THE CLAUSAL STRUCTURE OF MENDE

By

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A DISSERTATION

Submitted to
Michigan State University
in partial fulfillment of the requirements
for the degree of

Linguistics – Doctor of Philosophy

2024

ABSTRACT

This dissertation investigates the syntax of verbal argument structure in Mende, an understudied Mande language spoken in Sierra Leone and Liberia. It is the first description and analysis of verbal syntax in the language, and the first comprehensive analysis of Mande verbal syntax within the Principles and Parameters / Minimalist framework. It provides cross-linguistic support for the Antisymmetry Hypothesis (Kayne 1994) in arguing that Mende is head-initial, with deviations from this order (e.g. SOV and postpositional phrases) resulting from leftward movement. Therefore, a directionality parameter is unnecessary. The analysis is couched in a Cartographic framework (Rizzi 1997), accounting for the landing spots for leftward movement in the specifier of Functional Phrases. The dissertation is also the first to systematically investigate complex predicates in Mende and the Mande languages.

While Chapter 1 is an introduction that establishes the clausal spine, Chapter 2 describes and analyzes canonical OV surface order. Building on Koopman's (1992) analysis of Bambara, I argue that Mende is underlyingly head-initial, with OV word order derived via Case-driven movement into a position to the left of the verb. Evidence of an underlying head-initial verb phrase comes from binding, stranded quantifiers, PP/CP modifiers of the internal argument, distribution of CP complements, and post-verbal coordinated direct objects.

In Chapter 3 I present the first systematic description and syntactic analysis of Mende's adpositional system. Similar to the verbal argument structure in which internal arguments can surface both pre- and post-verbally, Mende also has both postpositions and a single preposition, whose objects precede and follow them respectively. This provides important evidence for the head-initial phrase structure of the language. I argue that adpositions exist on a Lexical-Functional Cline, that includes *light nouns, place postpositions, directional postpositions*, and *functional*

adpositions. I further argue that the L-F Cline corresponds to a syntactic hierarchy, in which elements that are farther left on the cline merge at lower positions in the syntax. I show how this approach lays the foundation for analyses of complex predicates, PP adverbs, and the distinction between postpositions and the preposition.

Chapter 4 builds on the analyses of canonical verbs and adpositional phrases in developing an analysis of complex predicates in Mende. These types of constructions have been noted in a number of Mande languages and are strikingly similar to particle verb constructions in Germanic. While a number of different types of complex predicates are found in Mende, this analysis focuses on *pre-verbal particle verbs* (DP P V) and *post-verbal particle verbs* (V {P} DP {P}). Pre-verbal particle verb constructions consist of a canonical verb and a lexical particle, while post-verbal particle verbs consist of a different class of verbs and a functional particle, which encodes the verb's theme in a post-verbal particle phrase. In both instances, the particles are homophonous with adpositions and behave similarly with respect to the L-F Cline, driving the word order distinction in these complex predicate types. In this chapter I explore these constructions and suggest an analysis, which provides insight into our understanding of particle verbs cross-linguistically.

This dissertation is dedicated to Laura.
You have given up so much in order for me to do this. I'm grateful for you.

ACKNOWLEDGEMENTS

Writing this dissertation has been a mostly enjoyable journey. There are times when it has been exhausting, confusing, and frustrating, but, on the whole, it is an opportunity for which I'm truly grateful. I want to thank a number of people who have helped me to get here.

First, I want to thank my committee Deo, Harold, Yen-Hwei, Alan, and Brian. Deo, I remember distinctly the phone call six and a half years ago when you offered me an opportunity to study linguistics at Michigan State. From that first call, you have been such a resource and encouragement to me, finding creative ways for me to work on this research over the years, whether in the classroom, or setting up an independent study. Harold, I was quite nervous when we began looking for someone who could work with me in syntactic fieldwork and analysis, but you have been more than I could have imagined in an advisor. You have been exceedingly generous with your time, insight, and encouragement over the years. I have often been struck at your willingness to work with me, even though I'm across the country. You have spent so much time looking at data, reviewing my writing and presentations, and sharing resources with me, even in the midst of your own responsibilities at UCLA. Thank you. Yen-Hwei, Alan, and Brian, I'm so grateful for your time spent working with me on comprehensive papers and this dissertation. Your questions, insight, and suggestions have helped me grow as a researcher, writer, and linguist.

I'm grateful to the rest of the faculty in the MSU linguistics department as well. Thank you for taking me into the program, even though I was a 'far from traditional' graduate student. Suzanne and Karthik, thank you for answering my endless parade of questions. I have felt incredibly supported and encouraged by you as I have navigated graduate school as a student parent. Alan, thank you for teaching me syntax. In my first syntax class I remember thinking, 'I'm

44 years old. What in the world did I get myself into.' Yet, I grew through those three courses in so many ways.

Komeil, Shannon, and Naiyan – You have been great cohort-mates, and I've enjoyed our time together, whether discussing homework, the job market, or life, chatting in the office, or enjoying a meal together. I appreciate each of you and wish you the best. There have been many other graduate students that I've enjoyed knowing over the years, but want to say a particular thank you to Yongqing, Yunting, Adam, Mitch, Jingying, Yaxuan, Mofart, and John.

Thank you to my friends in Sierra Leone – Robert and Ruth, thank you for hosting me and helping me make key connections in the country. Lauretta, thank you for traveling with me from Lungi to Bo, and for translating during my visits to Ru-thawa. Elmer and Joann – you are such gracious, generous hosts. Staying in your home while in Sierra Leone has been such a blessing to me. I'm grateful for your hospitality and friendship. Dr. Challay – you have been an excellent resource and friend. I'm so grateful for your time and help in connecting me with language instructors and consultants. Lucy and Donald – I've appreciated your insight into Mende when I've checked in with you over the years. Claude – you have been such a great help, and I'm particularly grateful for your work in marking the tone in every example in this dissertation. Peter – you are the world's greatest keke driver, but more than that, I appreciate you as a friend. Some of my favorite moments in Sierra Leone are traveling with you and Lawrence to watch the Mighty Bo Rangers! Finally, Lawrence – this work reflects you more than anyone else. I'm pretty sure that you have reviewed every single example in this whole paper. You have always been available to answer my questions, and you even know how to answer my questions when I make a mistake in asking them. I could not have done this without you.

Living in East Lansing has been a great experience for my family during these years in graduate school. Brian and Robin – you are great friends to our family. You and the boys have made our life in East Lansing so much better. Rick and Kathy – wine and cheese nights at your house have been a life-giving experience for Laura and me. I'm grateful too for so many friends at Red Cedar Church. You have been such an encouragement to me and a blessing to my family.

In conclusion, I want to thank my family. Mom and Dad – you have taught me to work hard and never quit. Thank you. Everett, Keaton, and Briella – I know that mom and I have dragged you all over the world, and that it hasn't always been easy for you. There have been times that I've been distracted by school work, but you have done such a great job embracing the joys and challenges that come from being the children of a father who decides to start a PhD at 44 years old. Finally, Laura - no one will ever fully understand how much you have given up for me to be able to do this. You have worked so hard, and given so much to our family during these years. I'm so incredibly grateful for you, my princess.

Quia fecisti nos ad te domine et inquietum cor nostrum donec requiescat in te.

May I find rest in You.

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LIST OF ABBREVIATIONS

C	Complementizer
COMPAR	Comparative
DEF	Definite
DEM	Demonstrative
FOC	Focus
HAB	Habitual
INF	Infinitive
ISF	In-situ Focus
LPF	Left-peripheral Focus
NEG	Negative
NF	Neutral Focus
NH	Non-human
P	Preposition
PFV	Perfective
PL	Plural
PROSP	Prospective
RP	Resumptive Pronoun
SG	Singular
STAT	Stative
TOP	Topic

Chapter 1

Mende Clausal Structure

1.1 Introduction

The principle objective of this dissertation is to analyze the syntactic structure of Mende, an understudied Mande language spoken in Sierra Leone. The Mande languages are known for their SOVX word order in which the subject and object are the only DPs that occur in a pre-verbal position, while adpositional phrases and adverbs surface post-verbally (Gensler 1994, Nikitina 2009, Creissels 2016). We see this in (1) where the DP subject *Pita* and DP object *pujɛisia* 'the peppers' precede the verb *yeya* 'buy,' with the locative adjunct PP *bɛteisia ma* 'on the tables' occurring in a post-verbal position.

(1) Canonical Word Order

S	O	V		X	
Pítá	pùjɛ̀-í-síà	yèyá -í	lɔ̀	bɛ́tè-í-síà	mà
Peter	pepper-DEF-PL	buy-PFV	NF	table-DEF-PL	on

'Peter bought the peppers on the tables.'

Yet, there are a number of other constructions that show a different word order, as seen in (2), including a post-verbal CP complement (2a), stranded quantifier of a DP object (2b), and stranded coordinated direct object (2c).

(2) Simple Predicates

a. CP Complement

S	V		O_{CP}							
Mɛ́lí	húngɛ̀-í	lɔ̀	[kɛ̀	Pítá	pùjɛ̀-í-síà	màjìá-í	lɔ̀	njɔ̀pɔ̀wá	hún]	
Mary	explained	NF	C	Peter	pepper-DEF-PL	sell-PFV	NF	market	at	

'Mary explained that Peter sold the peppers at the market.'

b. Stranded Quantifier
S O_1 V O_2 X
Pítá pùjɛ̀-í-síà {kpɛ̀lɛ́} màjìá-í lɔ̀ {kpɛ̀lɛ́} njɔ̀pɔ̀wá hún
Peter pepper-DEF-PL all sell-PFV NF all market at
'Peter sold all the peppers at the market.'

c. Stranded Coordinated Direct Object
S O_1 V O_2
Pítá pùjɛ̀-í-síà {kɛ̀ yàbàsí-í-síà} màjìá-í lɔ̀ {kɛ̀ yàbàsí-í-síà}
Peter pepper-DEF.SG and onion-DEF-PL sell-PFV NF and onion-DEF-PL
'Peter sold the peppers and onions.'

The data in (2) raises some interesting questions. If Mende has OV word order, how do we account for the post-verbal CP complement in (2a)? In (2b) we see that its possible for the quantifier *kpɛlɛ* 'all' of the direct object *pujɛisia* 'the peppers' to either surface in a pre- or post-verbal position. Similarly, in (2c) with a coordinated direct object, we can observe that the first conjunct *pujɛisia* 'the peppers' appears in a pre-verbal position, while the coordinator and second conjunct *kɛ yabasiisia* 'and onions' can either surface pre-verbally or surface in a post-verbal position. How can we analyze these varying positions?

Mende also has complex predicates. In (3a), we see that the PP *bɛtɛisia ma* 'the top of the tables' occurs in the position in which DP objects typically occur. In (3b) the verb *ja* 'touch' does not have a pre-verbal object, but its theme occurs in a post-verbal position, encoded by the preposition *a.* Similarly, in (3c) the verb *lema* 'forget' also does not have a pre-verbal object, but its theme occurs in a post-verbal position, encoded by the postposition *ma.*[1]

(3) Complex Predicates
a. Pre-verbal Particle Verbs
S O V
Kpana bɛ́tè-í-síà ma wua-i lɔ
Kpana table-DEF-PL MA wash-PFV NF
'Kpana washed the top of the tables.'

[1] In (3)b and (3)c the adpositions *a* and *ma* are semantically vacuous. As such, I gloss them as A and MA. Throughout this dissertation, I gloss adpositions with their lexical meaning when it is utilized in adposisitional phrases, e.g. *ma* is glossed as 'on' and *hun* is glossed as 'in.'. However, when they are semantically vacuous, I gloss them as MA or HUN indicating that they have no semantic meaning.

b. Post-verbal Particle Verb
S V Theme X
Pítá jà-í lɔ̀ à pùjɛ̀-í-síà njɔ̀pɔ̀wá hún
Peter touch-PFV NF A pepper-DEF-PL market at
'Peter touched the peppers at the market.'

c. Post-verbal Particle Verb
S V Theme X
Pítá lèmà-í lɔ̀ bɛ́tè-í-síà mà njɔ̀pɔ̀wá hún
Peter forget-PFV NF table-DEF-PL MA market at
'Peter forgot the tables at the market.'

These data also raises interesting questions. How can the same phrase *bɛteisia ma* correspond to the English translation 'on the tables' in (1), 'the top of the tables' in (3a), and simply 'the tables' in (3c)? How do these different meanings come about? What is the role of the adposition and the role of the verb in these constructions? They also raise a question of terminology. Traditionally, within Mandeist literature the verb's theme is considered the object when it occurs in a pre-verbal position, and an oblique when it occurs in a post-verbal position (Kastenholz 2003, Creissels 2007, Kiemtoré 2021). For the sake of clarity, I will use the term *object* when referring to the verb's theme occurring in a pre-verbal position and the term *theme* when it occurs in a post-verbal position. In Chapter 4, I argue against using the term *oblique* when the theme occurs post-verbally, but for now I highlight that *bɛteisia* 'the tables' is the post-verbal theme of the verb *lema* 'forget' in (3c) and the pre-verbal theme of the verb *lɔ* 'see' in (4). In light of this, and to avoid confusion, I will use the traditional term *object* for pre-verbal themes and use the neutral term *theme* when referring to post-verbal themes.

(4) Canonical Verb
S O V X
Pítá bɛ́tè-í-síà lɔ̀-í lɔ̀ njɔ̀pɔ̀wá hún
Peter table-DEF-PL see-PFV NF market at
'Peter saw the tables at the market.'

In order to account for the canonical construction in (1), Nikitina (2011, 2019) and Sande, Baier, and Jenks (2019) have proposed that Mande languages have head-final verb phrases. The

data in (2) and (3) complicates the situation, and any analysis should be able to account for both the head-initial and head-final verb phrases.

Mende is also generally postpositional, as seen in the phrases *bɛteisia ma* 'on the tables' in (1) and *njɔpɔwa hun* 'in the market' in (2a), yet it also has a preposition, as seen in (5) where the preposition *a* introduces the instrumental object *mbowei* 'the knife.'

(5) Simple (Instrumental) Preposition
Kpànâ nésí-í lèwè-í lɔ̀ **à** mbowe-i
Kpana pineapple-DEF cut-PFV NF with knife-DEF
'Kpana cut the pineapple with the knife.'

Given these data, any syntactic analysis of Mende also needs to account for the presence of both postpositions and prepositions in the language.

The remainder of this chapter is structured as follows. In Section 1.2 I provide background information on Mende and the Mande languages, including typologically unique characteristics, along with previous research. Section 1.3 positions this research within previous work on OV and VO languages, while also introducing the frameworks within which my analysis is situated. Section 1.4 investigates the nominal and clausal structure of Mende, while Section 1.5 is a brief summary.

1.2 Language and Research Background

Mende (ISO 639-2 *men*) is spoken by around two million people in the southern and eastern parts of Sierra Leone and across the border in Liberia (Eberhard, Simons, and Fennig 2023). There are 4 major dialects: *Kɔɔ* (eastern Sierra Leone), *Kpa* (southwestern Sierra Leone), *Sewama* (south-central Sierra Leone), and *Waanjama* (southeastern Sierra Leone and Liberia). While most previous research has been on *Kɔɔ* (c.f. Innes 1967), my research and the data herein are based on Sewama Mende, as spoken in and around Bo, the largest city in the Mende area of Sierra Leone.

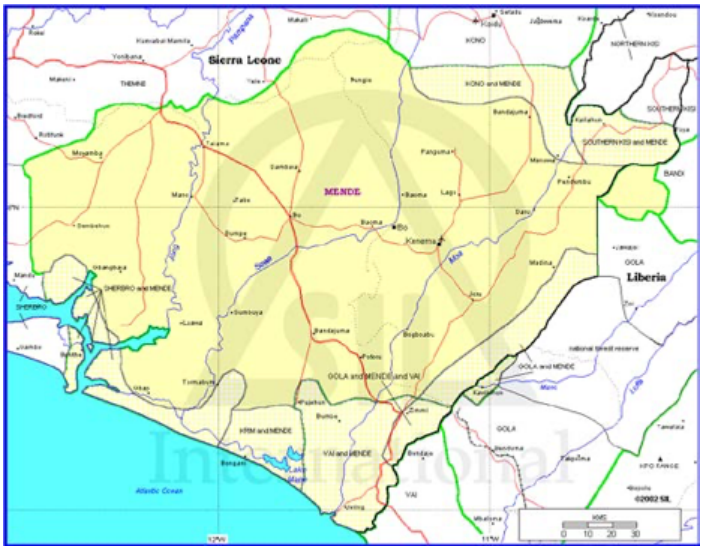
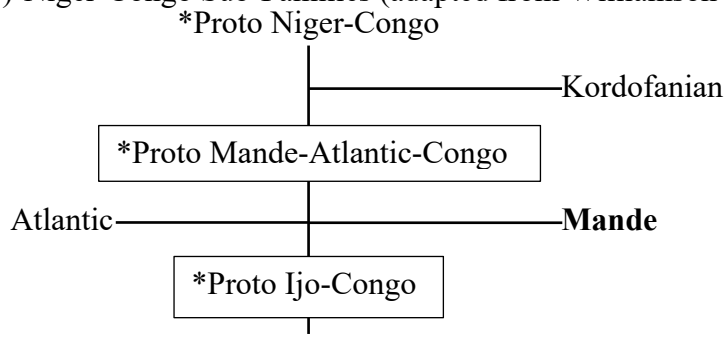


Figure 1 – Mende Speaking Area (Vydrin, Bergman, and Benjamin 2000)

Mende is part of the Mande language family which is considered to be an early offshoot of the Niger-Congo family (Welmers 1971, Williamson and Blench 2000, Kastenholz 2003), though Idiatov (2017) notes that this should be considered simply a hypothesis and not settled fact.

(6) Niger-Congo Sub-Families (adapted from Williamson and Blench 2000)



The Mande languages are spoken throughout Western Africa, ranging from Nigeria to Mali, with the strongest concentration of languages spoken in southwestern Mali and in nearby countries (Idiatov 2017).

As seen in the map below the West-Central-Southwest languages to which Mende belongs cover a wide geographic area ranging from the Ivory Coast to Senegal.

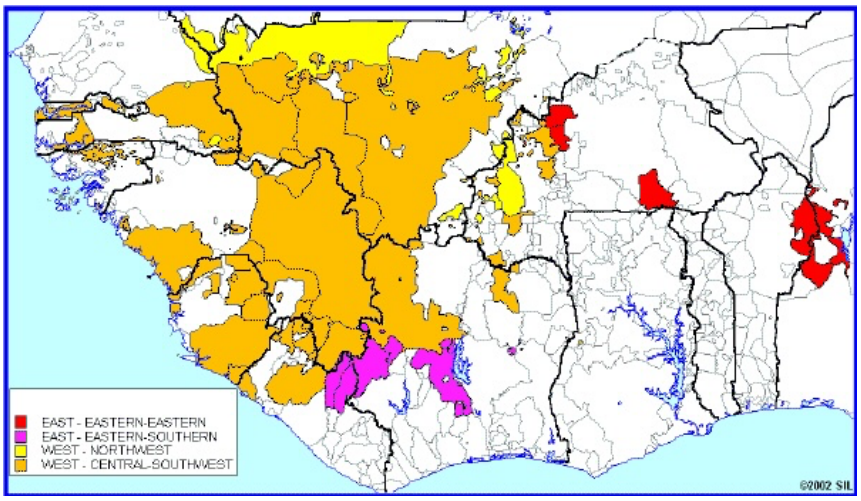


Figure 2 - Mande Languages (Vydrin, Bergman, and Benjamin 2000)

There is some variation in the classification of Mande languages with Vydrin (2009a) listing sixty-three languages. While Welmers (1971) suggests that the subclassification of the Mande languages is well-established, Vydrin does not entirely agree. He notes that there is general agreement in the low and high level groupings of languages, but that the difficulty lies in the middle levels (c.f. Green 2018). Idiatov (2017) suggests that there are around seventy languages while Ethnologue (Eberhard, Simons, and Fennig 2023) lists seventy-six languages. These languages range from nearly extinct Bom-Kim and East Limba (among others) to more widely spoken languages like Bamanakan (Bambara) with four million first language speakers, Maninkakan with over three and half million, and Susu with nearly two and a half million (Eberhard, Simons, and Fennig 2023).

The Mande languages differ from other Niger-Congo languages in some crucial ways (Kastenholz 2003). While most Niger-Congo languages have SVO order, Claudi (1994) argues that the Mande languages underwent a change to SOV order, and there have been a number of investigations of how Mande's unique word order has come about, including Creissels (2005),

Vydrin (2009), and Schreiber (2011). Another distinguishing feature of Mande languages is the absence of noun classes (Welmers 1971).

There is a good deal of descriptive work on the Mande languages, including grammars of Vai (Welmers 1976), Lorma (Dwyer 1981), Kono (Kaier 2011), and more recently Jalkunan (Heath2017), Kakabe (Vydrina 2017), and Seenku (McPherson 2020).

In the realm of phonology, Dwyer (1989) notes that the Mande languages typically have seven vowels, though some in the north have five while some in the south have nine. He further notes that most Mande languages have two tones (though a few have more), with some languages having morphological tone while others have syllabic tone. Recent scholarship on Mande tone includes Vydrin (2016), Green (2018), and Konoshenko (2022). Another theoretically interesting characteristic of Mande languages is consonant mutation, which occurs in each of the branches (Dwyer 1989). Dwyer (1974) investigates mutation in the Southwest Mande languages Loko, Mende, Bandi, Loma, and Kpelle.

Within the Mande family, Mende is classified as a Western Central South West Mande language, most similar to Loko and Bandi (Eberhard, Simons, and Fennig 2023).

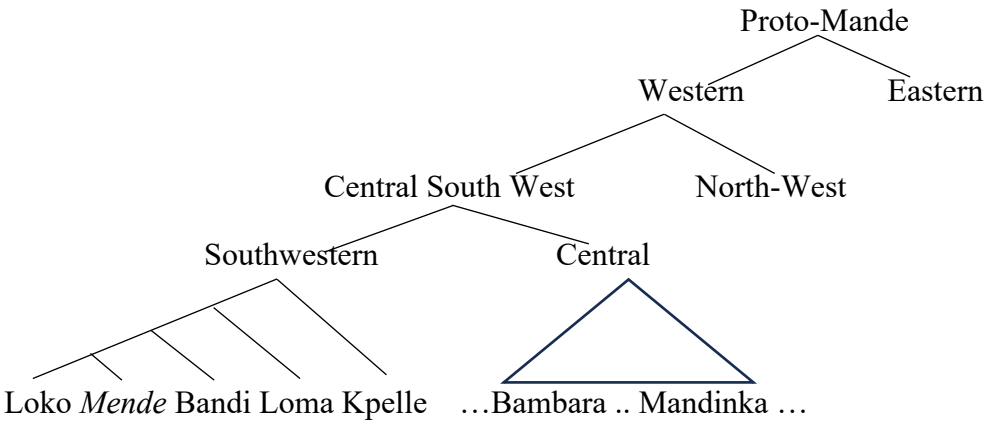


Figure 3 - Southwestern Mande Languages (adapted from Williamson and Blench 2000)

There is a long history of Mende grammars including Schön (1882), Migeod (1908), and Aginsky (1935), along with relatively more recent works by Innes (1967), Spears (1967), and Brown (1980). Of these, the most thorough description is Innes (1967). Sengova (1981) is a dissertation that investigates tense and aspect by a native Mende speaker.

Major research areas in Mende have focused on its tone and consonant mutation process. A number of papers regarding the nature of Mende tone were written in the 1970s and 1980s, including work by Dwyer (1971, 1978), and Conteh, et al. (1983), while Mende tone also served as a crucial example in the work by Leben (1973, 1978) and Goldsmith (1976) in the development of autosegmental phonology. Recent work on Mende tone includes Zhang (2004) and Inkelas and Shih (2015). Crucially, nearly all of this research has been based on the data provided in Innes (1967), with some also using Spears (1967).

Sengova (1981) summarizes previous work on Mende tone, highlighting various analyses. While Dwyer (1971) argued for a distinction between high and low tones, Spears (1967) suggested that a third tone – high falling – could also be found in the language. Aginsky (1935), Innes (1962, 1967, 1969), and Fromkin (1972) argue for four tones: low, high, high-low contour, and low-high contour. This is the analysis that was seemingly picked up by Leben and Goldsmith.

In this dissertation, I mark surface tone. Interestingly, the tone data differs, at times substantially, from the data reported by Dwyer, Spears, Innes, etc. For example, Innes (1967) marks the tone the word translated as 'the house' as *pélέí*, while my language consultant (a native Sewama Mende speaking PhD student) and I mark it as *pèlèí*. What we label as *níkèísíà* 'the cows,' Innes marks as *nìkèísià*. Differing from the traditional analysis, we note only high and low tone. This could perhaps be a question of dialect, as I'm not aware of any previous work on Sewama Mende. It could also be a question of change over time or through contact with English and Krio,

which have little to no tone. I make no claims regarding underlying tone in this dissertation and seek to simply indicate how it surfaces in the data.

There is also a substantial literature investigating *consonant mutation* in Mende including Dwyer (1969), Conteh, Cowper, and Rice (1986), Tateishi (1990), and Iosad (2008). Consonant mutation in Mende affects the initial consonant of words in specific syntactic environments (Conteh, Cowper, and Rice 1986). Phonologically, consonants can be divided into three groups, with various proposals for how to name the groupings. One set of consonants does not participate at all in mutation, including *d, h, m, n, ny,* and *ŋ*. Another set are those which undergo mutation, that I will call *target* consonants, as they are targeted for mutation. I call the third group *goal* consonants as they are the form into which the target mutates. The two groups involved in mutation can be seen in Table 1.

target	**goal**	**unmutated**	**mutated**
p	w	pɛlɛ ‘house’	nya **w**ɛlɛ ‘my house’
t	l	tiso ‘sneeze’	nya **l**iso ‘my sneeze’
k	g	kɔli ‘leopard’	nya **g**ɔli ‘my leopard’
kp	gb	kpaa ‘farm’	nya **gb**aa ‘my farm’
f	v	fomi ‘cane’	nya **v**omi ‘my cane’
s	j	sɛlɛ ‘banana’	nya **j**ɛlɛ ‘my banana’
mb	b	mbei ‘rice’	nya **b**ei ‘my rice’
nd	l	ndopo ‘child’	nya **l**opo ‘my child’
ng	y (when preceding i, e, ɛ, a, ɔ)	ngilei ‘dog’	nya **y**ilei ‘my dog’
	w (when preceding o, u)	nguli ‘tree’	nya **w**uli ‘my tree’
nj	y	njii ‘goat’	nya **y**ii ‘my goat’

Table 1 - Consonant Mutation in Mende

Syntactically, mutation occurs when a DP precedes another lexical constituent in a certain environment, though it is not entirely clear what precisely constitutes that environment. It is generally agreed upon that postpositions (7a), adjectives (7b), and the object in genitive phrases (7c) undergo mutation when preceded by a noun, while the second word in compounds also mutates (7d). Verbs also mutate when preceded by a nominal direct object (8).

(7) a. pɛ̀lɛ̀ **w**ómà
house in
'behind the house' (*poma* = behind)

b. sɛ̀lɛ̀ **gb**ɔ̀í
banana ripe
'ripe banana' (*kpɔu* = ripe)

c. kpàálàmù-í **y**ílí-í
farmer-DEF goat-DEF
'the farmer's goat' (*nji* = goat)

d. sùkùlù **l**ópò-í-síà
school child-DEF-PL
'school children' (*ndopo* = child)

(8) a. Kpàná hùén **v**é-nì lɔ̀ Pítá wɛ̀
Kpana meat give-PFV NF Peter to
'Kpana gave the meat to Lawrence'

b. Kpàná **f**é-nì lɔ̀ Pítá wɛ̀
Kpana give- PFV NF Peter to
'Kpana gave it to Lawrence'

In (7a-d) and (8a) a phonologically expressed DP precedes the word that undergoes mutation. In (8b) even though the name *Kpana* precedes the verb *fe* 'give', mutation does not occur. In this construction the 3rd person singular, non-human pronoun is null. To help better understand what is occurring in this construction, consider the following data. The plural objects in (9), whether human, living, or non-living, can all be pronominalized to the 3rd person plural pronoun.

(9) a. Kpàná **nyàpù-í-síà / kɔ́lí-í-síà / pɛ̀lɛ̀-í-síà** lɔ̀-í lɔ̀
Kpana girl-DEF-PL leopard-DEF-PL house-DEF-PL see-PFV NF
'Kpana saw the girls / the leopards / the houses.'

b. Kpàná **tí** lɔ̀-í lɔ̀
Kpana 3PL see-PFV NF
'Kpana saw them (the girls / the leopards / the houses).'

Singular objects present a different story, however. In (10a), there are three objects: human, non-human, and non-living. In (10b), the 3rd person singular pronoun *ngi* can only represent *nyapui* 'the girl', while the null pronoun in (10c) represents the non-human *kɔlii* 'the leopard' and

pɛlɛi ‘the house.’ This leads to the distinction in the first consonant of the verbs in (10b) and (10c). In (10b), the DP pronoun *ngi* precedes the verb, and it surfaces as *lɔ* ‘see’, beginning with the goal consonant *l*, while in (10c) the phonologically null pronoun precedes the verb, which surfaces as *tɔ*, beginning with the target consonant. In these examples, it is the presence of the DP direct object that triggers mutation in the verb.

(10) a. Kpàná **nyàpù-í / kólí-í / pɛ̀lɛ̀-í** **l**ɔ̀-í lɔ̀
Kpana girl-DEF leopard-DEF house-DEF see-PFV NF
‘Kpana saw the girl / the leopard / the house.’

b. Kpàná **ngí** **l**ɔ̀-í lɔ̀
Kpana 3SG see-PFV NF
‘Kpana saw her (the girl) / *it (the leopard / the house).’

c. Kpàná **ø** **t**ɔ̀-í lɔ̀
Kpana 3SG.NH see-PFV NF
‘Kpana saw it (the leopard / the house) / *her (the girl).’

Having briefly discussed tone and consonant mutation, I turn next to a discussion of word order and how it has traditionally been analyzed.

1.3 Deriving OV and VO Word Order

I have already shown data indicating that Mende has a variety of OV and VO verbal constructions. Cross-linguistically, various analyses have been proposed to capture the distinction between and derivation of OV and VO word orders, including historical accounts, processing accounts, as well as formal analyses (Svenonius 2000: 3). As noted above, within the Mande language family, there are numerous historical analyses of how OV word order came about (c.f. Claudi 1994, Kastenholz 2003). In the Principles and Parameters / Minimalist tradition two of the more prominent approaches are the parametric approach and the Antisymmetric approach. Within each of these approaches, there are various proposals on how to flesh out the analysis in language specific

contexts. In the following section, I briefly introduce the parametric approach and argue that it cannot account for the data in Mende and the Mande languages.

The Principles and Parameters approach (Chomsky 1980, 1981) sought to describe what is invariant about human language and what can vary cross-linguistically (Chomsky 1995: 25). While principles (including parameters) are invariant, the settings of specific parameters are responsible for language variation. Under this analysis, OV and VO languages have an underlyingly similar hierarchical structure, but Universal Grammar has a *directionality parameter* that dictates whether a particular language is head-initial or head-final. In a head-initial language the verbal head precedes its direct object complement (VO word order), while in a head-final language the direct object complement precedes the verbal head (OV word order). As a result, a child exposed to a language simply sets the parameter accordingly (Aboh 2004): a child who speaks English (VO) sets the head-initial parameter, while a child who speaks Turkish (OV) sets the head-final parameter.

An example of this variation is found within the Germanic languages. Haider (2020) notes that the Germanic languages have three possible configurations in regards to the order of the verb and its object(s). Some languages including Dutch, German, and Afrikaans allow both the direct and indirect object to precede the verb in its base position, in an S-IO-DO-V order (11a), or with pronominal objects in an S-DO-IO-V order (11b).

(11) German

a.

	S	**IO**		**DO**		**V**	
Heute	habe ich	dem	Mann	das	Buch	gegben	(Haider 2020: 2b)
today	have I	the	man_{DAT}	the	$book_{ACC}$	given	

b.

	S	**DO**	**IO**	**V**	
Heute	habe ich	es	ihm	gegeben	(Haider 2020:2c)
Today	have I	it_{ACC}	him_{DAT}	given	

Even though these languages are considered head-final, this holds only for VPs and APs, while NPs and PPs are head-initial (Haider 2020), as seen in the head-final verb phrase in (12a) and the head-initial noun phrase in (12b).

(12) Dutch

a. [een container naar Madagaskar **sturen**]$_{VP}$ (Haider 2020: 4a)
a container to Madagascar send

b. het [**sturen** van een container naar Madagaskar]$_{NP}$ (Haider 2020: 4b)
the send$_{INF}$ of a container to Madagascar

Other Germanic languages including English, Danish, and Swedish have an SVO order and are consistently head-initial across all XPs.

