

# The Syntax of Tuki

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### **Volume 203**

The Syntax of Tuki. A cartographic approach  
by Edmond Biloa

# The Syntax of Tuki

A cartographic approach

Edmond Biloa

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*To the memories of the following people:*

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- Osvaldo Jaeggli, who passed away while I was writing my Ph.D. dissertation at the University of Southern California in Los Angeles;*
- The people who have died of AIDS.*



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# Foreword

## On cartographic studies

Around the late 1980's, the descriptive and explanatory success of Pollock's (1989) Split-Infl approach gave rise to a rich research path aiming at identifying finer and finer constituents of the inflectional space. This trend raised much interest and excitement, and led to a radical rethinking of the relation between morphology and syntax. It also raised controversy, and questions: where would the splitting process stop? When and how could one identify the ultimate atoms of syntax?

In this context, cartographic studies were introduced (Rizzi 1997; Cinque 1999). A prominent motivation was that one could look at the problem of the proliferation of syntactic heads from a new angle: rather than introducing functional heads as an ancillary hypothesis in the context of the study of some other problem (the case-agreement system, locality, word order, the study of ellipsis, and the like), one could focus directly on the functional structure of the clause as a primary object of inquiry, acknowledge that there are rich and complex functional sequences, and try to draw maps as precise as possible of the maximal expansions of the different zones of the syntactic tree. The hope was that this way of proceeding would give a realistic picture of the array of syntactic atoms that enter into linguistic computations, and of the shape and properties of linguistic molecules that atoms can be assembled into; moreover, such detailed maps would interact in interesting ways with fundamental principles of linguistic computations, thus enhancing the possibilities of principled explanations, and perhaps would offer a solid basis for applications of various sorts, as precise maps often do in different domains, from geographic explorations to the study of DNA.

While the cartographic study of the IP immediately took a large cross-linguistic perspective with Cinque 1999, the study of the left periphery initially took a different path, focusing on the analysis of a small sample of Romance and Germanic systems (Rizzi 1997). Nevertheless, the Split-C approach progressively showed its general dimension, and analyses quickly multiplied also outside the Indo-European family, with important work on Finno-Ugric, Semitic, and then African and East-Asian, American Indian, Austronesian and Australian languages, among others. Whatever zone of the tree we look at through the cartographic lens, it is clear that we must combine a microparametric perspective (Kayne 2000), to get the fundamental parametrisation right, with a macroparametric perspective, in order to always have the grand picture in sight.

The role of African languages in this rapid development was important, particularly in connection with Enoch Aboh's detailed cartographic analysis of Gungbe, in comparison with other Gbe languages, and also with the earlier results on Romance and Germanic (Aboh 2004). One property that made these African languages particularly significant for the cartographic analysis of the left periphery was the systematic presence of overt topic and focus particles. The existence of such particles in many languages from different families was well-known from previous descriptions, but under the cartographic analysis the phenomenon acquired the role of a pivotal syntactic property, at the crossroads with morphology, phonology and semantic/pragmatic interpretation.

The idea of criteria was crucial here: the left periphery of the clause is populated of functional heads such as Top, Foc, Q, Rel, etc. which have a dual function: syntactically, they attract a phrase with matching features to their Spec's; at the interfaces with sound and meaning, they trigger interpretive routines for the proper assignment of such interpretive articulations as topic – comment, focus – presupposition, operator – scope domain, and for the assignment of the appropriate pitch contours. Interpretive articulations are thus transparently expressed in the syntax by tripartite schemata Specifier – head – complement created by external and internal merge of criterial heads with other phrases. Such uniform schemata were sometimes said to “syntacticize” scope-discourse semantics (Cinque & Rizzi 2010), by producing fully transparent representations at the interface levels for the assignment of interpretive properties of topicality, focus, operator scope and the like.

The existence of many languages with overt topic and focus particles, now analyzed as criteria heads, thus provided crucial evidence for this structural view on the expression of scope-discourse properties: under natural assumptions of uniformity, a guiding principle for comparative syntax (Chomsky 2001), one could think that all languages possess such a system, except that the overt morphophonological realization of the criteria heads may vary, a rather trivial spell-out parameter. Clearly, other and more complex types of parametrisation must be assumed to capture the cross-linguistic variation in the expression of scope-discourse properties (e.g. to express the possibility that Top may be recursive or not, that a low topic position may be licensed under Foc or not, that different kinds of *wh*-elements may occupy distinct positions in the C-space or not, etc. not to speak of the possible use of *in situ* strategies which varies significantly across languages, and of co-occurrence restrictions resulting from V-2 phenomena). Nevertheless it looked empirically sustainable to stick to fundamental uniformity guidelines here, and assume that a structural conception of the mechanisms underlying scope-discourse properties had a general validity. In this conception, scope-discourse interpretation is cast in the same mold as thematic interpretation: they both crucially exploit local relations created by merge, with heads triggering the attribution of the relevant properties (theta roles, and scope-discourse

roles) to their immediate dependents, complements and specifiers. Except that there is a division of labor between external and internal merge here, with external merge involved in creating structures for the assignment of argumental semantic properties, and internal merge primarily involved in the assignment of scope-discourse properties.

The comparative considerations just made in the context of the left periphery have, in fact, a general validity: under uniformity assumptions, we may expect that the functional structure will vary primarily in connection with the overt or covert realization of the functional system. Therefore, one important goal of the comparative cartographic study is to validate the abstract postulation of a functional head in a certain grammatical systems by observing its overt realization in another system. In this respect, the study of different families of African languages has contributed a lot to cartographic research, and undoubtedly it will continue in the future.

In this volume Edmond Biloa offers a comprehensive cartographic analysis of the Bantu language Tuki. The detailed study of the structural maps of the IP system, of the DP, and of the left periphery, including predicate fronting processes, is enriched by an in-depth discussion of core theoretical topics such as the licensing of null pronominals in subject and object position, locality effects, the study of referential dependencies. As is expected under cartographic guidelines, the study of maps interacts profoundly with fundamental principles of syntactic computations, providing novel paths to explanatory analyses. Biloa's volume offers an important contribution to the cartographic endeavor, confirming previously observed generalizations and uncovering new patterns through the specificities of Tuki. It also provides an impressive model for the theory-guided study of Bantu syntax.

Paris, November 28, 2012

Luigi Rizzi



# Preface

The book conducts a syntactic study of Tuki, a Bantu language spoken in Cameroon, from cartographic perspective (Cinque 1999, 2002, 2010; Rizzi 1997, 2001, 2004; Cinque & Rizzi 2008; Aboh 2004, 2010; Aboh & Pfau 2010; Benincá & Munaro 2010). The following domains are meticulously explored: The Complementizer Domain, the Inflectional Domain and the Verbal Domain. Apart from the functional projections uncovered by Rizzi (1997, 2001, 2004) within the realm of the Split CP Hypothesis, this study reveals that there is a relative phrase located between ForceP and FocP. Moreover, a detailed analysis of an articulated IP provides the orders of clausal functional heads that manifest aspectual morphology, which is theoretically closely related to issues in adverbial syntax. More precisely, this dozen aspectual morphemes seem to be the overt manifestation of the clause functional distinctions portrayed by adverbs. Additionally, the language under study unveils a very rich structural make up of DP and the surface word orders attested in this phrase can be accounted for in terms of snowballing movement operations along the lines previously sketched in the format of the Split Hypothesis (Cinque 2002; Aboh 2004; Laenzlinger 2005). Furthermore, various topics dealt with in the book are closely thematically related to either the Comp. articulation or the Infl. articulation or the Determiner articulation (Predicate Clefting, A-bar bound pro, bound variables, null arguments, binding etc.). Overall, the Cartographic Analysis of the language is bound to enrich our morphosyntactic knowledge of UG clausal architecture by demonstrating that its rich underlying structural skeleton is correlated by a wealthy surface structural and functional map.



# Acknowledgements

The aim of this book is to provide a syntactic analysis of Tuki, a Bantu language of Cameroon within the framework of minimalism as implemented within the cartographic approach. Wherever possible/necessary, some minimalist notions are appealed to. Overall, the theoretical framework is the cartographic approach to syntactic structures. The outline of the latter approach is proposed in the introduction to this book. Generative research on Tuki started in Biloa (1992) that was later published in 1995. The bulk of the data described and analyzed in Biloa (1992, 1995) is reanalyzed here in view of the new developments in the field (Kayne 1994, 2011; Rizzi 1997, 2001; Rizzi 2004a; Cinque & Rizzi 2008; Cinque 1999, 2002a; Aboh 2004; Belletti 2004b; Laenzlinger 2005, 2011; Benincá & Munaro 2010). And the results obtained are sometimes radically different from the previous ones.

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# Abbreviations

Acc	Accusative	NP	Noun Phrase
AGR	Agreement	NOM	Nominative
AgrP	Agreement Phrase	OM	Object Marker
Agr-S	Agreement-Subject (subject-verb agreement)	OP	Operator
Appl	Applicative	P1	Past tense one
AspP	Aspect(ual) Phrase	P2	Past tense two
COMP	Complementizer	PP	Prepositional Phrase
CP	Complementizer Phrase	PPA	Principle of Projection Activation
ECP	Empty Category Principle	Prog	Progressive
EPP	Extended Projection Principle	SM	Subject Marker
FOC	Focus	Q	Question
ForceP	Force Phrase	QM	Question Morpheme
FocP	Focus Phrase	QUOT	Quotative
F1	Future tense one	Rel	Relative
Hab	Habitual	RelP	Relative Phrase
HLC	Head Licensing Condition	Spec	Specifier
Int	Interrogative	TNS	Tense
IP	Inflectional Phrase	Top	Topic
IntP	Interrogative Phrase	V	Vowel
LCA	Linear Correspondence Axiom	TP	Tense Phrase
Mod	Modifier	TopP	Topic Phrase
		UG	Universal Grammar
		VP	Verb Phrase



## CHAPTER 1

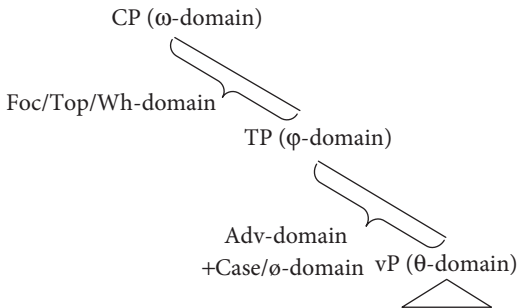
# Introduction

### 1.0 Theoretical framework

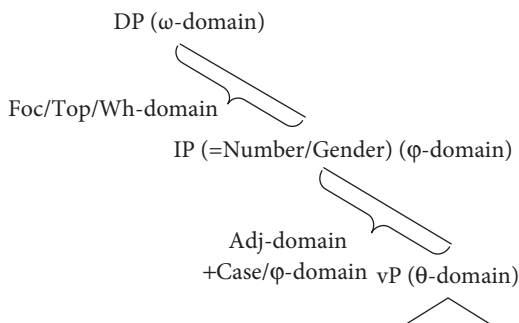
It has been proposed that the structure of the clause and the structure of the noun phrase can be divided into three domains (see among others, Chomsky (1986), Szabolcsi (1987), Abney (1987), Longobardi (1994), Laenzlinger (1998), Grohmann (2003)). The lowest domain known as the “thematic domain” ( $\theta$ -domain) is the one where all arguments of the verb/noun first merge by external merge. According to Chomsky (1995), this domain is identified as vP including VP for the clause and nP including NP for the noun phrase. The middle domain called the “ $\varphi$ -domain” contains functional heads licensing Case and  $\varphi$ -features under Agree and positions where the argument of the verb/noun can potentially move. This domain also contains functional projections related to adverbs (mood, mode, aspect, voice, etc.) for the clause and to adjectives for the noun (Cinque 1994, 1998). The upper domain known as the “left periphery” of the clause and the noun correspond to CP and DP respectively (see Rizzi’s 1997 Split-CP Hypothesis and Aboh’s 2004a, b; Laenzlinger’s 2005a, b, 2001; Ihsane’s 2008 split-DP analysis). These domains are illustrated as follows:

(1) (Laenzlinger 2011)

a. The clause



## b. The noun phrase



From the above, it is worth noting that the structure of the clause and the structure of noun phrases are assigned a parallel architecture.

