$ t$_i$ a COOkie]]].

In (82), in contrast to (79), the FP is not adjoined to the DP directly but to the VP. Due to movement of the main verb from V to v, the only thing left in the c-command domain of the particle is the direct object, giving the impression that the FP is directly adjoined to the FP. This analysis then suggests that AwF in English is actually close to AwF in German, in that it is restricted to EVPs, and not the other way around. This conclusion is too strong, however. While the data just presented suggest that adjunction to EVPs in English might be more common than assumed, there are data that clearly require adjunction to other constituents. First, *only* needs to be able to adjoin to nouns inside DPs, as evidenced by the examples in (83), pointed out by Peter W. Smith (p.c.).

(83) a. a men's-only club
b. the women's-only gym

While data like (83) have not been discussed in the literature about English FPs, they clearly show that the FP can adjoin to nominal elements. This construction is productive and shows some interesting properties, most importantly right-adjunction of the FP. I cannot discuss this pattern further here, but simply take it as evidence that FP-adjunction in English is less restricted than in German, since data like (83) are completely ungrammatical in German.

(84) a. *ein Männer-nur Club
a men's-only club
'a men's-only club'
b. *das Frauen-nur Fitnessstudio
the women's-only gym
'the women's-only gym'

Second, as (80) above already suggests, not all prepositions behave alike when it comes to adjoining FPs below P. In order to investigate this, Bouma, Hendriks, & Hoeksema (2007) conducted a corpus study, comparing the behavior of FPs in PP across Dutch, English, and German. While the data confirm what I discussed for German above, they show significant variation in English. Briefly discussing German first, across the three languages, *with* was the most permissive preposition for FPs adjoined to the DP complement of Ps. In German however, based on the IDS corpus consisting of over two billion tokens,[123] *mit nur* did not even account for 1% of the occurrences of *nur* accompanying *mit*. The authors argue that this very low number is more than just due to performance errors, and support this with additional examples collected from the web, and consequently, they explicitly do not rule out the P-FP-DP order as a grammatical structure. In contrast to their conclusion, I argue that such a result, especially based on a corpus of this size, very well justifies ruling out P-FP-DP structure for German, and that examples collected randomly from the internet cannot be used as argument, especially when they contradict the results of a corpus study so significantly.

Turning to English, the authors discover some significant variation using the British National Corpus (BNC).[124] As mentioned above, *with* seems to be the preposition most permissive of P-FP-DP structures, and such structures, when compared to their FP-P-DP counterpart, account for 36.8% of the occurrences of *with* accompanied by *only*. This drops to 9% and 8.5% for *of* and *for*, respectively, and then to below 2% for the other prepositions they investigated. While again the data do not show that both options are equally well-accepted, as the discussion in the literature might suggest, they nevertheless show that adjunction of FPs to DPs inside prepositional phrases is possible in general, at least for certain prepositions, which is a counter-argument to the possible claim that AwF is English is similarly as restricted as in German.

In this section, I briefly touched upon English data again. The intention was not to modify the analysis presented in the last chapter, but to simply point out that adjunction to focus particles in English might not be as frequent as it is often presented in the literature. In light of the discussion in the last section, this is not surprising. If focus particles really developed out of focus adverbs, they might still show a preference for being adjoined to EVPs. Based on the discussion in this section, especially on the corpus study of Bouma et al. (2007), this seems to be the case.

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123. The authors do not specify further which corpus provided by the IDS they actually used. Supposedly, they used the DeReKo (*Das Deutsche Referenzkorpus*), which by now consists of 46.9 billion token (Das Deutsche Referenzkorpus 2020).

124. Again, the authors do not go into detail concerning the corpus used. I can only assume they refer to The British National Corpus, version 3 (BNC XML Edition) (2007).