(13) Swedish (Haider 2020:1 from Lundquist 2014)

S	V	IO	DO
Jag	har	gett	mannen boken
I	have	given$_{SUP}$	man$_{DEF}$ book$_{DEF}$

Finally, Yiddish is considered unspecified, in that it can have IO-V-DO order or DO-V-IO order.

(14) Yiddish (Haider 2020: 3c, 3d)

a.

S	IO	V	DO
Maks hot	Rifken	nit gegebn	das bukh
Max has	Rebecca	not given	the book

b.

S	DO	V	IO
Maks hot	das bukh	nit gegebn	Rifken
Max has	the book	not given	Rebecca

Haider argues that this order is maintained from an older period of the Germanic languages, prior to the OV / VO split and acknowledges that assigning it one of these base orders is controversial.

Haider suggests that these word order patterns are parametrizations of VP structuring, such that VO languages like Swedish are head-initial, OV languages like German are head-final, and Yiddish is somehow flexible. He further proposes that since the VP is a fundamental component of the CP, its structure is reflected in the structure of the clause.

The head-finality of VPs and APs in German in contrast with the head-initiality of NPs and PPs is surprising. Research on language typology has shown that the OV/VO distinction correlates with the predicted word order of the components of the clause, namely that VO languages typically have prepositions, the noun preceding the genitive, and the noun preceding adjectives, while OV languages have postpositions, the genitive preceding the noun, and adjectives preceding the noun. Languages, like German, that deviate from this generalization are *disharmonic* (Elordieta 2013). Disharmony calls into question the validity of head-parameters, or complicates matters such that in a language like German, we must postulate the necessity of different parameters for VPs and APs than for NPs and PPs.

The Mande languages are perhaps even more challenging. The true distinction is not between e.g. verb phrases and noun phrases, but within the class of verbs itself. Consider the distinction between the verbs *majia* 'sell' and *lema* 'forget.' The DP object *manguisia* 'the mangoes' occurs before *majia* and after *lema*.

(15) S O V X_{LOC}
Kpànáá mángù-í-síà màjìá-í lɔ̀ njɔ̀pɔ̀wá hún
Kpana mango-DEF-PL sell-PFV NF market in
'Kpana sold the mangoes in the market.'

(16) S V O X_{LOC}
Kpànáá lèmá-ì lɔ̀ mángù-í-síà mà njɔ̀pɔ̀wá hún
Kpana forget-PFV NF mango-DEF-PL MA market in
'Kpana forgot the mangoes in the market.'

The verb *lema* 'forget' is part of an idiosyncratic class of verbs in Mende, which I call *post-verbal particle verbs,* whose DP theme must occur post-verbally. The DP theme surfaces in an adpositional phrase headed by a semantically vacuous particle / postposition, such as *ma,* which, as we saw in (1), means 'on' in a typical locative construction. As seen in (2) and (3), these are not the only constructions in which the direct object surfaces post-verbally, and in chapter 2 I investigate stranded quantifiers, CP objects, and stranded coordinated DP objects.

Data like that in (16) demonstrate that Mende should not be characterized as *strictly* SOVX. Furthermore, any analysis of its syntactic structure must account for transitive verbs who take pre-verbal objects (15) and transitive verbs who take post-verbal themes encoded in an adpositional phrase (16). Given the idiosyncratic nature of Mande verbs, a parametric approach is untenable. Kayne's Antisymmetry approach, on the other hand, enables an analysis that accounts for both of these constructions. This means that all verb phrases are head-initial. Some take bare pre-verbal DP objects while others encode their object in a post-verbal PP. As such, it is the class of verbs and behavior of various complements that trigger differing word orders.

A syntactic analysis of the language, therefore, must account for the presence of both pre-verbal and post-verbal objects, as well as prepositional and postpositional phrases. There are three analytical building blocks on which I develop this analysis. First, following Kayne (1994) I argue that all phrases are head-initial with leftward movement accounting for variations in the order, e.g. OV order is derived from an underlying VO order. Second, working within the cartographic framework established by Cinque and Rizzi (c.f. Cinque (ed.) 2002, Rizzi (ed.) 2004, Belletti (ed.) 2004, and Cinque (2006)), I suggest that the landing spots for leftward movement are the specifiers of a series of functional phrases. Finally, focusing in on the Mande languages more specifically, I take inspiration from the work of Koopman (1984, 1992) on Mahou and Bambara, who argued that movement of the object to a pre-verbal position is driven by the need for Case licensing. Using these frameworks as a foundation, I propose that we can account for the variations in word order in (1) to (3).

This investigation makes three principle contributions to syntactic theory. First, in Chapter 2 I lay out an analysis of the derivation of OV word order in a relatively understudied language with a unique word order. From a theoretical perspective, the data and analysis are particularly

interesting as they raise the question of the relationship between OV and VO word orders, a topic of extensive theoretical debate (Travis 1984, Kayne 1994, 1998, Zwart 1997, Alexiadou and Anagnostopoulou 1988, Aboh 2004, Öztürk 2013, Haider 2020). As previously indicated, there is a substantial literature investigating OV word order, particularly in the Germanic languages (c.f. Holmberg 1986, Zwart 1997, Svenonius 2000, which includes a variety of analyses, Haegeman 2002, Haider 2020), but data and analysis from the Mande languages with their unique word order have not yet been incorporated into the discussion. This research also demonstrates the applicability of Kayne's (1994) Antisymmetry approach to a new language family.

Second, this investigation provides a description and unified analysis of adpositions in Mende, which has a number of postpositions and one polyfunctional preposition. Similar to the situation with verbs, the Mandeist literature makes important contributions in describing, typologically comparing, and proposing analysis for the historical development of adpositions in the language family (c.f. Nikitina 2008, 2009, Creissels 2022, 2023). My objective in Chapter 3 is to develop a theoretical analysis of Mende adpositions through an investigation of their lexical semantics, morphology, and syntax. Specifically, I argue that Mende adpositions exist on a cline ranging from nominal-like to functional, including a null adposition. I further argue that this ordering surfaces in the morphosyntactic structure of complex adpositions and adpositional phrases.

Third, building off of the analysis of verbs and adpositions, in Chapter 4 I investigate post-verbal particle verb constructions, such as in (16). These constructions have been noted throughout the Mande language family in languages such as Kono (Smith and Challay under review, Smith, Challay, and Jimissa under review), Bambara (Koopman 1992), Mandinka (Creissels 2024), Lorma (Dwyer 1981), Susu (Duport 1865), Jalkunan (Heath 2017), Vai (Welmers 1976), and

Mano (deZeeuw and Kruah 1981). They resemble complex predicates like those which have been widely investigated in Hungarian (Kiss 2008, Suranyi 2009, Kardos and Farkas 2022) and Germanic (Svenonius 1994, Hoekstra 1988, Jackendoff 2002, Basilico 2008, Dehé 2015). I argue that in Mende the particle projects a phrase, hosting the object, and the verb c-selects the particle, while the verb and particle together s-select the DP object. The investigation of Mende (and more broadly Mande) particle verb constructions brings a number of new and interesting perspectives to bear on these analyses of complex predicates.

In addition to its theoretical contributions, this dissertation also makes an important contribution to language description and typology. In presenting a syntactic description and analysis of Mende, it lays the groundwork for future research on the broader Mande language family. Linguistic theory is built on the data of spoken language, and a major challenge in syntactic analysis is that a vast majority of research is based on well-known, widely spoken languages, such as Germanic languages, Romance Languages, along with Chinese, Japanese, and a small number of other languages. This bias is captured in an observation made by Güldemann, Zerbian, and Zimmerman (2015) concerning a different syntactic topic, namely information structure. They note that Africa hosts close to one-third of the world's languages, while also suggesting that there is a substantial bias in research on information structure towards European languages, which are relatively homogenous in comparison to the diversity found in Africa. Research on a broad topic – Information Structure – is built on language data that has generally excluded 1/3 or the world's languages. Language description, therefore, plays an important role in generating the necessary data to develop proper analyses.

1.4 Overview of Mende's Nominal and Clausal Syntax

In this section I consider in more detail the clausal structure of Mende. I begin with a brief consideration of its nominal syntax before embarking on a detailed investigation of the various components of the clause.

1.4.1 Nominal Syntax

Typical of Mande languages (Welmers 1971:131), Mende does not have a noun classification system as seen in the forms of the direct object nouns in (17), which show no noun class markings for people (17a), animals (17b), fruit (17c), or non-living items (17d).

(17) a. Kpàná nyàpù-í-síà / kpàálàmù-í-síà lɔ̀-í lɔ̀
Kpana girl-DEF-PL farmer-DEF-PL see-PFV NF
'Kpana saw the girls / farmers.'

b. Kpàná níkè-í / yílí-í lɔ̀-í lɔ̀
Kpana cow-DEF goat-DEF see-PFV NF
'Kpana saw the cow / goat.'

c. Kpàná mángù-í- / nésí-í lɔ̀-í lɔ̀
Kpana mango-DEF pineapple see-PFV NF
'Kpana saw the mango / pineapple.'

d. Kpàná bɛ́tè-í-síà / kɔ̀lè-í-síà lɔ̀-í lɔ̀
Kpana table-DEF-PL book-DEF-PL see-PFV NF
'Kpana saw the tables / books.'

In Mende DPs, the noun is leftmost and is followed by number and (in)definite markers (18a). When an adjective is present, it follows the noun (18b), and number, if present, follows any adjectives (18c). The right-most element is marked with number and the (in)definite marker. However, if a demonstrative is present, only plurality is marked on it, with (in)definite marked on the preceding constituent (whether it be a noun, adjective, or number), as in (18d). (18e) shows the order of a Mende DP.

(18) a. mángù-í-síà N-Def-Pl
mango-DEF-PL
'the mangoes'

b. mángù gbɔ̀í-í-síá N-Adj-Def-Pl
mango ripe-DEF-PL
'the ripe mangoes'

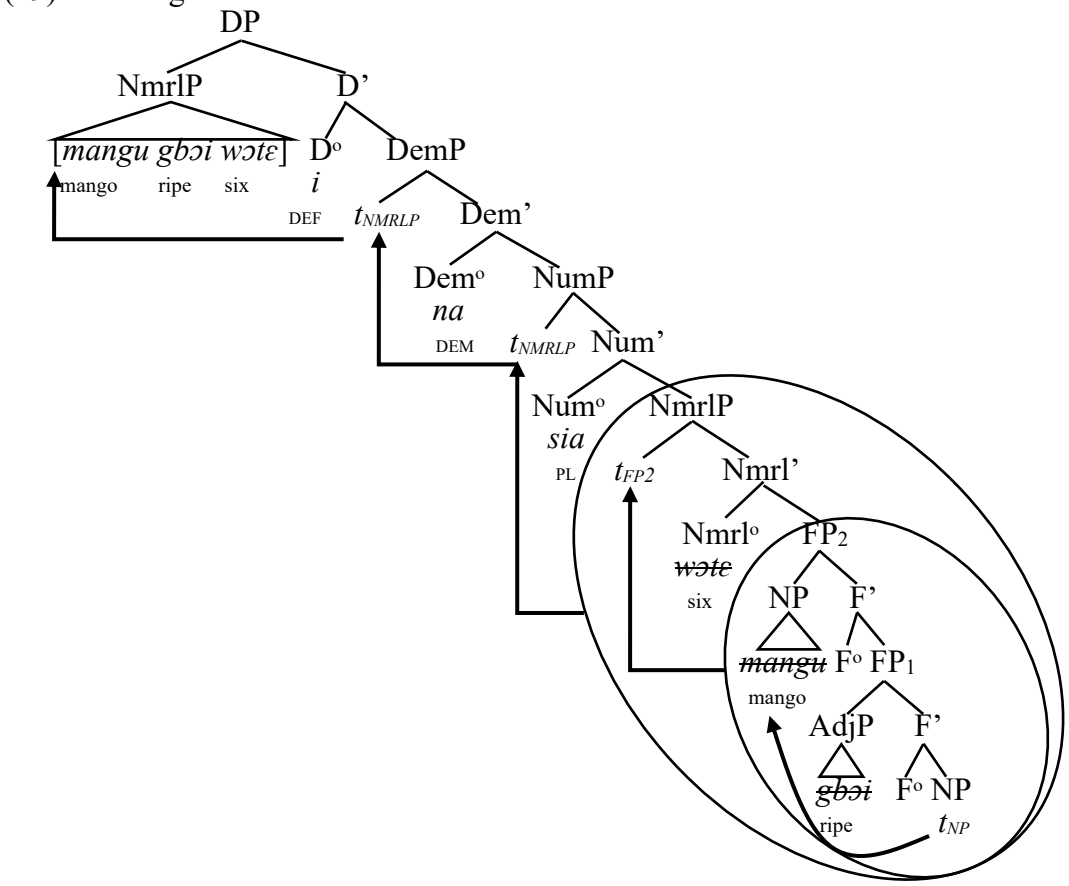
c. mángù gbɔ̀í wɔ̀tè-í-síá N-Adj-Numb-Def-Pl
mango ripe six-DEF-PL
'the six ripe mangoes'

d. mángù gbɔ̀í wɔ̀tè-ɪ́ ná-síá N-Adj-Numb-Def-Dem-Pl
mango ripe six-DEF DEM-PL
'those six ripe mangoes'

e. *N-(Adj)-Det-(Dem)-Num*

Following Ritter (1991), I suggest that NPs raise into SpecDP, with adjectives in a fixed hierarchy above the NP, in the specifier of Functional Phrases (Sproat and Shih 1990, Cinque 1994). The derivation for (18d) is set out in (19) and follows in the spirit of Aboh's (2004) 'snowballing' analysis for DPs in Gungbe. Immediately above the NP is a Functional Phrase (FP_1) with the adjective *gboi* 'ripe' in its specifier. The NP *mangu* 'mango' raises into the specifier of another FP (FP_2) that immediately dominates FP_1. FP_2 subsequently raises into SpecNmrlP, which is headed by the numeral *wɔte* 'six.' The NmrlP then raises through SpecNumP and SpecDemP before surfacing in SpecDP, deriving the surface structure.

(19) Deriving DPs



I next investigate Mende's clausal structure. I look first at the subject and subject marker, which, I argue, demarcate the lower edge of the left periphery and top of the middlefield respectively (Section 1.4.2). I then briefly consider the verbal complex (Section 1.4.3), leaving a detailed exposition to Chapter 2. Section 1.4.4 looks at focus and the left periphery, while section 1.4.5 looks at the lower middlefield.

1.4.2 The Subject and Subject Marker

In the ensuing discussion, I use the clause in (20) as a point of reference. The ditransitive clause consists of a DP subject *nyapuisia* 'the girls', 3rd person plural subject marker *ti*, DP direct object *manguisia* 'the mangoes', verb *ve* 'give' that is marked for perfective aspect with *-i*, the focus

marker *lɔ* that indicates neutral focus in the clause, a dative prepositional phrase *Kpana wɛ* 'to Kpana', and an adjunct locative postpositional phrase *njɔpɔwa hun* 'in the market.'

(20) S SM O V-Tns NF Dat Loc
nyàpù-í-síà tì mángù-í-síà vè-í lɔ̀ Kpàná wɛ̀ njɔ̀pɔ̀wá hún
girl-DEF-PL 3PL mango-DEF-PL give-PFV NF Kpana to market in
'The girls gave the mangoes to Kpana in the market.'

In canonical Mende clauses, the subject appears at the left edge (21). Since Chomsky (1995), it has been widely assumed that subjects raise from their position in the verbal shell in order to be Case-licensed. As such, I argue that the surface position is derived.

(21) **nyàpù-í-síà** tì mángù-í-síà yèyà-í lɔ̀ gbòí
girl-DEF-PL 3PL mango-DEF-PL buy-PFV NF yesterday
'The girls bought the mangoes yesterday.'

Evidence that this is a derived position includes data related to stranded quantifiers. Consider first the data from English in (22). In (22a) the DP 'all the children', consisting of the DP 'the children' and the quantifier 'all', merges underlyingly as the subject of the verb (22b). In deriving the surface structure of the sentence, either the whole DP can raise as in (22c) or the quantifier can be floated (stranded / left behind) in its initial position, while the rest of the DP has raised as in (22d).

(22) a. surface structure
all the children will sing

b. underlying structure
will [VP [DP all [DP the children]] sing]

c. entire DP moves
[DP all [DP the children]] will [VP ~~[DP all [DP the children]]~~ sing]

d. only smaller DP moves
[DP the children] will [VP [DP all ~~[DP the children]~~] sing]

Given that under my analysis only leftward movement is permitted (Kayne 1994), quantifier float is significant in showing the base position of the moved DP (Sportiche 1998,

Fitzpatrick 2006). That is, if a quantifier can be floated in position X, then the associated DP must have been in position X at some point in the derivation.

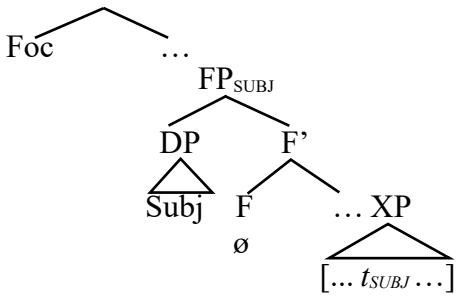
In Mende we find evidence for a low merge position for the subject in quantifier float. In (23a) the subject *nyapuisia* 'the girls' is modified by the universal quantifier *kpɛlɛ* 'all.' In (23b) the quantifier is stranded in a post-verbal position and there is no change in meaning.

(23) a. nyàpù-í-síà **kpɛ́lɛ́** tì wìmɛ̀-í lɔ̀ gbòí
girl-DEF-PL all 3PL run-PFV NF yesterday
'All of the girls ran yesterday.'

b. nyàpù-í-síà tì wìmɛ̀-í lɔ̀ **kpɛ́lɛ́** gbòí
girl-DEF-PL 3PL run-PFV NF all yesterday
'All of the girls ran yesterday.'

This data suggests that at some point in the derivation the subject was in a much lower position before raising into its surface position. Cardinaletti (2004) refers to this low position as the subject's thematic position, that is the specifier of vP. In my analysis all of the verbal arguments raise into a low licensing position. Note that in (23b) the subject quantifier *kpɛlɛ* 'all' surfaces in a position above the temporal adverb *gboi* 'yesterday,' which, following Cinque (1999), I argue is in a fixed position above the vP. The subject (and quantifier, if present) raises out of the vP, above the adverb, into the specifier of a functional phrase labeled as FP_{SUBJ}. It is in this position that the quantifier is stranded.

(24) Licensing the Subject



Before considering the surface position of the subject, I turn to a discussion of the subject marker. Looking back at (20), the subject precedes what I call the *subject marker* (SM). Within, Mandeist literature, this position is typically referred to as the TAM or predicative marker and is common to most Mande languages, variously encoding tense, aspect, mode, and polarity (Creissels 2019). Bearth (2009) highlights two typical characteristics of these constructions in Mande languages. First, they typically encode polarity, either negative or positive. Second, they form part of a split predicate, since in transitive sentences this marker which can encode tense, aspect, and mode is separated from the verb by the direct object. He also notes that in many Mande languages this marker plays a pronominal role, reassuming the subject, which he suggests may be a topic. Bearth also acknowledges that there is some diversity in what exactly is encoded in this predicative marker in different languages, and, resultingly, that there are multiple analyses as to how they operate.

In Mende, the subject marker encodes three properties: it must agree in number and person with the subject, it can encode habituality, and it must encode polarity. Traditionally, it has been orthographically written as lexical unit, but I propose instead that it consists of a series of heads at the top of the middlefield.

In order to most clearly see the articulated structure of the subject marker, I show three pairs of constructions below. Each pair consists of a clause with a singular and plural subject, with the first set having habitual aspect, the second being perfective, and the third prospective. Initial evidence that the subject marker encodes person/number agreement with the subject can be seen in the plural (a) examples where the consonant in the subject marker is *t*-. This contrasts with the singular examples, where there is no consonant. This suggests that *t*- encodes third person plurality. The two habitual constructions (25) have the vowel -*a*, which I argue is the habitual marker. Based

on (25), it might be expected for the singular subject marker in the perfective (26) and prospective (27) constructions to be *-i*, given that the plural marker is *-ti.* This, however, is not the case. In both cases, the subject marker is null, and I have glossed it as ø.[2]

(25) Habitual Aspect
a. nyàpù-í-síà **tà** mángù-í-síà vè lɔ̀ Kpàná wɛ̀ tàtóvó gbí
girl-DEF-PL 3PL.HAB mango-DEF-PL give NF Kpana to Monday all
'The girls give the mangoes to Kpana every Monday.'

b. nyàpù-í **à** mángù-í-síà vè lɔ̀ Kpàná wɛ̀ tàtóvó gbí
girl-DEF 3SG.HAB mango-DEF-PL give NF Kpana to Monday all
'The girl gives the mangoes to Kpana every Monday.'

(26) Perfective Aspect
a. nyàpù-í-síà **tì** mángù-í-síà vè-í lɔ Kpàná wɛ̀ gbòí
girl-DEF-PL 3PL mango-DEF-PL give-PFV NF Kpana to yesterday
'The girls gave the mangoes to Kpana yesterday.'

b. nyàpù-í **ø** mángù-í-síà vè-í lɔ̀ Kpàná wɛ̀ gbòí
girl-DEF 3SG mango-DEF-PL give-PFV NF Kpana to yesterday
'The girl gave the mangoes to Kpana yesterday.'

(27) Future Construction
a. nyàpù-í-síà **tì** mángù-í-síà vè-má à Kpàná wɛ̀ síná
girl-DEF-PL 3PL mango-DEF-PL give-PROSP NF Kpana to tomorrow
'The girls will give the mangoes to Kpana tomorrow.'

b. nyàpù-í **ø** mángù-í-síà vè-má à Kpàná wɛ̀ síná
girl-DEF 3SG mango-DEF-PL give-PROSP NF Kpana to tomorrow
'The girl will give the mangoes to Kpana tomorrow.'

A natural question, then, is how to account for the *-i* in the 3rd person plural constructions in (26a) and (27a). In order to better understand this, I turn to the encoding of negative polarity in the subject marker, using perfective aspect for exposition (28). There are a few differences to note between the positive polarity sentence in (26) and its negative counterpart in (28). The first distinction is the change from low to high tone on the vowel in the plural subject markers. This points to high-tone as the expression of negative polarity on the subject marker. Second, note that the neutral marker *lɔ* cannot co-occur with negation in the clause. I discuss this further below.

[2] The idea of a null pronoun should be unsurprising given the data on singular, non-human object pronouns in (10).

Finally, note that the vowel *-í* surfaces in the past singular construction. Since tone cannot surface without a vowel, I conclude that *-i* is a default vowel. This explains why it surfaces in both the future and past constructions. Since the singular marker is null, there is no need for the default vowel to surface.[3]

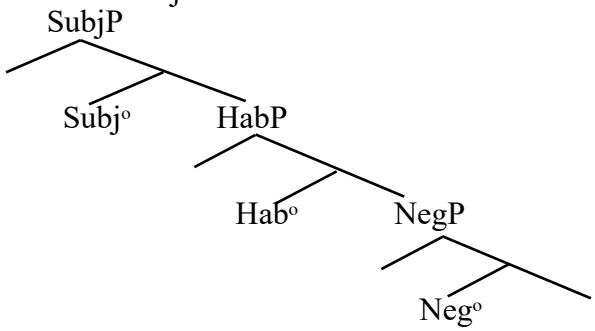
(28) Negation

a. nyàpù-í-síà **t.í** mángù-í-síà vè-ní (*lɔ) Kpàná wɛ̀ gbòí
girl-DEF-PL 3PL mango-DEF-PL give-PFV NF Kpana to yesterday
'The girls did not give the mangoes to Kpana yesterday.'

b. nyàpù-í **í** mángù-í-síà vè-ní (*lɔ) Kpàná wɛ̀ gbòí
girl-DEF 3SG mango-DEF-PL give-PFV NF Kpana to yesterday
'The girl did not give the mangoes to Kpana yesterday.'

Based on these data, I propose that the polymorphemic structure of a subject marker can best be understood as a series of heads encoding number agreement, habitual aspect (when present), and negation (when present).

(29) Articulated Subject Marker

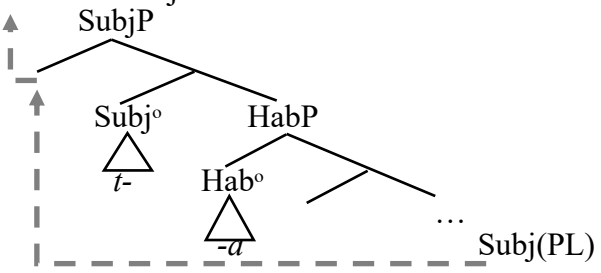


In a phrase like (25) with a 3rd person plural subject and habitual aspect, the subject marker *ta* is derived, as in (30). The habitual marker *-a* surfaces in Hab°. The subject raises through SpecSubjP, triggering person and number agreement with the Subj°, which surfaces as *t-*. The subject raises to a higher position and the subject marker then surfaces as *ta*, indicating 3rd person

[3] I am unsure as to why the vowel does not surface in order to manifest low tone on the positive polarity constructions. Perhaps it is something of an unmarked variant.

plural agreement with the subject and habitual aspect. Though written as a single word, in reality, it is a series of heads.

(30) Habitual Subject Marker



Throughout the rest of the dissertation, unless otherwise specified, I use the shorthand S(ubject) M(arker) P(hrase) to indicate the series of heads (subject head, habitual head, negation) that occur in this position.

Having proposed that the subject moves through SpecSubjP, I next consider the position into which it raises. Crucially, the presence of an adverb between the subject and subject marker indicates that they are in different phrases, as seen in (31) where the subject-oriented adverb *a gbɛkpɛyahunwɛ* 'generously' surfaces between *nyapuisia* 'the girls' and *ti* (3PL).

(31) nyàpù-í-síà **à gbɛ̀kpɛ̀yàhúnwɛ̀** tì mángù-í-síà vè-í lɔ̀ Kpàná wɛ̀
girl-DEF-PL with generosity 3PL mango-DEF-PL give-PFV NF Kpana to
'The girls generously gave the mangoes to Kpana.'

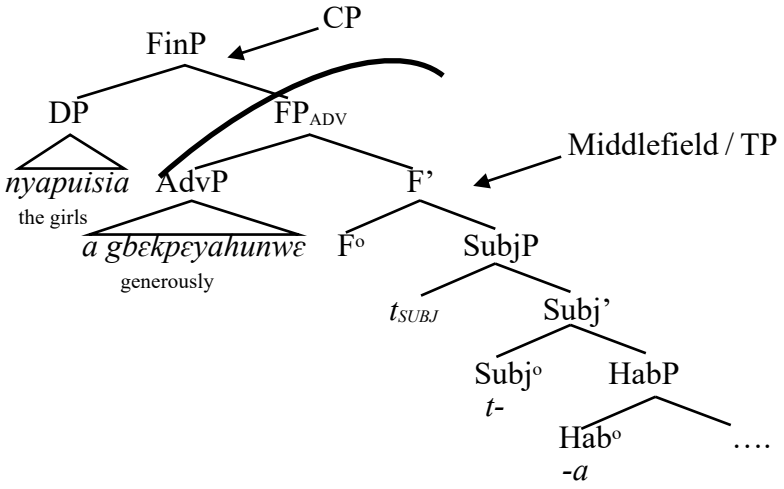
In light of this data, I conclude that the subject does not remain in the specifier of the SubjectPhrase, but that it has raised into a higher position. Following Cinque (1999), I further conclude that there is a functional phrase that can host an adverb that surfaces between the SubjectPhrase and the XP hosting the subject.

As for the subject, I propose that its surface position is the specifier of the null-headed Finite Phrase (Rizzi 1997, 2001, Cardinaletti 2004, Smith 2022b, 2023).[4] In this position it

[4] Recall that the data in (23) showed a quantified subject. Rizzi (1999) suggests that quantified subjects cannot be topics, and I consider this further evidence that they occur in the Fin head. See Smith (2024) for further arguments regarding the Mende clausal left periphery.

connects the left periphery to the middlefield / TP portion of the clause through an agreement relationship between the subject and the subject marker. As such the subject occurs in the lowest phrase of the left periphery (SpecFinP), while the adverb phrase above the subject marker, marks the top of the middlefield. This is shown in (32), using the data from (31).

(32) Position of the Subject



1.4.3 The Direct Object and Verbal Complex

Moving lower into the clausal structure, I want to briefly consider the position of the direct object and verbal complex. In Chapter 2 I discuss the position of the direct object in much greater detail. For now, however, I want to point out that nothing can surface between the direct object and the verb. I discuss the implications of this in the next chapter.

(33) *nyapu-i-sia ti mangu-i-sia gboi / gbɔma / a kitihunwɛ yeya-i lɔ
girl-DEF-PL 3PL mango-DEF-PL yesterday already strangely buy-PFV NF
Intended: 'The girls yesterday / already / strangely bought the mangoes.'

I turn next to the verbal complex. In his dissertation on tense and aspect, Sengova (1981), a native Mende speaker, points out that research on the language has focused more on its nominal

system than on its verbal system.[5] He argues that tense and aspect 'operate in terms of a combined temporal linguistic system, with reference to form and meaning (p. 59).' More specifically, he suggests that a single lexical category encodes both tense and aspect, and even multiple temporal-aspectual configurations. I briefly introduce Sengova's framework by examining the following examples, and in the remainder of this dissertation most examples consist of these temporal-aspectual constructions. (34) is in perfective aspect, that is an 'action completed in its totality,' which is indicated by the perfective marker *-i.* (35) is prospective aspect referring to a subsequent, though not imminent, action, and is marked by the prospective marker *-ma*.[6] Finally, (36) is a habitual construction, which he defines as iterative and punctual, comprising a 'single (individual) structure.'

(34) Sengova (1981 p. 66) *Perfective*
ngí vá'í lɔ́ wù má
I GREET Pfv. stabi YOU ON
'I greeted you.'

(35) Sengova (1981 p. 67) *Prospective*
kɔ́í lɔ́tòó mà'á 'bɔ̀'
WAR BEGIN Prosp.l AGAIN
'The war is going to start again.'

(36) Sengova (1981 p. 69) *Habitual*
fú'ú- há'ì gbí lè'é à gbó lɔ̀
LIVE THING ALL ONLY IT DEFECATE Habi.
'Any living organism excretes/defecates'

As it relates to what is encoded in each of these suffixes, that is perfective, prospective, and habitual aspect, I follow Sengova in this dissertation. Analytically, however, I disagree with two facets of his analysis. First, note that in the three previous examples, he labels *lɔ* as *stabi*, *l*, and *Habi* respectively. I take the *l* in (35) to be a typo for *lɔ* which he uses in other examples in the text. Essentially, he argues that in (34) *lɔ* is a stabilizer, meaning simply that the clause would

[5] Much of the research on tone uses nominal data (c.f. Leben (1973), Goldsmith (1976)).
[6] In (35) the *-á* which follows the prospective marker *-ma* is presumably *lɔ*.

be ungrammatical without it. It is quite unclear what he proposes *lɔ* does in (35), and in (36) he indicates that it marks habituality. At other points in the text, he indicates that *lɔ* can be understood as a verbal auxiliary (p. 37), as indicating focus (p. 42), as a stabilizer (p. 85), as naming a subject in constructions that are identical with subject focus (p. 85), marking a proposed future event (p. 86), habitual aspect (p. 86), and as marking 'mental ability or physical capability to complete an action (p. 86),' and in marking mode (p.87). He suggests that there is one morpheme *lɔ* with distinct, yet related roles. At this point, I simply highlight the various roles he suggests for *lɔ*. In the following section, I propose my own analysis.

My second point of disagreement concerns what exactly marks habituality in Mende. While Sengova suggests that it is *lɔ*, I have already posited that habituality is encoded in the subject marker surfacing as *-a*, while *lɔ* serves a different purpose in the construction.[7]

A final observation concerning Sengova's description of tense and aspect in Mende is that it offers no syntactic analysis. Analytically, its aims are to discuss the morphology and semantics of tense and aspect, without any substantial discussion of syntax. As already indicated, I follow Sengova's semantic analysis and disagree with him on a few facets of his morphological analysis. In any case, his work serves an important role in building a syntactic analysis of verbal constructions in Mende.

Turning now to the syntax of aspect, I will use the data in (37) to lay out my analysis. Keeping in mind that *lɔ* surfaces as *a* in (37b), all three constructions surface with *lɔ* following the verbal complex. While the verb in (37c) has no suffix, the distinction between (37a) and (37b) lies in the suffix, with *-i* marking perfective aspect and *-ma* marking prospective aspect. As noted previously habituality is encoded in the *-a* vowel in the subject marker (37c).