Cartography is an appealing research program within the framework of Principles and Parameters of syntactic theory. It emerged and gained its name in a series of colloquia held in Italy in the late 90's and became widely known through the publication of the first three volumes of the Oxford University series *The Cartography of syntactic structures* (Cinque 2002; Belletti 2004; Rizzi 2004; Benincá & Munaro 2010).

According to Rizzi and Cinque (2008), the aim of cartography is to “draw maps as precise and detailed as possible of syntactic configurations” and its fundamental goal is the study of the richly articulated internal structure of phrases and clauses. Coming to the realization that syntactic structures are complex but very rich entities, some researchers thought that the study of such functional entities was a worthwhile endeavour, and that is why they set the goal of arriving at structural maps that could elegantly do justice to the internal complexity of syntactic structures. Overall, cartography has been prompted by the fact that syntactic structures exhibited are complex and very rich domains that need to be handled with care if one wants to do justice to syntactic layers such as phrases and clauses.

### 1.1 The starting point

Cartography stems from the idea that inflectional morphology is distributed in the syntax. This view takes root in Chomsky's 1957 *Syntactic structures* whereby the inflectional system of English is examined. According to Chomsky (1957), since inflectional affixes are elements of the syntactic computation, they are assumed to be subject to certain syntactic properties like local movement due to the complex distributional dependencies in the English auxiliary system. Syntactic atoms can be thought of as elements that are not morphologically autonomous words; morphological well-formedness can then be obtained by submitting such atoms to movement processes.

These ideas were widely supported in the early age of generative grammar, and were multiplied with the advent of X-bar theory. All syntactic structures project a uniform subtree (Chomsky 1970), and functional categories are full-fledged syntactic atoms, capable of projecting their own phrasal categories (Chomsky 1986a). From Chomsky (1957) to Chomsky (1986a), the backbone is that clauses should be formed by the articulation of lexical and functional elements, each projecting uniform subtrees according to the general laws of structure building mechanisms. Inflectional morphology provided direct morphological evidence illustrating the morphosyntactic components of the clause. Although the morphological richness is a superficial trait of variation among human languages, clauses should be formed by a constant system of functional heads in all languages, each projecting a subtree, occurring in a fixed syntactic hierarchy, irrespective of the actual morphological manifestation of the head.

With the advent of Chomsky's "Affix Hopping", Emonds's 1978 comparative analysis of the position of the verb in French and English and Pollock's (1989) Split-IP hypothesis, there is clear evidence that complex word order patterns could be reduced to uniform syntactic structures plus simple parameters having to do with the way in which affixation takes place. This line of analysis provided further support for a crosslinguistic variation within the framework of comparative linguistics. Among other things, the detailed study of the ordering of adverbial positions started to bear very directly on the analysis of the basic clausal structure, a trend that culminated in Cinque's (1999) book, which fully integrated morphological, syntactic as well as interpretative evidence in the exploration of the fine details of the clausal structure across languages. That phrases and clauses are uniformly structured and ordered for lexical and functional heads across languages stems from the fact that inflectional morphology is distributed in the syntax. This paved the way for the fine conception of syntactic structures that is assumed and validated in the realm of the cartographic approach.

## 1.2 The uniformity of syntactic structures

"Cartography is in line with the view that syntactic structures are uniform, locally simple and both necessarily and sufficient to represent the grammatical or functional information for semantic/ pragmatic" (Shlonsky 2010). The basic idea is that phrases are endocentric in nature, that is, each phrase is a projection of a zero level category called a head which projects a maximal projection, an intermediate category (probably) and a specifier. This configuration, known as X-bar theory, has received much credit in the representation of syntactic structures. Adjunction and multiple specifiers for a single head have also received a good number of experiments, but have been proven inadequate due to the fact that they wrongly predict various ways of projecting syntactic structures. This approach has been banned to the advantage of substitution

processes. In other words, instead of a multiple specifiers and an adjunction approach as advocated in Chomsky (1995), (cf. Kayne's (1994) antisymmetry). Cinque (1999), among others, thinks that each phrase is a projection of a head word. So that the core structural relations defined by X-bar theory seem to be sufficient to characterize syntactic structures.

### 1.3 Substitution vs adjunction

The identification of head positions in the clausal and phrasal structure provides a very appealing model for the morphology – syntax interface. The relevance of this relies on the positions occupied by phrases and computations involved in phrasal movement.

With respect to movement processes, two lines of analysis emerge: adjunction is opposed to substitution. According to traditional views, phrasal movement can be either substitution to a specifier (A or A'-position) or phrasal adjunction. Adjunction was considered to be optional in nature as there was no apparent or explicit trigger: various movements to the clausal edge such as argument and adverb preposing to a position in between the overt complementizer and the subject were instances of phrasal adjunction to IP (Inflectional phrase). As of the late 1980s, economy principles started to gain ground and to play a central role in syntactic theory, leading to a conception of movement as a "last resort" strategy, applicable only when necessary to warrant well-formedness (Chomsky 1986b). This and other developments cast doubts on the adjunction process as a truly optional movement.

The ideas against phrasal adjunction go hand in hand with the proposal of restrictive frameworks of phrase structure, such as Kayne's (1994) which runs counter to the possibility of phrasal adjunction (as an option formally distinct from specifier creation). The growing role of economy considerations within the minimalist program led researchers to pay more attention to the interpretative difference associated to preposing in terms of discourse-informational properties. Such interpretative considerations invariably supported the view that no movement is really optional. Interpretative properties are associated to left-peripheral positions such as topicality, focus etc. Heads are said to be triggers or attractors in the sense that they are endowed with features that need to be interpreted. Some heads are null whereas some others are morphologically overt (Bilola 1992, 1995, 1997; Aboh 1998) and act as attractors, that is they attract phrases to local specifier positions. The ban on phrasal adjunction as the result of movement was extended to base-generated structures, with the major consequence of ruling out an adjunction analysis of adverbial positions in general. These significant developments in the syntactic landscape also offered formal support to the theory of adverbial

positions in Cinque (1999), assuming adverbs to be licensed in specifier positions of dedicated heads of the inflectional system.

#### 1.4 Cartography and minimalism

Cartography and minimalism are both theoretical approaches to syntactic structures of human languages even though they can also be applied to other research fields such as geography, mathematics, physics etc. While cartography has to do with the richness and complexity of syntactic structures, minimalism tries to simplify syntactic computations in terms of economy. In concrete terms, cartography is primarily concerned with the broad inventory of interpretable features by exploring the full representation of syntactic categories and by providing an impetus for detailed research into comparative morpho-syntax providing handy tools for expressing crosslinguistic variation and similarities. As mentioned in Cinque and Rizzi (2008), cartography endeavors “to draw maps as precise and detailed as possible of syntactic configurations”. The cornerstone of cartography lies in the study of functional categories, their number and their order (Shlonsky 2010).

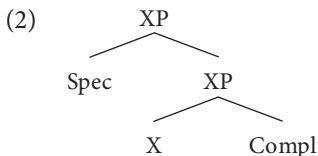
Minimalism does not break away from the cartography enterprise although there exists a number of divergences between the two. As its name indicates, minimalism, as already mentioned, is economy-driven in that it tries as much as possible to reduce the number of principles that might hinder the process of language learning and acquisition. While cartography tends to multiply investigation within the arena of syntactic structures, minimalism aims at capturing the fundamental empirical results of syntactic theory through a set of descriptive tools which is substantially impoverished with respect to previous versions of the Principles and Parameters framework (Rizzi 2004:6). Following Chomsky (1995) and subsequent work, syntactic structures become more and more minimized contrary to what prevailed some ten years back. The cartography enterprise seems to run counter to such an economy-driven approach because of the richness and multiplicity of syntactic representations. Overall despite some apparent tensions between cartography and minimalism, it should be retained that none of them has reached the stage of a theory.

The opposition made here between Cartography and Minimalism is misleading because it suggests that these are two conflicting approaches. Actually cartography is embedded within general principles of Minimalism such as Relativized Minimality (or Minimalist link Condition), Probe-goal relations, the form of chains etc. The only apparent difference is the idea that Cartography assumes too many projections while minimalism tries to reduce the number of projections, but this is not concerned with the number of projections per se but rather the types of operations involved in the computation. Whether a computation involves billions of projections is not a problem

providing these projections accelerate processing and respect primitive principles such as Minimality etc. (Aboh, personal communication).

### 1.5 Current trends in the cartographic approach

The antisymmetry theory, as proposed by Kayne (1994, 2011), militates for a specifier – head-complement configuration within a projection and bans free/multiple adjunction and multiple specifiers as proposed in Chomsky (1995). The only possible configuration according to Kayne (1994) is the following:



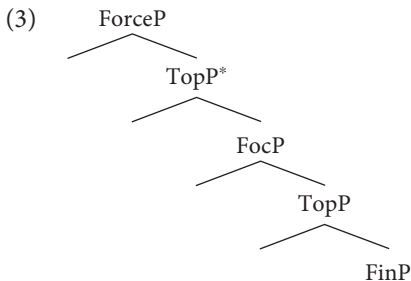
There is a mistake that is often made in the literature. SVO does not derive from Antisymmetry, but rather from the idea that Subjects are generated VP-internally (cf. Sportiche and Koopman's work in the 80s).

Antisymmetry only imposes Specifier-Head-Complement order. SVO derives as a consequence of this, if we make the additional VP-internal hypothesis.

That all languages display a basic SVO or SOV requires a number of movement types for deriving the surface configurations.

Then came Rizzi's (1997) Split CP Hypothesis and Aboh's (2004), Laenzlinger's (2005b), Ihsane's (2008) layered DP.

In the rizzian system, the CP domain is full of functional heads, each with its own interpretative properties. According to Rizzi, the C-domain is delimited by two functional categories: Force (Cheng 1991; Chomsky 1995; Rizzi 1997), denoting the illocutionary force or the clausal type (Cheng 1997) and Finiteness expressing a property related to tense and mood. Both topic and focus are substructures that explicitly signal certain discourse related properties along the following lines:



The phrase marker in (3) above shows that topic can be recursive whereas focus is consistent with the uniqueness principle (Rizzi 1997). While topic refers to old information already mentioned in a previous discourse context, focus, on its part, refers to new information or contrastive information.