8.8 Conclusion

In this chapter, I have argued in support of the analysis for association with focus in German of Büring & Hartmann (2001). After having presented their account, I discussed, and ultimately dismissed, the criticism presented in Reis (2005) and the problematic reconstruction data from Smeets & Wagner (2018). This was then followed by a proposal for a syntactic implementation similar to the one developed for English in the last chapter. I argued that association with focus can be seen as an agreement relation based on focus features. Three elements are involved in this relation, the focussed element with an uninterpretable but valued focus feature, the focus particle and the focus head, both with interpretable but unvalued focus features. This analysis derives the behavior of focus particles in German, especially their interesting scopal properties, in that it allows for either of the two interpretable instances of the focus feature to be the one ultimately responsible for the interpretation, giving rise to different scopes of the focus particle.

As this chapter was merely intended to show how association with focus can be derived in an agreement based system of information-structural interactions, many open questions remain. I have excluded several instances of FP occurrences right from the beginning for various reasons. Especially for focus particles that carry the main accent of the utterance, it remains unclear whether the analysis developed here can be applied to them. Similarly, FPs associated with contrastive topics, as presented in the discussion of Reis (2005) needs to be further investigated, as this might not just reveal something about the nature of contrastive topics but possibly about the nature of FPs themselves. The need for further research equally extends to the speculation about the underlying difference of FP adjunction in German and English. FPs in these two languages behave differently (even though maybe not as much as usually assumed, as discussed in the last section), especially also from a historical perspective. Despite all these shortcomings, I hope to have shown that association with focus, one of the most well-studied phenomena with respect to information structure, is amenable to a syntactic analysis based on agreement.

Association with focus in general does not involve information-structural features impacting other agreement process comparable to the other phenomena discussed in the the other chapters of this work. However, an analysis of information-structural agreement should naturally also extend to cases where only information-structural features are involved, and I hope to have shown in here and in the previous chapter that such an analysis is not only possible but also has several advantages over non-syntactic analyses. The next chapter will conclude this book, giving a summary of the results, discussing various problems and pointing out potential directions for future research.

CHAPTER 9

Conclusion

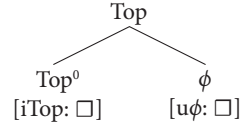
9.1 Summary and main findings

In this book, I have presented several arguments that support the status of information-structural features as genuine syntactic features. These features behave just like other syntactically relevant features: they participate in agreement processes, trigger movement, and can even influence the agreement of other syntactic features like ϕ-features. This hypothesis was then investigated for several languages and language families, and it turned out that for several phenomena that so far have received very different analyses, it was possible to provide a more uniform account based on information-structural features. This section summarizes the main findings and theoretical proposals of the individual chapters.

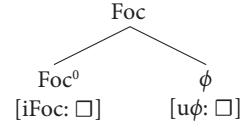
Chapter § 2 presented the necessary background assumptions about the encoding of information structure as part of the syntax. Following Aboh (2010), I assumed that information-structural features are combined with the elements they mark in the numeration, in a way that requires subsequent agreement between the information-structurally marked element and a head in the vP or CP periphery of the clause. This approach also provided an account for the optionality of the information-structural projections and their associated agreement. The information-structural heads in these peripheries, following much earlier work (Rizzi 1997; Belletti 2004), project information-structural phrases like TopP and FocP and encode different types of information-structural information. Such projections are present both in the periphery of the CP and the periphery of the vP, as both phrases are considered to be phases, and are therefore connected to the discourse context via LF and the SM-interface. Importantly, different projections encode different types of information-structural information. The different high topic projections have been described by Frascarelli & Hinterhölzl (2007), and contain, among others, positions for *Aboutness topics* and *Contrastive topics*. The high focus position, on the other hand, is usually associated with more emphatic types of foci, like contrastive, corrective, or mirative foci. The low information-structural projections in the vP have received far less attention, but in general, the low focus position is often associated with *new information focus* (Belletti 2004), while the low topic position is assumed to encode *Givenness*, which can also be seen as the complement to new information (Kallulli 2000). However, all these heads

do not only contain information-structural information. Due to their status as phase heads, the φ-features relevant for their respective phase are also initially merged there, as described for the CP by Chomsky (2008) under the term *feature inheritance*. In English, the φ-features initially merged in C are then inherited by T, but there is considerable variation with respect to which features are inherited by T and which remain in C, as extensively discussed by Miyagawa (2010, 2017). Building on his work, I proposed that the different features can be more intimately connected than just being merged together in C – they can also become bundled into one complex head.