[7] I discuss its purposes below.

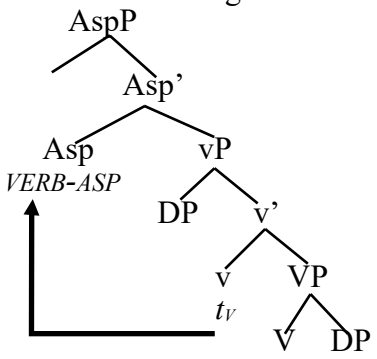
(37) a. nyàpù-í-síà tì mángù-í-síà yèyá-í lɔ̀ gbòí *Perfective*
girl-DEF-PL 3PL mango-DEF-PL buy-PFV NF yesterday
'The girls bought the mangoes yesterday.'

b. nyàpù-í-síà tì mángù-í-síà yèyà-má à síná *Prospective*
girl-DEF-PL 3PL mango-DEF-PL buy-PROSP NF tomorrow
'The girls will buy the mangoes tomorrow.'

c. nyàpù-í-síà tà mángù-í-síà yèyà lɔ̀ fóló gbí *Habitual*
girl-DEF-PL 3PL.HAB mango-DEF-PL buy NF day all
'The girls buy the mangoes every day.'

Tenny (1987) argues that aspect surfaces as a phrase within the TP structure, and I propose that in Mende the Aspect Phrase immediately dominates the VP. In this construction, the verb head-raises, adjoining the aspect phrase. It subsequently raises into a higher position, pied-piping the aspect phrase with it. The intermediate position is shown in (38), while I postpone discussion of its surface position until below and in greater detail in Chapter 2.

(38) Verb Head-raising



1.4.4 Focus Markers and Focus

Linearly, the next constituent to consider is *lɔ* / *a*, which I call the neutral focus marker. Differing from Sengova, I propose that *lɔ* functions as a focus marker. It can either mark low focus, which I call neutral focus (glossed as NF), or can mark in-situ focus of a constituent (glossed as ISF). A different focus marker, *mia*, marks left peripheral focus (glossed as LPF).

In the following data we see the three manifestations of focus in Mende. The position of neutral focus and left peripheral focus is fixed within the clause, while in-situ focus can surface in

a variety of positions. Neutral focus immediately follows the verbal complex (39a). In-situ focus surfaces immediately following the constituent that it focuses, which in (39b) is the direct object *manguisia* 'the mangoes.' Left-peripheral focus surfaces on the left edge of the clause (39c), though its position can vary depending on what other left peripheral constituents surface.

(39) a. Neutral Focus
Kpàná mángù-í-sía̰ yèyá-í **lɔ̀**
Kpana mango-DEF-PL buy-PFV NF
'Kpana bought the mangoes.'

b. In-situ Focus
Kpàná mángù-í-síà **lɔ̀** yèyá-nì
Kpana mango-DEF-PL ISF buy-PFV
'Kpana bought THE MANGOES.'

c. Left-peripheral Focus
mángù-í-síà **míà** Kpàná tì yèyá-nì
mango-DEF-PL LPF Kpana 3PL.RP buy-PFV
'It is the mangoes that Kpana bought.'

There are three indications that these manifestations of *lɔ* and *mia* are all focus marker. First, only one of these constituents can surface in a clause. In (40) the neutral marker cannot focus with either the in-situ focus marker (40a) or the left peripheral focus marker (40b), nor can the left peripheral focus marker co-occur with the in-situ focus marker (40c).

(40) a. *Kpana mangu-i-sia **lɔ** yeya-(n)i **lɔ**
Kpana mango-DEF-PL ISF buy-PFV NF
'Kpana bought THE MANGOES.'

b. *mangu-i-sia **mia** Kpana ti yeya-(n)i (***lɔ**)
mango-DEF-PL LPF Kpana 3PL.RP buy-PFV NF
'It is the mangoes that Kpana bought.'

c. *mangu-i-sia **mia** Kpana ti yeya-(n)i njɔpɔwa hun **lɔ**
mango-DEF-PL LPF Kpana 3PL.RP buy-PFV market in ISF
'It is the mangoes that Kpana bought IN THE MARKET.'

The second evidence that the *mia* and *lɔ* are focus markers is that wh-questions occur in the same position and are focus-marked. The wh-word *gbɛ* 'what' can surface in-situ in the position of the constituent it questions (41a) or in the left periphery (41b). Note in both cases that it is plural

marked and followed by the corresponding focus marker, *lɔ,* which surfaces as a lengthening of the vowel in the in-situ construction (41a) and *mia* in the left peripheral construction (41b).

(41) a. Kpàná gbɛ̀-ngà **á** yèyá-(n)ì (*lɔ) *In-situ Question*
Kpana what-PL LPF buy-PFV NF
'What did Kpana buy?'

b. gbɛ̀-ngá **míà** Kpàná tì yèyá-(n)ì (*lɔ) *Left-peripheral Question*
what-PL FOC.LP Kpana 3PL.RP buy-PFV NF
'What did Kpana buy?'

Finally, notice that focus and negation cannot occur in the same construction. In each of the constructions in (42), it is ungrammatical for the focus marker to surface when negation surfaces.

(42) Negation and Focus
a. Neutral Focus
Kpàná **í** mángù-í-síà yèyá-nì (***lɔ**)
Kpana NEG mango-DEF-PL buy-PFV NF
'Kpana did not buy the mangoes.'

b. In-situ Focus
Kpàná **í** mángù-í-síà (***lɔ**) yèyá-nì
Kpana NEG mango-DEF-PL ISF buy-PFV
'Kpana did not buy THE MANGOES.'

c. Left-peripheral Focus
*mángù-í-síà **míà** Kpàná **í** tì yèyá-nì
mango-DEF-PL LPF Kpana NEG 3PL buy-PFV
Intended: 'It is the mangoes that Kpana did not buy.'

In light of the fact that only one focus marker can surface in a constituent, that wh-questions occur in the same position, and that they cannot co-occur with negation, I argue that both *mia* and *lɔ* are focus markers. I turn next to an investigation of each of these constructions, beginning with *mia.*

The focus marker *mia* can focus any of the arguments of the verb. Based on (43a), we see that the subject (43b), direct object (43c), and dative object (43d) can all be focused.

(43) a. Kpàná mángù-í-síà vè-í lɔ̀ Mɛ́lí wɛ̀
Kpana mango-DEF-PL give-PFV NF Mary to
'Kpana gave the mangoes to Mary.'

b. Left-peripheral Focused Subject
Kpàná mía (***i**) mángù-í-sía vè-ní Mɛ́lí wɛ̀
Kpana LPF 3SG.RP mango-DEF-PL give-PFV Mary to
'It is Kpana that gave the mangoes to Mary.'

c. Left-peripheral Focused Direct Object
mángù-í-sía mía Kpàná **tì** vè-ní Mɛ́lí wɛ̀
mango-DEF-PL LPF Kpana 3PL.RP give-PFV Mary to
'It is the mangoes that Kpana gave to Mary.'

d. Left-peripheral Focused Dative Object
Mɛ́lí mía Kpàná mángù-í-sía vè-í **ngí** wɛ̀
Mary LPF Kpana mango-DEF-PL give-PFV 3PL.RP to
'It is Mary that Kpana gave the mangoes to.'

Adjuncts can also be focus fronted, including benefactives (44) and adverbs (45). I discuss left peripheral focus of adpositional phrases in greater detail in Chapter 3, but for now I simply want to show that adjuncts, in addition to arguments, can surface in the left periphery.

(44) Focused Benefactive
a. Kpàná mángù-í-sía yèyà-í lɔ̀ **Mɛ́lí** và
Kpana mango-DEF-PL buy-PFV NF Mary for
'Kpana bought the mangoes for Mary.'

b. **Mɛ́lí** mía Kpàná mángù-í-sía yèyá -ni **ngí** và
Mary LPF Kpana mango-DEF-PL buy-PFV 3SG for
'It is Mary that Kpana bought the mangoes for.'

(45) Focused Adverb
a. Kpàná mángù-í-sía yèyà-í lɔ̀ **flófló**
Kpana mango-DEF-PL buy-PFV NF quickly
'Kpana quickly bought the mangoes.'

b. **flófló** mía Kpàná mángù-í-sía yèyá -ní
quickly LPF Kpana mango-DEF-PL buy-PFV
'Kpana QUICKLY bought the mangoes.'

Resumptive pronouns frequently occur in the canonical position of a fronted constituent. There are two restrictions, however, on the use of resumptives. First, when the subject is fronted, there is no resumptive pronoun.

(46) a. nyàpù-í-sía tì mángù-í-sía yèyà-í lɔ̀ gbòí
girl-DEF-PL 3PL mango-DEF-PL buy-PFV NF yesterday
'The girls bought the mangoes yesterday.'

b. nyàpù-í-síà míà {*ti} tì mángù-í-síà yèyà-nì gbòí
girl-DEF-PL LPF 3PL.RP 3PL mango-DEF-PL buy-PFV yesterday
'It is the girls who bought the mangoes yesterday.'

Second, a resumptive pronoun can only resume a constituent that a regular pronoun can resume (McCloskey 2006). In (43d) the regular pronoun *ngi* (3rd person singular) could occur in the construction, as seen in (47), and therefore the resumptive pronoun can occur in that position as well.

(47) Kpàná mángù-í-síà vè-í lɔ̀ Mɛ́lí / **ngí** wɛ̀
Kpana mango-DEF-PL give-PVF NF Mary 3SG to
'Kpana gave the mangoes to Mary / her.'

A resumptive pronoun does not occur in (45b), however, as the adverb *floflo* 'quickly' could not be pronominalized in any case.

In Mende the verb cannot surface in the left periphery, whether via a dummy verb like in Hausa (Güldemann, Fiedler, and Morimoto 2014) or via verb doubling in the Gbe languages (Aboh 2006).

(48) a. Neutral Focus
Kpàná mángù-í-síà **yèyà-í** lɔ̀
Kpana mango-DEF-PL buy-PFV NF
'Kpana bought the mangoes.'

b. Verbal Focus with a Dummy Verb
***yeya** mia Kpana mangu-i-sia **wie**-ni
buy LPF Kpana mango-DEF-PL do-PFV
'It is buy mangoes that Kpana did' (intended)

c. Verbal Focus with Verb Doubling
***yeya** mia Kpana mangu-i-sia **yeya**-ni
buy LPF Kpana mango-DEF-PL buy-PFV
'It is buy mangoes that Kpana did' (intended)

Constituents that are focused in the left periphery are not base generated but A-bar move into that position. This can be seen through quantifier stranding and reconstruction effects (Smith 2022b, 2023, 2024). I briefly demonstrate this with quantifier stranding data. In (49a) the direct object is modified by the quantifier *kpɛlɛ* 'all.' In (49b) the direct object surfaces in the left

periphery, while the quantifier can surface in a number of positions. It can surface in the left periphery with the moved direct object, in the canonical direct object position, or much lower in the clause preceding or following the temporal adverb. I discuss these low positions in Chapter 2. This positions in which the quantifier can be floated show that the direct object has moved through these positions (Sportiche 1988 and Fitzpatrick 2006). Since there is no difference in meaning, we can conclude that the direct object has also moved through these positions on its way to the left periphery.

(49) Stranded DO Quantifier
a. Kpàná **mángù-í-síà kpɛ́lɛ́** yèyà-í lɔ̀
Kpana mango-DEF-PL all buy-PFV NF
'Kpana bought all the mangoes.'

b. **mángù-í-síà** {**kpɛ́lɛ́**} míà K tì {**kpɛ́lɛ́**} yèyà-ní {**kpɛ́lɛ́**} gbòí {**kpɛ́lɛ́**}
mango-DEF-PL all LPF K 3PL all buy-PFV all yesterday all
'It is all the mangoes that Kpana bought.'

The position in which the focused constituent surfaces is the specifier of the left peripheral focus head, that is SpecFocP. In the Mende left periphery, topics and focused constructions can occur in an unordered manner. In (50b) the topic precedes focus, while in (50c) the focused constituent precedes the topic.

(50) a. Kpàná mángù-í-síà yèyà-í lɔ̀ **Mɛ́lí** vá
Kpana mango-DEF-PL buy-PFV NF Mary for
'Kpana bought the mangoes for Mary.'

b. TOPIC FOCUS
Mɛ́lí vá, mángù-í-síá mìá Kpàná tì yèyá-ní **ngí** vá
Mary for, mango-DEF-PL LPF Kpana 3PL.RP buy-PFV 3SG.RP for
'As for Mary, it is the mangoes that Kpana bought for her.'

c. FOCUS TOPIC
mángù-í-síá mìá, **Mɛ́lí** vá, Kpàná tì yèyá-ní **ngí** vá
mango-DEF-PL LPF Mary for, Kpana 3PL.RP buy-PFV 3SG.RP for
'It is the mangoes that, as for Mary, Kpana bought them for her.'

Topic and Focus constructions can also occur in an embedded clause where they follow the complementizer, which resembles Rizzi's (1997, 2001) Force Head.

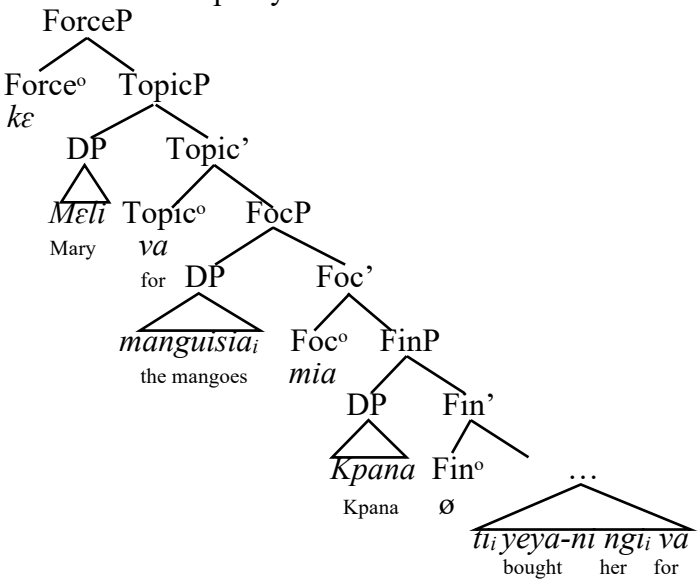
(51) Embedded Clause

				FORCE	TOPIC		FOCUS	
Pítá	húngè-í	lɔ̀	[kɛ̀		Mɛ́lí	vá,	mángù-í-síà	mía
Peter	explain-PFV	NF	C		Mary	for,	mango-DEF-PL	LPF
FIN	TP							
Kpàná	tì	yèyà-ní	ngí	vá]				
Kpana	3PL.RP	buy-PFV	3SG.RP	for				

'Peter explained that, as for Mary, it is the mangoes that Kpana bought for her.'

This generates the following structure in the left periphery, which aligns with Rizzi's (1997, 2001) proposal for a universal left periphery. The Force Head *kɛ* takes the remainder of the clause as its complement, and in this position it connects the embedded clause to the matrix clause. The Topic Head *va* hosts the topicalized constituent in its left periphery, while the Focus Head *mia* does likewise with the focused constituent. The null Finiteness Head hosts the subject in its specifier and takes the remainder of the clause as its complement, connecting the left periphery with the lower part of the clause (Smith 2024).

(52) Mende Left Periphery



I conclude this discussion of focus by showing that A-bar movement is also possible across clausal boundaries. The data in (53) shows that the direct object of the embedded clause can be focused in the left periphery of the embedded clause (53b) or the matrix left periphery (53c).

(53) a. Embedded Clause
Mɛ́lí húngè-í lɔ̀ [kɛ́ Kpàná **mángù-í-síà** yèyà-í lɔ̀]
Mary explain-PFV NF C Kpana mango-DEF-PL buy-PFV NF
'Mary explained that Kpana bought the mangoes.'

b. Partial Movement
Mɛ́lí húngè-í lɔ̀ [kɛ́ **mángù-í-síà** míà Kpàná **tì** yèyà-ní]
Mary explain-PFV NF C mango-DEF-PL LPF Kpana 3PL buy-PFV
'Mary explained that it is the mangoes that Kpana bought.'

c. Full Movement
mángù-í-síà míà Mɛ́lí húngè-ní [kɛ́ Kpàná **tì** yèyà-í lɔ̀]
mango-DEF-PL FOC.LP Mary explain-PFV C Kpana 3PL buy-PFV NF
'It is the mangoes that Mary explained that Kpana bought.'

Having discussed left peripheral focus, I turn next to the two manifestations of *lɔ*, considering first *lɔ* as a neutral focus marker. Linearly, *lɔ* surfaces after the verbal complex in perfective, prospective, and habitual constructions. When an aspect marker is present, *lɔ* follows it (54a-b), and when there is no aspect marker, *lɔ* directly follows the verb (54c). The structure is shown in (54d).

(54) Neutral Focus
a. Kpàná mángù-í-síà yèyà-í **lɔ̀** gbòí
Kpana mango-DEF-PL buy-PFV NF yesterday
'Kpana bought the mangoes yesterday.'

b. Kpàná mángù-í-síà yèyà-má **á** sínà
Kpana mango-DEF-PL buy-PROSP NF tomorrow
'Kpana will buy the mangoes tomorrow.'

c. Kpàná à mángù-í-síɑ̀ yèyà **lɔ̀** fóló gbì
Kpana 3SG.HAB mango-DEF-PL buy NF day all
'Kpana buys the mangoes every day.'

d. V- (ASP) NF

As noted above, the neutral focus marker cannot co-occur with either in-situ (40a) or left peripheral focus markers (40b). It also cannot occur in question constructions (41) or when the sentence is negated (42). Crucially, *lɔ* surfaces on the verbal complex in constructions that respond to the question 'what happened?' This points towards the verb or verb phrase being in focus.

(55) a. gbɛ̀ **míà** wìé-ní gbòí
what FOC.LP do-PFV yesterday
'What happened yesterday?'

b. Kpàná nyà níkè-í-síà yèyà-í **lɔ̀** gbòí
Kpana 1SG cow-DEF-PL buy-PFV NF yesterday
'Kpana bought my cows yesterday.'

Nothing can intervene between the verbal complex and the neutral marker.

(56) *Kpana mangu-i-sia yeya-i (kpɔ / gboi / kolamawɛ) **lɔ**
Kpana mango-DEF-PL buy-PFV already yesterday happily NF
'Kpana bought the mangoes already / yesterday / happily.'

The neutral focus marker occurs above dative objects (57), adjuncts (58), and post-verbal adverbs (59).

(57) Kpàná mángù-í-síà vè-í **lɔ̀** Pítá wɛ̀
Kpana mango-DEF-PL give-PFV NF Peter to
'Kpana gave the mangoes to Peter.'

(58) Kpàná Pítá lɔ̀-í **lɔ̀** kpàá hún
Kpana Peter see-PFV NF farm on
'Kpana saw Peter on the farm.'

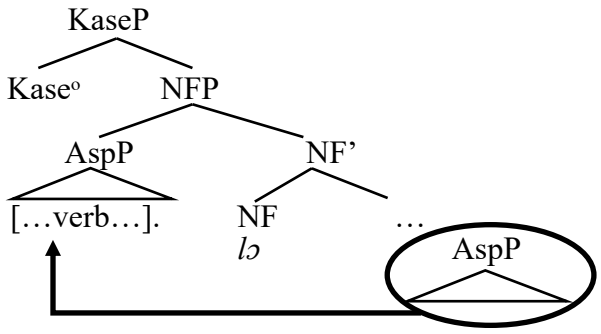
(59) Kpàná Pítá lɔ̀-í **lɔ̀** wɔ́ɔ́kpɔ̀
Kpana Peter see-PFV NF long.ago
'Kpana saw Peter long ago.'

In summary, we see that the neutral marker surfaces in a position below the verbal complex and above any post-verbal arguments or adjuncts. This seems to indicate that the neutral focus marker is a focus phrase in a fixed position in the lower portion of the clausal structure. I refer to this phrase as a *Neutral Focus Phrase* (NFP), headed by the neutral focus head *lɔ.* A position like this has also been argued for by Belletti (2004) and Aboh (2007) and discussed in a number of Niger-Congo languages including Kabiye (Collins and Essizewa 2007), Mədʉmba (Kouankem and Zimmermann 2013), Limbum (Becker and Nformi 2016), and Dschang (Brown and Torrence forthcoming).

Belletti (2004) argues that the area immediately above the verb phrases consists of an articulated structure with topic and focus positions. While I do not argue for precisely the same

structure in Mende, it does seem that Mende has an articulated TP area, particularly below the neutral focus marker. In chapter 2 I will argue that the verb raises into the specifier of the NFP, pied-piping the Aspect Phrase that contains it. Above it is a KasePhrase, that is perhaps part of its functional structure, while also providing a landing spot in its specifier position for the DP object.

(60) Neutral Focus Phrase



Thus far I have argued that left peripheral focus and neutral focus occur in fixed positions in the left periphery and lower TP respectively. I turn next to a brief discussion of in-situ focus. Significantly, the in-situ focus marker *lɔ* can mark any number of constituents as being focused. In the following example the positions where *lɔ* is bracketed show where it can surface, focusing the subject, direct object, dative object, locative adjunct, or temporal adjunct. Keep in mind that it can only surface in one position, and that when it surfaces that the neutral marker cannot surface after the verbal complex (hence it is marked with an asterisk).

(61) In-situ Focus
nyàpù-í-síà {lɔ̀} tì mángù-í-síà {lɔ̀} vè-í {*lɔ} K. wè {lɔ̀}
girl-DEF-PL ISF 3PL mango-DEF-PL ISF give-PFV NF K. to ISF
kpàá hún {lɔ̀} gbòí {lɔ̀}
farm on ISF yesterday ISF
'The girls gave the mangoes to Kpana on the farm yesterday.'

Differing from the left peripheral focus marker *mia* and the neutral marker *lɔ*, the in-situ focus marker *lɔ* can surface in a variety of positions. As such, it seems implausible to argue that it is in a fixed position in the clause. A detailed syntactic analysis of in-situ *lɔ* merits further investigation, and for now, I simply observe that it seems to operate like a head that can surface in

any position below the left periphery, apart from the fixed position where the neutral marker occurs. Perhaps it immediately dominates the constituent that it will focus, attracting the focused constituent into its specifier.

1.4.5 The Lower Middlefield

Concluding this introduction to the clausal structure of Mende, I turn next to post-verbal constituents. Three categories of constituents can surface in post-verbal positions in Mende: the direct object or a portion of it, the dative object, and adverbs. In Chapters 2 and 4 I discuss constructions in which (a portion of) the direct object surfaces in a post-verbal position, which I propose strongly points toward a post-verbal merge position for all direct objects. In this section I investigate the other two categories of post-verbal constituents, beginning with dative objects.

One of the unique aspects of Mande word order is that the direct and dative object typically occur on opposite sides of the verb (Kastenholz 2003, Nikitina 2011). This contrasts with an OV language like Farsi in which the direct and dative objects both precede the verb, with their relative order dependent on whether the direct object is generic (62a) or specific (62b).

(62) Farsi (p.c. Komeil Ahari)
a. Generic Object
S **Dat** **DO** **V**
Javad be Maryam ketâb dâd.
Javad to Maryam book gave.3SG
'Javad gave Maryam book(s) / gave book(s) to Maryam.'

b. Presupposed/specific Object
S **DO** **Dat** **V**
Javad ketâb-râ be Maryam dâd.
Javad book-DOM to Maryam gave.3SG
"Javad gave the book to Maryam."

In Mende canonical constructions the direct object precedes the verb and the dative object follows the verbal complex. In (63) the dative object *Kpana wɛ* 'to Kpana' cannot surface in a pre-verbal position; it can only follow the verbal complex.

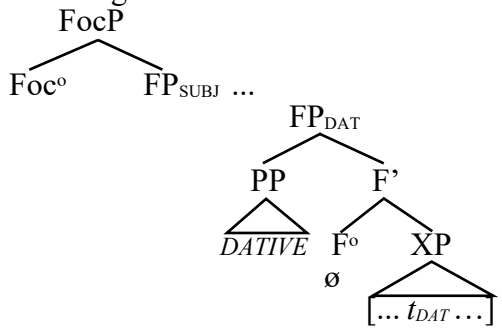
(63) Direct and Dative Object
nyàpù-í-síà tì {*Kpana wɛ} mángù-í-síà {*Kpana wɛ} vè-í lɔ̀ {Kpàná wɛ̀}
girl-DEF-PL 3PL Kpana to mango-DEF-PL Kpana to give-PFV NF Kpana to
'The girls sent the mangoes to Kpana.'

Following Larson (1988), I suggest that the dative object merges as the complement of the verb.[8] It does not necessarily surface clausal finally and can surface, however, in a position higher than adverbs (64).

(64) Dative Object
Mɛ́lí mángù-í-síà vè-í lɔ̀ Kpàná wɛ̀ flófló / kɛ́ngà / gbòí
Mary mango-DEF-PL give-PFV NF Kpana to quickly probably yesterday
'Mary quickly / probably / yesterday gave the mangoes to Kpana.'

Following a similar line of argumentation to that made for stranded subject quantifiers, I suggest that since the dative object can surface above adverbs, we can postulate that it has raised out of the vP shell into a licensing position. I propose that there is a null-headed functional phrase below the focus phrase (NFP) and functional phrase hosting the subject (FP_{SUBJ}), but above the vP that licenses the dative object in its specifier (c.f. Aboh 2004 who argues for a similar licensing position in Gbe). I label it as FP_{DAT}.

(65) Licensing Dative Phrase



Turning next to adverbs, we have seen throughout this chapter, that they can surface in a variety of positions in Mende. The data in (66) shows five fields in which adverbs can appear: in (66a) *gboi* 'yesterday' occurs sentence initially, *a kohunɛhunwɛ* 'happily' occurs between the

[8] I discuss evidence for this when investigating binding constructions in Mende in Chapter 2.

subject and subject marker, and *floflo* ‘quickly’ occurs between the subject marker and direct object. In (66b) *a kohunɛhunwɛ* ‘happily’ occurs between the neutral focus marker and the dative phrase, while *gboi* ‘yesterday’ occurs below the dative phrase.

(66) Position of Adverbs

a.

S			**SM**	**DO**	**V-Asp**	**NF**
gbòí	nyàpù-í-síà *à*	*kòhúnèhúnwè*	tì	*flófló*	pèlè-í	gbàtè-í	lɔ
yesterday	girl-DEF-PL with	happiness	3PL	quickly	house-DEF	repair-PFV	NF

‘Yesterday the girls happily, quickly repaired the house.’

b.

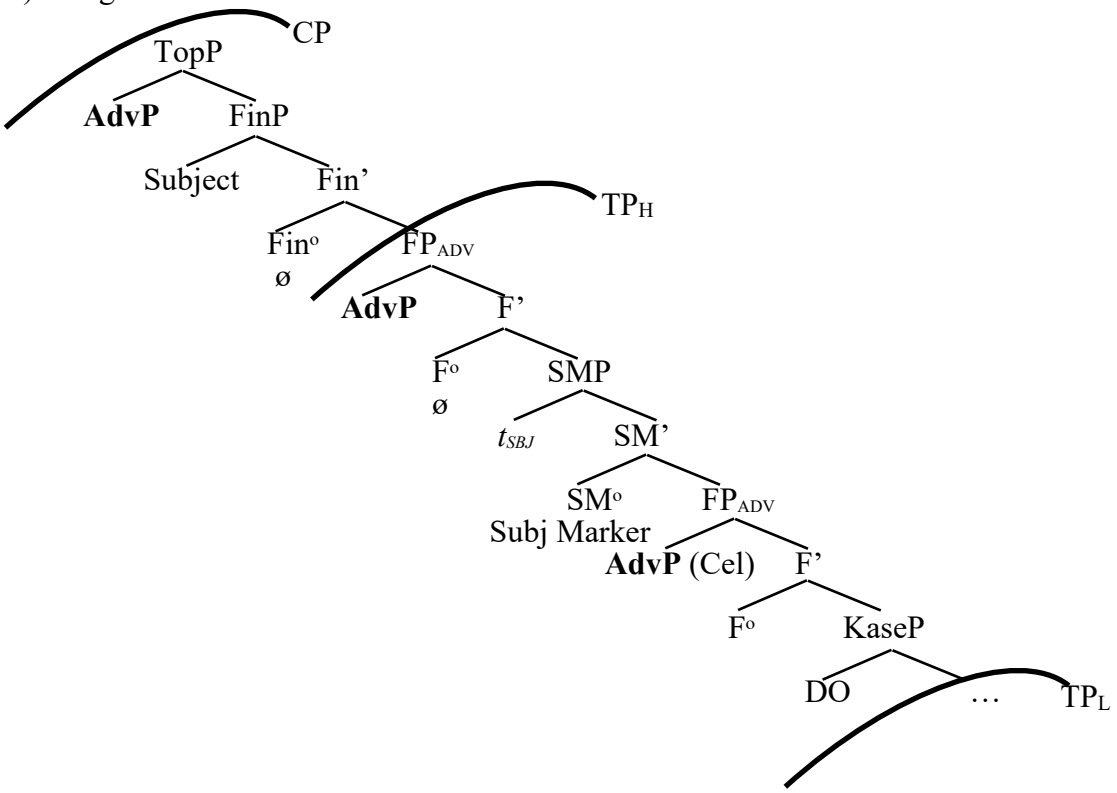
S	**DO**	**V-Asp**	**NF**			**Dat**		
Mɛ́lí	mángù-í-síà	vè-í	lɔ	*a*	*kòhúnèhúnwè*	Kpàná	wè	*gbòí*
Mary	mango-DEF-PL	give-PFV	NF	with	happiness	Kpana	to	yesterday

‘Mary happily gave the mangoes to Kpana yesterday.’

That presence of adverbs in a pre-verbal position is surprising given assertions that adverbs occur post-verbally in Mande languages (Kastenholz 2003, Nikitina 2009). I introduce these positions in this section, further investigating their position in Chapter 2 when considering the surface position of the direct object.

Looking in more detail, the three surface positions in which the adverb can surface pre-verbally, in (66a) *gboi* surfaces clause-initially, which I propose is a topic position. In this construction it is in the specifier of a null-headed topic phrase. The prepositional phrase *a kohunɛhunwɛ* occurs between the subject and the subject marker. Since the subject is in SpecFinP, the lowest position in the articulated left periphery, the adverb phrase occurs in the specifier of a functional phrase at the top of the middlefield. These first two positions can take a variety of adverbs. The third position is below the subject marker and above the direct object. In Chapter 2, I argue that the direct object surfaces in the specifier of a Kase Phrase, suggesting that the functional phrase hosting the adverb surfaces immediately above it. Differing from the other positions, only celerative adverbs can occur here. The three positions are shown in (67) below.

(67) Higher Adverb Phrases

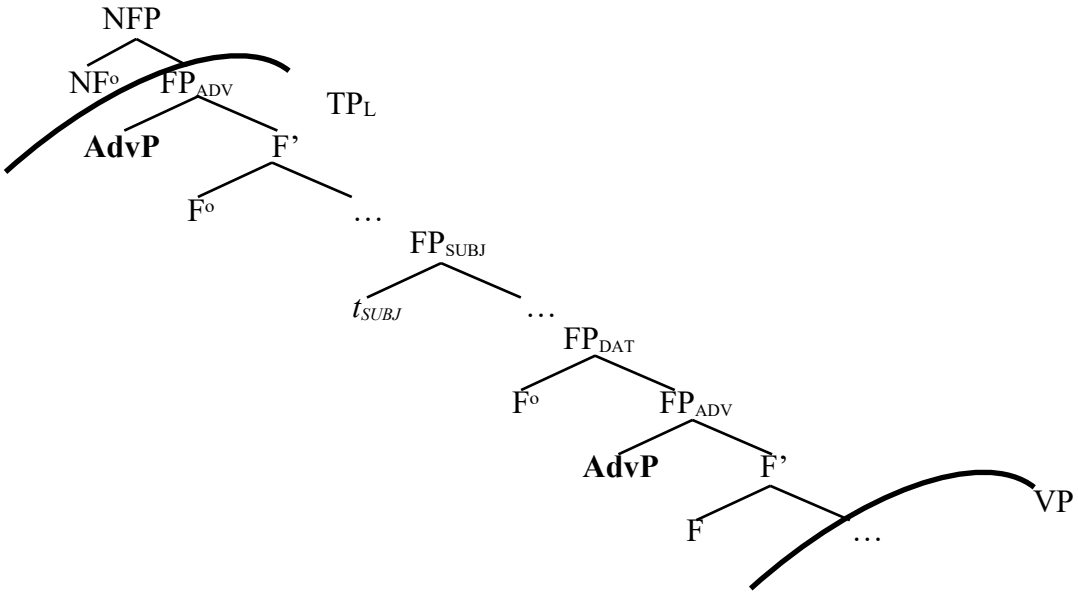


I have tested multiple adverbs in varying positions, and it seems that the interpretation remains the same regardless of the position of the adverb. Cinque (1999: 20) proposes three alternatives to account for this type of situation. First, he proposes that it is possible that the adverb remains the same while the remainder of the clause moves. While this is possible in Mende, it is implausible given that an adverb can occur at both the top and bottom position of the TP, permitting a significant variance in what can move around it. Second, he proposes that the adverb itself moves, maintaining the interpretation of the trace position. This seems plausible in Mende and could be facilitated by phrasal movement of the adverb phrase from one functional phrase to another. Finally, he suggests that it is possible that the interpretation is really not the same in both contexts, which, as a non-native speaker, I also consider plausible. As I have been unable to tease out any

distinction in the interpretation of the adverb in various positions, I propose that it is the adverb phrase itself that moves, maintaining a consistent interpretation, namely that of the trace.