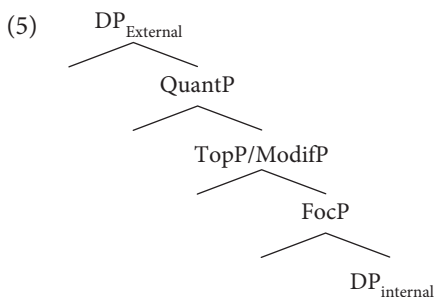
Based on Italian data, Rizzi (2001b) proposed another functional head called Int(errogative), which hosts the interrogative particle *se* “if” introduced in embedded yes/no questions. This interrogative particle is lower than the force marker *che* “that” as can be seen in Rizzi (2001b), and repeated here for expository reasons:

- (4) FORCE...(TOP)\*...INT (TOP\*)...FOC (TOP\*)...FIN...IP

Recall that *Fin* denotes finiteness; that is, it indicates whether a given verb is inflected for tense or not in a sentence. In Italian, for instance, finiteness is phonetically realized as *di* (the equivalent of the preposition *for* in English) to indicate the finiteness status of a sentence.

In order to differentiate true topics i.e. referential expressions from other left-peripheral material denoting modification (adverbs and adverbials), Rizzi (2004b) proposed another functional projection with a null spell-out head called Modifier Phrase (ModP). This significant headway offered further support to Cinque (1999), assuming that adverbs can be licensed in specifier positions of dedicated heads of the inflectional system (see also Rizzi 2004a). The cartographic approach is therefore viewed as being very instrumental in building up a typology of structural positions in the A' system, by differentiating focus, topics (and other operators), and the left-peripheral adverbials.

In Laenzlinger (2005b), there is an internal DP projection called DetP or DefP in Puskas's and Ihsane (2001). This projection is paralleled with the clausal-layered structure in (2) and is made up of a number of functional projections for the DP-domain. The topmost external projection, which corresponds to Rizzi's ForceP, is a deictic projection in Laenzlinger (2005a, b)'s terms. In-between the two DPs, there are topic, focus and quantifiers projections. As can be seen in (3) below:





Scott (1998:71) fine-tuned the hierarchy of adjective-related projections for object-denoting nouns along the following lines:

- (7) Ordinal > Cardinal > Subjective  
 Comment > Evidential > Size > Length > Height > Speed > Depth  
 > Width > Temperature > Wetness > Age > Shape > Color > Nationality  
 > Origin > Material.

Following Sproat and Shi (1988), Cinque (2003, 2008, 2010) proposed a dual source for adjective within the noun phrase, by establishing the difference between direct modification of non-restrictive, non-intersective, modal etc. adjectives and indirect modification of restrictive, intersective, relative, etc. adjectives.

Cinque proposed that adjectives of the former class substitute for the specifier positions of (AP) of functional projections, whereas adjectives of the latter class are reduced to relative clauses along the lines of Alexiadou and Wilder (1998). Laenzlinger's (2005b) proposal that attributive adjectives are specifiers of functional projections seems to be appropriate for analyzing the Tuki empirical material.

Cinque's (2010) analysis on adjectives attempts to derive the following generalizations:

- i. While APs in pre-nominal position in Romance are necessarily individual-level, nonrestrictive, modal, nonintersective, absolute, specificity-including, evaluative, rather than epistemic, and (plural) NP dependent...post-nominal APs in Germanic (when possible), generally exhibit the mirror-image order.
- ii. Post-nominal APs in Romance and pre-nominal in Germanic ones are systematically ambiguous.
- iii. The two prenominal readings of Germanic, and the two postnominal readings of Romance are ordered in a mirror-image fashion i.e. the AP in the outer position (leftmost in Germanic; rightmost in Romance) has the set of interpretations found (when that is possible), post nominally in Germanic, which derive, from a reduced relative clause source (for further details, see Cinque 2010).

## 1.6 A Cartography of subject positions

Traditionally, it has been assumed that the basic clause structure is depicted as follows (Chomsky 1981, 1986):

- (8) [<sub>IP</sub> DP Infl [<sub>VP</sub> V DP]]

Cardinaletti (2004) proposes "a cartography of subject positions" to the effect that (8) must be split into a number of preverbal subject positions, specialized to host different subjects:

- (9) [<sub>Subj</sub>P [<sub>AgrS</sub>P\* [<sub>TP</sub>...[...[<sub>VP</sub>.....]]]]]]

Cardinaletti's proposal makes two distinct and related claims:

"First, there exists more than one preverbal subject position. The two properties attributed to (preverbal) subjects – that is, being the grammatical subject according to morphosyntactic criteria and being the semantic subject – are attributed to two distinct functional projections: AgrSP and the SubjP, respectively. AgrSP is the projection in which  $\phi$ -features are checked on the nominative DPs; this results in nominative case on the subject DP and verb agreement with the subject DP. SubjP is the projection in which the "subject-of-predication" feature is checked. In this way, the semantic property of subjects is encoded in the syntax through a morphosyntactic feature. In turn, AgrSP can be split into discrete projections realizing different  $\phi$ -features.

Second, the two projections superficially host different types of subjects: while specSubjP typically hosts strong subjects, SpecAgrSP typically hosts weak subjects ("strong" and "weak" in the sense of Cardinaletti & Starke 1999). Referentiality can also be a relevant feature, though interconnected with the weak/strong distinction. Nonreferential subjects, which are only weak, are restricted to the specAgrSP position. Referential subjects, which can be either weak or strong, can occur in either position" (Cardinaletti 2004: 120–121).

Evidence from the specSubjP position is provided by dative fronting constructions with psych verbs. Psych verbs of the *piacere* class (*interessare* "interest", *piacere* "please", *venir voglia di* "feel like" etc.) are unaccusative verbs that select a theme and a dative experiencer. Either the theme or the experiencer can be preposed to the preverbal position (Calabrese 1986; Belletti & Rizzi 1988; Cardinaletti 2004: 122–123):

- (10) a. *La musica piaceva molto a Gianni*  
The music "pleased" much to Gianni  
b. *A Gianni piaceva molto la musica*  
to Gianni "pleased" much the music  
"Gianni like music a lot"

Cardinaletti observes that the fronted dative occurs in the preverbal subject position (Belletti & Rizzi 1998) but neither case nor  $\phi$ -features are checked by the raised dative. Its raising therefore does not seem to be justified. The Split Subject hypothesis suggested by Cardinaletti accounts for this problem. The dative argument is said to have raised to the preverbal position specSubP in order to check the subject of predication feature. Cardinaletti indicates that Nominative case and  $\phi$ -features are checked by the postverbal theme: via a chain with the expletive *pro* in specAgrSP (Chomsky 1986), via covert movement (Chomsky 1995), or long-distance agreement (Chomsky 1998, 1999):

- (11) [ SubjP a Gianni<sub>i</sub> [AgrSP Pro<sub>expl</sub> piaceva<sub>k</sub> [ molto [VP t<sub>i</sub> t<sub>k</sub> la musica ] ] ] ]

This analysis is corroborated by the cases in which a dative experiencer occurs with a referential null subject. Given that, *pro* occupies the preverbal subject position (Burzio 1986; Rizzi 1987; Cardinaletti 1997a; Cardinaletti 2004) and the dative must occupy a different position:

- (12) *A Gianni pro piaceva molto*  
to Gianni “pleased” much

The Split subject Hypothesis can also account for the fact that the “subjecthood” of dative experiencer co-occurs with the presence of a preverbal null subject. As depicted by the following articulated clause structure, the internal argument *pro* moves to SpecAgrSP, while the dative experiencer raises to specSubjectP:

- (13) [<sub>Subj</sub>P a Gianni<sub>i</sub> [<sub>AgrS</sub>P pro<sub>j</sub> piaceva<sub>k</sub> [molto [<sub>VP</sub> t<sub>i</sub> t<sub>k</sub> t<sub>j</sub> ]]]]

More evidence for the specSubjP position stems from dative fronting with other unaccusative verbs such as *piacere: capitare* (happen), *mancare* (be missing). “The dative argument appears preverbally, whereas the grammatical subject, a theme, stays in situ in post verbal position” (Cardinaletti 2004:123; see also Belletti & Rizzi 1988:341). The preverbal dative occurs in Aux – to – Comp and Complementizer Deletion constructions:

- (14) a. *A Gianni è capitata una grande disgrazia*  
to Gianni is happened a big misfortune  
b. *Essendo a Gianni capitata una grande disgrazia*  
being to Gianni happened a big misfortune  
c. *Credo a Gianni sia capitata una grande disgrazia*  
[I] believe to Gianni is happened a big misfortune

As with *piacere* “please”, *pro* (a null subject) is allowed in the structure, and the preposed PP behaves like a subject:

- (15) a. *A Gianni capitata spesso, ultimamente*  
to Gianni [it] happens often lately  
b. *Essendo a Gianni capitata l'anno scorso,...*  
being to Gianni [it] happened last year....  
c. *Credo a Gianni sia capita l'anno scorso*  
[I] believe to Gianni is happened last year

In the structures in (16) below, the PP occurs in specSudjP, and the null subject (*pro*) occupies the lower of the two subject positions:

- (16) a. [<sub>Subj</sub>P a Gianni<sub>i</sub> [<sub>AgrSP</sub> pro<sub>expl</sub> è capitata [<sub>VP</sub> t<sub>i</sub> una grande disgrazia ]]]  
b. [<sub>Subj</sub>P a Gianni<sub>i</sub> [<sub>AgrSP</sub> pro<sub>j</sub> capita spesso [<sub>VP</sub> t<sub>i</sub> t<sub>j</sub> ]]]

The locative argument of some unaccusative verbs can be fronted to the subject position. In this respect, locatives pattern with datives, as illustrated by the following two paradigms:

- (17) a. *su Gianni cadde una grande disgrazia*  
 on Gianni fell a big misfortune  
 b. *Essendo su Gianni caduta una grande disgrazia, ...*  
 being on Gianni fallen a big misfortune ...  
 c. *credo su Gianni sia Caduta una grande disgrazia, ...*  
 [I] believe on Gianni is fallen a big misfortune ...
- (18) a. *su Gianni è caduta l'anno scorso*  
 on Gianni [it] is fallen last year  
 b. *Essendo su Gianni caduta l'anno scorso, ...*  
 being on Gianni [it] fallen last year  
 c. *credo su Gianni sia caduta l'anno scorso, ...*  
 [I] believe on Gianni [it] is fallen Last year.

The locative raises to specSubjP, whereas the null external argument (pro) moves to AgrSP:

- (19) a. [<sub>SubjP</sub> *su Gianni*<sub>i</sub> [<sub>AgrSP</sub> *pro*<sub>expl</sub> *Cadde* [<sub>VP</sub> *t*<sub>i</sub> *una grande disgrazia* ]]]  
 b. [<sub>SubjP</sub> *su Gianni*<sub>i</sub> [<sub>AgrSP</sub> *pro*<sub>j</sub> *è caduta ...* [<sub>VP</sub> *t*<sub>i</sub> *t*<sub>j</sub> ]]]

Predicate fronting in inverse copular sentences provides more evidence for the existence of the specSubjP position. In these constructions, a predicative DP moves to the preverbal position and the grammatical subject remains postverbally (Moro 1993; Cardinaletti 2004: 125–126):

- (20) *La causa della rivolta sono Gianni e Maria*  
 The cause of the riot are Gianni and Maria

The fronted predicate occurs in Aux-to-comp and complementizer deletion (CD) thereby behaving like a preverbal subject:

- (21) a. *Essendo la causa del la rivolta Gianni e Maria, ...*  
 being the cause of the riot Gianni and Maria...  
 b. *Credevo la causa del la rivolta fossero Gianni e Maria*  
 [I] believe the cause of the riot were Gianni and Maria

The structure in (22) below depicts the derivation of inverse copular sentences:

- (22) [<sub>SubjP</sub> *la cause de la rivolta*<sub>i</sub> [<sub>AgrSP</sub> *pro*<sub>expl</sub> *sono* [<sub>SC</sub> *Gianni e Maria* *t*<sub>i</sub> ]]]

The dative DP (*la causa del la rivolta*) raises to the specSubjP position wherein the subject-of-predication feature is checked. The grammatical subject (*Gianni e Maria*)

stays in the postverbal position and checks nominative case and  $\phi$ -features covertly via chain with the expletive pro in specAgrSP (Chomsky 1986), or via covert movement (Chomsky 1995), or long-distance agreement (Chomsky 1998, 1999).