(1)



(2)



The structures in (1) and (2) contain unvalued information-structural heads combined with a set of unvalued ϕ-features. Both types of features are dependent on one another in the agreement process necessary to value the features, so that the ϕ-features can only be valued by an element that also carries the appropriate information-structural marking. For languages that host (1) and/or (2) in their vP or CP peripheries, this amounts to claiming that these languages host an information-structurally dependent set of ϕ-features in their peripheries. This claim was at the heart of several chapters.

In Chapter §3, I employed the structures in (1) and (2) in the analysis of long distance agreement. This phenomenon involves heads in a higher clause agreeing for ϕ-features with an element in a lower full (CP) finite clause. This agree-relation is exceptional, as on the surface, it violates the Phase Impenetrability Condition (PIC), which prohibits long dependencies across certain clause boundaries, for example across the boundaries of full finite CPs. I argued that the agreement relation does not violate the PIC, as, similar to long-distance movement, the agreement relation is successive cyclic, with an information-structural head combined with ϕ-features in the periphery of the embedded CP providing the intermediate agreement step. This assumption allowed a uniform analysis for long distance agreement in various language families: the Algonquian languages, the Nakh-Dagestanian languages, and Uyghur, an Altaic language. This account also provided an explanation for the generalization that if a language allows long distance agreement based on focus of

the embedded argument, it will also allow long distance agreement for embedded topics. This simply follows from the involvement of information-structural features in the agreement process and the assumed structure of the CP periphery following Rizzi (1997).

For Chapter §4, I turned away from the CP periphery and focussed on the vP and the impact of information-structural features on ϕ-agreement in this area. It was argued that object marking in the Bantu language Swahili can be reduced to the presence or absence of (1) in the vP. Object marking in Swahili, and in many other Bantu languages, is not obligatory in all cases, and has often been reduced to differential object marking based on factors like definiteness or animacy. I argued that none of these categories can fully account for the contexts in which object marking occurs and instead argued that object marking is determined by the Givenness of the object, with object marking occurring if the element is interpreted as given. Object marking was therefore analyzed as an agreement relation between a topic head in the periphery of vP encoding Givenness in the shape of (1) and the object, arguing for an agreement-based analysis of object marking and against one based on cliticisation.

Chapter §5 provided an analysis of another phenomenon in the vP, this time not related to ϕ-features but related to movement. The Austronesian language Tagalog shows what is often called a *Philippine-type voice system* in which various elements of the vP can determine verbal agreement, which is difficult to account for in a generative syntactic framework. Building on early proposals (Rackowski 2002; Sabbagh 2014, 2016), I argued that verbal agreement is agreement between T and the highest argument in its c-command domain. However, again departing from the assumptions of definiteness or specificity being the underlying determining factors for ordering in the vP, I argued that the highest element in the vP is determined by movement. This movement in turn is based on information structure, targeting an element that is interpreted as given. Thus, I argued that similar to Swahili, the Tagalog vP hosts a topic projection encoding Givenness, but instead of being bundled with ϕ-features, the head in Tagalog is bundled with an [EPP] feature and consequently forces movement of its agreement goal into its specifier, which is the highest position in the vP and the agreement target for T. I showed how this analysis derives other properties of Tagalog syntax, especially with respect to movement into the CP. The parallelism of the low topic heads encoding Givenness in Swahili and Tagalog was highlighted by looking at comparable behavior in contrastive focus contexts.