The source position of pre-verbal adverbs would then be in a position below the focus phrase. Following Cinque, I presume that there is an ordered set of functional heads, hosting adverbs in their specifiers stretching from above the verb phrase to below the focus phrase, with both the trace of the subject and the surface position of the dative object in the midst of this series of functional heads.[9] A further investigation is necessary to discern the exact order of these heads, and for now I limit my observation to the fact that adverbs can surface in a position either above or below the dative phrase, as seen in (66b). Their position in the clause in shown in (68).

(68) Lower Adverb Phrases

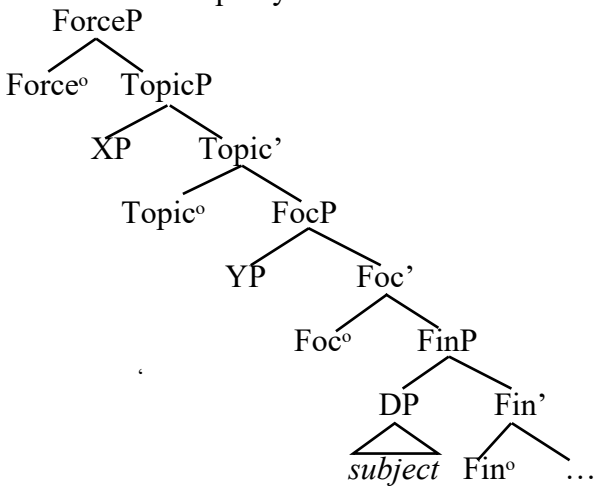


[9] In subsequent chapters I argue that other phrases are also located in this field, including a functional phrase that can host the PP encoding the direct object and a functional phrase that can host CP objects or CP modifiers of the direct object.

1.5 Summary of Mende's Clausal Structure

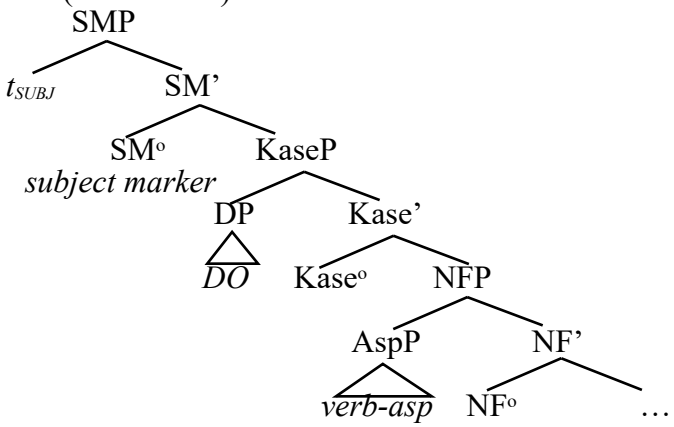
In this chapter I have argued that the clausal structure of Mende consists of three major fields. The articulated CP (or left periphery) hosts the subject, as well as Topic, Focus, and Force Phrases (when present).[10]

(69) Mende Left Periphery



The articulated TP (or middlefield) consists of two zones. In the upper portion (70) the subject marker, direct object, and verbal complex surface.

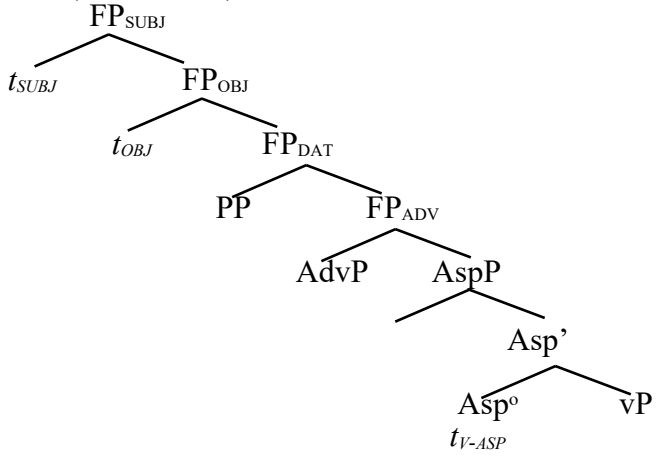
(70) Upper TP (middlefield)



[10] See Smith (2024) for a more detailed discussion.

The lower TP portion includes licensing positions into which the arguments of the verb raise, the surface position of the dative object, as well as an adverb field. It also includes the Aspect Phrase, whose head the verb raises from the VP to adjoin, before raising into a higher position.

(71) Lower TP (middlefield)



In the following chapter, I investigate the syntactic structure of the verb phrase. I argue that the verb head-raises, adjoining the aspect head and that all of its arguments also raise into these functional positions.

Chapter 2

Canonical Verbs

2.1 Introduction

In the previous chapter, I proposed an analysis for the broader clausal structure of Mende. In this chapter I develop two significant and interrelated aspects of my argument. First, I show that underlyingly the verb phrase in Mende is head initial. Second, I show how OV word order is derived in constructions with canonical verbs, which I define as those whose internal DP argument obligatorily occurs in a pre-verbal position.

(1) S O V X
Pítá pùjɛ̀-í-síà màjìá-í lɔ̀ njɔ̀pɔ̀wá hún
Peter pepper-DEF-PL sell-PFV NF market at
'Peter sold the peppers at the market.'

Crucially, the DP objects of canonical verbs always precede them, regardless of tense/aspect (2)a, polarity (2)b, or whether the clause is matrix or embedded (2)c.

(2) a. Prospective / Perfect Aspect
S O V X
Pítá pùjɛ̀-í-síà màjìá-mà à / màjìá-í lɔ̀ njɔ̀pɔ̀wá hún
Peter pepper-DEF-PL sell-PROSP NF sell-PFV NF market at
'Peter will sell / sold the peppers at the market.'

b. Negation
S Neg O V X
Pítá ì pùjɛ̀-í-síà màjìá-má njɔ̀pɔ̀wá hún
Peter 3SG.NEG pepper-DEF-PL sell-PROSP market at
'Peter will not sell the peppers at the market.'

c. Embedded Clause
[S O V X]
Mɛ́lí húngɛ̀-í lɔ̀ [kɛ̀ Pítá pùjɛ̀-í-síà màjìá-í lɔ̀ njɔ̀pɔ̀wá hún
Mary explained NF C Peter pepper-DEF-PL sell-PFV NF market at
'Mary explained that Peter sold the peppers at the market.'

This differentiates Mende from languages like Gbe languages and Dutch where other syntactic factors determine whether the object precedes or follows the verb. For example, Aboh (2004) shows that in Gungbe imperfective clauses the object precedes the verb, while in perfective clauses the order is reversed. The presence of the imperfective marker *to* determines the order of the verb and object.

(3) a. Imperfective Clause: OV (Aboh 2004: 192: 1a) *Gungbe*
S **O** **V**
Kɔ̀jɔ́ tò [$_{DP}$ àmì lɔ́] zân
Kojo IMPERF oil SPF$_{[+def]}$ use-NR
'Kojo is using the specific oil'

b. Perfective Clause: VO (Aboh 2004: 192: 1c)
S **V** **O**
Kɔ̀jɔ́ zán [$_{DP}$ àmì lɔ́]
Kojo use-PERF oil SPF$_{[+def]}$
'Kojo used the specific oil'

Similarly, in Dutch main clauses the verb precedes the object (4)a, while in embedded clauses the object precedes the verb (4)b.

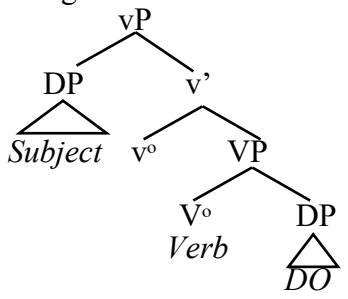
(4) a. Main Clause: VO (Zwart 1997: 22: 8a) *Dutch*
S **V** **O**
Jan kust Marie
John kisses Mary
'John kisses Mary.'

b. Embedded Clause: OV (Zwart 1997: 24: 15b) *Dutch*
[**S** **O** **V]**
dat Jan Marie kust
that John Mary kisses
'…that John kisses Mary'

In Mende, canonical verbs with DP objects consistently maintain this structure. I argue, however, that the surface OV structure is derived from an underlying head-initial structure. In Section 2.6 I justify the details of this analysis, but for now the basic framework is laid out in (5) through (7).

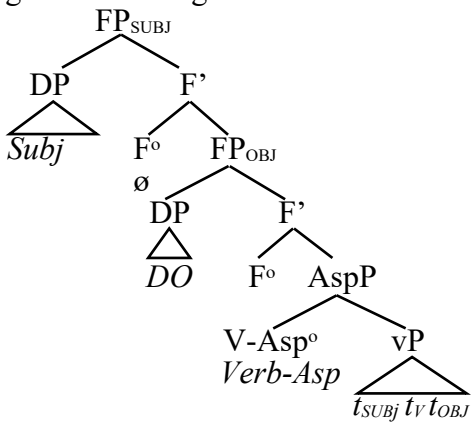
At merge, a canonical verb selects a DP object in a head-complement structure, with the external argument surfacing in SpecvP.

(5) Merge Structure: Canonical Verb



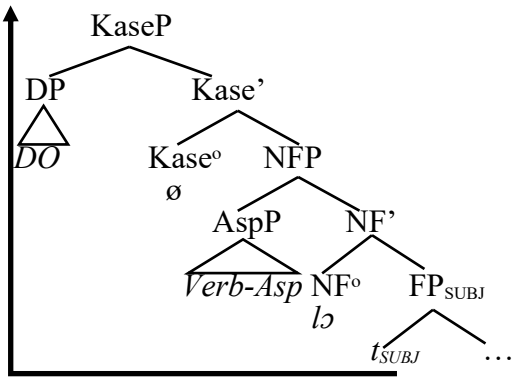
The verb then raises, head-adjoining the Aspect head, which immediately dominates it. The arguments of the verb subsequently raise into the specifiers of functional positions, beginning with the lowest argument. The Aspect Phrase (which includes the verb phrase) is now empty, except for the complex verb-aspect head.

(6) Argument Raising out of vP



The neutral focus phrase (NFP) merges above the functional phrase hosting the subject, and the Aspect Phrase raises into its specifier. KaseP, a Case-licensing phrase, then merges into the position immediately above the NFP, attracting the DP object into its specifier. Evidence that this is a Case-licensing phrase is that only DP objects raise into this position, while CP and PP arguments do not. As argued in Chapter 1, the subject then raises into a higher position.

(7) Object Raising to SpecKaseP



In this chapter I lay out a detailed justification for this argument. I begin in section two by considering three previous analyses of Mande word order: a head-final analysis of Wan by Nikitina (1997, 2009, 2011, 2012, and 2019), a mixed-headed analysis for Dafing developed by Sande, Baier and Jenks (2019), and head-initial analyses for Mahou and Bambara developed by Koopman (1984, 1992). In Section 3 I introduce the *Antisymmetry* approach developed by Kayne (1994) and review analyses of four languages that utilize it. Section 4 investigates binding in Mende, arguing that the arguments of the verb merge in the verb phrase, thereby, calling into question the analyses developed by Nikitina as well as Sande, Baier, and Jenks. Sections 5 and 6 argue for a head-initial underlying structure and propose a derivation for canonical OV constructions, as well as VO constructions (V – CP, DP – V – Quantifier, etc.) in Mende. Section 2.7 is a conclusion.

As we will see in this and the following chapters, even though Mende typically manifests OV word order, there are multiple contexts in which the object, or a portion of the object, can follow the verb. This was already shown in (2)c where the canonical verb *hungɛ* 'explain' takes a post-verbal CP object. Other examples include stranded quantifiers (8), stranded conjuncts of a conjoined direct object (9), and two classes of verbs whose objects are encoded in what appear to be adpositional phrases (10) and (11), which I refer to as particle verb constructions. I further

discuss CP objects, stranded quantifiers, and stranded direct objects in section 5, and investigate particle verb constructions in Chapter 4.

(8) Stranded Quantifier

S	O_1		V		O_2	X	
Pítá	pùjɛ̀-í-síà	{kpɛ̀lɛ́}	màjìá-í	lɔ̀	{**kpɛ̀lɛ́**}	njɔ̀pɔ̀wá	hún
Peter	pepper-DEF-PL	all	sell-PFV	NF	all	market	at

'Peter sold all the peppers at the market.'

(9) Stranded Conjunct of a Conjoined DO

S	O_1		V		O_2	
Pítá	pùjɛ̀-í-síà	{kɛ̀ yàbàsí-í-síà}	màjìá-í	lɔ̀	{**kɛ̀**	**yàbàsí-í-síà**}
Peter	pepper-DEF.SG and onion-DEF-PL		sell-PFV	NF	and	onion-DEF-PL

'Peter sold the peppers and onions.'

(10) Particle Verb Construction (preposition)

S	V		Prt	O	X	
Pítá	jà-í	lɔ̀	à	**pùjɛ̀-í-síà**	njɔ̀pɔ̀wá	hún
Peter	touch-PFV	NF	A	pepper-DEF-PL	market	at

'Peter touched the peppers at the market.'

(11) Particle Verb Construction (postposition)

S	V		O		Prt	X	
Pítá	lèmà-í	lɔ̀	**pùjɛ̀-í-síà**		mà	njɔ̀pɔ̀wá	hún
Peter	forget-PFV	NF	pepper-DEF-PL	MA		market	at

'Peter forgot the peppers at the market.'

The variation in surface word order seen in these data undermines the assertion that the Mande languages have a *strict* OV word order (c.f. Gensler 1994, Nikitina 2009, Creissels 2024). I propose instead that Mende has a *canonical* OV word order. In addition, these non-canonical data are crucial in developing a syntactic analysis of Mende which must account for canonical pre-verbal nominal objects (1), as well non-canonical post-verbal object constructions ((2)c, (8) to (11). Before moving forward, I consider some previous analyses of Mande word order.

2.2 Previous Analyses of OV Word Order.

As noted earlier, there has been little research on Mende word order. Likewise, there are few syntactic analyses of the broader Mande language family. Instead of taking a chronological approach, I look at three investigations that analyze a Mande language respectively as *head-final*

(Wan: Nikitina 1997, 2009, 2011, 2012, and 2019), *mixed-headed* (Dafing: Sande, Baier, and Jenks 2019), and *head-initial* (Mahou: Koopman 1984 and Bambara: Koopman 1992). In evaluating these analyses, I suggest that Koopman's analyses best captures the data in Mende.

Before considering these analyses, I want to briefly introduce the SOVX typology for which the Mande languages are well-known. SOVX word order is a typological rare subtype of SOV order and is also known as S-Aux-O-V-X or type B typology (Dryer 1992, Nikitina 2011, Schreiber 2011). Within Mande linguistics, it has been described and discussed by a number of researchers including Heine and Reh (1984), Claudi (1994), Gensler (1994), Creissels (2005), Schreiber (2011), and Nikitina (2011), with a particular focus on diachronic word-order change. Descriptively, the key distinction between SOV and SOVX languages concerns the position of obliques. Creissels (2005) observes that SOV languages are essentially SXOV, in that both the object and any obliques precede the verb, with the direct object closest to the verb. This contrasts with SOVX languages, like the Mande family, in which the object precedes the verb, and obliques follow.

One of the objectives of this paper is to account for this unique structure, proposing a derivation that captures the presence of pre-verbal (DP) direct objects, while also accounting for post-verbal objects or portions of the object. In particular, the analysis accounts for the variety of constructions above, including pre-verbal DP objects in (1) and (2), along with post-verbal objects (or portions of objects) in (8) through (11). In reviewing the work of Nikitina (1997, 2009, 2011, 2012, and 2019), Sande, Baier, and Jenks (2019), and Koopman (1984, 1992), I argue that Koopman's analysis best accounts for post-verbal objects. This is a crucial aspect of the analysis, as post-verbal objects occur throughout the Mande language family, including CP complements

(12), stranded coordinated objects (13), and post-verbal objects encoded in postpositional phrases (14) to (16).

(12) Kono: CP Complement (author's notes)
Mɛ́rì à {mín} [mbé Jɔ́n àn ná mángò-nú dàún] {*mín}
Mary 3SG.PFV hear C John 3SG.PFV mango-PL eat hear
'Mary heard that John ate the mangoes.'

(13) Kono: Stranded Coordinated Object (author's notes)
Jɔ́n a mángò-nú {dàún} ní dùmbí-nú {dàún}
John 3SG.PFV mango-PL eat and orange-PL eat
'John ate the mangoes and oranges.'

(14) Mandinka: Post-verbal Particle Verb (adapted from Creissels 2024: #3)
Kèw-óo làfí-tà kódòo lá
man-D want-CPL money-D POSTP
'The man wants money'

(15) Lorma: Post-verbal Particle Verb (adapted from Dwyer 1981, page 84 #2)
Gè wɛ́lɛ́ másságìì-và
1SG see chief-va
'I saw the chief.'

(16) Susu: Post-verbal Particle Verb (adapted from Duport 1865)
um nemu a ma
1SG forget 3SG ma
'I forget him'

In the following sections, I consider the head-final, mixed-headed, and head-initial analyses of Mande languages, beginning with Nikitina's work on Wan.

2.2.1 Head-final Analysis of Wan

The most substantial work on Mande S-O-V-X typology has been done by Nikitina (1997, 2009, 2011, 2012, 2019) in her investigation of Wan, an Eastern - Southeastern Mande language (Mende is Western - Central-southwestern). Typical of Mande languages, Wan has a basic SOVX order and postpositions. She observes that in Wan (like Mende) nothing can intervene between the object and verb, concluding that this indicates a head-final structure.

(17) Wan (Nikitina 2009: #10)
S O V X
è klɛ́nɛ̀ tálā bɔ̀lè mù klā
s/he stone threw bird PL behind/after
'He threw stones at birds.'

A number of verbs can license embedded verbs, which can surface in one of two positions: either pre-verbally (18)a or post-verbally, introduced by a postpositional phrase (18)b.

(18) Wan (Nikitina 2009: #14)
a. è **[yrē ló]**$_{VP}$ ságlā
s/he work do started
'He began to work.'

b. è pa-á **[ú wò]**$_{VP}$ lé
s/he be.capable wine make POST
'He knows how to make wine.' (Lit. 'He is capable of making wine.')

When the embedded verb is transitive, the object appears next to it, however postpositional arguments cannot occur adjacent to the embedded verb.[1]

(19) Wan (Nikitina 2009: #15)
a. è [kúnǎ]$_{VP}$ ságlā [yrɛ̄ é gó]$_{PP}$
s/he climb started tree DEF in
'She began to climb onto the tree.'

b. *è kúnǎ [yrɛ̄ é gó]$_{PP}$ ságlā
s/he climb tree DEF in started
'She began to climb onto the tree.'

In light of this, she argues that postpositions, whether arguments or adjuncts, surface in a discontinuous position and do not form a constituent with the verbs that they modify. According

[1] She suggests that a crucial distinguishing factor between arguments and adjuncts is that adjuncts, but not arguments, can be topicalized, such that in (i) the manner PP 'with quickness' can be fronted, while the goal of motion 'to the village' cannot.
(i) Wan (Nikitina 2009: 13, Adapted)
a. ǎ zō [kɔ̄ŋ gó]$_{PP}$ [blè yā]$_{PP}$
they came village in quickness with
'They quickly came to the village.'

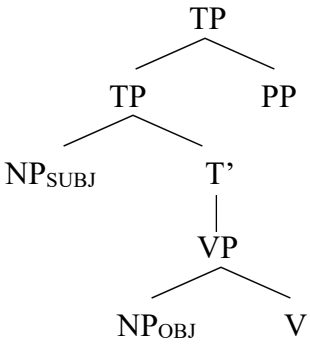
b. ǎ zō [blè yā]$_{PP}$ [kɔ̄ŋ gó]$_{PP}$
they came quickness with village in
'They quickly came to the village.'

to her analysis, in (20) the DP object *sɔ́* 'cloth' which precedes the verb, forms a constituent with it, as part of the VP, while the bracketed PP *sógò tā* 'on the horse' merges at a higher position and is therefore not part of the VP.

(20) Wan (Nikitina 2019: #1, adapted)
S O V X
è sɔ́ klā [sógò tā]
3SG cloth put:PFV horse on
'He covered the horse with cloth (= put cloth on the horse)'

She proposes instead that any post-verbal material adjoins at the IP level, creating a new IP, as seen in (21).

(21) Clausal Structure of Wan (adapted from Nikitina 2009: 19)



Given the apparent similarity between Wan and Mende, it seems reasonable to test Nikitina's analysis on Mende. She herself contends that the evidence from postpositional phrases in Wan can be used to support an analysis of the structure of the broader Mande language family (2009: 253), suggesting that it is "the absence of a verb-phrase internal position for postpositional arguments, which results in a rigid S-O-V-X word order pattern (Nikitina 2009: 269).

The data will show, however, that her analysis cannot readily extend to Mende, which also has postpositional arguments, including both dative objects and particle verb constructions. It is unclear how her analysis would account for post-verbal objects of canonical verbs, whether CP complements, as in (2)b, stranded quantifiers, as in (8), or stranded conjuncts of a conjoined direct

object, as in (9). It is also unclear how her analysis would account for pre-verbal adpositional phrases, such as (22), which seemingly contradicts the description of Mande languages as having an SOVX word order. In this instance the PP is an X and occurs in a pre-verbal position. I further discuss pre-verbal adpositional phrases in Chapter 3.

(22) Pre-verbal PPs
  a. Complex (Adverbial) Adpositional Phrase
     Kpàná **à** **náfá-yà-hún-wɛ̀** mángù-í-síà yèyà-í lɔ̀
     Kpana with profit-YA-HUN-WE mango-DEF-PL buy-PFV NF
     'Kpana successfully bought the mangoes.'

Initial evidence that Nikitina's analysis cannot account for Mende is found in Ā-movement. The data in (23) shows that the pre-verbal object and post-verbal modifier behave as a constituent in regards to Ā-movement. In (a) the direct object *manguisia* 'the mangoes' is modified by the post-verbal PP *Mɛli ma* 'from Mary.' The data in (b) shows that the DP object can raise into the left periphery, with a resumptive pronoun in its pre-movement position with the postpositional modifier remaining in-situ. Crucially, the data in (c) shows that both the pre-verbal direct object and its post-verbal modifier can raise, with the resumptive pronoun surfacing in the DO's pre-movement position. We can conclude, therefore, that the DP and its modifier are a constituent.

(23) Ā-movement of DO and Post-verbal Modifier
  a. Kpàná **mángù-í-síà** yèyà-í lɔ̀ **Mɛ́lí mà**
     Kpana mango-DEF-PL buy-PFV NF Mary from
     'Kpana bought the mangoes from Mary.'

  b. **mángù-í-síà** mía Kpàná **tì** yèyà-ní **Mɛ́lí mà**
     mango-DEF-PL LPF Kpana 3PL.RP buy-PFV Mary from
     'It is the mangoes that Kpana bought from Mary.'

  c. **mángù-í-síà** **Mɛ́lí** **mà** mía Kpàná **tì** yèyà-nì
     mango-DEF-PL Mary from LPF Kpana 3PL.RP buy-PFV
     'It is the mangoes from Mary that Kpana bought.'

The analysis that Nikitina lays out for Wan, as shown in (21) cannot seemingly account for the Mende data, as it is clear that the PP modifier does not form a new IP/TP. I argue instead that the

DP object in (a) begins in a post-verbal position and raises into its canonical pre-verbal position, stranding the PP modifier. The data shows that Ā-movement can be triggered at one of two points in the derivation, either before the DP raises for Kase (as in (c)), or after the DP has raised for Case (as in (b)). Further evidence that Nikitina's analysis would not work in Mende is discussed in section 2.4 when looking at binding.

2.2.2. Mixed-headed Analysis of Dafing

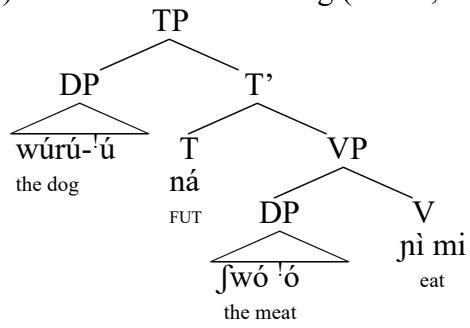
While Nikitina argues for a head-final underlying structure, Sande, Baier, and Jenks (2019) argue for a mixed-headed analysis in Dafing, a Western – Central-southwestern Mande language spoken in Burkina Faso. They propose that Dafing and other Mande languages (along with some Kru languages) exhibit mixed headedness, in which some types of phrases are head-initial, while others are head-final. Their analysis is based in part on the presence of an AUX marker (the Mande predicative marker) after the subject, which I discuss for Mende in Chapter 1 and is found in many Mande languages (Idiatov 2000 and Creissels 2017). They propose that the AUX marker is in T^0 in Dafing and that it indicates tense, aspect, modality, and negation.

(24) Dafing: W. Mande (Sande, Baier, and Jenks 2019: #1a)
wúrú-ˈú ná ʃwó-ˈó ɲì mì
dog-DEF FUT meat-DEF eat
'the dog will eat the meat.'

They make two crucial claims based on the Aux marker. First, they argue that it surfaces as head-initial, taking the VP as it complement. However, within the VP, the object precedes the verb, and they conclude that Dafing is mixed-headed.

Their second claim attempts to account for OV word order in the VP, namely, that it is that the presence of the Aux marker which blocks verb raising. In their analysis, the Aux marker in T blocks the verb from raising into a higher position, resulting in OV word order (25).[2]

(25) The Structure of Dafing (Sande, Baier, and Jenks 2019: figure 3)



They further argue that even when there is no overt auxiliary marker, the verb does not raise into the higher tense position, such as the sentence with habitual reading in (26). In this construction, they assume that there is a null auxiliary in T.

(26) Dafing (Sande, Baier, and Jenks 2019: #10)
wúrú-ˈú ʃwó-ˈó ɲì mì
dog-DEF meat-DEF eat
'the dog eats the meat.'

The main focus of their paper is a typological study of mixed-headedness in West African languages. They compare a range of variables and conclude that Mande languages are genuinely mixed-headed. On the surface, I would agree with this analysis.[3] I disagree, however, in how the order is derived. In this investigation, I argue that any analysis for OV word order in Mande languages must account for the presence of both pre- and post-verbal objects. It is unclear whether there are verbs in Dafing which take a post-verbal object encoded in an adpositional phrase, though they are quite common in the Mande language family. If they do exist, under their analysis, Sande,

[2] They contrast this with their analysis of Kru languages. In Kru languages they observe that VO order occurs when there is no Aux in the clause (e.g. in perfective constructions) and argue that the verb raises into the T head.
[3] See Smith (2022 and 2024) for investigations of clausal word order in Mende and Smith and Challay (Forthcoming) and Smith, Challay, and Jimissa (Forthcoming) for a similar investigation of Kono.

Baier, and Jenks would presumably need a head-initial VP to account for their presence. A movement analysis could then account for pre-verbal objects. Given the presence of both pre- and post-verbal objects in Mende, their analysis could not be extended to it.

2.2.3 Head-initial Analysis of Mahou and Bambara

The only analysis of which I am aware that accounts for both pre- and post-verbal objects in a Mande language is the work of Koopman. In *The Syntax of Verbs* (1984: 126-128), she provides an analysis of Mahou, a Western – Central-southwestern Mande language of the Ivory Coast. She observes that NP and PP are head-final and that the direct object precedes the verb. However, in considering the order of the VP, she notes that all NPs occur pre-verbally, while all PPs occur post-verbally, concluding that verbs assign their theta role to the right (while nouns and postpositions assign their theta role to the left.) In order to account for the S-O-V-X word order in Mahou, Koopman hypothesizes that at D-Structure, the verb precedes the direct object, assigning its theta-role to the right. The direct object subsequently raises into a pre-verbal position where it is assigned Case. While Koopman does not present explicit syntactic evidence for a head-initial VP that is transformed into an OV structure, her proposed analysis at least indicates that this line of thinking is well-established.

In Koopman (1992) she further develops her analysis of Case-driven movement, analyzing OV word order in Bambara, a Western – Central-southwestern Mande language spoken in Mali. Similar to her analysis of Mahou, she proposes that in Bambara all internal arguments of the verb are generated post-verbally at D-structure, where they receive their theta role(s). She notes that

there are two types of verbs – those that select NP arguments, such as *min* 'drink' and those that select PP arguments, such as *bo* 'visit,' *son* 'accept,' *maga* 'touch,' and *nyina* 'forget.'[4]

(27) shows the clausal structure for the verb *min* 'drink,' which c-select a pre-verbal DP object. Note that the perfective marker in this construction is the auxiliary *ye,* as seen in (27)a and not the suffix *-na*, as seen in (27)b.

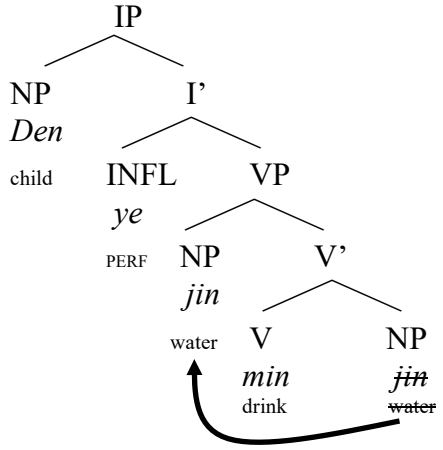
(27) Bambara (Koopman 1992: #6a and 6b)
a. Den ye ji min
child PERF water drink
'The child drank water.'

b. *Den {min-na} ji {min-na}
child drink-PERF water drink-PERF
'The child drank water.'

Koopman argues that OV order is derived when the NP direct object moves into SpecVP in order to receive accusative Case. More specifically, it is the presence of the INFL marker *ye*, which blocks verb raising, and she suggests that the verb remains in-situ, assigning accusative case to its object. If the verb were to raise to INFL, it would be unable to assign Case to the direct object, leading to a Case filter violation. This is shown in 0 where the verb *min* 'drink' takes the NP complement *jin* 'water' in a head initial VP. The NP raises into SpecVP, but it cannot raise higher due to the presence of the perfective marker *ye* in the INFL head. This generates S-Aux-O-V word order.

[4] These verbs also all take PP encoded post-verbal objects in Mende.

(28) Bambara pre-verbal DO (adapted from Koopman 1992)



Other verbs, such as *bo* 'visit' select a PP argument, which remains post-verbal. Note in this construction that the perfective marker is the suffix *-ra*, as shown in (a) and not the auxiliary *ye*, as shown in (b).

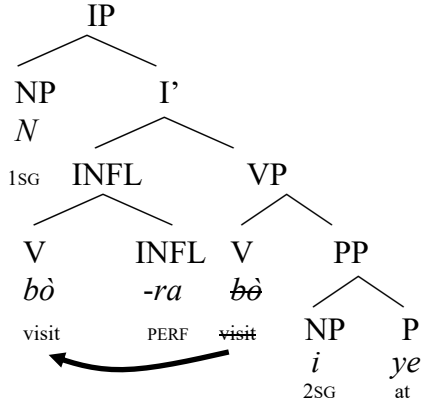
(29) Bambara (Koopman 1992: #7e and 7f)

a. N bò-ra i ye
I visit-PERF you at
'I visited you.'

b. *N ye bò i ye
I PERF visit you at
'I visited you.'

In this construction, the verb selects a PP argument, which does not raise for Case and remains in-situ, while the verb raises, adjoining the INFL head. This generates S V-Aux [O P] order.

(30) Bambara post-verbal DO (adapted from Koopman 1992)



In my analysis, I follow the general approach established by Koopman, arguing that the verb and its arguments are generated within the *v*P shell and that case is assigned to the direct object after it raises into a Case-licensing position. She analyzes some Bambara verbs (e.g. *bɔ̀* 'visit') as unable to directly assign case, which I propose likewise occurs in Mende (as laid out in Chapter 4).