Cardinaletti (2004: 134) observes that Italian does not provide evidence to identify other preverbal subject positions in addition to specSubjP and specAgrSP. However, other languages provide evidence that the agreement field must be split into distinct projections realizing different morphosyntactic features. Thus, weak pronouns of different persons occupy different subject positions.

Poletto (2000) argues that in Northern Italian dialects, distinct AgrS projections should be individuated to host subject clitics, which realize  $\phi$ -features below (Cardinaletti 2004: 135, (69)):

- (23) [<sub>NumbP</sub> 3rd SubjCL [<sub>HearerP</sub> 2ndSubjCL [<sub>SpeakerP</sub> Vfin [<sub>TP</sub>...]]]]

Cardinaletti (2004: 135) indicates that in French first-person pronouns are higher than second- and third-person pronouns. Consequently, lexical verbs cannot invert around a first-person singular pronoun, while auxiliary and modal verbs can. De Crousaz and Shlonsky (2000) argue that the contrast can be reduced to the different scope of verb movement in the two cases: a lexical verb does not raise higher than the head to which second- and third-person clitic pronouns adjoin. But auxiliary and modal verbs can precede first-person pronouns because they raise higher than lexical verbs (Pollock 1989):

- (24) (Cardinaletti 2004: 135, (73))

- a. \*Viens-je?
  - b. Viens-tu?
  - c. Vient-il?
- Come(s) – I / – you / – he?

- (25) (Cardinaletti 2004: 135, (74))

- a. Suis-je?
  - b. Es-tu?
  - c. Est-il?
- Am – I? / are – you / is – he?

- (26) (Cardinaletti 2004: 135, (75))

- a. Puis-je?
  - b. Peux-tu?
  - c. Peut-il?
- Can – I / – you / – he?

Partially summarizing, “although the internal articulation of the AgrS projection requires a more detailed study in comparative perspective, it seems correct to view AgrSP not as a unique projection but as a number of different projections, each realizing a  $\phi$ -feature or a set of  $\phi$ -features” (Cardinaletti 2004: 136).

Cardinaletti (2004: 136) proposes the following substructure concerning preverbal subjects:

(27) (Cardinaletti 2004: 136, (76))

SpecSubjP	Subj° <subject of predication>	specAgrSP	AgrS <sup>o*</sup> <φ-features>
DPs		Weak pronouns	
Strong pronouns		pro	
Weak pronouns (egliesso)			

Combining (27) with the postverbal positions identified by her (Cardinaletti 2004: 117–120) such as the VP-internal subject position, the middlefield subject position, Cardinaletti proposes the following cartography of subject positions:

(28) (Cardinaletti 2004: 136)

SpecSubjP	Subj°	SpecAgrSP	AgrS*	spec??P	??°	spec?P	?°*	SpecVP	V <sup>0</sup>
DPs		Weak pronouns		Weak pronouns		DPs		DPs	
Strong Pronouns		pro				Strong pronouns		Strong pronouns	
Weak (egliesso)						Predicate DPs			

Cardinaletti identifies another subject position ( $_{EPP}P$ ) on the basis of the following reasoning and evidence (Cardinaletti 2004: 15 / – 154). It is important to maintain the distinction between XP-movement that is motivated by the need to check the feature-of-predication feature and the EPP (Extended Projection Principle) that requires that every sentence have a subject (Chomsky 1981). When no argument is raised to the preverbal subject position, the EPP makes sure that an expletive occupies the latter position. The EPP has received various treatments. It has been expressed as a nominal feature D on AgrS (Chomsky 1995: 232), as a selectional feature satisfied by an XP merged with the category it heads (Chomsky 1998), and as a phonological feature P (Holmberg 2000).

As a follow up to the preceding piece of literature review, Cardinaletti posits that “preverbal and post-verbal subjects differ with respect to the subject-of-predication feature. Only the former can check this feature, while the latter can never be subjects of predication”. In the following Italian sentences, the verb is unaccusative:

- (29) (Cardinaletti 2004: 151, (140))
- a. *Gianni è arrivato*  
Gianni is arrived
  - b. *È arrivato GIANNI (non Maria)*  
is arrived Gianni (no Maria)
  - c. *È arrivato Gianni*

In (29a), the subject is preverbal and the construction is a predication or a categorical sentence. In such sentences, the predicate is “about” a prominent argument (the subject Gianni). Not only does it check the case and  $\varphi$ -features, the DP Gianni checks the subject-of-predication feature, as depicted below:

- (30)  $[_{\text{SubjP}} \text{Gianni}_k [_{\text{AgrSP}} t_k \text{è} \dots [_{\text{VP}} \text{arrivato } t_k ]]]$

When the sentence contains a postverbal subject, the grammatical subject can either be (contrastively) focused, as in (22b). When the subject is focused, the sentence obtained is a categorical one in which the subject of predication is the one of the preceding context; the latter is negated by the contrasted element; when the postverbal subject is not focused, there is no subject of predication, and a presentation S orthetic sentence is obtained. Cardinaletti (2004:151) indicates that a thetic sentence reports on an event, in which all the arguments of the verbs are introduced as event participants. It is used in out-of-the blue contexts or as an answer to the question *what happened?* Furthermore, in thetic sentences, no XP in the clause checks the subject-of-predication feature, as illustrated below:

- (31)  $[_{\text{SubjP}} [_{\text{AgrSP}} \text{è} \dots [_{\text{VP}} \text{arrivato Gianni} ]]]$

Compare (29c) above with (32c) and (33c) below (Cardinaletti 2004: 152, (144–145)):

- (32) a. *Gianni ha chiamato Piero*  
“Gianni has called Piero”
- b. *ha chiamato Piero (Gianni (non Maria))*  
has called Piero Gianni (not Maria)
  - c. *Gianni ha chiamato Piero*
- (33) a. *Gianni ha telefonato a Piero*  
Gianni has phoned to Piero
- b. *ha telefonato a Piero Gianni (non Maria)*  
has phoned to Piero Gianni (not Maria)
  - c. *Gianni ha telefonato a Piero*

If the proposal made above for (29c) (see (31)) is extended to the thetic sentences (32c) and (33c), the subject does not check the subject-of-predication feature. If that is the case, why does it move to the preverbal position? Since checking of case

and  $\varphi$ -features can take place covertly (or long distance), it is not enough to trigger movement. Cardinaletti suggests that the trigger is the EPP. The highest argument raises to check the EPP feature (in addition to case and  $\varphi$ -features), as sketched in (34a) below:

- (34) a.  $[_{\text{SubjP}} [_{\text{EPPP}} \text{Gianni}_k [_{\text{AgrSP}} t_k \text{ ha } \dots [_{\text{VP}} t_k \text{ chiamato Piero } ]]]]$   
 b.  $[_{\text{SubjP}} \text{Giannik} [_{\text{EPPP}} t_k [_{\text{AgrSP}} t_k \text{ ha } \dots [_{\text{VP}} t_k \text{ chiamato Piero } ]]]]]]$

Cardinaletti argues that the difference between (32c) / (33c) and (34a) / (35a) relies in the subject-of-predication feature. If the proposal made above for (29a) (see (30)) is extended to (32a) / (33a), the subject-of-predication feature is checked by the subject Gianni, as illustrated in (34b) above. The latter bracketed structure has decomposed the subject properties into different morphosyntactic features and accounts for the semantic difference between (32a) / (33a) and (32c) / (33c) in structural terms.

Consider (29c) again: *È arrivato Gianni*. In Cardinaletti's (1997b) analysis, the EPP feature is the trigger for the insertion of an expletive subject whereas case and  $\varphi$ -features are checked by the postverbal subject. Tortora (1997) analyzes sentences such as (29c) and concludes that what occupies the preverbal position is not an expletive but a null location-argument of the unaccusative verb parallel to the weak locative *there* found in the corresponding English sentence *there arrived three girls*. This locative argument does not agree with the verb; it cannot check case and  $\varphi$ -features and cannot occupy specAgrSP. Cardinaletti (2004: 153) concludes that this null location – goal argument occupies specEPPP. (31) is thus revised as (35) below:

- (35)  $[_{\text{SubjP}} [_{\text{EPPP}} \emptyset_{\text{LOC}} [_{\text{AgrSP}} \text{è } \dots [_{\text{VP}} \text{arrivato Gianni } ]]]]]]$

(29b) contains no such locative argument. A true nominal expletive fills the EPP position (cf. (29a) below). In (29a), the locative argument is also absent and its structure is shown in (29b) below (in fact it is a revision of (30) in that it displays the EPP projection):

- (36) a.  $[_{\text{SubjP}} [_{\text{EPPP}} \emptyset_{\text{NOM}} [_{\text{AgrSP}} \text{è } \dots [_{\text{VP}} \text{arrivato GIANNI } ]]]]]]$   
 b.  $[_{\text{SubjP}} \text{Gianni I} [_{\text{EPPP}} t_k [_{\text{AgrSP}} t_k \text{ è } \dots [_{\text{VP}} \text{arrivato } t_k ]]]]]]$

The different interpretation of the two derivations (35) and (36) is correlated by their structural differences. Tortora (1997, 2001) indicates that in (29c) the goal of motion is necessarily speaker-oriented (“Gianni has arrived where the speaker is”), while it is free in reference in (29a) and (29c) (“Gianni has arrived somewhere, even if the speaker was not in that place at the time of arrival”) (Cardinaletti 2004: 153).

The categorical sentences (32b) and (33b) containing unergative verbs with postverbal subjects also have a true expletive. The latter null expletive is comparable to the overt nominal expletive attested in Germanic TECs (Transitive Expletive Constructions). The following derivation contains the transitive verb of (32):

(37) [<sub>SubjP</sub> [<sub>EPPP</sub>  $\emptyset$  [<sub>AgSP</sub> ha [chiamato<sub>v</sub> [<sub>Piero<sub>i</sub></sub> [<sub>VP</sub> arrivato GIANNI t<sub>v</sub> t<sub>i</sub> ]]]]]]]]

Cardinaletti (2004: 153) observes that there is no difference between Italian and English, with regard to the (a) and the (c) examples of (32) and (33), if one compares NSLs and non – NSLs. For illustration, compare (38) below with (34):

(38) a. [<sub>SubjP</sub> [<sub>EPPP</sub> John<sub>k</sub> [<sub>AgSP</sub> t<sub>k</sub> has... [<sub>VP</sub> t<sub>k</sub> called his friend ]]]]  
 b. [<sub>SubjP</sub> John<sub>k</sub> [<sub>EPPP</sub> t<sub>k</sub> [<sub>AgSP</sub> t<sub>k</sub> has... [<sub>VP</sub> t<sub>k</sub> called his friend ]]]]

The (b) sentences of (32) and (33) illustrate the difference between NS Ls and non-NSLs. The counterparts of these sentences are ungrammatical in non-NSLs. English, as opposed to Italian, does not allow for a true expletive to occur in specE<sub>pp</sub>P.