After having discussed information structure in the CP and vP in the previous chapters, I turned to a third context in which information-structural features are prevalent cross-linguistically in Chapter §6, to focus marking. Many languages

mark constituents in focus not (only) via intonation but via particles that are adjoined to the focussed constituents. In the Papuan language Lavukaleve, these focus markers show ϕ-feature agreement with the constituent they mark as in focus, so that the focus markers can be analyzed as a lexical instantiation of (2). Of particular interest in this chapter were wide focus contexts, either VP or vP focus, respectively, and the behavior of the focus markers in these constructions. In both wide focus contexts, the focus particle is clause final, but their agreement targets differ: the focus particle agrees with the object in the former and with the subject in the latter construction. The analysis I provided still made reference to ϕ-features in the CP, as I argued that the focus particles in these contexts are actually adjoined to the FocP in the CP of the clause, which also provides the relevant ϕ-features. The head of the FocP in turn receives its ϕ-features by agreeing, based on a structure like (2), with the highest element in its c-command domain that also carries a set of valued ϕ-features, which will be the subject for vP focus and the object for VP focus. Thus, the analysis provided a way to keep the treatment of focus particles constant across the different cases by assuming (2) in the CP periphery, an assumption for which the focus particles themselves provide independent evidence.

The last two chapters were concerned with a slightly different phenomenon than the preceding chapters, namely with *association with focus*. This phenomenon describes instances in which, due to the presence of a so-called *focus sensitive particle*, focus has an impact in the semantics of the clause. Discussing the phenomenon in more general with respect to English in Chapter §7 first, I argued that association with focus should be analyzed as a syntactic phenomenon based on agreement of focus features between the focus, the focus sensitive particle, and the focus head in the left periphery. This approach can be seen as an updated version of previous accounts that tried to reduce association with focus to LF movement (Chomsky 1976; Krifka 1992), as LF movement in many cases can be reduced to agreement to establish the necessary relations.

In Chapter §8, the discussion focussed on association with focus in German. In German, the controversies surrounding this phenomenon were, and still are, mostly concerned with the syntactic position of the focus sensitive particles, with the field split into two positions: one arguing that focus sensitive particles are always adjoined to extended verbal projections and the other arguing that they can be adjoined more freely, not just to extended verbal projections, but also to DPs. In this chapter, it was argued that the former approach, adjunction to extended verbal projections, can account for the distribution of these particles much more successfully than approaches that assume additional adjunction to DP. I then presented an analysis of association with focus in German that closely resembled the analysis for English from Chapter §7, based on agreement of focus features between the focus, the focus sensitive particle, and the focus head in the left periphery.

The main goal of this book was to investigate potential effects of information-structural features once these features are taken to be genuine syntactic features. I have argued that syntactic effects of these features can be observed in all the positions for which information-structural features have been assumed to play a role. To the well-known cases of displacement in the CP caused by information-structural features, I added the possibility of ϕ-feature agreement in the CP being dependent on information structure. For the vP, I added to the growing body of literature on information-structural phenomena the accounts for Swahili and Tagalog. Importantly, the phenomena in the vP closely mimic the phenomena in the CP that have been related to information structure. The low information-structural heads can either be combined with ϕ-features, resulting in information-structurally determined agreement (Swahili), or be combined with a movement-triggering feature resulting in displacement of the information-structurally marked element (Tagalog). The different behaviors of information-structural marking in the CP and vP follow on the one hand from the different information-structural categories that are encoded in the two peripheries, and on the other from the higher structure, as the derivation usually ends after the derivation of the CP, but continues with the TP once the vP is built.

In sum, I have shown that information-structural features participate in syntactic agreement processes and influence the syntactic derivation far beyond mere dislocation to the CP of the clause.