2.3 Antisymmetry Framework

Given the presence of both OV and VO word order in Mende, I argue that an Antisymmetry analysis (Kayne 1994) best accounts for the data. Crucially, Kayne proposes that all phrases are head-initial. His *Linear Correspondence Axiom* (LCA) is based on a series of foundational principles. First, the asymmetric c-command relation between non-terminal nodes in a tree map onto linear precedence. Second, branching is at most binary. Third, specifiers are adjuncts of their head. Fourth, a phrase or head can have no more than one other phrase or head adjoined to it.

This leads to a central claim concerning the ordering of a head (H), its subject (S), and its complement (C). Essentially, there are six conceivable permutations: H-S-C, H-C-S, S-C-H, S-H-C, C-H-S, and C-S-H, with only S-H-C and C-H-S being possible (Kayne 1994: 35). These possible orderings necessitate that the subject and complement be on opposite sides of their head, with the S-H-C permutation (corresponding to SVO structure) being a much more likely candidate to be a universal. Kayne argues that the S-C-H permutation, which would include O-V word order, is strictly impossible without leftward movement that raises the complement to some specifier higher than the head. Therefore, any variation from the S-H-C word order must result from movement (Kayne 1994: 47).

Antisymmetric analyses have been developed for a variety of languages including Ijo and Yoruba (Carstens 2002), San Lucas Quiavini Zapotec (Lee 1999), Malagasy (Pearson 2000), and Persian (Moinzadeh 2001). In the following sections, I consider analyses of four OV languages that have been developed within a Kaynian framework: the Gbe languages (Aboh 2003), and the Germanic languages Dutch (Zwart 1997), German (Hinterhözl 2000), and West Flemish (Haegeman 2000, 2002). Although each analysis holds to an underlying S-H-C structure and leftward movement, the mechanism by which OV order is derived varies. Beginning with Aboh, before turning to the work on Germanic, I highlight key aspects of each analysis, before proposing my analysis of Mende that differs slightly, in order to account for canonical OVX order.

2.3.1 Imperfective / perfective distinction in Gbe

Aboh (2003), analyzing the Gbe languages, highlights the OV / VO alternation in Gungbe and argues for a Kaynian analysis of the phenomenon. Beginning with Sportiche's (1988) proposal that all the thematic roles are assigned within the VP, he argues for a head-initial (VO) base structure within the verb phrase, reflecting Kayne's universal S-H-C structure. From this base structure both the OV order of imperfective clauses and the VO order of non-imperfective clauses are derived via movement.

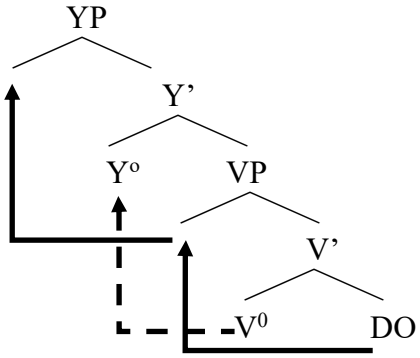
(31) a. Imperfective clause: OV (Aboh 2004: 192: 1a) *Gungbe*
Kɔ̀jɔ́ tò [$_{DP}$ àmì lɔ́] **zân**
Kojo IMPERF oil SPF$_{[+def]}$ use-NR
'Kojo is using the specific oil'

b. Perfective clause: VO (Aboh 2004: 192: 1c) *Gungbe*
Kɔ̀jɔ́ **zán** [$_{DP}$ àmì lɔ́]
Kojo use-PERF oil SPF$_{[+def]}$
'Kojo used the specific oil'

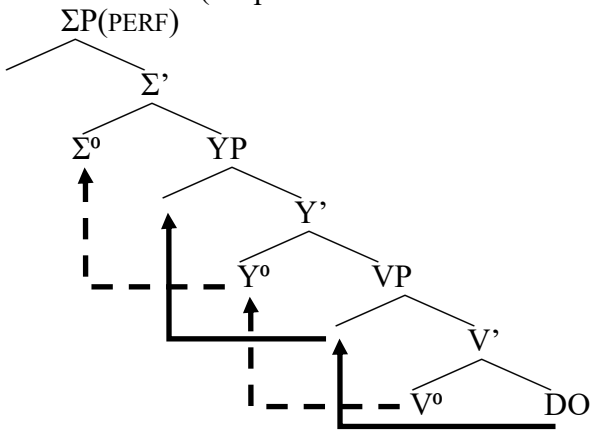
In the imperfective construction in (31)a, the DP *àmì lɔ́* 'the (specific) oil' is found between the imperfective marker *tò* and the verb *zân* 'use', while in the perfective construction in (31)b, the

DP follows the verb *zân* 'use'. He proposes that in the imperfective construction that *object shift* occurs when the verb head-raises into a position (Y^0) outside of the VP, as shown in (32)a. The direct object then moves into a specifier position higher than the verb (SpecYP). He argues that in the perfective construction the verb subsequently head-raises past the direct object into an even higher position, adjoining Σ^0 (32)b.

(32) a. Gbe Imperfective (adapted from Aboh 2003: 193:2a)



b. Gbe Perfective (adapted from Aboh 2003: 193:2a)



He contends that verb raising and object shift are obligatory in Gbe, and that these movements are made possible by the articulated nature of their IP and CP structures (Rizzi 1997, 2004; Cinque 2002, 2006; Rizzi and Cinque 2016).

2.3.2 Matrix (VO) and Embedded (OV) Clauses in Dutch

In accounting for the distinction between Dutch main clauses with a finite verb (VO) and embedded clauses with a finite verb (OV), Zwart (1997) argues that Dutch has an underlying SVO word order.

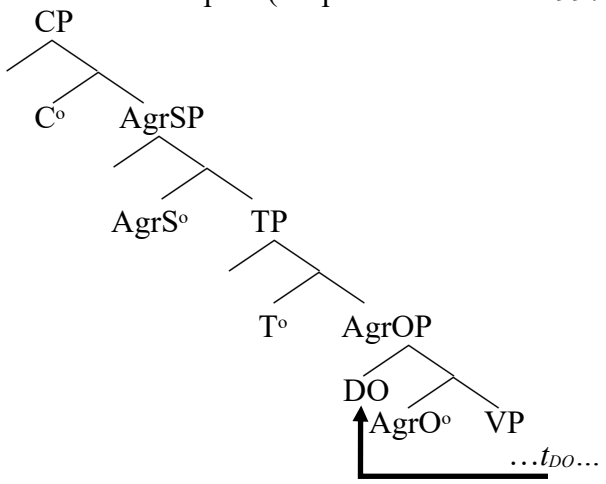
(33) a. Main clause: VO (Zwart 1997: 22: 8a) *Dutch*
Jan kust Marie
John kisses Mary
'John kisses Mary.'

b. Embedded clause: OV (Zwart 1997: 24: 15b) *Dutch*
dat Jan Marie kust
that John Mary kisses
'…that John kisses Mary'

More broadly, he proposes that word order variation in Germanic languages is dependent upon whether the language has verb (head) movement or object (phrasal) movement. He suggests that English has neither, while Dutch has both in main clauses, with verb movement being blocked in embedded clauses.

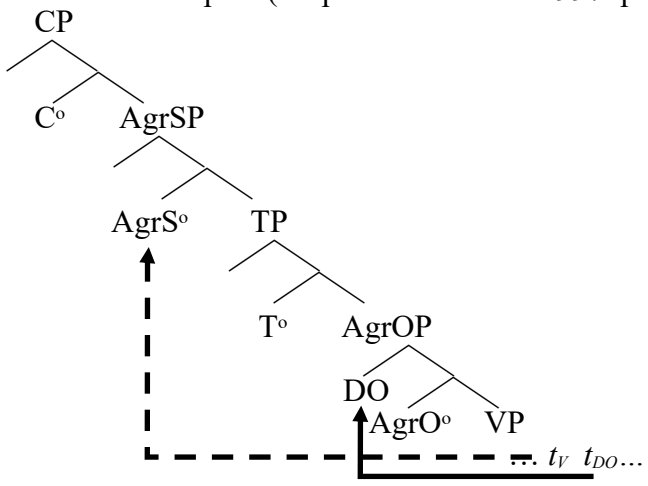
His analysis is rooted in the idea that there are a number of functional phrases between VP and CP into which the object and verb can move. Based on Chomsky (1993), he lays out the structure in (34) for the clausal spine. Object movement is driven by the need to check strong morphological features of the AgrO head (p 91), with the DP object moving to SpecAgrOP.

(34) Dutch Clausal Spine (adapted from Zwart 1997: p. 194, Figure 1)



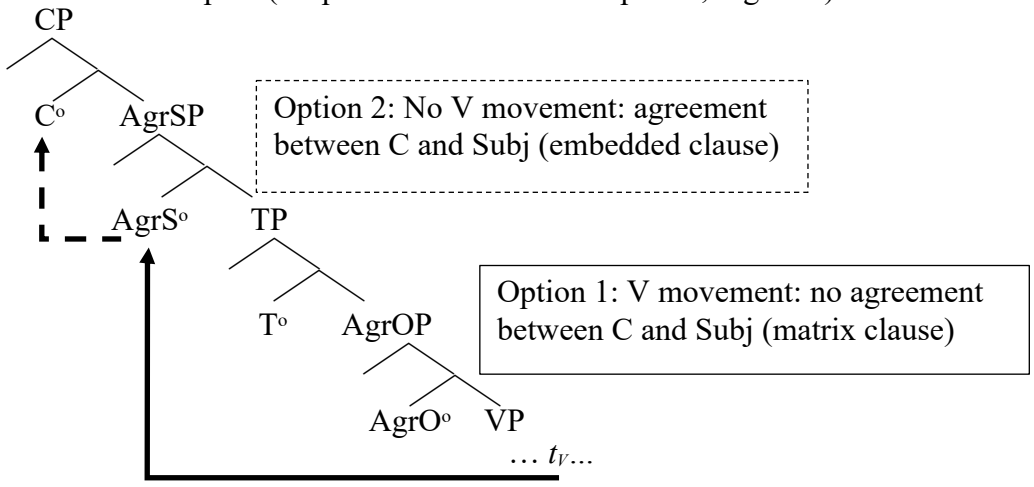
As to the verb movement distinction between main and embedded clauses, he agrees with previous analyses that verb movement only takes place when the complementizer is not present (i.e. in matrix clauses). He disagrees, however, with the analyses of Koster (1981), Den Besten (1989), and Lenerz (1985) that the verb and complementizer compete for the same position. Instead, he argues that the verb moves to AgrS in matrix constructions.

(35) Dutch Clausal Spine (adapted from Zwart 1997: p. 194, Figure 1)



He analyzes Dutch embedded clauses as being the same as Frisian embedded clauses where there is complementizer agreement in person and number with the subject, which occurs in AgrS-to-C movement. Crucially, in Frisian this only occurs when the verb does not move, since complementizer agreement is dependent upon verb movement. He concludes that in both Frisian (where it is seen) and Dutch (where it is not) there is a complementary distribution between verb movement and AgrS-to-C movement. This is illustrated in (36) where verb movement is indicated by the solid line (Option 1) and the absence of verb movement is indicated by the dashed line.

(36) Dutch Clausal Spine (adapted from Zwart 1997: p. 194, Figure 1)



2.3.3 Movement and stranding in German (Hinterhölzl 2000)

Similar to Dutch, German main clauses are VO while embedded clauses are OV. Hinterhölzl (2000) argues that underlyingly German is head-initial. He proposes that all nominal arguments are scrambled out of the VP into Case-licensing positions that occur above manner adverbs, as seen in (37) where the DP *das Buch / ein Buc* 'the / a book' surfaces above the adverb *sofgältig* 'carefully.'

(37) German: (adapted from Hinterhölzl 2000 #18a)
weil Hans das Buch / ein Buc sorgfältig gelesen hat
since Hans the book / a book carefully read has
'Since Hans has read the / a book carefully.'

He also suggests that small clauses, idioms, and directional PPs move out of the verb phrase, specifically into the specifier of a Predicate Phrase above the VP. The underlying structure in (38)a in which the verb takes a small clause complement, serves as the basis for the derived structure in (38)b in which the small clause has moved out of the VP.

(38) German (adapted from Hinterhölzl 2000 #33a & #32a)
a. Underlying Representation
weil Hans [$_{VP}$ färbte [$_{SC}$ das Haus gelb]
since Hans painted the house yellow

b. Surface Structure
weil Hans [$_{SC}$ das Haus gelb] färbte
since Hans the house yellow painted
'Since Hans painted the house yellow.'

Finally, he also proposes that CP complements raise out of the VP into a licensing position between the Predicate Phrase and the VP. He argues that an embedded verb does not move to Tense, but that it can make a shorter move, raising above the CP which, crucially, has itself raised into a higher position. The sentence in (39)a is analyzed as having the structure in (b), in which the CP raises into SpecFP3, before the embedded verb and tense markers raise respectively into SpecFP2 and SpecFP1.

(39) German (adapted from Hinterhölzl 2000 #38b & #38d)
a. Surface Structure
ohne der Maria zu sagen, daβ Peter krank ist
without the Maria.DAT to say, that Peter sick is
'Without telling Maria that Peter is sick.'

b. Structural Analysis
ohne der Maria [$_{F1}$ zu [$_{F2}$ sagen [$_{F3}$ CP [$_{VP}$ t_V t_{CP}]]]]
without the Maria to tell that Peter sick is

He proposes the structure in (40) for the German Middlefield. CPs raise into SpecF3P, the verb head raises into F2P, while the infinitival marker *zu* merges into F1P. Predicates raise into SpecPredP, DPs move into a Case-licensing position above manner adverbs (marked as S(hort) NPs), while semantically marked NPs raise above sentential adverbs when marked for specificity (indicated as L(ong) NP).

(40) Hinterhölzl (2000: #40)
[L-NPs [S-Advs [Neg [S-NPs [VP-Advs [Pred^o [$_{F1P}$ *zu* [$_{F2P}$ V [$_{F3P}$ CP [$_{VP}$]]]]]]]]]]

Before moving on to Mende, I want to note one more aspect of Hinterhölzl's analysis. He argues that only CP- and PP-adjuncts can remain in the verb phrase, leaving them stranded when the DP object raises into its licensing position. A similar situation holds in Mende, though I propose a slightly different analysis in Section 2.5.

(41) adapted from Hinterhölzl (2000: #41a)
Hans hat **die Frau** eingeladen, [die ich him empfohlen habe]
Hans has the woman invited who I him recommended have
'Hans has invited the woman who I have recommended to him'

(42) adapted from Hinterhölzl (2000: #42a)
Hans hat ein Buch (über Chomsky) gekauft (über Chomsky)
Hans has a book about Chomsky bought about Chomsky
'Hans has bought a book about Chomsky.'

2.3.4 Remnant Movement in West Flemish (Haegeman 2000, 2002)

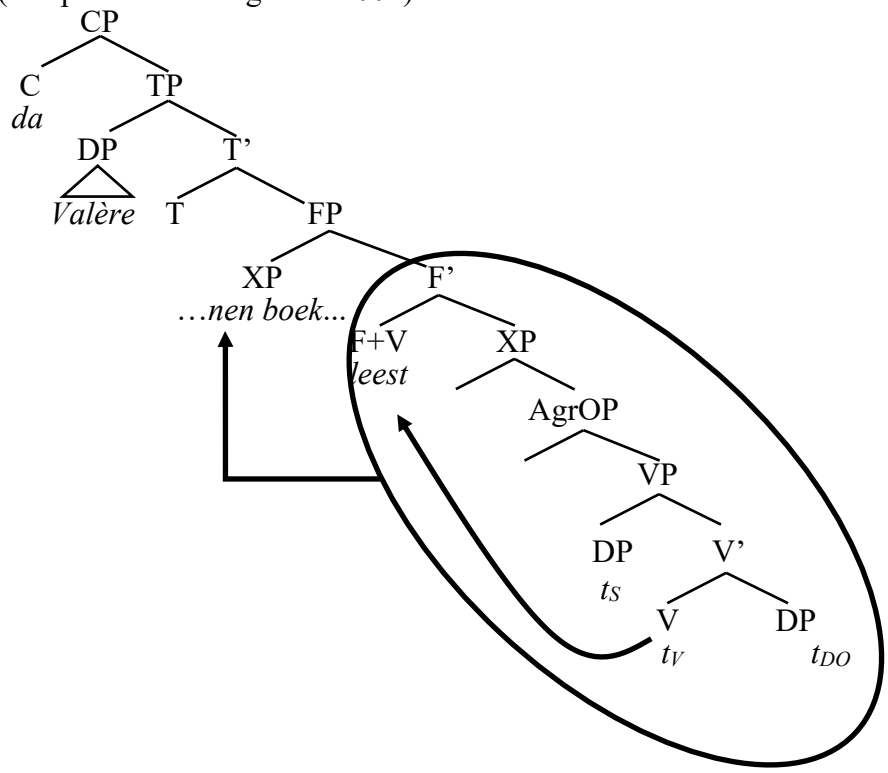
In developing her analysis of OV order in West Flemish, Haegeman (2000, 2002) suggests a double movement. First, the verb raises to a higher functional head (F^0), followed by remnant movement of the VP into the specifier position to the left of the raised verb. She provides the following schematic in which the verb has raised into a functional head while the remnant of the VP moves into its specifier position. In each of the examples in (43), she proposes that the verbs *leest* 'reads,' *stiert* 'sends,' and *geeft* 'gives' raise, adjoining a functional head with the remnant VP moving into the specifier position.

(43) West Flemish (Haegeman 2002: 8a, 8b, 8c)
a. da [$_{IP}$ Valère$_{su}$ [$_{FP}$ [$_{XP...}$ [$_{AgrOP}$ [$_{VP}$ t_{su} t_v nen boek]]] [$_F$ **leest**] $t_{\underline{xp}}$]]
that Valère a book reads
b. da [$_{IP}$ Valère$_{su}$ [$_{FP}$ [$_{XP...}$ [$_{AgrOP}$ [$_{VP}$ t_{su} t_v [nen boek no Gent]]]] [$_F$ **stiert$_v$**] t_{xp}]]
that Valère a book to Ghent sends
c. da [$_{IP}$ Valère$_{su}$ [$_{FP}$ [$_{XP...}$ [$_{AgrOP}$ Marie$_o$ [$_{VP}$ t_{su} t_v t_{io} nen boek]]] [$_F$ **geeft$_v$**] t_{xp}]]
that Valère Marie a book gives

This movement is laid out in the tree in 0b, based on 0a. The verb *leest* 'reads' head-raises first into the F^0 position. The XP which includes the DP direct object *nen boek* 'a book' then remnant raises into [Spec, FP], generating OV word order.

(44) a. da [$_{IP}$ Valère$_{su}$ [$_{FP}$ [$_{XP...}$ [$_{AgrOP}$ [$_{VP}$ t_{su} t_{V} nen boek]]] [$_{F}$**leest**] $t_{\underline{xp}}$]]
that Valère a book reads

b. (Adapted from Haegeman 2002)



2.3.5 Summary of Antisymmetric Analyses

These analyses have a few key aspects in common. First, each assumes that the verb phrase is head-initial and that the verb head-raises out of the VP. While Aboh, Zwart, and Hinterhölzl argue that the verb's arguments raise out of the VP via phrasal movement in Gbe, Dutch, and German respectively, Haegeman suggests that the arguments of the verb raise via remnant movement in West Flemish.

Given the absence of any fully-developed derivational analyses of Mande languages, the proposal that I set forth is inspired by this work on Gbe and the Germanic languages and is empirically and theoretically justified. It is laid out in detail in Section 2.5. Before discussing it, I discuss the structure of Mende's verb phrase.

2.4 Binding

In this section, I argue that in Mende the arguments of the verb all merge within the vP. This suggests that the analysis laid out in Nikitina, in which PPs merge at the IP level cannot be utilized in Mende. In order to substantiate this claim, I consider binding, including the distribution of reflexives (anaphors), pronouns, and referential expressions. I look first at English data before turning to Mende.

2.4.1 English Binding

I begin with the basic English data in (45), in which *himself* is an anaphor (45)a, *him* is a pronoun (45)b, *John* is an r(eferential) expression (45)c.

(45) a. John saw **himself**.
b. John saw **him**.
c. He saw **John**.

The r-expression *John* refers to a specific person, while pronouns and anaphors require an antecedent to which they refer. A pronoun or anaphor and its corresponding antecedent are considered to be *coreferential*. Chomsky (1995b: 96) defines coreferentiality using the following two principles of interpretation:

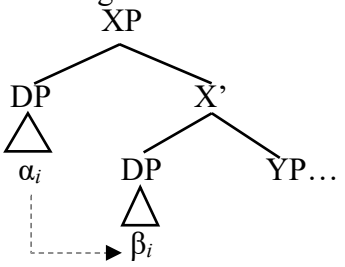
(46) a. If the index of α is identical to the index of β, then α and β are coreferential.
b. If the index of α is distinct from the index of β, then α and β are non-coreferential.

Another crucial aspect of binding is c(onstituent)-command. Reinhart (1976:32) defines c-command as follows.

(47) A c-commands B iff neither A nor B dominates the other and the first branching node which dominates A dominates B.

When a DP A c-commands a coreferential DP B , it is said that A binds B (Chomsky 1986). In (48) the DP α_i binds the DP β_i , as they are coreferential and α asymmetrically c-commands β. Note that in this and subsequent examples that the dashed arrow indicates a binding relationship.

(48) Binding



There are three principles that indicate the binding relationships between an anaphor (*Principle A*), a pronoun (*Principle B*), or an R-expression (*Principle C*) and its antecedent (i.e., coreferential DP that c-commands them (Reinhart 1976, Chomsky 1986, 1995)).

(49) a. Principle A: An anaphor must be bound it a local domain.
b. Principle B: A pronoun must be free it a local domain.
c. Principle C: An r-expression must be free.

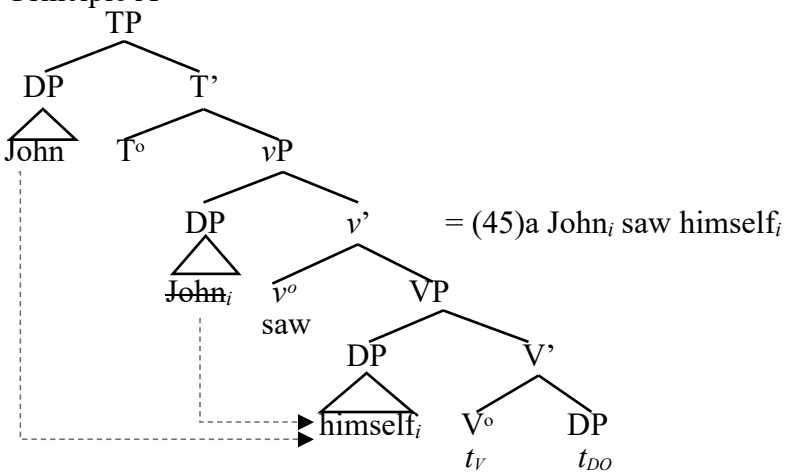
In Principles A and B, binding occurs within a specific domain. While there has been much work in clarifying what constitutes this domain, a widely accepted definition is that of a *Complete Functional Complex* (CFC) set out in Chomsky (1995:102) "a CFC is a projection containing all grammatical functions compatible with its head." Koopman and Sportiche (1991) postulate that all of the arguments of a verb are merged locally within the *v*P/VP shells, which would therefore constitute a binding domain.

Under Chomsky's definition of the domain being the CFC, an anaphor must be bound within the *v*P shell according to Principle A, while a pronoun must be free (not bound), according to Principle B. An R-expression must, likewise, be free, according to Principle C.

To see how this works, consider again the examples from (45). The tree in (50) shows that the anaphor *himself* is bound in its domain (*v*P) by *John*. This is the case whether John is in its

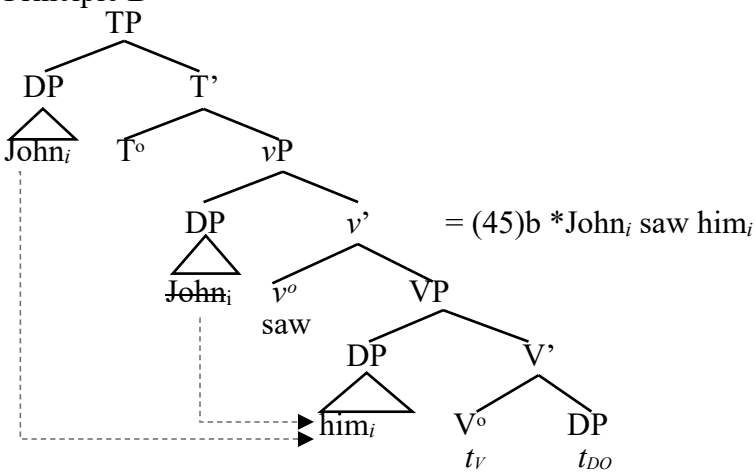
merge position in SpecvP or raised to its surface position in SpecTP. In either case Principle A is satisfied, and the result is grammatical.

(50) Principle A



Moving from the anaphor to the pronoun, (51) shows the analysis of (45)b. The pronoun *him* is bound by *John* in its domain (*v*P), again, whether *John* is in SpecvP or SpecTP. In both cases Principle B is violated, and the result is ungrammatical.

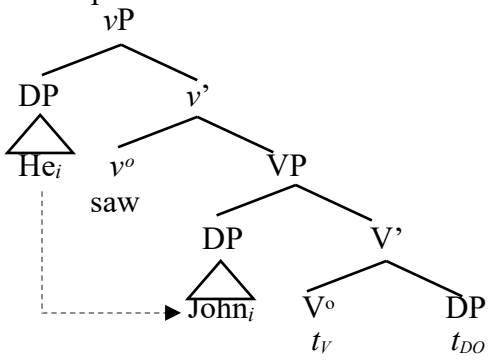
(51) Principle B



Given the definitions and examples (50) and (51), we can conclude that anaphors and pronouns are predicted to be in complementary distribution.

(52) shows the analysis of (45)c, in which the r-expression *John* is bound by the pronoun *he.* In this case, Principle C is violated and the sentence is ungrammatical.

(52) Principle C

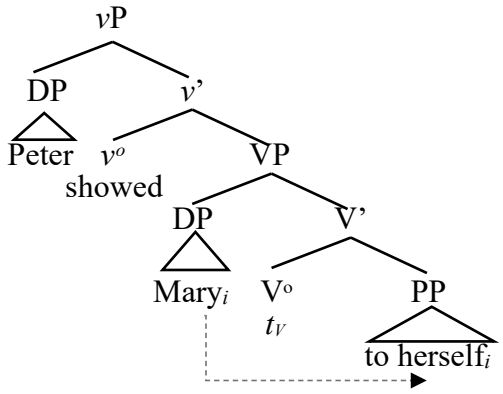


= (45)c *He$_i$ saw John$_i$

With the CFC established as the domain, a binding relationship between an antecedent and its bound pronoun or anaphor necessarily indicates an asymmetrical c-command relationship. Consider a dative construction in which the verb's three arguments - its agent, theme, and goal are all generated within the verbal shell. In Larson's (1988) seminal work on *v*P shells, he proposes a structure in which the DP theme is merged in the specifier position of the V head, whose complement is the goal/dative embedded in an adpositional phrase. Adapting from Larson, the verb phrase in (53)a would have the structure in (53)b, in which the DP direct object *Mary* in SpecVP locally binds the dative reflexive object *herself*.

(53) a. Peter showed Mary$_i$ to herself$_i$.

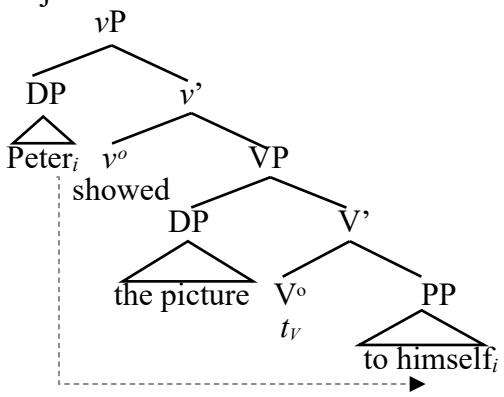
b. DO Binds Dative



The sentence in (54)a in which the DP subject *Peter* binds the dative *to himself* would have the structure in (b).

(54) a. Peter showed the picture$_i$ to himself$_i$.

b. Subject Binds Dative

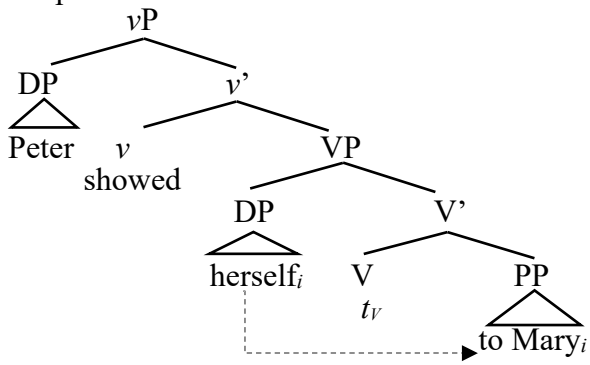


Therefore, within the verbal shell, the DP subject binds the DP object, and both can subsequently bind the DP dative object.

Given these binding relationships, we would expect a sentence to be ungrammatical when a reflexive direct object binds a dative R-expression, as this would violate Principle C. That is, in fact, what we find. In (55) the reflexive direct object *herself* asymmetrically c-commands the co-indexed dative R-expression *Mary*. Principle C states that an R-expression must be free, but in this example *Mary* is not free, rather it is bound by *herself*. As a result, Principle C is violated and the result is ungrammatical. The sentence also violates Principle A, as the R-expression *Mary* does not asymmetrically c-command its coindexed reflexive anaphor *herself*.

(55) a. *Peter showed herself$_i$ to Mary$_i$

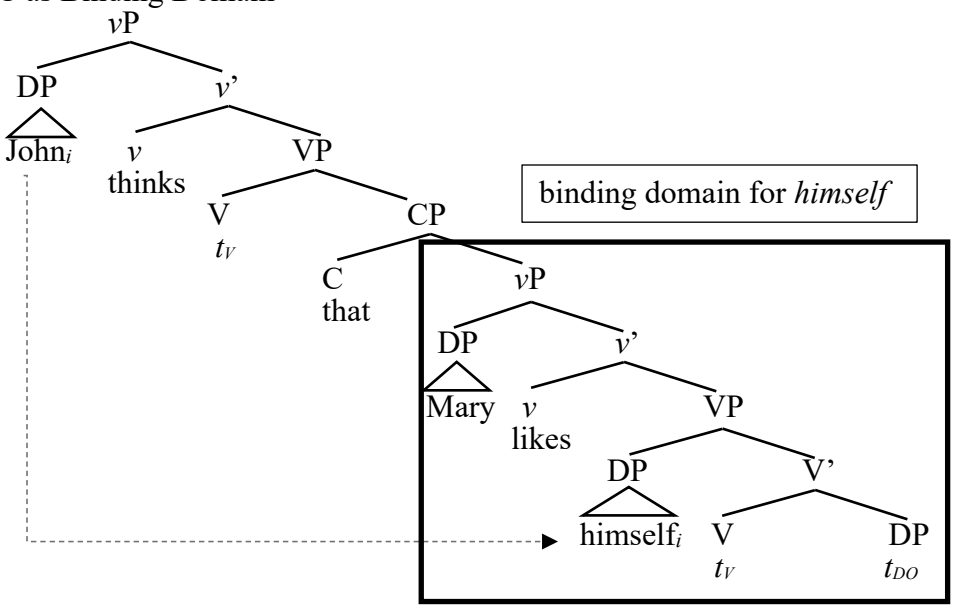
b. Principle C Violation



That the CFC is the domain is seen in sentences where the matrix verb takes a CP complement, as in (56). The DP matrix subject *John* binds the embedded object *himself*, but the sentence is ungrammatical. The ungrammaticality results from the antecedent *John* not being in the same CFC as the reflexive *himself*. While the r-expression *Mary* c-commands and is in the same CFC as the reflexive *himself*, *Mary* cannot bind *himself*, as they are not coreferential. As a result, *himself* is free within its domain, and Principle A is violated.

(56) a. *John$_i$ thinks that Mary likes himself$_i$

b. CFC as Binding Domain



2.4.2 Pronouns, Reciprocals, and Reflexives in Mende

I turn next to binding in Mende. The class of anaphors in Mende, which are subject to Principle A, consist of reflexive and reciprocal pronouns.

(57) Reflexive Constructions
a. Pítá **tá kpè** lɔ̀-í lɔ
Peter 3SG self see-PFV NF
'Peter saw himself.'

b. nyàpù-í-síà tì **tíà kpè** lɔ̀-í lɔ̀
girl-DEF-PL 3PL 3PL self see-PFV NF
'The girls saw themselves.'