English and Italian do not differ for sentences containing the location-goal argument. (39) is parallel to (35), modulo pro-drop.

(39) (Cardinaletti 2004: 153, (151))  
 a. There arrived three girls  
 b. [<sub>SubjP</sub> [<sub>EPPP</sub> there<sub>LOC</sub> [<sub>AgSP</sub> ... [<sub>VP</sub> t<sub>k</sub> arrived three girls ]]]]

An asymmetry still remains in this case. In English, the subject of a thetic sentence can raise to a preverbal position:

(40) John arrived

(40) has the speaker-oriented interpretation of the location-goal (Tortora 1997; Cardinaletti 2004: 153, (152)).

In Tortora's analysis, the speaker-oriented interpretation of the location-goal implies the presence of a locative argument. This implies that a phonologically null locative occurs in the subject-position, while *John* occurs in a lower position. There in (39), as well as the phonologically null locative, occupies the EPP-related position. "Since in English, the overt movement of the subject to the preverbal position can only be triggered by the need to check nominative case and  $\phi$ -features, I take *John* to occupy specAgSP, which must therefore be located below the EPP-related position" (Cardinaletti 2004: 154, (153)):

(41) [<sub>SubjP</sub> [<sub>EPPP</sub>  $\emptyset$ <sub>LOC</sub> [<sub>AgSP</sub> John<sub>k</sub> ... [<sub>VP</sub> arrived t<sub>k</sub> ]]]]

In Italian, a sentence like (35), parallel to (33) – (34), is not allowed, presumably because case and  $\phi$ -features can be checked covertly (or long distance):

(42) \* [<sub>SubjP</sub> [<sub>EPPP</sub>  $\emptyset$ <sub>LOC</sub> [<sub>AgSP</sub> Gianni<sub>k</sub> è ... [<sub>VP</sub> arrivato t<sub>k</sub> ]]]]

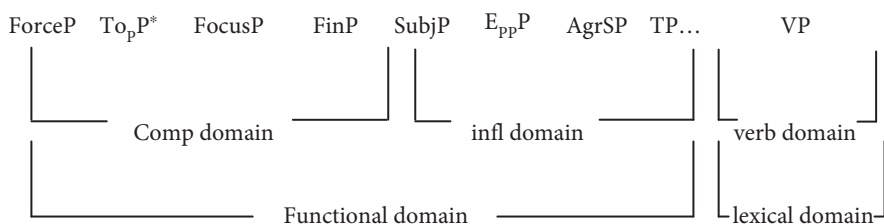
In this language, overt DP movement to the preverbal position is motivated by the need to check either the EPP or the subject-of-predication feature, as in (34) and (36b).

So, in the cartography of subject positions, the following preverbal subject positions are attested (Cardinaletti 2004: 154, (155)):

- (43) specSubjP specE<sub>pp</sub>P specAgrSP\*

Cardinaletti concludes that “the subject-of-predication feature and the EPP-feature are not identical, but there is a similarity between the two. Both features must universally be checked before Spell-Out, whereas other features, such as case and  $\varphi$ -features on the one hand and topic and focus features on the other, can be checked before or after Spell-Out”. The articulation of the clause can now look as follows (adapted from Cardinaletti 2004: 121, (17)):

- (44)

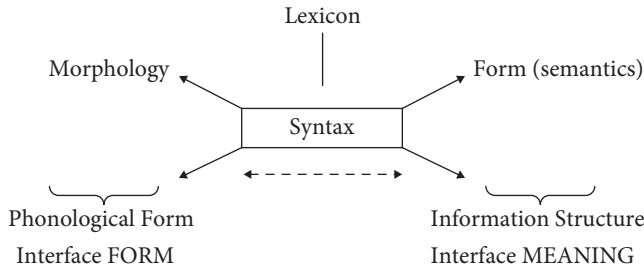


## 1.7 The computational system and the architecture of the grammar

According to Chomsky’s 1970 Lexicalist Hypothesis (LH), the lexicon plays an important role in the computation of syntactic derivations. The relations of selection from a head, be it a lexical item or a functional category, are drawn from the Lexicon and specified in the Numeration. On the one hand, there is categorical selection (C-selection) and on the other hand, there is semantic selection (S-selection). C-selection applies both to lexical heads and functional categories whereas S-selection is involved in thematic role assignment ( $\theta$ -selection) and the selection of adverbs. C-selection concerns only the complement while S-selection extends to specifiers. When the choice of the lexical items and the functional category is specified at the level of the Numeration also known as the Lexical Array, the operation of phrasal procedure is based on selectional properties. This step constitutes the core of syntax and involves movement operations regulated by the Feature Theory. After the formation of phrase structure

and movement operations, the resulting syntactic structures are sent to the interfaces for interpretation. This point of interpretation is known as Spell-Out. One interface is linked to FORM and another to MEANING. The one linked to FORM is composed of Phonological Form and Morphology while the other linked to MEANING is composed of Logical Form and Information Structure. The architecture of the grammar is schematized as follows:

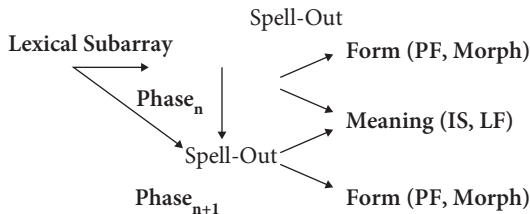
(45) (Laenzlinger 2011)



According to recent proposals, syntactic derivations proceed by successive phases. At each phase, the syntactic structure, or more precisely its features, is spelt out to the relevant interfaces for interpretation (this process is also known as TRANSFER). Each phase calls for a subset of the numeration. A derivation by successive phases is illustrated as follows:

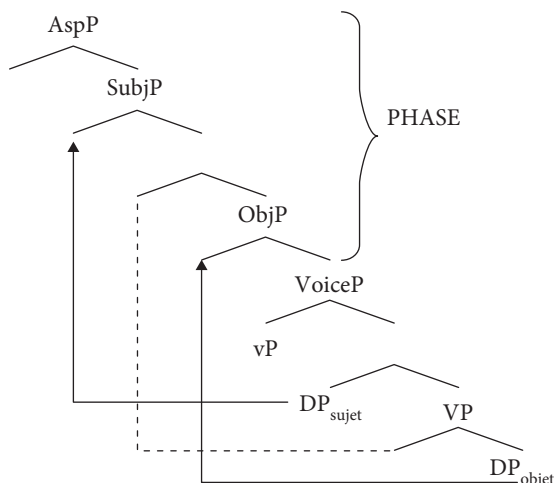
(46) (Laenzlinger 2011)

Table 1. Derivation by successive phases



Chomsky (2001) proposes that vP and CP, as well as DP, are phases. Each phase contains potential positions for the subject, the verb and the object(s). Arguments as well as the verb can leave the thematic domain to reach these positions in the middlefield (“mittelfeld”), as illustrated here under:

(47) (Laenzlinger 2011)



## 1.8 Feature theory and movement

According to Chomsky's (1995) Checking Theory, features play an important role in Minimalism. This theory has evolved in the late version of Minimalism (see Chomsky 2000, 2001) towards a theory of feature matching and valuation. Lexical and functional categories are features that are specified in the numeration. Phonological features are interpretable at PF while semantic features are interpretable at LF. As for formal features such as Case-features and  $\varphi$ -features on verbs and adjectives, they are uninterpretable. As far as the distinction between N-features and V-features is concerned, the former enters into a relation with noun phrases whereas the latter enters into a relation with the verb. Within the minimalist framework, the head T is associated with both N-features and V-features. To sum up, the following features can be contained in the Numeration:

**Numeration:** Lexical categories: (Nouns, Verbs, Adjectives, Adverbs)

Features: N ( $\theta$ ,  $\varphi$ , Case, IS-feature)

V ( $\theta$ ,  $\varphi$ , tense)

Functional categories: (D, P, Force, Foc, Top, Subj<sub>Criterial</sub>, Mood, Mode, T, Asp, VoiceP, Subj, Obj, V)

Features : Subj, Obj ( $\varphi$ , Case, IS, +EPP)

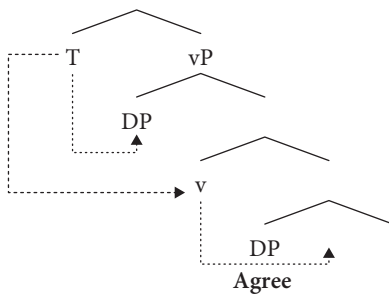
V contains features such as thematic,  $\varphi$  – and tense features whereas N contains features such as thematic,  $\varphi$  –, Case- and IS features. If a nominal category is associated with an IS-feature, then the heads Subj/Obj are associated with an EPP-feature that

will attract the nominal category. Among functional categories, semantico-functional categories are found in the Mittelfeld (Laenzlinger (2000)). Feature Theory works in Minimalism on the basis of feature matching between a probe and a goal. For instance, T/Agrs/Subj is the probe searching down for the goal, that is the DP subject in Spec-vP. The latter has valued  $\phi$ -features and unvalued Case-features. The probe is associated with unvalued  $\phi$ -features. After the Match procedure, that is feature matching, the probe and the goal enter into a relation called Agree (see Chomsky 2001). This Agree relation leads to  $\phi$ -feature valuation on the probe (T/Agrs/Subj) and reciprocally to Case-feature valuation on the goal, that is the DP subject.

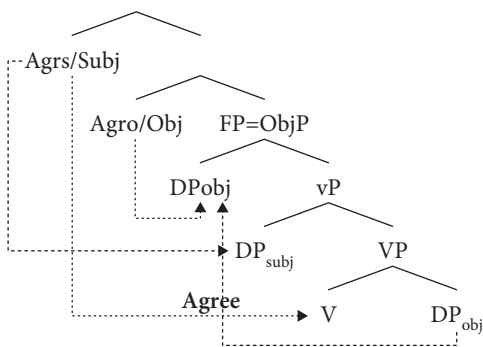
The following tree representations illustrate the Agree relations in a transitive sentence with a subject and direct object following the minimalist and the cartographic approaches.

(48) (Laenzlinger 2011)

a. Minimalism



b. Cartography



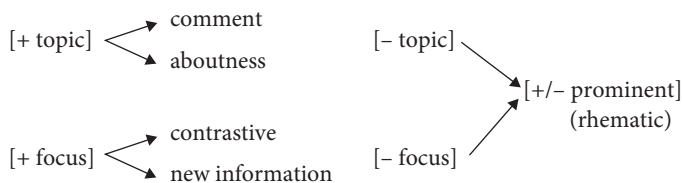
In the minimalist tree, T agrees with the DP subject in Spec-vP and v with the direct object in Compl-V while in the cartographic tree, Subj(Agrs) agrees with the DP-subject in addition to the verb. As far as the DP object is concerned, it enters into an Agree relation with Obj which is associated with case-and possibly IS-features.