9.2 Directions for future research

At different points during the discussion, various questions were left open as they were not directly pertaining to the respective topics of the main chapters. For long distance agreement, for example, I have argued that the relevant languages host a complex information-structural head combined with ϕ-features in the peripheries of their CPs. In all the cases discussed in this chapter, this head is not pronounced. It is expected that there are languages that actually do pronounce these heads, and arguments to that extent have been proposed by Ostrove (2018) for San Martin Peras Mixtec and also by van Urk (2015) for Dinka, both arguing that the relevant head is the topic head. In light of the cross-linguistic generalization developed in the chapter on LDA, it might be worthwhile to investigate whether there are languages that also allow overt agreement in C based on focus. In addition, it might be interesting to observe the behavior of languages with overt agreement in C with respect to the possibility of long distance agreement, as the ϕ-features in C should provide a possible agreement target for a matrix verb, just as in the cases discussed here in Chapter §3.

For Swahili, the account was explicitly restricted to object agreement in this one Bantu language. Nevertheless, object marking, and its apparent optionality, is a very pervasive phenomenon across many Bantu languages, and does not only seem to vary with respect to the underlying trigger, but with respect to many other dimensions, as discussed above. While information structure has been proposed as the underlying factor for object marking in other Bantu languages, in Zulu by Zeller (2012) and in Manyika by Bax & Diercks (2012), much more research is needed to hopefully arrive at generalizations valid for more languages.

A comparable point holds for the analysis of *ang*-marking in Tagalog. While the analysis presented here appears to make the correct predictions for this one language, the type of voice marking found in Tagalog is found in many other Austronesian languages, and the question is whether the proposal can be extended to some of these as well. I discussed the analysis of Sabel (2011, 2018) for Malagasy above, and it appears that the restrictions on agreement with the verb in Malagasy differ from those Tagalog.

For Lavukaleve, I pointed out that a recent proposal by D'Alessandro (2020) takes an interesting approach to combining ϕ-features with information-structural features, by assuming that the ϕ-features can be merged freely with various constituents, in a very similar way to what I have argued for combining information-structural features with their respective hosts. Applying her approach to the Lavukaleve data and comparing it to the analysis described above might provide further insights into Lavukaleve syntax and the nature of ϕ- and information-structural features.

Lastly, it is well known that not all focus sensitive particles behave alike. While the account presented above was intended to capture the behavior of *only*, it is questionable whether it can be extended easily to other particles. As other particles depend on the contribution of focus in a very similar way to *only*, the question naturally arises, how the differences can be modeled in the system developed above. In addition, the rest of the book has presented various cases, in which agreement of focus features goes hand in hand with ϕ-feature agreement. Nevertheless, focus particles agreeing in ϕ-features with the constituent they associate with are extremely rare or non-existent, with the only possible case described so far being the exclusive marker in Hausa (Hartmann & Zimmermann 2007). The question remains why this is so rare, and a potential answer might be related to the restriction of focus sensitive particles being able to adjoin to extended verbal projections, which do not host ϕ-features themselves.

Looking at research into information structure more generally, additional avenues for further research become apparent. While more well-studied languages like German, English or Italian have also been extensively investigated with respect to their information structure and its encoding, the study of languages outside

of Europe with respect to their information structure has gained more and more traction only in recent years, and produced various new insights into the possibilities of information-structural marking. However, especially with respect to lower information-structural projections, much more work is needed.

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Index

In this research monograph, Johannes Mursell discusses the syntactic impact of information-structural features on agreement. So far, the syntactic contribution of this type of feature has mostly been reduced to movement of topics or foci clause-initial position. Here, the author looks at a different phenomenon, syntactic agreement, and how this process can be dependent on information-structural properties. Based partly on original fieldwork from a typologically diverse set of languages, including Tagalog, Swahili, and Lavukaleve, it is argued that for most areas for which information-structural features have been discussed, it is possible to find cases where these features influence phi-feature agreement. The analysis is then extended to cases of Association with Focus, which does not involve phi-features but can still be accounted for with agreement of information-structural features. The book achieves two main goals: first it provides a uniform analysis for different constructions in unrelated languages. Second, it also gives a new argument that information-structural features should be treated as genuine syntactic features.

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