(58) Reciprocal Constructions
nyàpù-í-síà tì **tì nyɔ̀nyɔ̀** lɔ̀-í lɔ̀
girl-DEF-PL 3PL 3PL each.other see-PFV NF
'The girls saw each other.'

Reflexives are formed by adding the word *kpe* 'self' to a corresponding set of nominative pronouns that are typically used in present progressive constructions (59) - (60).[5] In (59)a the subject is the DP *Pita* and the focus marker surfaces as *lɔ*, while in (b) the 3rd person singular pronoun / subject marker *ta* is used, and the focus marker surfaces as a lengthening of the pronominal vowel. In (60)a the subject is the DP *nyapuisia* and the subject marker is 3rd person plural progressive *tia*, which surfaces as the pronominal subject in (b). The pronouns *ta* and *tia* are members of the class of pronouns which surface in reflexive constructions, as seen in (57) above and which are listed in Table 2.

(59) a. Pítá ø lɔ̀ mbɛ̀-í mɛ̀-mà
Peter 3SG ISF rice-DEF eat-PROG
'Peter is eating the rice'

b. **tá** à mbɛ̀-í mɛ̀-mà
3SG ISF rice-DEF eat-PROG
'he is eating the rice'

(60) a. nyàpù-í-síà tíà à mbɛ̀-í mɛ̀-mà
girl-DEF-PL 3PL ISF rice-DEF eat-PROG
'The girls are eating the rice'

b. **tíà** à mbɛ̀-í mɛ̀-mà
3PL ISF rice-DEF eat-PROG
'They are eating the rice'

Reciprocal pronouns in Mende are formed when *nyɔnyɔ* 'each other' combines with the object pronoun that has a corresponding number feature, as seen in (58) and listed in Table 2 below.

[5] In the present progressive construction the focus marker *lɔ* occurs after the subject. I have glossed it as in-situ focus (ISF), though it may very well be neutral focus (NF). Since I do not investigate present progressive constructions in this paper, I leave it for future research to discern which it is.

Reflexive Pronoun				Reciprocal Pronoun		
Pronoun		Reflexive		Pronoun	*nyɔnyɔ* 'each other'	
nya	1SG	*nya kpe*	'myself'			
bia	2SG	*bia kpe*	'yourself'			
ta	3SG	*ta kpe*	'him/her/itself'			
mua	1PL	*mua kpe*	'ourselves'	*mu* 1PL	*mu nyɔnyɔ*	'each other'
wua	2PL	*wua kpe*	'yourselves'	*wu* 2PL	*wu nyɔnyɔ*	'each other'
tia	3PL	*tia kpe*	'themselves'	*ti* 3PL	*ti nyɔnyɔ*	'each other'

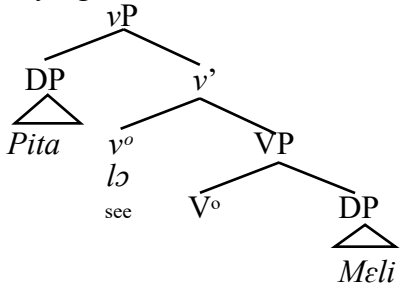
Table 2 - Formation of Reflexive and Reciprocal Pronouns

2.4.3 Binding in Mende

Having introduced Mende pronouns, reflexives, and reciprocals, I next consider Mende binding data. In this section I show that Larson's (1988) proposed structure for verbal shells yields grammatical results in Mende. Specifically, we will see that under this analysis the subject binds the direct object, and that both the subject and direct object bind the dative object. Based on Larson's work, the proposed underlying structure of a canonical verb is shown in (61). I argue that the VP is head initial with the internal argument as the verb's complement. The verb raises to SpecvP and its external argument is generated in SpecvP.

(61) a. Pítá Mɛ́lí lɔ̀-í lɔ̀
Peter Mary see-PFV NF
'Peter saw Mary.'

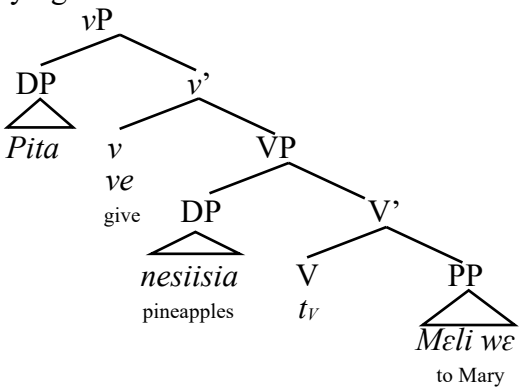
b. Underlying Structure: Transitive Verb



The proposed structure for a ditransitive verb is shown in (62). The verb takes the phrase containing the dative object as its complement and the DP direct object in its specifier. The verb raises to *v*, and its external argument merges into the specifier.

(62) a. Pítá nésí-í-síà vè-í lɔ̀ Mɛ́lí wɛ̀
Peter pineapple-DEF-PL give-PFV NF Mary to
'Peter gave the pineapples to Mary.'

b. Underlying Structure: Ditransitive Verb



I first consider the relationship between subjects and direct objects in a transitive sentence. Under the analysis laid out in (61) and (62), Principle A predicts that a direct object anaphor would be locally bound by the subject, yielding a grammatical sentence. Given the complementary distribution of anaphors and pronouns, Principle B predicts that a coreferential pronoun bound by the subject would yield an ungrammatical sentence, which is borne out in the data. In (63) the subject *Pita* binds the direct object. As predicted by Principle A, the anaphoric direct object *ta kpe* is grammatical, and, as predicted by Principle B, the pronominal direct object *ngi* is ungrammatical.

(63) Subject Binds Direct Object
Pítá$_i$ ***ngi**$_i$* / **[tá kpè]**$_i$ lɔ̀-í lɔ̀
Peter 3SG / 3SG self see-PFV NF
'Peter saw himself (in the mirror)'

Turning now to ditransitive constructions, in (64) the subject binds the dative object. Following Principle A, the anaphoric reflexive *ta kpe* 'himself' is bound by the subject *Pita*, and

the sentence is grammatical. The pronoun *ngiye* 'him', is likewise bound by the subject and, as predicted, violates Principle B, leading to ungrammaticality.

(64) Subject Binds Dative Object
Pítá$_i$ Mélí gè-í lɔ̀ à ***ngiye$_i$** / [**tá kpè]$_i$**
Peter Mary show-PFV NF to 3SG / 3SG self
'Peter showed Mary to himself'

A similar set of facts holds for dative/goal reciprocals, whether the dative pronoun is in a postpositional or prepositional phrase. In the following examples the subject *ndupuisia* 'the children' binds the dative object. When the dative object is the reciprocal *ti nyɔnyɔ* 'each other,' it adheres to Principle A and the sentences are grammatical. When the dative object is the pronoun *ti* or *tiye*, however, Principle B is violated, and the sentences are ungrammatical. These facts hold for both postpositional (65) and prepositional (66) dative objects.

(65) Subject Binds Dative (postpositional) Object
ndùpù-í-sía$_i$ tì$_i$ nésí-í-síà vè-í lɔ̀ ***ti$_i$** / **[tì nyɔ̀nyɔ̀]$_i$** wɛ̀
child-DEF-PL 3PL pineapple-DEF-PL give-PFV NF 3PL 3PL each.other to
'The children gave pineapples to each other'

(66) Subject Binds Dative Object (prepositional)
ndùpù-í-sía$_i$ tì nésí-í-síà gè-í lɔ̀ à ***tiye$_i$** / **[tì nyɔ̀nyɔ̀]$_i$**
child-DEF-PL 3PL pineapple-DEF-PL show-PFV NF to 3PL 3PL each.other
'The children showed pineapples to each other'

To this point, then, we have shown that Mende subjects bind the direct and dative objects and can conclude that in the Mende verbal shell the subject c-commands both its direct and dative objects. This contrasts with the analysis set out by Nikitina (see section 2.2.1 and in particular the tree in (21)). Under her analysis the DP subject presumably should not be able to bind the dative object, as it occurs in a higher position.

I next turn to the relationship between the direct object and the dative object. Using a ditransitive verb, we see that in Mende the direct object binds the dative object within the verbal shell.

(67) DO Binds Dative
Pítá Mélíᵢ gè-í lɔ̀ à ***ngiyeᵢ** / **[tá kpè]ᵢ**
Peter Mary show-PFV NF to 3SG 3SG self
'Peter showed Mary to herself.'

(68) Dative Cannot Bind DO
Pítáᵢ **ngìᵢ/ⱼ / [tá kpè]ᵢ/ⱼ** gè-í lɔ̀ à Mélíⱼ
Peter 3SG 3SG self show-PFV NF to Mary
'Peter showed himself to Mary.'

In (67) the direct object *Mary* asymmetrically c-commands and is co-indexed with the pronoun *ngiye* 'her' and the anaphor *ta kpe* 'herself' in the dative object position. With the CFC as the binding domain, the pronoun is bound and violates Principle B, while the bound anaphor upholds Principle A. In (68) the subject *Pita* binds the direct object, and the direct object pronoun *ngi* 'him/her' is ungrammatical, in contrast to the reflexive *ta kpe* 'him/her self' which is grammatical.

The previous examples have shown that in Mende the subject c-commands the direct object, and the direct object c-commands the dative object, which Nikitina also suggests is the case for Wan. Under her analysis this is accounted for by constraints and phrase structure rules (Nikitina 2019 pp 724-731), though it seems somewhat stipulative.

I next show that the verbal shell is the binding domain with evidence from long distance binding. In (69) the matrix subject *Peter* asymmetrically c-commands and is co-indexed with the direct object *ngiye* 'him' of the embedded clause. According to Principle B, a pronoun must be free in its domain, and since this sentence is grammatical, the matrix subject *Peter* is not in the binding domain of the pronoun *ngiye* 'him'. The pronoun *ngiye* is free, following Principle B, and the sentence is grammatical. The embedded subject *Mary* cannot be the antecedent of the embedded direct object, as it would bind the object, leading to an ungrammatical reading, according to Principle B.

(69) Embedded Clause = Binding Domain
Pítá$_i$ mèní-í lɔ̀ [kɛ̀ Mɛ́lí lò-í lɔ̀ à **ngíyé**$_i$]
Peter hear-PFV NF C Mary like-PFV NF A 3SG
'Peter heard that Mary liked him / *her'

We see further evidence that the verbal shell is the CFC in (70), where the coreferent to the bound direct object is the embedded subject. In (70) *Mary* binds the direct object of the embedded verb. The pronoun *ngiye* 'her' is subject to Principle B, leading to an ungrammatical sentence, while the anaphor *ta kpe* 'herself' is subject to and affirms Principle A, leading to a grammatical sentence.

(70) Embedded Subject Binds Embedded DO
Pítá mèní-í lɔ̀ [kɛ̀ **Mɛ́lí**$_i$ lò-í lɔ̀ à *ngiye$_i$ / [**tá** **kpè**]$_i$]
Peter hear-PFV NF C Mary like-PFV NF A 3SG 3SG self
'Peter heard that Mary liked *her / herself'

Given the distinction between (69) and (70) we can conclude that the CFC is the verbal shell. As such, we know that all of the arguments of the verb merge within the vP, including dative objects (Sportiche 1998, Koopman and Sportiche 1991). As indicated above, this suggests that the analysis set out in Nikitina (2009) cannot be extended to Mende.

In the following section, I further develop the proposed structure for the Mende VP, showing a series of constructions which point to a head-initial verb phrase.

2.5 Post-Verbal Objects

In this section I investigate three constructions in Mende which point to a head-initial VP, including CP complements, stranded quantifiers, and stranded conjuncts of a conjoined direct object. In these constructions either the entire complement of the verb or a portion of it surface in a post-verbal position.

2.5.1 CP Complements

While DP objects of canonical verbs surface in a pre-verbal position, CP complements remain post-verbal. In the following examples, the verbs *hungɛ* 'explain', *mɛni* 'hear', and *mani* 'desire' all take a pre-verbal DP object (in the (a) examples) and a post-verbal CP object (in the (b) examples). Note that the CPs can be finite, as in (71) and (72) or non-finite, as in (73).

(71) a. Pre-verbal DP Object
Pítá {*hungɛ-i lɔ} **ndɔ̀mí-í** húngɛ̀-í lɔ̀
Peter explain-PFV NF story-DEF explain-PFV NF
'Peter explained the story'

b. Post-verbal CP Object
Pítá {húngɛ̀-í lɔ̀}**kɛ̀ Mɛ́lí mángùí-í-síà yèyà-mà lɔ̀** {*hungɛ-i lɔ}
Peter explain-PFV NF C Mary mango-DEF-PL buy-PROSP NF explain-PFV NF
'Peter explained that Mary will buy the mangoes.'

(72) a. Pre-verbal DP Object
Pítá **kɛ̀yɛ̀pɛ̀-í-síà** mɛ̀ní-í lɔ̀
Peter rumor-DEF-PL hear-PFV NF
'Peter heard the rumors.'

b. Post-verbal CP Object
Pítá mɛ̀ní-í lɔ̀ **kɛ̀ Mɛ́lí pùjɛ̀-í-síà húgbàtè-í lɔ̀**
Peter hear-PFV NF C Mary pepper-DEF-PL prepare-PFV NF
'Peter heard that Mary prepared the peppers.'

(73) a. Pre-verbal DP Object
Kpàná **mángù-í-síà** màní-í lɔ̀
Kpana mango-DEF-PL desire-PFV NF
'Kpana desired the mangoes.'

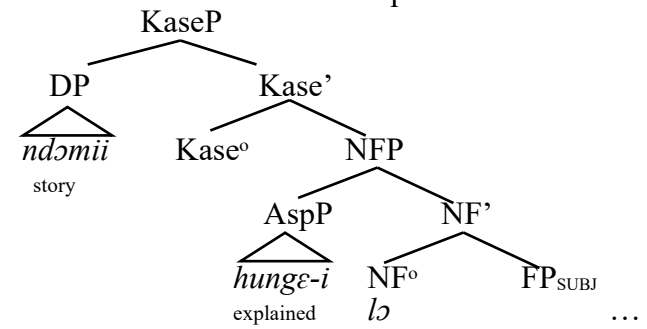
b. Post-verbal Non-finite CP Object
Kpàná màní-í lɔ̀ **mángù-í-síà yèyà và**
Kpana desire-PFV NF mango-DEF-PL buy for
'Kpana desired to buy the mangoes.'

There is a clear pattern in this data with DPs surfacing pre-verbally and CPs surfacing post-verbally. Importantly, CPs do not need to surface in a clause final position, which suggests that they raise out of the verb phrase. This is seen in (74) where the CP can precede or follow the temporal adverb *gboi* 'yesterday' which modifies the matrix verb and cannot modify the future-oriented CP.

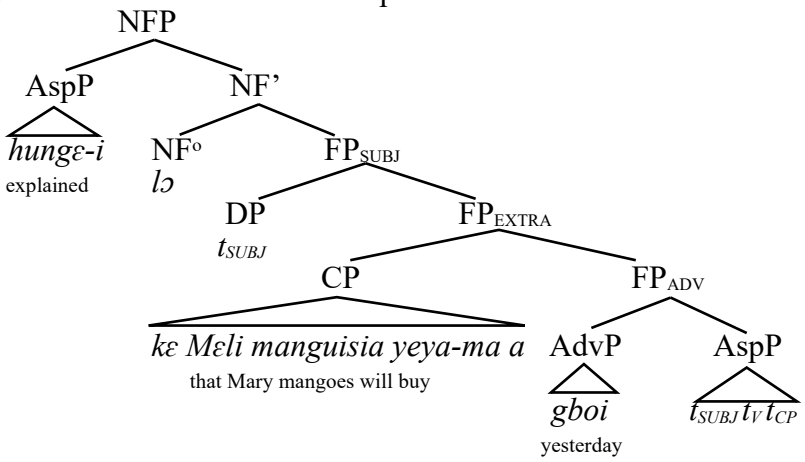
(74) Post-verbal CP Object
Pítá húngɛ̀-í lɔ̀ {gbòí} **kɛ̀ Mɛ́lí mángù-í-síà yèyà-má à** {gbòí}
Peter explain-PFV NF yesterday C Mary mango-DEF-PL buy-PROSP NF yesterday
'Peter explained yesterday that Mary will buy the mangoes.'

Using the data in (71), the surface structure I propose for DPs is seen in (75), which reflects the tree proposed at the beginning of the chapter in (7), while the surface structure of CPs is seen in (76).

(75) Surface Structure of DP Complement



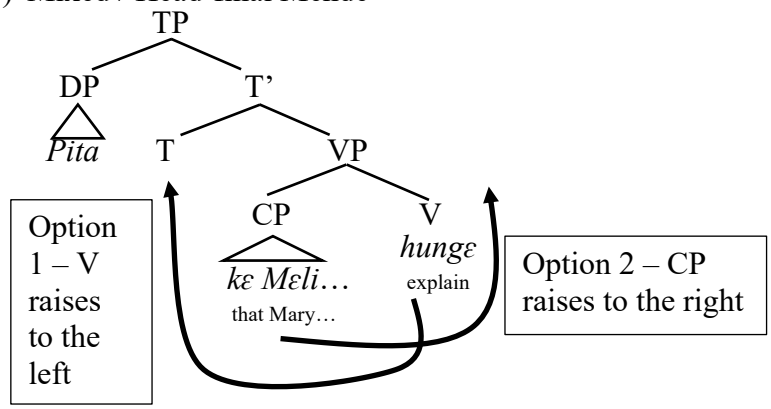
(76) Surface Position of CP Complement



The distinction in surface position for CP and DP complements of the verb challenges the analyses laid out by Nikitina (2009) and Sande, Baier, and Jenks (2019), as both argue for a head-final VP. It is not clear how these analyses might account for this type of data, but we could assume that the CP complement merges as the complement of the verb in a head-final VP. This requires

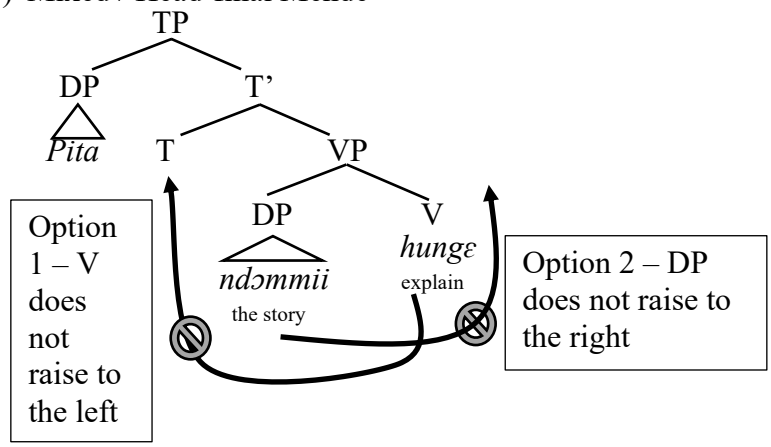
either rightward movement of the CP or leftward movement of the verb (77), which Nikitina explicitly rejects, as LFG framework does not involve movement.

(77) Mixed / Head-final Mende



Crucially, neither of these movements occurs if the complement is a DP instead of a CP (78). This requires a stipulation that the verb only raises when it has a CP complement or that CPs raise to the right but DPs do not, neither of which is supported in the literature.

(78) Mixed / Head-final Mende



A more straightforward account is that the DP and CP complements both merge post-verbally. While DP complements raise into a pre-verbal position for Case licensing, CP complements remain post-verbal.

Further evidence for this type of analysis is found in Noun Complement Clauses (NCCs) and Relative Clauses (RCs). In NCC constructions a CP modifies the DP object. Crucially, only

the DP object surfaces (*ndɔmii* 'story in (79)) in a pre-verbal position with the CP modifier stranded.

(79) Pre-verbal DP Object with NCC Modifier
Pítá {**ndɔ̀mí-í**} húngè-í lɔ̀{***ndɔmi-i**} kɛ̀ Mɛ́lí mángùí-i-síà yèyà-í lɔ̀
Peter story-DEF explain-PFV NF story-DEF C Mary mango-DEF-PL buy-PFV NF
'Peter explained the story that Mary bought the mangoes.'

A similar construction occurs with Relative Clause modifiers of DP objects. In these constructions the DP object raises from within the relative clause to a pre-verbal position, while the relative clause remains stranded. This is true for both subject-headed and object-headed relative clauses. In (80)a the subject of the relative clause *nyapuisia* 'the girls' raises out of the relative clause and surfaces pre-verbally as the matrix direct object, while in (b) the object of the relative clause *tɛisia* 'the chickens' raises out of the clause (with a resumptive pronoun in its canonical position) into the matrix direct object position.

(80) Relative Clause Modifiers of DP Objects
a. Subject-headed Relative Clause
K. **nyàpù-í-síà**$_i$ {màlè-í lɔ̀}***t*$_i$ **tì tɛ̀-í-síà màjìá-ní**{*màlé-í lɔ̀}
K. girl-DEF-PL meet-PFV NF 3PL chicken-DEF-PL sell-PFV meet-PST NF
'Kpana met the girls who sold the chickens.'

b. Object-headed Relative Clause
K. **tɛ́-ì-síà**$_i$ {vàwè-í lɔ̀} **nyàpù-í-síà tì tì yèyà-ní**{*vàwɛ́-í lɔ̀}
K. chicken-DEF-PL disturb-PFV NF girl-DEF-PL 3PL 3PL buy-PFV meet-PFV NF
'Kpana disturbed the chickens that the girls bought.'

In Smith (2024b) I argue that the CP raises into a higher position that I call FP_{EXTRAP}, which is the specifier of a functional phrase that hosts CPs (Bianchi 1999).[6] This provides even stronger evidence that it is Case-licensing that drives movement of the DP object (Koopman 1984, 1992). Furthermore, it is consistent with Stowell's (1981) *Case Resistance Principle*, which argues that that CPs objects do not raise for Case. Since the CP is [+tense], it is unable to receive case and

[6] See also Kayne (1994: 121) which argues that CP are stranded in a non-Case-marked position below the normal Case-marked position, which I propose is KaseP.

does not raise into a case-licensing position. Analyses which suggest a head-final VP (e.g. Nikitina 2009, Sande, Baier, and Jenks 2019) cannot easily account for this split surface position of DP and CP (including NCC and RC) complements of the verb.

The presence of a pre-verbal DP object with a post-verbal CP (or relative clause) modifier presents a further challenge to analyses that posit a head-final VP. This would seemingly require, for example under Sande, Baier, and Jenks' analysis, that the DP remains in-situ while the CP raises to the right.

In addition to the CP modifier of the direct object, other clausal modifiers of the object also surface in a post-verbal position. The data in (81) shows a similar construction in which the PP modifier of the direct object surfaces in a post-verbal position.

(81) Post-verbal PP Modifier of DO
Kpàná mángù-í-síà lɔ̀-í lɔ **bètí-í mà**
Kpana mango-DEF-PL see-PFV NF table-DEF ON
'Kpana saw the mangoes on the table.'

Adjectives, however, cannot be extraposed. In (82) the DP consists of the noun, adjective, and numeral, with definiteness and plurality marked on the rightmost element (in this instance the numeral). Extraposition is ungrammatical whether the numeral is present with the adjective or not.

(82) Extraposed Adjectives (Ungrammatical)
a. Kpàná nyàpù gùtù wɔ̀tè-í-síà lɔ̀-í lɔ
Kpana girl tall six-DEF-PL see-PFV NF
'Kpana saw the six tall girls.'

b. *Kpana nyapu lɔ-i lɔ gutu {wɔte}-i-sia
Kpana girl see-PFV NF tall six-DEF-PL
'Kpana saw the (six) tall girls.'

In Chapter 1 and Smith (2024b) I argue that the highest head in the DP is the definite head, with roll-up movement deriving the surface structure. As such, the adjective is within the DP structure which raises and cannot be stranded.

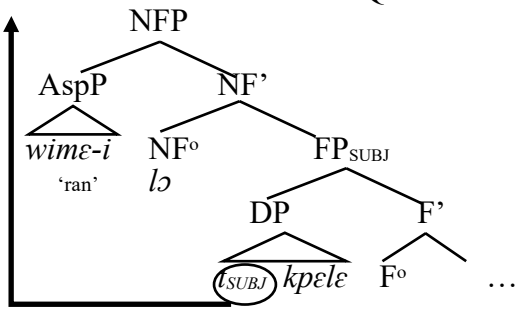
2.5.2 Stranded Quantifiers

In chapter 1 I argued that the subject in Mende merges in SpecvP. It subsequently raises into a functional position below the verb before raising into its surface position in SpecFinP, with evidence for this movement into a functional position including stranded quantifiers. These are best seen in intransitive sentences, such as (83) where the universal quantifier *kpɛlɛ* 'all' can surface either immediately after the subject or in a post-verbal position.

(83) Stranded Quantifier of DP Subject
nyàpù-í-síà {kpɛ̀lɛ́} tì wìmɛ̀-í lɔ̀ {kpɛ̀lɛ́}
girl-DEF-PL all 3PL run-PFV NF all
'All of the girls ran.'

I propose that the post-verbal quantifier is stranded in $SpecFP_{SUBJ}$ before the subject raises into its surface position.

(84) Surface Position of Stranded Quantifier



Likewise, a quantifier of the direct object can also occur post-verbally. (85)a shows a canonical Mende sentence, with the direct object preceding the verb, while in (85)b the quantifier associated with the DO can appear in a post-verbal position

(85) Stranded Quantifiers
a. Pítá mbè-í **gbí** yèyà-í lɔ̀
Peter rice-DEF all buy-PFV NF
'Peter bought all the rice'

b. Pítá mbè-í yèyà-í lɔ̀ **gbí**
Peter rice-DEF buy-PFV NF all
'Peter bought all the rice'

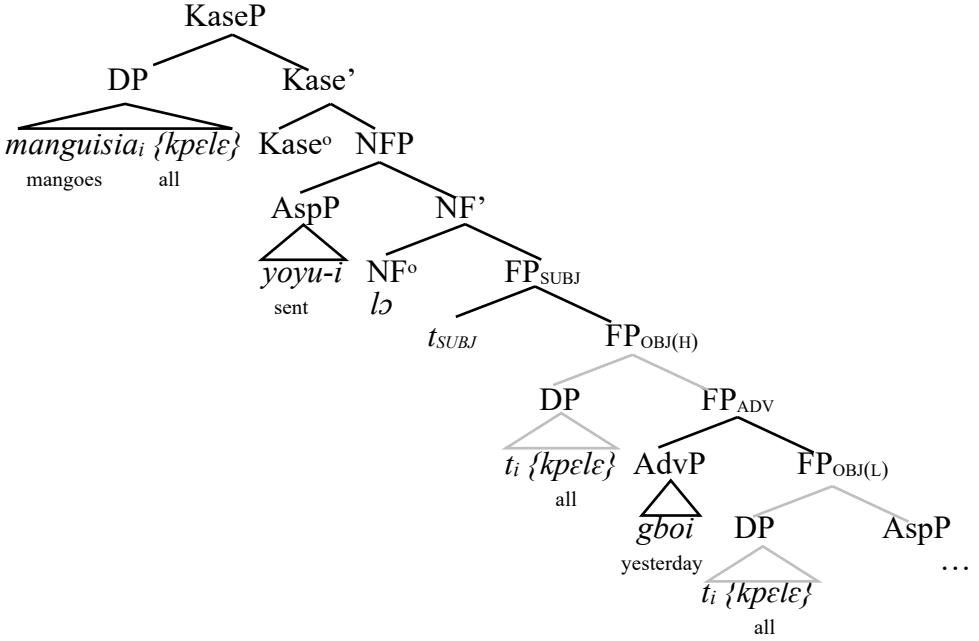
Stranded direct object quantifiers do not need to immediately follow the verbal complex. As the following data shows, the direct object can surface below a temporal adverb (86) or a dative object (87).

(86) Stranded Object Quantifier with Temporal Adverb
Kpàná mángù-í-síà {**kpèlέ**} yèyà-í lɔ̀ {**kpèlέ**} gbòí {**kpèlέ**}
Kpana mango-DEF-PL all buy-PFV NF all yesterday all
'Kpana bought all the mangoes yesterday.'

(87) Stranded Object Quantifier with Dative Object
Kpàná mángù-í-síà {**kpèlέ**} yòyù-í lɔ̀ {**kpèlέ**} Mέlí gàmá {**kpèlέ**}
Kpana mango-DEF-PL all send-PFV NF all Mary to all
'Kpana sent all the mangoes to Mary.'

In (88) I show the two post-verbal positions in which the stranded quantifier can surface. As noted in Chapter 1, adverbs can surface in a variety of positions post-verbally, and in this instance, I show that the DP can surface on either side of the temporal adverb *gboi* 'yesterday.' The two positions are marked in light gray and indicated as $FP_{OBJ(H)}$ for the higher position and $FP_{OBJ(L)}$ for the lower.

(88) Surface Position of Stranded D.O. Quantifier



This data also presents a challenge to head-final VP analyses (e.g. Nikitina 2009, Sande, Baier, and Jenks (2019)), which would need to account for the DO on one side of the verb while the quantifier is on the other. Consider the following data in which the pre-verbal DP object *manguisia* 'the mangoes' is modified by the quantifier *kpɛlɛ* 'all' which occurs after the locative phrase.

(89) a. Kpàná mángù-í-síà wù-í lɔ̀ bɛ́tè-í mà
Kpana mango-DEF-PL put-PFV NF table-DEF on
'Kpana put the mangoes on the table.'

b. Kpàná mángù-í-síà wù-í lɔ̀ bɛ́tè-í mà kpɛ́lɛ́
Kpana mango-DEF-PL put-PFV NF table-DEF on all
'Kpana put all the mangoes on the table.'

It is unclear exactly how a head-final analysis could account for this, as neither Nikitina (2019) nor Sande, Baier, and Jenks (2019) indicate that this type of construction occurs in Wan or Dafing respectively. This problem extends beyond direct objects in Mende, as subjects, dative objects, and the objects of postpositions can all have a stranded quantifier.

An analysis based on Koopman's (1984, 1992) proposal for a head-initial VP and Kayne's (1994) Antisymmetry approach allows for the DP to start to the right of the verb, and to strand its quantifier at different positions as it raises, or to pied-pipe its quantifier with it into SpecKaseP.

2.5.3 Stranded Conjuncts

Concluding this investigation of canonical verbs with post-verbal objects, I turn next to stranded conjuncts of a conjoined direct object. Consider the data in (90) where the direct object is *pujɛisia kɛ sibaisia* 'peppers and onions.' The data in (a) shows that the entire coordinated phrase can surface in a pre-verbal position, while the data in (b) shows that the first conjunct can occur in a pre-verbal position with the coordinator *kɛ* and second conjunct in a post-verbal position. The data

in (c) and (d) show that it is ungrammatical for the entire conjoined direct object to surface in a post-verbal position or for the first conjunct and coordinator to surface in a pre-verbal position.

(90) Conjoined Direct Objects

a. Pítá **pùjɛ̀-í-síà** **kɛ̀** **síbá-í-síà** màjìà-í lɔ̀
Peter pepper-DEF-PL and onion-DEF-PL sell-PFV NF
'Peter sold the peppers and onions.'

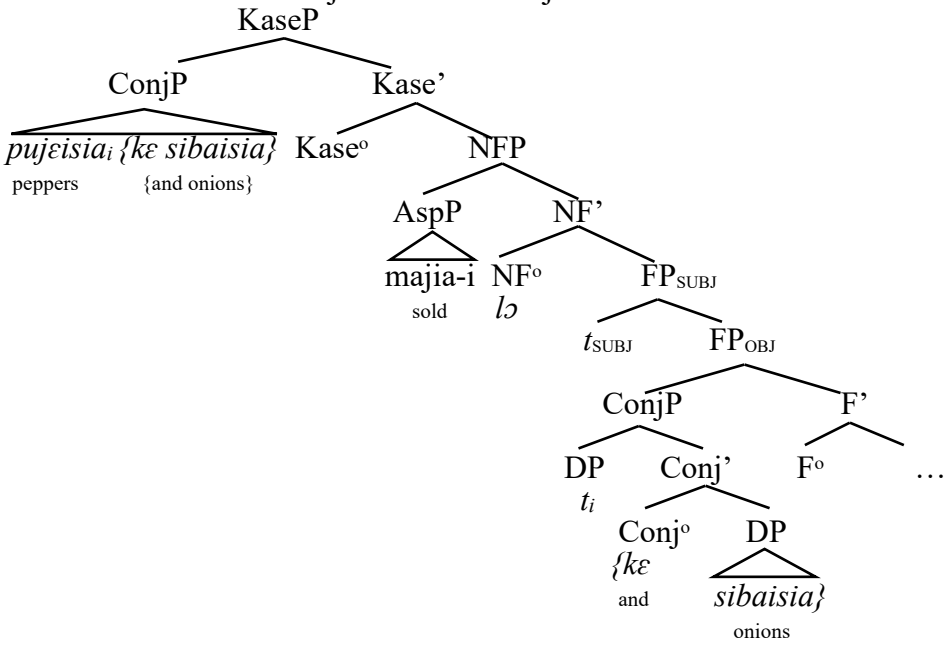
b. Pítá **pùjɛ̀-í-síà** màjìá-í lɔ̀ **kɛ̀** **síbà-í-síà**
Peter pepper-DEF-PL sell-PFV NF and onion-DEF-PL
'Peter sold the peppers and onions.'

c. *Pita majia-i lɔ **pujɛ-i-sia** **kɛ** **siba-i-sia**
Peter sell-PFV NF pepper-DEF-PL and onion-DEF-PL
'Peter sold the peppers and onions.'

d. *Pita **pujɛ-i-sia** **kɛ** majia-i lɔ **siba-i-sia**
Peter pepper-DEF-PL and sell-PFV NF onion-DEF-PL
'Peter sold the peppers and onions.'