As far as movement is concerned, in the former Checking Theory, strong feature checking (Case) triggered overt movement. The distinction between weak and strong features is eliminated from the computation in favour of the agree relation. What triggers movement in recent Minimalism is the EPP-feature, responsible for the second merge of specifiers. The EPP-feature and the Case-features are erased before Spell-Out for Full Interpretation to occur; the latter requires that uninterpretable features be erased at Spell-Out because they are not legitimate objects at LF.

## 1.9 The syntax – Information structure interface

The purpose of this section is to show that variations in word order depend not only on the system licensing Case and  $\phi$ -features, but also on the system of Information Structure. The clause according to its communicative dynamics is divided into theme, topic-comment or Focus-ground. Ground is the part that anchors the sentence into the previous discourse. Focus encodes new information and topic constitutes the theme or given information.

### (49) Information typology (Laenzlinger 2011)



Among topics, a distinction is made between topics associated with a comment (topic-comment) and topics expressing the aboutness (topic-aboutness) of the clause. The former are expressed in the left periphery of the clause at Spec-TopP position. As far as topic-aboutness is concerned, it is usually the subject of the clause, the element that satisfies the Extended Projection Principle.

## 1.10 Motivation for the present study

In sum, cartography is a syntactic approach and is very promising and appealing as it enables researchers to draw syntactic maps as precise and detailed as possible. It scrutinizes the internal structure of functional categories in their richness and complexity by providing an elegant and satisfactory analysis of syntactic categories. Cartography is not opposed to minimalism in spite of some apparent tension that seems to cast doubt on the way they can both be handled.

A question might be asked at this juncture as to why associate the syntactic study of Tuki with cartography. It is argued throughout the book that the structure of CP, as proposed by Chomsky (1986), cannot accommodate this Bantu language empirical material, notably in clefts, interrogatives, relatives, yes/no questions and topicalizations. The split CP hypothesis advocated by Rizzi (1997, 2001 a–b, 2004) comes handy for the task as it makes provisions for positions in syntax (i.e. the computation that produces the phrase marker) that can host interrogative force, topic and focus particles. As indicated by Durrlemann – Tame (2008: 13),

*linguists working within [The Cartographic Framework] aim to draw structural maps capable of accounting for the syntactic complexity as well as the fundamental uniformity observed in natural languages. At the core of their investigation is the notion that all morphemes, lexical and functional, project their own phrasal category and, as a result, each one is indicative of a part of the clausal architecture. This view sprang from the observation that if affixes are taken to play a syntactic role, then we can elegantly account for certain language-internal distributional variations of the English inflectional system (Chomsky 1957). Comparative work further illustrated that cross-linguistic variation could also be captured once the section of the clause responsible for hosting inflectional affixes was increasingly developed so as to include different positions hosting distinct affixal heads (Pollock 1989). This continued to fuel research on the nature of the functional domain of the clause from a cross-linguistic point of view, yielding ultimately pivotal works by Rizzi (1997) for the Complementizer Phrase (CP), Cinque (1999) for the Inflectional Phrase (IP), and Abney (1987) for the determiner Phrase. These works all point to the need to split each of the three sections into a considerably more articulate zone. On the one hand, their combined efforts therefore result in a syntactic apparatus that is composed of a very rich array of functional projections. On the other hand, this highly articulate structure nevertheless maintains simplicity and uniformity given that all projections follow one format, that of X-bar theory, and all these projections are universal in both their nature and relative hierarchy.*

Moreover, Cartography seems to accommodate the view of this work according to which discourse – related (or information-structure-sensitive) functional items should project in syntax (see also Aboh 2010: 16). The opposing view held by Chomsky (1995:220) suggests that the observed surface effects induced by topicalization and focalization (i.e. caused by the various movement operations of the topic-focus articulation) “seem to involve some additional level or levels internal to the phonology but prephonetic, accessed at the interface along with PF and LF.” In other words, as Aboh (2010:15) observes, “such effects are extraneous to aspects of the computation that are imposed by the numeration.” Several researchers share Chomsky’s view on the matter (e.g. Zubizaretta 1998; Szendroi 2001; Fanselow 2006, 2007) and “assume that constituent rearrangements [of the sort generated by topicalization and focalization]

are prosodically-driven and therefore differ from displacement rules triggered by checking operations. Under such a view, information structure and syntax interact, but indirectly (via PF and presumably LF)” (Aboh 2010: 16). It is indicated that such movements correlate with stress assignment in Germanic and Romance; it is not therefore the assignment of topic and focus features per se that can account for them (cf. Zubizarreta 1998; Szendroi 2001; Samek-Lodovici 2006). These arguments have led some to believe “that crucial notions of Information Structure such as Topic and Focus are not part of syntax but must be added to the linguistic expression once computed by  $C_{HL}$ ” (Aboh 2010: 16). It is argued that introducing these notions in syntax would violate Chomsky’s (1995: 228) Inclusiveness Condition:

- (50) Given the numeration  $N$ ,  $C_{HL}$  computes until it forms a derivation that converges at PF and LF [...] A “perfect language” should meet the condition of inclusiveness: any structure formed by the computation [...] is constituted of elements already present in the lexical items selected for  $N$ ; no new objects are added in the course of computation apart from rearrangements of lexical properties.

However, on the basis of the following formulation,

- (51) A numeration  $N$  pre-determines the Information Structure of a linguistic expression.

Aboh (2010: 19) argues “that strict application of the Inclusiveness Condition requires that core notions of information structure (interrogative force, topic, focus) project in syntax.” This viewpoint is shared by many “cartographers” and is adopted in this work.

Furthermore, this book provides data that support Rizzi’s (1997, 2001, 2004) Split CP Hypothesis unequivocally and convincingly. Tuki exhibits question and focus markers that encode discourse properties.

- (52) a. *Mbára a- m(ú)- uná ñgbéme ìdzó*  
 Mbara SM P1 kill lion yesterday  
 “Mbara killed the/a lion”
- b. *Mbára ódzú a- m(ú)- uná ñgbéme ìdzó*  
 Mbara FOC SM P1 kill lion yesterday  
 “It is Mbara who killed the/a lion yesterday”
- c. *ñgbéme ìdzí Mbára a- m(ú)- uná ìdzó*  
 lion FOC Mbara SM P1 kill yesterday  
 “It is the/a lion that Mbara killed yesterday”

- d. *ǐdzó ówú Mbárá a- m(ú)- uná ǐngbéme*  
 yesterday FOC Mbara SM P1 kill lion  
 “It is yesterday that Mbara killed a/the lion”
- (53) a. *Putá a- mú- námbá súbu ǐbíšǐ*  
 Puta SM P1 cook sauce morning  
 “Puta cooked sauce this morning”
- b. *Ané ódzú a- mú- námbá súbu ǐbíšǐ*  
 who FOC SM P1 cook sauce morning  
 “Who cooked sauce this morning?”
- c. *Até aye Putá a- mú- námbá ǐbíšǐ*  
 what FOC Puta SM P1 cook morning  
 “What did Puta cook this morning?”
- d. *Ni ówú Putá a- mú- námbá súbu*  
 when FOC Puta SM P1 cook sauce  
 “When did Puta cook sauce?”

This language has two question markers *yee* and *áá*. The first appears in front initial position (see 54a), while the second occurs in clause final position (see 54b):

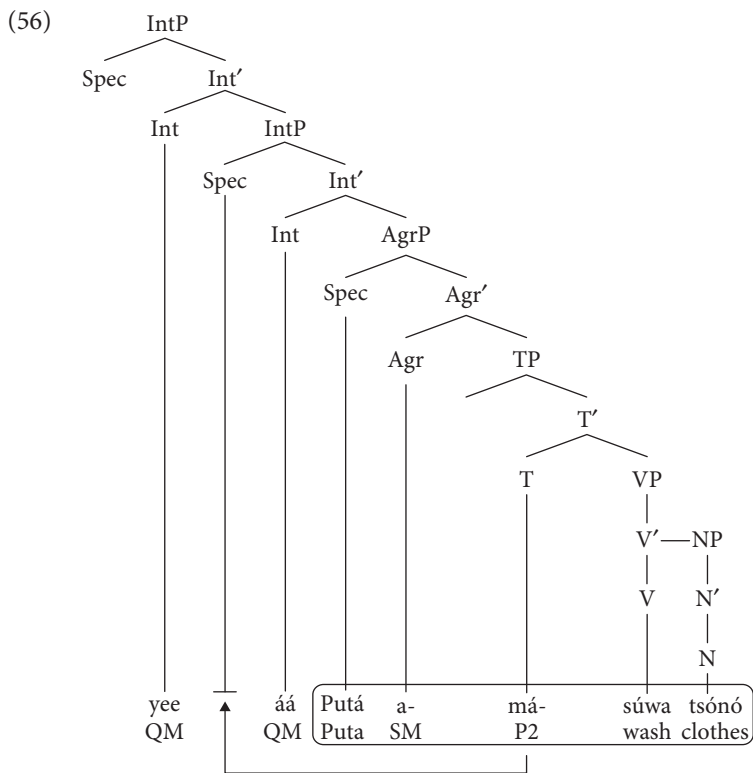
- (54) a. *Yee Mbárá a- mú- kusa matúwa*  
 QM Mbara SM P1 buy car  
 “Did Mbara buy a car?”
- b. *Putá a- má- súwa tsónó áá*  
 Puta SM P2 wash clothes QM  
 “Did Puta wash clothes?”

Either of these two question particles can mark yes/no interrogatives. In Tuki, the two question markers can co-occur, albeit in different positions:

- (55) a. *Yee Mbárá a- mú- kusa matúwa áá*  
 QM Mbara SM P1 buy car QM  
 “Did Mbara buy a car?”
- b. *yee Putá a- má- súwa tsónó áá*  
 QM Puta SM P2 wash clothes QM  
 “Did Puta wash clothes?”

Despite the occurrence of the two question particles, the above constructions are interpreted as genuine yes/no interrogatives. The question of theoretical relevance is how these constructions are derived, assuming that the clause initial QM is hosted by the [Int, IntP] position. After the first IntP, let us posit a second IntP, the head

of which, Int, will accommodate the QM that occurs in the above constructions in clause final position:



In the above phrase marker, the complement of the embedded QM, i.e. the clause AgrP, is pied-piped to the Spec of IntP (the second one) to derive the word order attested previously, i.e. the one in which there is a QM at clause initial position and another at clause end, due to EPP considerations (Roberts 1993, 2001) and the Extension Condition (Chomsky 1993; Koopman & Szabolcsi 2000).

Since the seventies, it has been posited that (English) interrogatives contain a null question morpheme (cf. C.L. Baker 1970; Chomsky 1977 and related literature). Aboh (2010: 22) observes that the question particle is silent in English, but not in Mandarin Chinese (cf. Li & Thompson 1981: 305–306) and in the sign language of the Netherlands (Nederlandse Gebarentaal, NGT). More specifically, the presence of non-overt particles in the structures of languages like English and French is betrayed by other clues (e.g. prosody; see Cheng & Rooryck 2000; Aboh & Pfau 2010; Benincá & Munaro 2010) (see Aboh 2010: 22).

This question particle is phonetically realized in languages like Tuki and Cartography has made it possible to pinpointedly locate its positioning in the architecture of the sentence (cf. Rizzi 2001b).

Not only the two QMs co-occur in the same Tuki clause, but the clause final QM can also co-appear with an extracted wh-item or a wh-item in situ:

- (57) a. *Putá a- mú- kutu námbá até áá*  
 Puta SM P1 PROG. cook what QM  
 “What is Puta cooking?”
- b. *até (aye) Putá a- mú- kutu námbá áá*  
 what (FOC) Puta SM P1 PROG. cook QM  
 “What is Puta cooking?”

The clause - initial marker cannot occur with the wh-phrase:

- (58) a. *\*yee Putá a- mú- kutu námbá até*  
 QM Puta SM P1 PROG. cook what  
 “What is Puta cooking?”
- b. *\*yee até (aye) Putá a- mú- kutu námbá*  
 QM what (FOC) Puta SM P1 PROG. cook  
 “What is Puta cooking?”
- (59) a. *\*yee Putá a- mú- kutu námbá até áá*  
 QM Puta SM P1 PROG. cook what QM  
 “What is Puta cooking?”
- b. *\*yee até (aye) Putá a- mú- kutu námbá áá*  
 QM what (FOC) Puta SM P1 PROG. cook QM  
 “What is Puta cooking?”

The two constructions in (57) are genuine (wh-) questions. They cannot be interpreted as yes/no interrogatives. In this context, the QM function is designed for clause-typing (Cheng 1991; Cheng & Rooryck 2000). Since *áá* occurs both in yes/no questions and in wh-questions, this QM can be argued to be a clause-typing particle, suggesting thereby that wh-movement and clause-typing must be teased apart (cf. Aboh 2010: 20; Aboh & Pfau 2010). In effect, Aboh has indicated that, as far as English is concerned, “wh-movement is not contingent on interrogative clause typing”. The cartographic description and analysis of Tuki corroborate these facts and provide more convincing data to this effect.

Additionally, the cartographic conception of clause structure favors the unearthing of another functional projection related to the left periphery of the clause, as evidenced by the following structured construction:

- (60) a. *mutu ódzú éé áné ódzú a- dingám a- nom*  
 man relative that who FOC SM loves SM sick  
 “The man that who loves is sick?”
- b.  $[_{AgrP}[_{NP}[_{N'}[_{N} \text{mutu}[_{RelP}[_{Rel}[_{Rel} \text{ódzú}[_{ForceP}[_{Force'}[_{Force} \text{éé}[_{FocP} \text{áné}[_{Foc} \text{ódzú}]]]]]]]]]]]]]]]]]]]]] \dots]_{AgrP}$



of this raising operation being NP+AP+NralP+PossP (vyéndzé púu iívi vyaáme). This last output raises to  $\Sigma P$ , the position that left-dominates DemP, to generate NP+AP+NralP+PossP+DemP (vyéndze púu vitatu vyaáme iívi). From  $\Sigma P$ , the generated output goes to NumP wherefrom it proceeds to [Spec, DP], the final landing spot. This derivation provides prima facie evidence for the positional existence of the nodes XP, YP and ZP which are landing sites for the various subparts of DP elements on their way to [Spec, DP]. Moreover, the above generalization assumes that nominal modifiers such as demonstratives, possessives, numerals and adjectives merge to the specifier positions of maximal projections. In other words, they are elements of the XP type which substitute for the specifier position of a functional projection (Aboh 2004; Bernstein 1997, 2001a, b; Brugè 1996; Cinque 1994, 1996, 2010; Giusti 1994, 1995, 1997; Laenzlinger 2005, 2011). The cartographic approach provides a theoretical framework that can account for the data in an elegant fashion.

Various topics dealt with in this book are more or less closely related to either the split-CP hypothesis or the split-DP hypothesis or the split-IP hypothesis (A-bar bound pro, subject and object pro, predicate fronting and sideward movement (parallel chains), binding). These issues are therefore relevant for a cartographic perspective as several aspects of sentence grammar necessarily interact with clause structure. In sum, the cartographic perspective allows the projection in syntax of information structure/discourse (related) and morphosyntactic particles such as question, topic, focus and relative markers. This state of affairs has implications for clausal constituent rearrangements in Tuki and other languages. This theoretical linguistic paradigm is therefore more suitable for the study of a discourse configurational and agreement-based language like Tuki (cf. Miyagawa 2010), pretty much in line with Rizzi's (2004: 3) following statement: "Syntactic structures are complex objects. Much theory-guided descriptive work on syntactic constituents over the 1980s and 1990s has shown that phrases and clauses have a richly articulated internal structure. As the empirical evidence of such complexity had been steadily accumulating, some researchers came to the conclusion that it was a worthwhile endeavor to study this rich domain on its own, and they set the goal of arriving at structural maps that could do justice to the complexity of syntactic structures".

## 1.11 Organization of the book

The book is organized and structured as follows.

**Chapter 1** presents *The theoretical framework* of this book. This theoretical framework scrutinizes the three domains of syntax, namely "*the thematic domain or the vP domain*", "*the  $\phi$ -domain or Infl domain*", and "*the left periphery or the Comp domain*". The last two make up the functional domain. And the first one is the lexical domain.

**Chapter 2** describes the structure of the Tuki clause. This description aims at taking a synoptic look, making a thematic survey of and familiarizing the reader with some of the major constructions attested in Tuki. Before that is done, some background information is provided about the language genetic classification.

**Chapter 3** tries to determine the order of clausal functional heads in Tuki. Although this enterprise is independent of any considerations involving adverbs and their relative order, it is theoretically closely related to issues in adverbial syntax because as Cinque (1999, 2004) argued “much as inflectional morphology, functional particles, and auxiliaries were at the time considered to be the overt manifestation, in head format, of the functional portion of the clause, adverbs, [...], could be seen as the overt manifestation of the same functional distinctions in specified format. The main evidence for their belonging to the functional make-up of the clause was the observation that cross-linguistically the number and type of the different classes of adverbs and their relative order appears to exactly match the number, type and relative order of functional heads (cf. Cinque 1999, Chapters 2,3 and 4)” (Cinque 2004, 683–684). This chapter shows that more than a dozen clausal functional heads are attested in Tuki and up to four or five clausal functional heads may co-occur within the clause.

**Chapter 4** describes and analyzes the linear order of adverbs in Tuki. If the linear order of “higher” (sentence) adverbs in Tuki corresponds to Cinque’s hierarchy, the one for “lower” adverbs slightly diverges from the Italian linguist’s proposal. Systematic differences between Indo-European languages such as English, French and Italian, on the one hand, and Tuki, on the other one, are then highlighted in this chapter.

**Chapter 5** relying on works done by Jaeggli (1982), Rizzi (1982), and others, the null subject or pro-drop parameter is examined and this chapter reveals the fact that some features tend to cluster together and consistently with the null subject parameter.

**Chapter 6** After looking at null subjects in Tuki in the previous chapter, this one demonstrates that the behavior of null objects in Tuki is far different from the behavior of syntactic traces which obey Bounding Theory. Null objects generally being of two types (pro or variable), this chapter states that it is plausible to suggest that in Tuki null objects are pro rather than variables.

**Chapter 7** deals with resumptive pronouns. It also reveals that gaps in Tuki wh-constructions should be analyzed as null resumptive pronouns rather than variables left by “Move Alpha”.

**Chapter 8** focuses on *Null arguments, agreement, movement and configurationality Introduction*. Jelinek (1984) introduced the Pronominal Argument Hypothesis into linguistic theory. Briefly stated, she argued that “some languages have obligatory pronominal agreements/clitics that count as the arguments of verbs and other predicators. From this theoretical framework and from other point of view such as Baker (2003), Austin and Bresnan (1996) and Alexiadou and Anagnostopoulou (1998) it can be concluded that agreement is neither a necessary nor a sufficient condition for dislocation

to take place. The chapter shows that Tuki behaves as an agreement-based language and a discourse configurational language. (cf. Miyagawa 2010).

**Chapter 9** draws inspiration from the previous investigations of the DP internal structure of natural languages. It specifically analyses the DP structure and concord in Tuki. The distribution of determiners (Poss and Dem) is examined as well as the pattern of agreement between them and the head Noun. Moreover, the occurrence of a so called locative reinforcer inside the DP generates some questions of which answers seem to be provided. Furthermore, an account of the apparent variation of word order(s) within the Tuki DP is proposed along the lines of Kayne's (1994) antisymmetric approach. The theoretical framework adopted in this endeavour is inspired by Cinque's (1993, 1994, 2010), Aboh (2004), Laenzlinger (2005) analyses. On the basis of the split-DP hypothesis, it is postulated in this chapter that the number, the possessive and the demonstrative determiners are the expressions of distinct projections, NumP, PossP and DemP respectively.

**Chapter 10** examines adjectival ordering restrictions in Tuki by arguing, after Gary – John Scott (1998, 2002), “that adjectival distribution follows the pattern of adverbial distribution along the lines of Cinque's *Universal Hierarchy of Clausal Functional Projections* (Cinque 1999:106)”. In this perspective, adjectives are specifiers of functional projections. In this language, adjectives are either specified for the prenominal position or the postnominal position. In this context, a given clause may contain up to six adjectives. The distribution of the latter is thoroughly discussed and a thematic hierarchy of adjective positions is proposed, in comparison to Scott's (1998) and Cinque's (2010) approaches. Another current issue developed in the work, which sometimes exhibits similarities and differences with regard to word order, is adjectives ordering. In Tuki, some adjectives are prenominal while others are postnominal. A DP in this language can contain up to six adjectives, three on each side of the head N. Following other proposals in the scientific literature (Cinque (1994, 2010), Scott (1998, 2002), Laenzlinger (2005)), it has been argued that adjectives merge into the specifier positions of these semantically associated projections. It has been said that the noun raises as an NP to a functional agreement position (called  $FP_{NP}$ ). Moreover, the movement of the NP to the specifier of the closest functional agreement projection,  $FP_{Agr(NP)}$ , produces a snowballing FP movement. The latter raising operation takes place cyclically and lands in the specifier position of an agreement projection since in this language the head N agrees in noun class (number and gender) with the determiner(s) and its adjective(s).

**Chapter 11** In conformity with Cinque and Rizzi (2008:42), this chapter scans the cartography of the left periphery in Tuki. It is argued therein that in Tuki, question formation substitutes wh-phrases for the specifier position of a headed constituent called focus phrase (FocP). Moreover, it is argued that there is a maximal projection that dominates Force Phrase (ForceP) and that hosts a null operator and an agreeing

word in Tuki relatives: this maximal projection is called a Relative Phrase (RelP). Topicalization, question formation, focalization are also scrutinized in this chapter. Precisely, the chapter presents their behaviour and their landing sites in the language following Rizzi (1997, 2001b, 2004b), Haegeman (2000), Aboh (1998), Grimshaw (1993) and Roberts (1993) framework. Following the split-CP hypothesis proposed by Rizzi (1997) and other works by Haegeman (2000), Grimshaw (1993), Roberts (1993), Aboh (1998, 2004) and Rizzi (2001), I argue first of all that focalization is merged to Spec, FocP and that topicalization is merged to Spec, TopP and that no adjunction based-theory is allowed. Furthermore, there is another maximal projection within the CP layer called Interrogative Phrase in Tuki, the head of which is occupied by interrogative particles such as *ngi* “if” or “whether” in indirect questions and *aa* or *ye* in yes/no questions, and whose specifier is occupied by a null operator or by a pied-piped clause. In the same vein, preposed adverbs/adverbials in the language are said to occupy a dedicated head position called Mod(ifier) (Rizzi 2004b). Another major headway, whose mention is not made in my previous works, and which, to the best of my knowledge, has not been yet mentioned in the literature, is the fact that relative operators, which were previously said to occupy Spec, CP in Tuki and many other world languages or Spec, ForceP as in Rizzi (1997), now occupy a dedicated head projection called Relative Phrase (RelP), the specifier of which is occupied by a null operator. So, Tuki empirical materials provide a rich and articulate CP-system and largely differ from many other world languages as it is shown that RelP dominates ForceP.