We see that at least one of the conjuncts must surface in a pre-verbal position, and that it can surface alone or pied-pipe the coordinator and second conjunct with it. In light of the previous data that I have introduced, it is unsurprising that at least one DP surfaces in a pre-verbal position, as bare DP objects always surface in a pre-verbal position. That a portion of the direct object could surface in a post-verbal position is also unsurprising, given that CP complements, CP and PP modifiers of the object, as well as quantifiers of the object can all surface in a post-verbal position. In (91) I propose the surface positions for the constituents of the direct object in (90). The first conjunct surfaces in SpecKaseP, the canonical position for DP objects. The remainder of the object can alternatively surface in that same position (Option 1) or can remain in $\text{SpecFP}_{\text{OBJ}}$ the licensing position below the verb (Option 2).

(91) Surface Positions of a Conjoined Direct Object



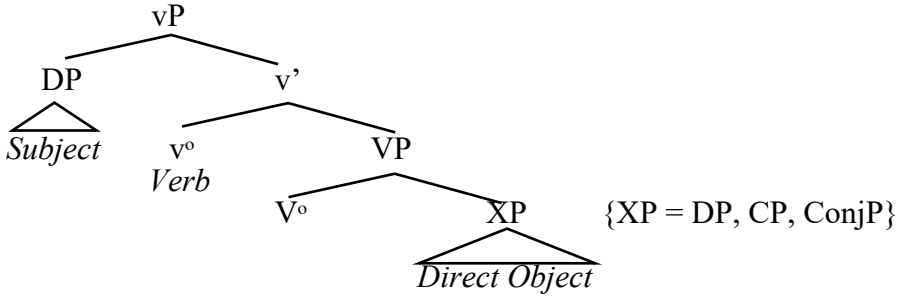
There are two plausible objections to this construction. First, it is unclear by what means the second DP is case-licensed when it is stranded. Second, movement of one conjunct out of the ConjP should be a violation of the Coordinate Structure Constraint (Ross1967). One possible solution that would account for both of these objections is proposed in Kayne (1994: 64). He suggests that the phrase *John with Bill* could be generated as a coordinate phrase. In this context, the second conjunct, that is *Bill*, is case licensed by *and*, while the first conjunct, that is *John*, needs to move into a case-licensing position on its own. Transposing this argument to Mende, perhaps *kɛ* could better be understood to be comitative, such that it means 'with,' instead of the coordinator 'and'. If so, Kayne's proposal has some traction in this case. The entire ConjP phrase would move from its post-verbal merge position into SpecFP$_{OBJ}$, similar to canonical DP arguments. The first conjunct, following Kayne's analysis, would then raise into the pre-verbal Case-licensing position. The second conjunct need not raise, as it is case licensed by *kɛ*, though it can be pied-piped by the first conjunct. The difficulty with this analysis is that *kɛ* does not, otherwise, act like an adposition,

though it should be noted that the comitative adposition in Mende is the preposition *a*, which I further discuss in Chapter 3.[7] For now, I leave the discussion with the observation that regardless of the mechanics related to Case licensing and movement out of a potential island, the surface facts are clear: at least one conjunct must surface pre-verbally, but one conjunct can remain in a post-verbal position with the coordinator. Thus, a S – O_1 – V-Asp ['and' O_2] surface structure is plausible and my proposed analysis must account for it.

It is unclear whether these types of constructions occur in Wan and Dafing, but given that they occur in Kono (c.f. (13)) and Mandinka (Koly Camara p.c.), it is conceivable that they do. In any case, Nikitina (2019) does not discuss this type of construction. Under a Minimalist analysis, such as Sande, Baier, and Jenks (2019), it would require rightward movement of the coordinator and second conjunct, which is unattested in the literature. The head-initial analysis with leftward movement developed in this chapter can do so, however.

Concluding this section, I have argued that verb selects its complement in a head-initial verb phrase, whether the complement is a DP or CP (or ConjP).

(92) Mende Verb Phrase

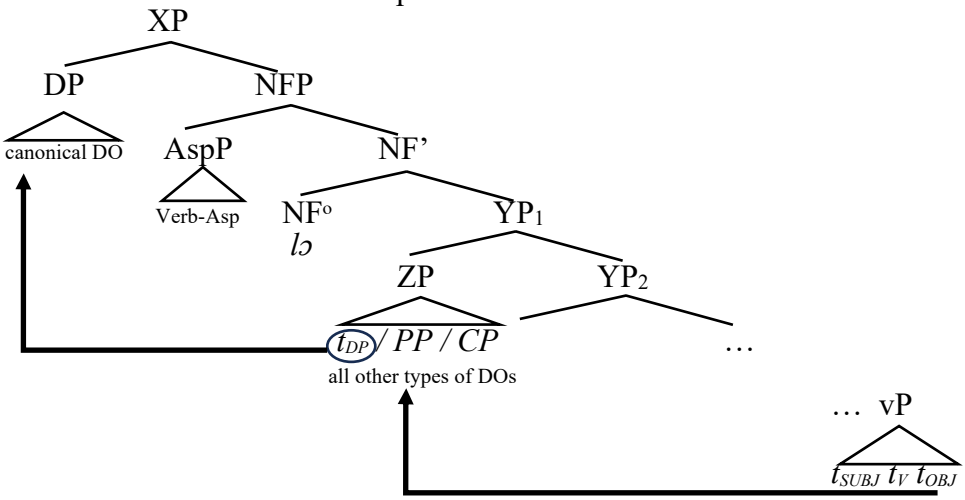


As shown in (93) and focusing specifically on the verb's complement, roughly speaking, the verbal complement raises first into a position below the verb (labeled iteratively as YP). This is the position / positions in which CPs, CP / PP Modifiers of DP objects, Stranded Quantifiers,

[7] See Smith (2023) that shows that Ā-movement out of a coordinated structure is a clear violation of the CSC.

and Stranded Coordinated DPs surface. From this position, only DP objects raise into the pre-verbal Case-licensing position (labeled as XP). In the following section, I specify what these FPs might be.

(93) Surface Position of Verbal Complements



Concluding this section, I have shown three contexts in which all or part of the verb's internal argument surfaces in a post-verbal position: CP complements and phrasal modifiers which remain post-verbal, even when they modify a DP object which has raised for case, stranded quantifiers (which can also be pied-piped into a pre-verbal position), and conjoined direct object constructions, in which the coordinator and second conjunct can either surface post-verbally or be pied-piped into a pre-verbal position. In considering whether the underlying VP is head-initial or head-final, we must account for complements that clearly show up on either side of the verb. In the next section, I show how the Antisymmetry approach (Kayne 1994) can account for this data.

2.6 Deriving OV Word Order

Having argued that Mende is underlyingly head-initial (that is VO), in this section, I propose how its canonical OV word order is derived.[8] Crucial to this analysis is the assertion that DP arguments cannot be Case-licensed in the position where they have merged into the derivation (Chomsky 1995, Ura 2006). I begin, then, with a discussion of the surface position of canonical DP direct objects.

As discussed in Chapter 1, on the surface there are four positions in which an adverb can surface, as seen in the following template.

(94) Adverb Surface Positions
Adv$_1$ S *Adv*$_2$ SM *Adv*$_3$ O V {X}*Adv*$_4$ {X}.

The position Adv$_1$ is the topic position, while the position of Adv$_2$ is between the subject and subject marker, which is at the top of the middlefield or articulated IP.

(95) Adverb Position$_1$ (Topic)
tàtóvó gbí (vá) nyàpù-í-síà tì mángù-í-síà vè́-i lɔ̀ Kpàná wɛ̀
Monday all for girl-DEF-PL 3PL mango-DEF-PL give-PFV NF Kpana to
'(As for) every Monday, the girls gave the mangoes to Kpana.'

(96) Adverb Position$_2$ (Top of IP)
nyàpù-í-síà **tàtòvó gbí** tì mángù-í-síà vè-í lɔ̀ Kpàná wɛ̀
girl-DEF-PL Monday all 3PL mango-DEF-PL give-PFV NF Kpana to
'The girls every Monday gave the mangoes to Kpana.'

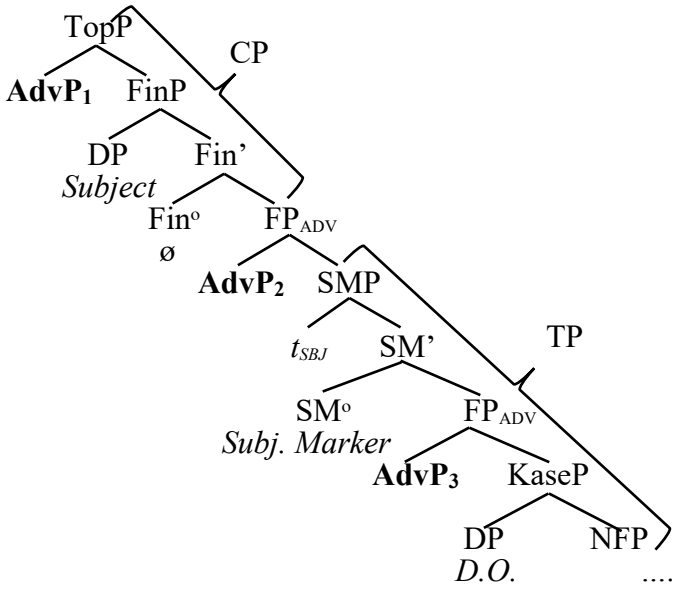
Adverb Position$_3$ surfaces between the Subject Marker and the direct object, but it is limited in the types of adverbs that it can host. It seems that only celerative adverbs can surface in this position, and it is ungrammatical for temporal adverbs to surface here.

[8] It is worth noting that even ths use of the term 'canonical' to describe Mende's OV word order is questionable. It is based on the number of verbs whose objects occur pre-verbally, which undoubtedly far outnumber those whose objects surface in a post-verbal position. However, an opposing argument could be made that there are more types of constructions in which the verb's object or part of it occur in a post-verbal context, as previously discussed, including CP complements (fully post-verbal), particle verb constructions (fully post-verbal), stranded quantifiers (partially post-verbal), and stranded DP complements (partially post-verbal), while there is only one type of pre-verbal construction, namely a DP object.

(97) Adverb Position$_3$ (between SM and Object)
nyàpù-í-sià tì (***tatovo gbi) (flófló)** mángù-í-sià vè-í lɔ̀ Kpàná wɛ̀
girl-DEF-PL 3PL Monday all quickly mango-DEF-PL give-PFV NF Kpana to
'The girls quickly gave the mangoes to Kpana (*every Monday).'

The three pre-verbal adpositions are laid out in the tree in (98).

(98) Higher Adverb Phrases

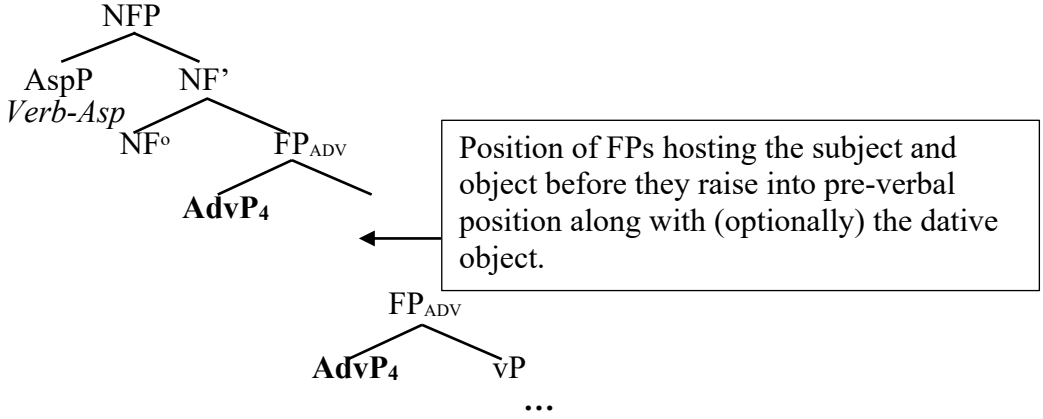


In addition to the three pre-verbal adverb positions, there is a fourth position below the verb, in the X position of the traditional SOVX designation. A number of constituents can surface post-verbally, and they can seemingly surface in a variety of positions. For example, dative phrases can surface before or after the adverb, suggesting that they raise out of the vP.

(99) Adverb Position$_4$ (Post-verbal)
nyàpù-í-sía tì mángù-í-sía vè-í lɔ̀ {tàtóvó gbí}K. wɛ̀ {tàtóvó gbí}
girl-DEF-PL 3PL mango-DEF-PL give-PFV NF Monday all K to Monday all
'The girls gave the mangoes to Kpana every Monday.'

In my analysis, DP direct objects and subjects also transit through this area on their way to their pre-verbal surface positions. The tree in (100) shows the post-verbal position in which adverbs can surface. I have indicated two positions in which adverbs can occur, but this is simply an attempt to capture the idea that datives surface in this position and that other verbal arguments transit through it.

(100) Lower Adverb Phrases



With this framework established, we can now see into which positions the subject, direct object, verb, and, when present, dative object surface. One crucial aspect is that, even though adverbs can appear in a number of positions, neither they nor any other constituent can intervene in the sequence of the direct object, verb, aspect marker, and neutral marker, suggesting a close relationship between these constituents.

(101)

	DO		**V**		**Asp**		**NF**		
*nyapu-i-sia	ti	mbe-i {floflo}	ve	{floflo}	i	{floflo}	lɔ	Kpana	wɛ
girl-DEF-PL	3PL	rice-DEF quickly	give	quickly	PFV	quickly	NF	Kpana	to

'The girls quickly gave the rice to Kpana.'

I now turn to a full derivation of a canonical Mende clause, using the data in (102)

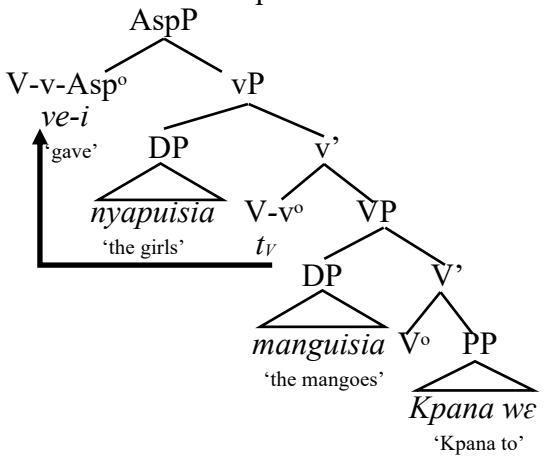
(102)

nyàpù-í-síà	tì	mángù-í-síà	vè-í	lɔ̀	Kpàná	wɛ̀
girl-DEF-PL	3PL	mango-DEF-PL	give-PFV	NF	Kpana	to

'The girls gave the mangoes to Kpana.'

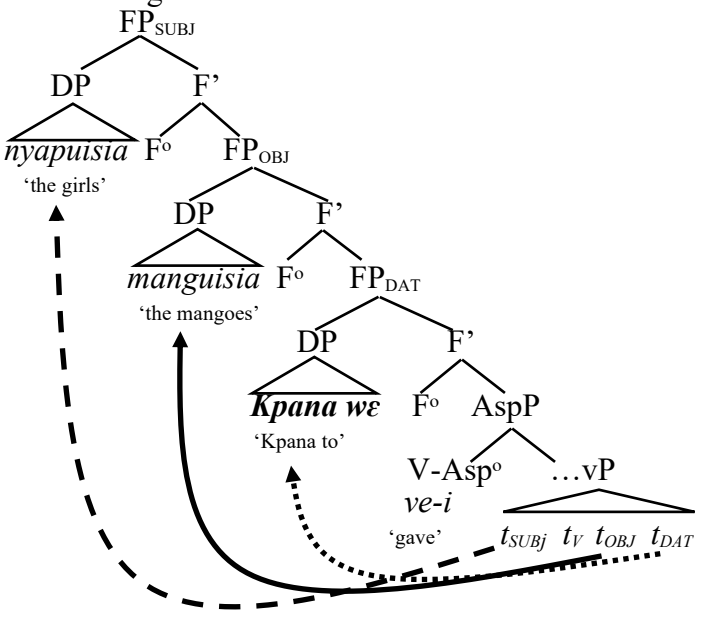
In section 2.4.3 I argued for a structure of the verb phrase in Mende that reflects the analysis established in Larson (1988). Here, the verb *ve* 'give' takes the postpositional phrase *Kpana wɛ* 'to Kpana' as it complement and the DP *manguisia* 'the mangoes' in its specifier. The external argument *nyapusia* 'the girls' merges in SpecvP. The verb then head raises, adjoining the aspect head.

(103) Verb Head Raises to Asp°



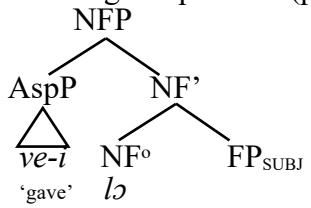
The arguments of the verb subsequently all raise into licensing positions. This is the surface position for the dative phrase, while the nominal subject and object will transit through these positions, as they raise into their pre-verbal positions for case-licensing.

(104) Argument Raising out of vP



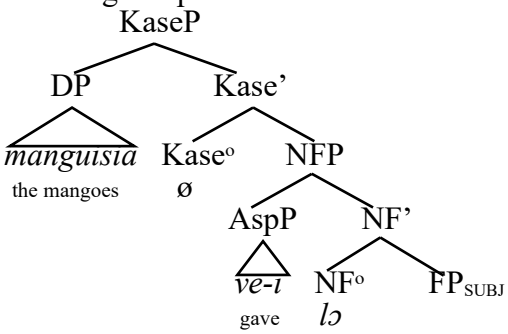
At this point the vP is completely evacuated. The verb then raises into the specifier of the neutral phrase, pied-piping the entire Aspect Phrase with it. This generates the verb, aspect, neutral focus marker string.

(105) Verb Raising to SpecNFP (pied-piping AspP)



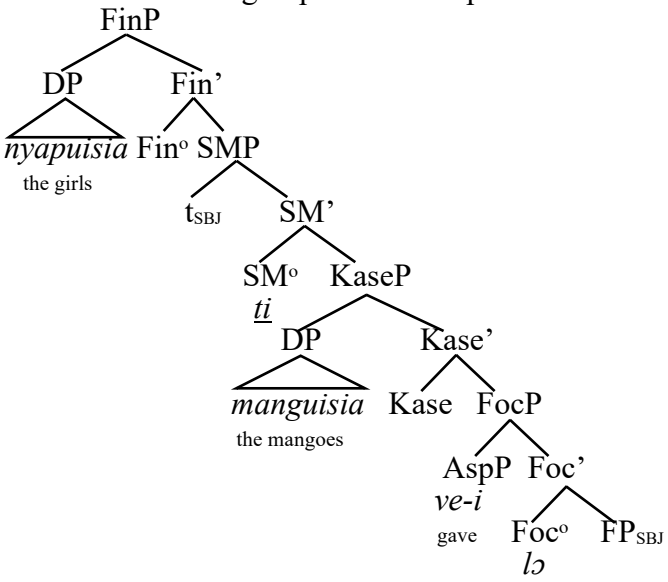
The null Kase head merges next, taking NFP as its complement. This Kase head attracts only the DP direct object, which raises into its specifier. Crucially, PPs and CP arguments cannot raise into this position and must remain in a post-verbal position. This leads to the O V-Asp NF surface constituency.

(106) Object Raising to SpecKaseP



The subject marker head merges next taking the KaseP as its complement. The subject raises into its specifier, triggering person and number agreement, before further raising into the specifier of the FinitePhrase. This generates the final surface order of the clause: *S SM O V-Asp NF Dat*.

(107) Subject movement through SpecSMP to SpecFinP

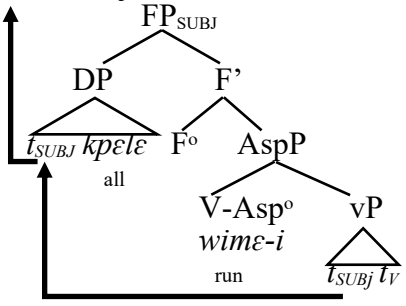


2.6.1 Deriving Post-verbal Objects

Significantly, this analysis also accounts for the surface position of the various post-verbal direct objects, or parts of the direct object that were introduced in Section 2.5. Consider first stranded quantifiers. The stranded subject quantifier in *kpɛlɛ* 'all' in (108) surfaces in FP_{SUBJ} which I have proposed as the position into which subjects raise from out of the verb phrase.

(108) Stranded Subject Quantifier
nyàpù-í-síà {kpèlé} tì wìmè-í lɔ̀ {kpèlé}
girl-DEF-PL all 3PL run-PFV NF all
'All of the girls ran.'

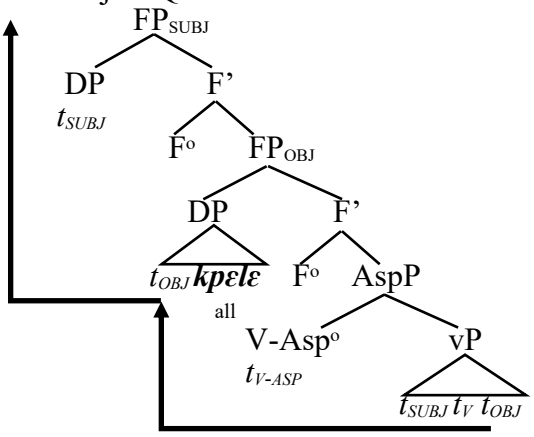
(109) Stranded Subject Quantifier



Stranded object quantifiers, similarly, surface in the position through which the verb's internal object raises on its way from the verb phrase to its surface position, that is $SpecFP_{OBJ}$. This is shown in (111) for the data in (110)

(110) Stranded D.O. Quantifier
nyàpù-í-síà tì mángù-í-síà {kpɛ̀lɛ́} mɛ̀-í lɔ̀ {kpɛ̀lɛ́}
girl-DEF-PL 3PL mango-DEF-PL all eat-PFV NF all
'The girls ate all of the mangoes.'

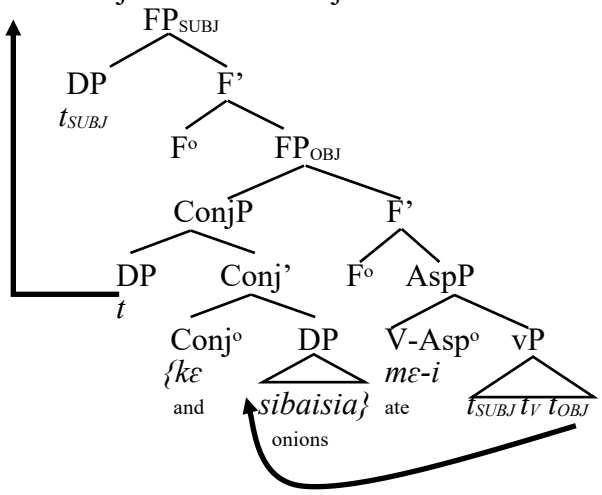
(111) Stranded Object Quantifier



Consider next stranded DP conjuncts. In the same way that a DP quantifier is stranded in $SpecFP_{OBJ}$, this is also the position in which the second conjunct and coordinator of a conjoined direct object surface. The data in (112) is sketched out in (113), where the entire ConjP raises out of the vP into $SpecFP_{OBJ}$, before the first conjunct raises into its pre-verbal position, stranding the coordinator *kɛ* and second conjunct *sibaisia* 'onions.'

(112) Pítá pùjɛ̀-í-síà {kɛ̀ síbà-í-síà} màjìà-í lɔ̀ {kɛ̀ síbà-í-síà}
Peter pepper-DEF-PL and onion-DEF-PL sell-PFV NF and onion-DEF-PL
'Peter sold the peppers and onions.'

(113) Stranded Conjoined Direct Object

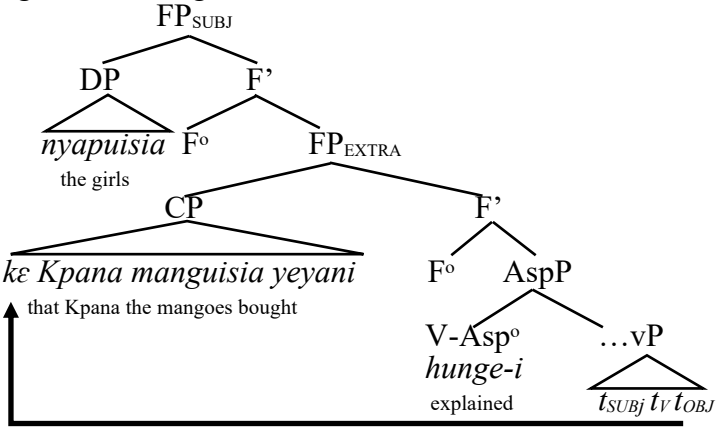


Finally, consider CP objects and CP modifiers of DP objects. Crucial to this analysis, only a DP object can raise into a pre-verbal position. Any other complements of the verb raise into a licensing position, but they cannot move into SpecKaseP. This accounts for CP complements which must surface in a post-verbal position (114). The tree in (115) shows that the CP complement raises out of the vP into the specifier of the functional phrase, which I call SpecFP$_{EXTRA}$ (Smith 2024).[9] From this point it cannot raise into a pre-verbal position, as the Kase head only attracts DPs into its specifier.

(114) nyàpù-í-síà tì hùngɛ̀-í lɔ̀ [kɛ̀ Kpàná mángù-í-síà yèyà-í lɔ̀]
girl-DEF-PL 3PL explain-PFV NF C Kpana mango-DEF-PL buy-PFV NF
'The girls explained that Kpana bought the mangoes.'

[9] In Smith (2024) I argue that these post-verbal extraposition phrases are islands for Ā-movement, while pre-verbal ones are not. Given their island status, I call the functional phrase that hosts them *Extraposition Phrases.* Crucially, post-verbal CP objects are not islands, hence the differentiation between CP objects which surface in SpecFP$_{OBJ}$ and CP modifiers which surface in SpecExtraP.

(115) CP argument raising out of vP



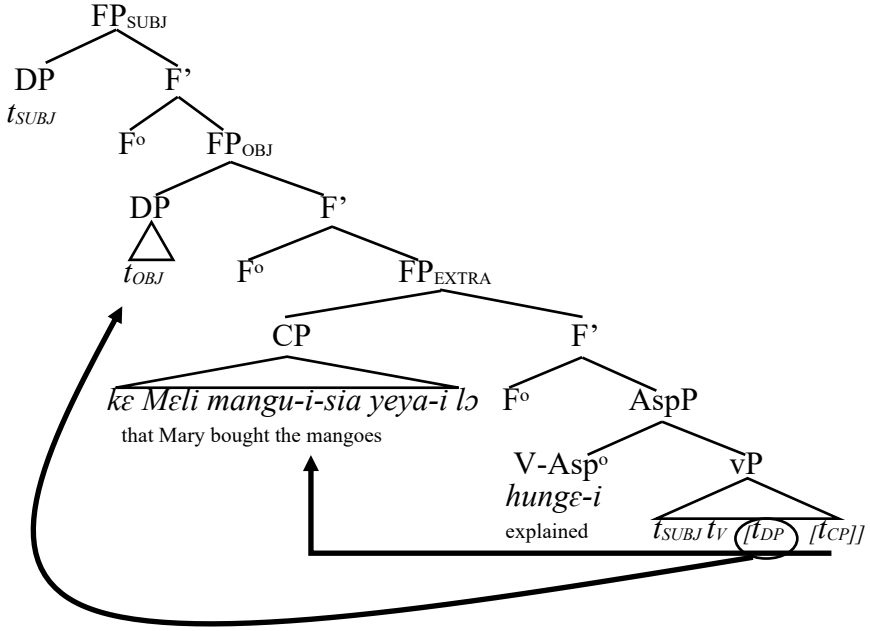
It can also account for NCC and relative clause modifiers of DP objects. Following my work in Smith (2024), I propose the following structure for NCC and relative clause modifiers. In (116) the DP object *ndɔmii* 'the story' is modified by a post-verbal noun complement clause. This complex structure is selected by the verb as its complement. The CP component of the NCC raises first into SpecExtraP, before the DP object raises into SpecFP$_{OBJ}$ on its way to SpecKaseP.

(116) Pre-verbal DP Object with NCC Modifier

S	O$_{DP}$	V		O$_{NCC}$					
Pítá	{**ndɔ̀mí-í**}	húngè-í	lɔ̀	[kɛ̀	Mɛ́lí	mángùí-í-síà	yèyà-í	lɔ̀]	
Peter	story-DEF	explain-PFV	NF	C	Mary	mango-DEF-PL	buy-PFV	NF	

'Peter explained the story that Mary bought the mangoes.'

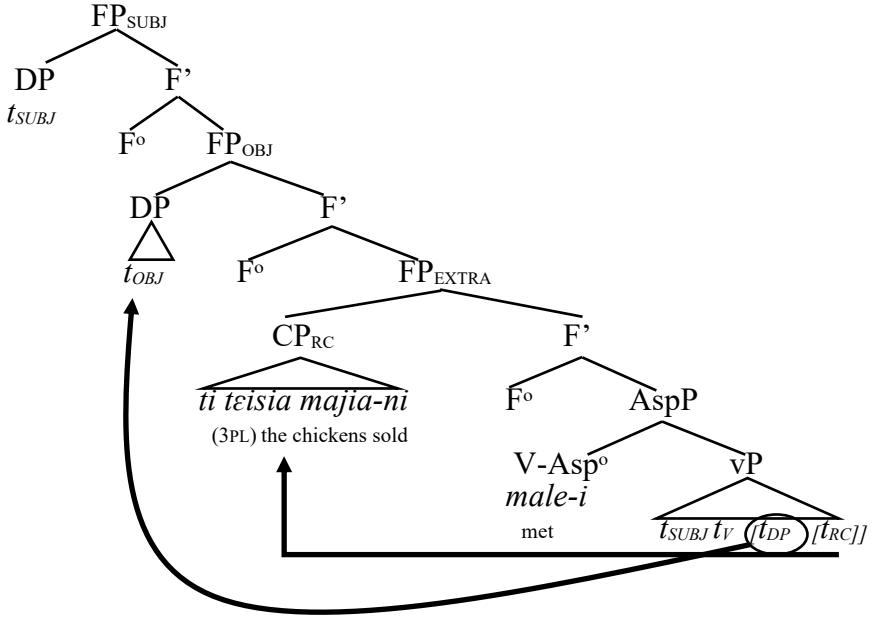
(117) DP Object with NCC modifier



The same analysis works for relative clause modifiers. In Smith (2024) I argue that the head of the relative clause raises from within the clause. At this point, the CP object raises into SpecExtraP, while the DP remnant raises into $SpecFP_{OBJ}$. The CP is then stranded in FP_{EXTRA}, while the DP raises into SpecKaseP.

(118) Relative Clause Modifiers of DP Objects
K. nyàpù-í-sià$_i$ màlè-í lɔ̀ tì tɛ̀-í-sià màjià-nì
K. girl-DEF-PL meet-PFV NF 3PL chicken-DEF-PL sell-PFV
'Kpana met the girls who sold the chickens.'