**Chapter 12** analyses the behavior of Wh-arguments and Wh-adjuncts in Tuki. More specifically, it makes an attempt to explain why the presence of several Wh-in-situ adjuncts in a clause does not cause any ECP violations. It is argued that at LF Wh-phrases may adjoin to FocP and adjunction being iterative (by definition), multiple adjunction to FocP is licensed.

**Chapter 13** accounts for the phenomenon of predicate clefting in Tuki, relying mainly on Koopman (1984) and Aboh and Dyakonova (2009). Since the focalized verb in this language behaves like an extracted (focused) wh-phrase, this chapter argues that the behavior of the focused verb in Tuki can be accounted for by a condition that licenses the substitution of a head for the specifier position of a maximal projection, namely the Specifier Identity Condition (SIC). The SIC opens the door for the licensing of the movement of a head to a maximal projection. Whether or not the SIC is realized in a given language could be the dividing line between verb Focusing Languages and Nonverb Focusing Languages. Following Aboh and Dyakonova (2009), predicate clefting is syntactically derived as follows: doubling and fronting of the verb are attested. The verb raises to Aspect in Tuki for aspect licensing. Consequently, predicate focus requires a doubling and a doublet to occur inside IP. Additionally a copy of the verb raises to the left periphery (i.e. to Spec, FocP). Descriptively, it can be said that doubling is followed by fronting in Tuki predicate cleft constructions: doubling occurs

when V raises to Asp and V is also attracted by another probe within the left periphery (i.e. Spec, FocP). The analysis draws inspiration from Chomsky's (2005) approach to A versus A-bar movement.

**Chapter 14** analyzes the ways in which anaphora and binding operate in Tuki. It is argued that AGR counts as SUBJECT in the determination of a governing category for pronouns in Tuki and does not count as SUBJECT for determining the governing category for anaphors. Thus an anaphor in subject position of an embedded clause may be long-distance bound by a superordinate syntactic subject because the embedded AGR is not a SUBJECT accessible to the anaphor. For Tuki anaphors then, a SUBJECT is the syntactic subject [NP, IP] or [NP, NP]. In this respect, Tuki patterns like Chinese (Huang 1982). To capture the fact that the domain for anaphor binding and the domain for pronominal noncoreference are not the same in Tuki (though overlapping is possible), it is assumed with Chomsky (1986) in this chapter that the minimal governing category (MGC) for X (a pronoun or an anaphor) is the least 'complete functional complex' (CFC) in which some indexing satisfies the binding theory. Thus the concept of 'accessible subject' and the notion of AGR as a binder are discarded, while the NIC is subsumed under the ECP under the assumption that anaphors undergo LF movement to the INFL position.

**Chapter 15** studies the relationship between quantificationally bound pronouns and referential pronouns. It is demonstrated that bound variables and pronouns in coreference have very similar distribution with regard to Binding Theory. Following Aoun and Li (1990), it is claimed that referential pronouns are subject to an A-disjointness requirement, whereas bound pronouns obey a minimal disjointness requirement. This chapter then states that Tuki pronouns must be free in the minimal domain in which they occur and that Tuki anaphors must be bound to an accessible syntactic subject in the local environment in which they are contained. Long distance anaphors in Tuki can undergo Move Alpha at LF, and as such satisfy the locality principle. Short distance anaphors in the language do not raise at LF, and are strictly bound to the first available antecedent.

**Chapter 16** concludes the book.



## Clause structure

In this chapter, the structure of the Tuki clause is examined descriptively. This description will lay the foundation for on-going discussions in subsequent chapters. More precisely, this chapter aims at taking a synoptic look, making a thematic survey of and familiarizing the reader with some of the major constructions attested in the language. This will be dealt with descriptively and theoretically in the following chapters: verb morphology, basic word order, the internal structure of inflexion, well-formedness of a zero subject, wh-movement, predicate cleft constructions, simple sentences, the complex sentence, question formation, focalization, relativization, topicalization, resumptive pronouns, anaphora and binding. Before that is done, some background information is provided about the language genetic classification and its noun class system.

### 2.1 The language: Tuki

Non-native speakers sometimes call TUKI Sanaga. Ewondo people, in particular, call this language ATI. But to the native speakers, it is Tuki. Tuki is spoken in Cameroon. Studies on the classification of Cameroon languages show that the three linguistic families which cover Africa are represented in Cameroon. The Tuki language belongs to one of these families: the NIGER KORDOFAN (Niger- Congo) linguistic family; subfamily: Benue Congo; branch: Bantoid; division: bantu; group: Sanaga A60. Tuki is spoken in the Central province of Cameroon, most specifically in the Lekie division and the Mbam and Kim division. It is used by 26,000 native speakers. They are located along the Sanaga river, north of Saa between Ombessa and Ntui, and in the Bafia district and the Ngoro district.

Below, we provide a tree of the main ethnic groups of Cameroon:

**Table 1.** The branches of the language families of Cameroon

Ling. Family	Subfamily	Branch	Division	Group	Main language	
Afro-Asiatic	Semitic				Chao-arab	
		Sahel-Plateau			Haoussa	
	Chadie	Biu-Mandara			Rafa masa	
Nilo-saharian	Saharian	Central			Kanuri	
	Chari-Nil	Sudan		Bongo	Sara-Laka	
		West Atlantic-North				Fulfulde
	Adamawa	Adamawa			Tupuri, Mbum	
KORDOFAN (NIGER CONGO)	Oubangui	Oubangui		Occidental	Gbaya, Baka,	
			Central		Yangéré	
	Benue CONGO	Junkonoïd				
Cross-river				Efik	Mbembe, Issanguele, Tivoïd, Mambila, Woute, Tikar	
KORDOFAN (NIGER CONGO)	Benue CONGO	Bantoid	Bantu	Non-Bantu	Ekoid	
					B Mamfe	Ejagham, Kenyang
	r Grassfield					
	o Occidental	Ngo, Aghem				
	a Mbam-Nkam	Bamileke, Bamun				
	s A10 Lumbu-					
	d Mbo	Bakossi				
	t A20 Coast	Duala				
	r A40 Basaa	Basaa				
	i A50 Bafia	Bafia				
c A60 Sanaga	A61 Tuki					
t A70 Beti-Fang	Ewondo, Bulu					
l A80 Mata-Njem	Maka					
y A90 Kafa	Kaka					

Source: *L'Encyclopédie de la République Unie du Cameroun, Tome Premier: Le Milieu et les Hommes*, pp. 42.

Many linguistic classifications state that Tuki is composed of many dialects. Bryan (1959: 14–15) and Guthrie (1971) assign to all these dialects of Tuki the name Bati. But they do not refer specifically to Tuki. Delafosse (1914) classifies the Tuki dialects

into the Niger- Cameroon family, in the intermediary Sudan-Bantu group. According to Tesson (1932), Tuki belongs to the Bat-Mbam group, in what he terms the “Bantu of Central Cameroon”.

Pedral (1946), relying widely on Seligman and Millou’s study, considers Tuki as belonging to the subgroup Fang just as Yambassa, Baso, Ngumba, Ntumu and Fong. Bauman and Westermann (1967) and even Richardson (1956:29) relate Tuki to what they term ‘Bafia-group’ and which comprises Fa?, Ngoro, Cinga, Yambassa, Sanaga, Mangisa. Richardson claims that “it is hard to say from evidence where Cinga ends and Sanaga begins. The Kombe speak like Tsinga, said our informant. There is a great similarity between Cinga and Ngoro.” Lastly, Bryan and Guthrie count Tuki among Bantu languages of the group A60 denominated “Sanaga-Group” and propose the following classification:

- A61: Ngoro
- A62: Yambassa
- A63: Mangisa
- A64: Bacenga
- A65: Bati

According to the *Atlas Linguistique du Cameroon* (1985), there are seven dialects of Tuki (Cf. *The Ethnologue* 2005):

- A60: Sanaga group
- A61: Tuki

**Table 2.** The dialects of Tuki

Dialects	Other appellations
Tungoro	Ngoro, Uki, Aki
Tukombe	Kombe, Wakombe, Bakombe
Tonjo	Bondjou or Bounjou, Bunju
Tocenga	Batchenga, Tiki
Tutsingo	Batsingo, Tsinga, Chinga
Tumbele	(Ba)mbele, Mbere, Mbele, Bambele, Mvele, Bamvele
Leti	native language of the Mangisa people

- A62: Yambasa
- A62a: Gunu (Nugunu)
  - Gunu Nord (Ombessa)
  - Gunu Sud (Bokito)
- A62b: Mmaalaa
- A62c: Libye (Nulibye)
- A62d: Yangben (Nokalonge)
- A62e: Bongo

Out of these dialects of Tuki, six are spoken in the Mbam division, precisely in the district of Ntui (Tonjo, Tocenga, Tumblele), the district of Bafia (Tungoro) and in the Ngoro district (Tungoro). Only Leti is spoken in the lekie division. Leti, though being a variant of Tuki, is the native language of the Mangisa ethnic group who speaks on the other hand Njowi, a Beti-Fang dialect very similar to Eton. Sanaga or Ati is the term used by the Beti people to designate the people along the Mbam and Sanaga rivers. Native speakers of Tuki speak languages of neighboring villages. That is why there are cases of bilingualism or trilingualism due to the neighborhood of languages or to mixing of different ethnic groups. Furthermore, many Tuki speakers of the districts of Ombessa and Bafia speak fluently either Yambassa or Bafia.

## 2.2 Earlier descriptions of Tuki grammar

The first descriptive study on Tuki was a Master thesis (Mémoire présenté pour l'obtention du Diplôme d'Etudes Supérieures de lettres) at the University of Yaounde by Jean Jacques Marie Essono (1974). Essono's thesis is a phonological analysis of Tsinga (cinga), one of the dialects of Tuki. In 1980, Essono wrote a manuscript on the derivational morphology of the language. At approximately the same period, Hyman (1980) published a paper on the noun classes of Bacenga, another dialect of Tuki. In 1989, Biloa published a paper on "Tuki gaps..." in *Studies in the Linguistic sciences* (Vol. 19, N<sup>o</sup>2). In 1991, two papers were published (by the same author) in *Linguistics*: one on "Null subjects...", the other on "Anaphora and binding...". A Ph.D. dissertation on "the syntax of operator constructions in Tuki" was defended in 1992 at the University of Southern California in Los Angeles. By the same author. In 1992, Hyman and Biloa published a paper on "Transparent Low Tone in Tuki" in Berkeley Linguistic society (BLS 18). A book, the title of which is *Functional categories and the syntax of Focus in Tuki* was published at Lincom Europa in 1995 by Biloa.

## 2.3 The classification of nouns

In Tuki, as in most bantu languages, the noun consists of a prefix and a stem, as illustrated by the following Tuki examples:

	Singular	Plural
	Prefix+Stem	Prefix+Stem
a.	mù- tù	và- tù
	Cl1- stem	Cl1- stem
	"person, man"	"people, men"