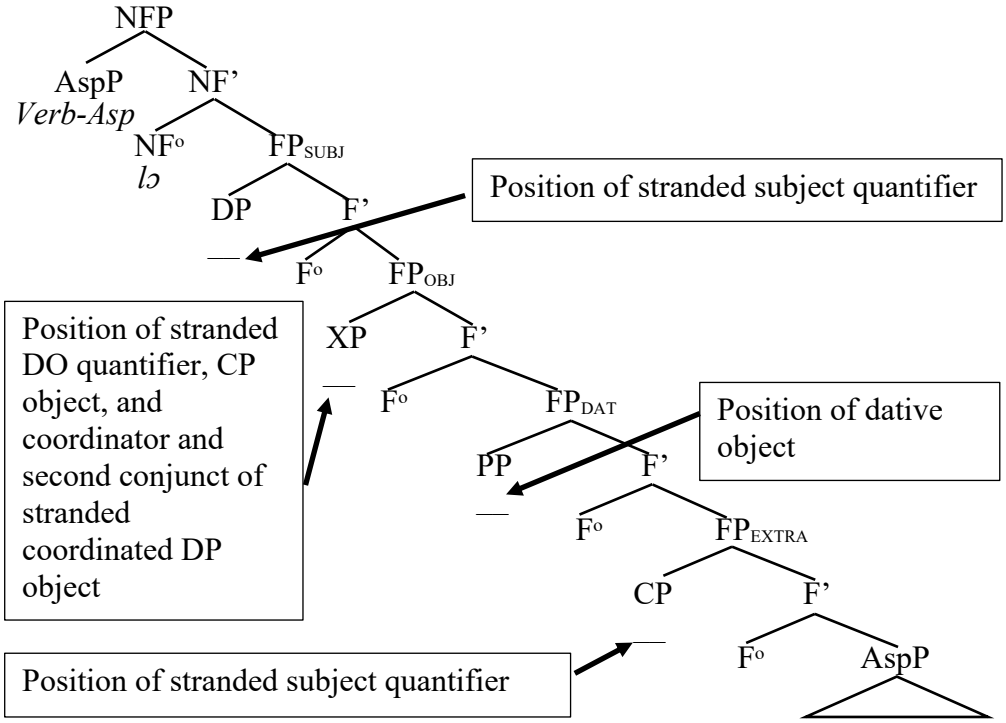
(119) DP Object with Relative Clause Modifier



2.6.2 Summary of Post-verbal Objects

Summarizing this section, I have proposed a series of post-verbal functional positions that host constituents that have raised out of the DP. In Chapter 1 we saw that dative objects surface in $SpecFP_{DAT}$. We have seen in this chapter that stranded subject quantifiers surface in $SpecFP_{SUBJ}$, stranded object quantifiers, stranded conjuncts of conjoined direct object, and CP objects surface in $SpecFP_{OBJ}$, while stranded CP modifiers of DP objects surface in SpecExtraP. These positions are all laid out in the following diagram.

(120) Post-Verbal Positions



2.7 Conclusion

In this chapter I have considered three other investigations of word order in Mande languages, arguing that Nikitina's (2009, 2001, 2012, 2019) analysis of Wan as head-final with post-verbal PPs creating a new TP would not work on Mende, as I have shown that dative objects merge into the VP. The analysis set out by Sande, Baier, and Jenks (2019) for Dafing argues that Mande languages are mixed-headed, which also could not account for Mende, as we find instances in which the object can precede the verb (e.g. canonical verbs) or in which part or all of the object can follow the verb (e.g. CP complements, stranded quantifiers, stranded coordinated objects, etc.) Koopman's (1984 and 1992) analyses of Mahou and Bambara allow for a better analysis of the data, proposing that verb phrases are head-initial with OV word order derived via Case-driven movement.

I further propose that Kayne's (1994) Antisymmetry approach provides an analytical framework within which we can account for the variation in word order between the verb and object in Mende. I have briefly reviewed how it has been utilized in analyses of other OV languages within the Gbe and Germanic languages before turning to Mende. All argue that the VP is head-initial and that it head-raises out of the verb phrase. All also argue that the verbal arguments raise out of the verb phrase, though they suggest various means to facilitate this movement.

By looking at binding data, I suggest that in Mende all of the verbal arguments merge within the verb phrase along the lines of Larson's (1988) proposal for the verbal shell. I contend that all verbal complements surface in a Head – Complement order. Since CP complements do not need Case, they remain post-verbal. Stranded Quantifiers, CP modifiers, and coordinated DP objects all point to a post-verbal merge position for the verb's complement. Being verbal arguments, they raise out of the verbal shell, but remain stranded below the verb. Only DP objects raise into a pre-verbal position, which I argue is a Case-licensing position called SpecKaseP.

In Chapter 4, I will argue that this same structure can explain the word order of particle verb (*V {P} DP {P}*) constructions. First, however, in the next chapter, I lay the groundwork for this investigation by describing Mende's adpositional structure.

Chapter 3

Adpositions

3.1 Introduction

In this chapter I introduce the adpositional system of Mende and propose that the presence of both postpositions and its singular preposition (polyfunctional *a*) points to an underlying head-initial structure with surface order being derived via leftward movement (Kayne 1994). To better understand the array of adpositional structures that surface in Mende, consider the following data. The examples in (1) include simple and complex adpositional structures that can introduce both adjuncts and arguments (Roy and Svenonius 2009; Zhang 2004; Cinque and Rizzi 2010 and sources within). Within the cartographic framework, variation does not result from different structures but from the position of constituents within a highly articulated phrasal structure (Cinque 1999, Cinque and Rizzi 2010). In this chapter I describe and analyze a number of complex adpositional structures, like those in (1c) and (1d), arguing that their structure is predictable.[1]

(1) a. Simple (Place) Postposition
Kpàná mángù-í-síà wù-í / gɔ̀kɔ́-í lɔ̀ kàŋá **bù**
Kpana mango-DEF-PL put-PFV find-PFV NF box under
'Kpana put / found the mangoes under the box.'

b. Simple (Instrumental) Preposition
Kpàná nésí-í lèwè-í lɔ̀ **à** mbòwè-í
Kpana pineapple-DEF cut-PFV NF with knife-DEF
'Kpana cut the pineapple with the knife.'

[1] The question of how to gloss adpositions in Mende is somewhat vexing. In some contexts the meaning is clear, while in others the meaning can be quite opaque. To account for this, I gloss the lexical meaning when it is clear, such as in (a) - (c). When it is opaque, such as in (d), I simply list the morpheme in small caps.

c. Complex (Place) Postposition
Kpàná nyàpù-í-síà lɔ̀-í lɔ̀ njɔ̀pɔ́wá **gɔ́-hún**
Kpana girl-DEF-PL see-PFV NF market abdomen-in
'Kpana saw the girls inside of the market.'

d. Complex (Adverbial) Adpositional Phrase
Kpàná **à** náfá-**yà-hún-wɛ̀** mángù-í-síà yèyà-í lɔ̀
Kpana with profit-YA-HUN-WE mango-DEF-PL buy-PFV NF
'Kpana successfully bought the mangoes.'

In investigating this data I will make a series of arguments that attempt to systematize a complex, varied array of surface structures, with four key principles underlying the analysis. First, I propose that adpositions in Mende exist on a *Lexical-Functional Cline*, ranging from more lexical (nominal-like) to more functional (adpositional-like) constituents (Ayano 2001, Holmberg 2002, Koopman 2010, Svenonius 2010). Second, I argue that underlyingly all Mende adpositions are head-initial, c-selecting their complement to the right (Kayne 1994). Third, I suggest that, similar to the argument for verbal objects, adpositional objects are Case-licensed via leftward movement into the specifier of a (functional) Case-licensing Phrase (Kayne 1994). Finally, I propose that complex postpositions are generated via head-movement (Svenonius 2010), using consonant mutation data as evidence.

To this point, the description of Mende's adpositional system is quite limited with Innes (1967) and Spears (1967) providing brief descriptions (see also Aginsky (1935), Crosby and Ward (1944), and Brown (1982)). Within the broader Mande family, there are a number of thorough descriptions of the adpositional systems of languages (c.f. Wan: Nikitina 2009, Jalkunan: Heath 2017, Seenku: McPherson 2020), yet there is no syntactic analysis outside of Nikitina (2009, 2019). Areally, Aboh's (2004, 2010) analysis of adpositions in the Gbe languages provide insight into other Niger-Congo languages with both prepositional and postpositional phrases. Typologically, research on the structure of adpositions / adpositional phrases, preposition-stranding, and pied-piping of adpositional phrases has focused heavily on Germanic and Romance

languages (Schweikert 2005, Horvath 2006, Law 2006, Cinque and Rizzi 2010), though Hagège (2010) has a lengthy typological survey.

This leaves us in a position where we have a limited amount of structured data on the adpositional system of Mende and other Mande languages. While there are a variety of syntactic analyses built primarily on Romance and Germanic data, there is a dearth of work testing these theories on West African languages more broadly, and Mande languages more specifically. There is, furthermore, no analysis of the syntactic structure and distribution of adpositions and adpositional phrases in Mende. My objective in this chapter is to begin to remedy this discrepancy. Given the absence of previous work, this investigation is somewhat necessarily preliminary in nature and leaves a number of open questions. My objective is to describe the variety of adpositional constructions in Mende, begin to investigate the semantic distinctions between them, and propose an initial syntactic analysis for their internal structure and distribution.

Before moving forward, it will be useful to briefly review the interaction of consonant mutation on the word-initial sounds of postpositions (Dwyer 1969; Conteh, Cowper, and Rice 1986; Tateishi 1990; and Iosad 2008).[2] In a construction where the null third person singular pronoun precedes a lexical unit in the same XP (e.g. a verb or adposition), the target consonant of the lexical unit (that is the unmutated form) is used word-initially. In all other cases, mutation transforms the target consonant into the goal consonant. We can see this, for example, in verb phrases, such as in (2). The data in (2a) shows that when the null object pronoun is used, there is no mutation on the verb, and the target consonant *ng-* is used. However, when a lexicalized DP object is used, as in (2b), mutation changes the word-initial sound of the verb to the goal consonant *y-*.

[2] See Section 1.2 for a broader discussion

(2) a. Null D.O. and No Mutation on Verb
Kpàná ø **ng**èyà-í lɔ̀
Kpana 3SG.NH buy-PFV NF
'Kpana bought it.'

b. Lexicalized D.O and Mutation on Verb
Kpàná níkè-í **y**èyà-í lɔ̀
Kpana cow-DEF buy-PFV NF
'Kpana bought the cow.'

A similar process occurs within postpositional phrases. Mutated and unmutated forms of postpositions can be seen in the following data. In (3a) singular and plural objects are both shown, and when are they pronominalized in (3b) and (3c), the initial sound of the postposition varies. In (3a) the DP object precedes the postposition, while the plural pronoun does so in (3b). In both cases the mutated form of the adposition surfaces. When the null pronoun precedes the adposition in (3c), the unmutated for is used. Likewise, in (4a) when the DP *buledi* 'bread' precedes the postposition, consonant mutation is triggered and *woma* 'behind' surfaces. In (4b), however, the 3rd person singular null pronoun precedes the postposition and the unmutated form of the word-initial consonant is used, surfacing as *poma* 'behind.'

(3) a. Kpàná mángù-í-síà lɔ̀-í lɔ̀ bɛ́tè-í / bɛ́tè-í-síà **bù** mutated
Kpana mango-DEF-PL see-PFV NF table-DEF table-DEF-PL under
'Kpana saw the mangoes under the table / tables.'

b. Kpàná mángù-í-síà lɔ̀-í lɔ̀ tì **bù** mutated
Kpana mango-DEF-PL see-PFV NF 3PL under
'Kpana saw the mangoes under them (the tables).'

c. Kpàná mángù-í-síà lɔ̀-í lɔ̀ ø **mbù** unmutated
Kpana mango-DEF-PL see-PFV NF 3SG.NH under
'Kpana saw the mangoes under it (the table).'

(4) a. Kpàná mbè-í wù-í lɔ̀-í lɔ̀ bùlèdí-í **wómá** mutated
Kpana rice-DEF put-PFV NF bread-DEF behind
'Kpana put the rice behind the bread.'

b. Kpàná mbè-í wù-í lɔ̀ ø **pòmá** unmutated
Kpana rice-DEF put-PFV NF 3SG.NH behind
'Kpana put the rice behind it (the bread).'

The remainder of this chapter is structured as follows. In Section 3.2 I investigate the lexical semantics and syntactic structure of postpositions, while Section 3.3 considers the polyfunctional preposition *a*. Section 3.4 looks at PP adverbs, while section 3.5 investigates the structure of prepositional phrases. Section 3.6 looks at constituency and A-bar movement, and Section 3.7 is a conclusion.

3.2 The Semantic Typology and Syntactic Structure of Postpositions

In this section I introduce and discuss the lexical semantics of adpositions in Sewama Mende. A substantial amount of work has focused on classifying adpositions and investigating their finer structure (e.g. Van Reimsdjik 1990, Watanabe 1993; Fukui 1995; Talmy 2000; Cuyckens and Radden 2002; Koopman 2000; Hagège 2010; Cinque and Rizzi 2010 and the authors within). I want to highlight three aspects of this research that are particularly germane to the present discussion of Mende's adpositional system: the distinction between lexical and functional adpositions (which I will argue is a cline), the complex nature of adpositional phrases, and the hierarchical structure of these heads.

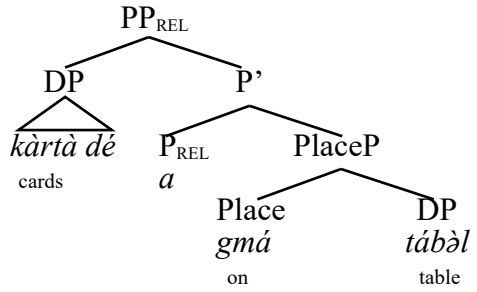
First, it is widely hypothesized that there are both functional and lexical adpositions (Van Reimsdjik 1990; Zwarts 1995; Ayano 2001, Cinque 2010b, among many others), but, as Cinque (2010b) notes, there is little consensus in what that means. Operating within this framework, Holmberg (2002) develops an analysis of adpositions in Zina Kotoko (Chadic). He compares the different types of adpositions in Zina Kotoko to the following series of prepositions in English, noting that (5a) is clearly a noun, while (5c) is clearly a preposition, but (5b) is somewhere in between.

(5) Complex Prepositions in English (Holmberg 2002: p. 165)
a. We met at **the back** of the house. *nominal*
b. The statue is **in front** of the town hall.
c. He came **out from** under the table. *prepositional*

He suggests that Zina Kotoko has simple prepositions such as *dà* 'with' and *kə́* 'for, to', as well as complex prepositions which include a *relator* (*ma*) and a *place*, which falls semantically between a noun and preposition. Complex prepositions include *má jí* 'in', *má gma* 'on', and *má mwá* 'under.' He argues that complex prepositions have a consistent structure in which the Relator is the head of a phrase that immediately dominates the PlaceP. This is illustrated in (6).

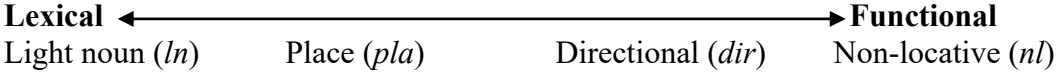
(6) Complex PPs in Zina Kotoko (Adapted from Holmberg 2002: page 169 #24)
a. Kàrtà dé a gmá tábə̀l.
cards DEF on table
'cards on a table'

b.



While disagreeing with his analysis, Aboh (2010) describes Holmberg's Zina Kotoko and English data as existing on a *cline*, a term which I find valuable in clarifying how we categorize adpositions in Mende. Specifically, I propose that Mende's adpositional structure can be characterized as a Lexical-Functional cline (LF-Cline).[3] Constituents on the left are more strongly lexical / nominal while those on the right are more strongly functional / adpositional.

(7) LF Cline:

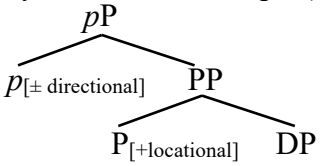


[3] Nikitina (2009) makes a more limited argument, proposing that Wan (Mande) has locative and functional postpositions. In a similar vein, Koopman (2010) suggests that in Dutch PPs can be -Directional, +Directional, or +/-Directional.

In the following sections, I further lay out the details and implications of this framework. For now, I propose that this analysis can account for the semantic ambiguity of many of these adpositions, a position which I will justify moving forward. This LF-Cline will play an important role not just in semantically characterizing Mende adpositions, but also in developing an analysis of how complex adpositions are derived. Crucially, it will also provide a strongly plausible explanation for the distinction in pre-verbal and post-verbal particle verb constructions in the following chapter.

Second, research has demonstrated that adpositional phrases can have a highly articulated structure, with a variety of functional positions, and that these structures are consistently hierarchical. Watanabe (1993) and Ayano (2001) explore the structure of functional and lexical adpositions in a variety of languages, including Navajo, K'ekchi, Japanese, and English. Ayano proposes the following structure in which a directional layer dominates a locative layer.

(8) Layered Structure of pP (Ayano 2001)



A much more highly articulated approach is developed by Cinque (2010) in his summary of the research in Cinque and Rizzi (2010), attempting to account for phrases like 'from two miles north up there beyond the border.' He proposes the intricate structure in (9) with numerous heads and phrases: Directional, Stative, Place ('an unpronounced head noun'), Degree Phrase ('two miles'), mode of direction, absolute phrase (absolute viewpoint, e.g. 'north, south'), Relative view point (vertical 'up' and horizontal 'in'), Deictic information (account for whether DP place is near the speaker), axial part (defines place by projecting vectors on axes that depart from object

reference point), covert preposition, NP place ('the reference point'), and PLACE (unpronounced head noun).

(9) Adpated from Cinque (2010b: 10 #26)
[$_{PPdir}$ from [$_{PPstat}$ AT [$_{DPplace}$ [$_{DegP}$ two miles [$_{ModeDirP}$ diagonally [$_{AbsViewP}$ north [$_{RelViewP}$ up [$_{RelViewP}$ in [$_{DeicticP}$ here [$_{AxPartP}$ under X^{o} [$_{PP}$ P [$_{NPplace}$ the mountain [PLACE]]]]]]]]]]]]]

In this chapter I will argue that in Mende at a minimum there is a functional level that assigns case to the object of P, and which immediately dominates PP (Koopman 2010). For complex structures, I will show that hierarchically lower adpositions are found further left on the cline, with the surface order derived via head movement.

Finally, I will show that there is a systematic hierarchy to the ordering of heads in Mende, in a much more preliminary and basic way than proposed by Cinque. In the following sections I discuss the semantic distinction and syntactic structure of both simple and complex adposition in Mende. I begin with simple postpositions, before moving to the right on the L-F Cline. When the discussion turns to complex adpositions, I come back and introduce and discuss the two external elements on the cline: Light nouns (on the left) and the null adposition (on the right).

3.2.1 Simple *Place* Postpositions

I begin with a consideration of Place postpositions (Ayano 2001; Holmberg 2002; Koopman 2010; Aboh 2010, Svenonius 2010), such as *mbu* 'under', *kulɔ* 'in front of', *poma* 'behind', *la* 'at', and *lia* 'in the middle.' Svenonius (2010: p. 127) defines a Place postposition as one that relates "a figure (an object whose location is at issue) and a ground (the reference landmark for the location of the figure)." English examples include *in, on, at, under,* and *behind*. Cross-linguistically, members of this class have a rather ambiguous status between being a noun or adposition , and we will see that this is true in Mende. Aboh (2004) suggests that in Gungbe they establish a possessive

relation (e.g. ‘the table’s on’) and that they may be derived from nouns. Holmberg proposes that in Zina Kotoko they are prepositions that are derived from nouns denoting body parts.[4]

In Mende there are a number of diagnostic tests which confirm membership in this class. I introduce three tests at this point and will introduce two more later. First, these terms are homophonous or derived from locational nouns. Second, a Place postposition and its complement can be pronominalized by *na* ‘there.’ Finally, Place postpositions can surface as the subject of a clause and can be marked with the definite marker. In the remainder of this section, I use these diagnostics to confirm membership in the class of Sewama Mende Place postpositions.

The Place postposition *bu/mbu* conveys the meaning that an entity *y* is located ‘under’ *x*, the complement of the postposition. In the following examples ‘the mangoes’ are located ‘under the table’ (10a) and ‘the book’ is located ‘under the box’ (10b). Note that *bɛtei bu* ‘under the table’ can be pronominalized by *na* ‘there’ in (10a) and, though not shown, could be in the other examples as well. It is also commonly used when referring to someone located ‘in’ a ‘house’ or ‘hut’, presumably ‘under the roof of the house/hut,’ as in (10c). The unmutated consonant is used with a phonologically null 3rd person singular non-human object, as in (10d).

(10) a. Kpàná mángù-í-síà gɔ̀kɔ̀-í lɔ̀ {bɛ́tè-í **bù**} / {nà}
Kpana mango-DEF-PL find-PFV NF table-DEF under there
‘Kpana found the mangoes under the table / there.’

b. Kpàná kɔ̀lè-í gɔ̀kɔ̀-í lɔ̀ kàŋá **bù**
Kpana book-DEF find-PFV NF box under
‘Kpana found the books under the box.’

c. Kpàná Mɛ́lí lɔ̀-í lɔ̀ pɛ̀lɛ̀-í / bàfɛ̀-í **bù**
Kpana Mary see-PFV NF house-DEF hut-DEF in
‘Kpana saw Mary in the house / hut.’

[4] Nikitina (2009) argues that in Wan there are a number of postpositions that are homophonous with nouns denoting body parts, such as in (i). McPherson (2020), likewise, notes that in Seenku there are a subset of relational nouns (typically body parts) that can also function as adpositions.
(i) Body Parts / Adpositions in Wan (Nikitina 2009: ex. 1a,b)
a. è [gbɔ̀ **káò** é]$_{NP}$ glɔ̄gɔ̄
s/he pot inside DEF polished
‘She polished the inside of the pot.’
b. Lèmè á yrē ló lé [kɔ̄ŋ **káò**]$_{PP}$
Leme COP work do PROG city inside
‘Leme is working in the city.’

d. Kpàná Mɛ́lí lɔ́-í lɔ́ **mbù**
Kpana Mary see-PFV NF in
'Kpana saw Mary in it (the house).'

Innes (1969) indicates that *mbu* can also have the nominal meaning 'underside / bottom' or 'the lower part of the country.' While my language consultant has rejected the latter meaning, he has affirmed the former, as seen in (11), where *mbui* 'the bottom' surfaces as the subject of the clause.

(11) mbù-í nyàmú-ngɔ̀
bottom-DEF ugly-STAT
'The bottom is ugly.'

The Place postposition *kulɔ/gulɔ* is used to indicate that an entity *y* is located 'in front of' *x,* the complement of the postposition. This meaning holds whether *y* is stationary in front of *x*, as in (12a-b) and (13a), or whether *y* moves / is moving in front of *x,* as in in (13b).

(12) a. Kpàná Mɛ́lí gɔ̀kɔ̀-í lɔ́ {sùkù-í **gùlɔ́**} / {nà}
Kpana Mary find-PFV NF school-DEF in.front.of there
'Kpana found Mary in front of (outside of) the school / there.'

b. Kpàná kàŋá wù-í lɔ́ bɛ̀tɛ̀-í **gùlɔ́**
Kpana box put-PFV NF table-DEF in.front.of
'Kpana put the box in front of the table.'

c. Kpàná kàŋá wù-í lɔ́ **kùlɔ́**
Kpana box put-PFV NF in.front.of
'Kpana put the box in front of it (the table).'

(13) a. Kpàná hèè-í lɔ́ Mɛ́lí **gùlɔ́**
Kpana sit-PFV NF Mary in.front.of
'Kpana sat in front of Mary.'

b. Kpàná wímè -í lɔ́ Mɛ́lí **gùlɔ́**
Kpana run-PFV NF Mary in.front.of
'Kpana ran in front of Mary.'

Note that it can be pronominalized by *na* in (12a) and that it can surface as a DP subject, as in (14).

(14) kùlɔ́-í nyàmú-ngɔ̀
front-DEF ugly-STAT
'The front is ugly.'

The Place postposition *poma/woma* indicates the opposite of *kulɔ*, that is that an entity *y* is located 'behind' *x,* the complement of the postposition (15). The nominal reading is also available (16).

(15) a. Kpàná mángù-í-síà wù-í lɔ̀ {kàŋá **wómá**} /{nà}
Kpana mango-DEF-PL put-PFV NF box behind there
'Kpana put the mangoes behind the box / there.'

b. Kpàná mángù-í-síà wù-í lɔ̀ **pómá**
Kpana mango-DEF-PL put-PFV NF behind
'Kpana put the mangoes behind it (the box).'

c. Kpàná Mɛ́lí lɔ̀-í lɔ̀ njɔ́pɔ́wá **wómá**
Kpana Mary see-PFV NF market behind
'Kpana saw Mary behind the market.'

(16) pómá-í nyàmú-ngɔ̀
behind-DEF ugly-STAT
'The behind is ugly.'

The Place postposition *nda/la* indicates that entity *y* is 'at position *x'*, the complement of the postposition (17).[5]

(17) Kpàná nyàpù-í-síà lɔ̀ / gɔ̀kɔ̀-í lɔ̀ {njàwá **là**} / {nà}
Kpana girl-DEF-PL see- find-PFV NF river at there
'Kpana saw/ found the girls at the river / there.'

The Place postposition *lia/ndia* indicates that an entity *x* is 'in the middle of' *y*, the postposition's complement (18), with the nominal reading 'the middle' (19).

(18) a. Kpàná yèngè-í lɔ̀ {kpáà **líà**} / {nà}
Kpana work-DEF NF farm middle there
'Kpana worked in the middle of the farm / there.'

b. Kpàná yèngè-í lɔ̀ **ndíà**
Kpana work-DEF NF middle
'Kpana worked in the middle of it.'

[5] Innes (1967) suggests that it can be used in a sentence like (i), which my consultant has rejected, in favor of (ii).
(i) Adapted from Innes (1967 p. 64), gloss is mine.
a. #táa lɔ̌-ni pɛ́ɛ́-i **la**
3SG stand-POS door-DEF at
'He is standing at the door.'

(ii) taa lo-ni nete-i **la** **ma** *Complex PP*
3SG stand-POS door-DEF mouth on
'He is standing at the door (lit. 'on the door's mouth').'

(19) ndíà-í nyàmù-ngɔ
middle-DEF ugly-STAT
'The middle is ugly.'

The Place postposition *ya/nga* indicates that *x* is 'on the surface / edge of' *y* (20), while the nominal reading is also available (21).

(20) a. Kpàná kòlè-í lɔ́-í lɔ̀ {kàkè-í **yà**} / {nà}
Kpana snail-DEF see-PFV NF verandah.wall-DEF on there
'Kpana saw the snail on the verandah wall / there.'

b. Kpàná kòlè-í lɔ́-í lɔ̀ **ngà**
Kpana snail-DEF see-PFV NF on
'Kpana saw the snail on it'

(21) ngà-í nyàmù-ngɔ
edge-DEF ugly-STAT
'The edge is ugly.'

I have shown three diagnostics for classifying Place postpositions. I want to briefly provide one additional diagnostic that points towards Place postpositions not being classified as nouns. Apart from temporal phrases such as *gboi* 'yesterday' and *sina* 'tomorrow', all nominals in post-verbal positions are introduced by an adposition. In this construction, there is no adposition to introduce the post-verbal nominal. This points to an ambiguous nature for Place postpositions, with the data in (22) and (23) pointing towards them not being canonical nouns, and the data in previous sections indicating that they are also not canonical postpositions.

(22) Kpàná lí-í lɔ̀ **kùlɔ́**
Kpana go-PFV NF front
'Kpana went to the front.'

(23) Kpàná lí-í lɔ̀ **ngà**
Kpana go-PFV NF edge
'Kpana went to the edge.'

Summarizing the discussion of Place adpositions, we have seen that they relate a figure and a ground (Svenonius 2010), they are homophonous with or derived from locational nouns, along with their complement, they can be pronominalized by *na* 'there,' they can surface as the subject of a clause and be marked with a definite marker, and they cannot occur without an

encoding adposition in a post-verbal position. As such, I propose that they fall between a nominal and a functional adposition, and locate them as *Place Postpositions* on the Lexical-Functional Cline.

(24) LF Cline:

Lexical ◄			► **Functional**
Light noun (*ln*)	Place (*pla*)	Directional (*dir*)	Non-locative (*nl*)
	mbu/bu 'in, under' *kulɔ/gulɔ* 'in front of' *poma/woma* 'behind' *nda/la* 'at' *ndia/lia* 'in the middle of' *nga/ya* 'on the surface of'		

3.2.2 Directional Adpositions

A second class of adpositions is Directional postpositions. I introduce *gama* here and discuss *hun* below, as it is polyfunctional. Similar to Place postpositions, they can be pronominalized by *na* and cannot surface without an encoding postposition in a post-verbal position.

The Directional postposition *gama* indicates that *x* is 'moving towards' *y*, the complement of the postposition. It is used in ditransitive constructions with verbs like *yoyo* 'send' and with verbs of movement such as *wimɛ* 'run.' Interestingly, it does not take a null 3rd person singular complement and instead uses *ngi* for both the 3rd person singular human and non-human pronoun, hence the use of *gama* (25c).[6]

(25) a. Kpàná mángù-í-síà yóyò-í lɔ̀ Mɛ́lí **gámà**
Kpana mango-DEF-PL send-PFV NF Mary toward
'Kpana sent the mangoes to Mary.'

[6] Innes (1967, 1969) indicates that unmutated form *kama* can also be used, but he lists no examples. My language consultant rejects the use of *kama*.

b. Kpàná wímɛ̀-í lɔ̀ Mɛ́lí / níkɛ̀-í / pɛ̀lɛ̀-í **gámà**
Kpana run-PFV NF Mary cow-DEF house-DEF toward
'Kpana ran towards Mary / the cow / the house.'

c. Kpàná wímɛ̀-í lɔ̀ ngì **gámà**
Kpana run-PFV NF 3SG toward
'Kpana ran towards her (Mary) / (it, e.g. the cow, the house).'

The pronoun *na* can also be used with Directional postpositions, such as *gama* (26), and they cannot surface bare in a post-verbal position (27).[7]

(26) Kpàná wímɛ̀-í lɔ̀ {pɛ̀lɛ̀-í gámà} / nà
Kpana run-PFV NF house-DEF to there
'Kpana ran towards the house / there.'

(27) *Kpana li-i lɔ gama
Kpana go-PFV NF to
Intended: 'Kpana went towards it.'

Given their semantic distinction from Place adpositions, on the Lexical-Functional Cline I place them in a separate column to the right.

(28) LF Cline:

Lexical ◄			► **Functional**
Light noun (*ln*)	Place (*pla*)	Directional (*dir*)	Non-locative (*nl*)
		gama 'towards'	

3.2.3 Non-locatives

Moving further to the right on the LF-Cline, we next encounter a class of adpositions that I classify as *Non-locatives*, beginning with *wɛ* which introduces an animate goal and is most typically used with the verb *ve* 'give,' such that *z* 'gives *y* to' *x*.

(29) a. Kpàná mɛ́hɛ́ vɛ̀-í lɔ̀ Mɛ́lí / Mɛ́lí níkɛ̀í-í **wɛ̀**
Kpana food give-PFV NF Mary Mary cow-DEF to
'Kpana gave the food to Mary / Mary's cow.'

[7] Interestingly, *gama* also has a somewhat nominative meaning. My language consultant describes it as meaning something akin to 'the direction.' Under this reading the clause in (i) is grammatical.
(i) gámà nà nyàmù-ngɔ̀
direction that ugly-STAT
'That direction is ugly.'

b. Kpàná méhé vè-í lɔ̀ ngì **wɛ̀**
Kpana food give-PFV NF 3SG to
'Kpana gave the food to her (Mary).'

Interestingly, the morphosyntactic conditions for *wɛ* to mutate are never met, since it requires an overt pronoun or DP. In (30) the 3rd person singular pronoun *ngi* is used, while a null pronoun is considered ungrammatical. Since *ngi* is used, the word-initial [w] surfaces in its mutated form.

(30) Kpàná méhé vè-í lɔ̀ {ngì **wɛ̀**} / {*ø **pɛ**/**wɛ**}
Kpana food give-PFV NF 3SG to 3SG to
'Kpana gave the food to it (Mary's cow).'

(31) shows that it is ungrammatical for the locative postposition *na* to resume the postpositional phrase *nikei wɛ* 'to the cow,' while (32) shows that *wɛ* cannot occur bare in a post-verbal position. These characteristics differentiate Non-locatives from Place postpositions.

(31) Kpàná méhé vè-í lɔ̀ níkè-í **wɛ̀** / {*na}
Kpana food give-PFV NF cow-DEF to there
'Kpana gave the food to the cow.'

(32) *Kpana mɛhɛ ve-i lɔ **wɛ**
Kpana food give-PFV NF to
'Kpana gave the food to __.'

Below, we will see that some Non-locatives share characteristics of Place postpositions and Directional postpositions in regards to movement. Given its semantic difference, I place it to the right of Directional postpositions on the LF Cline.

(33) LF Cline:

Lexical ←			→ **Functional**
Light noun (*ln*)	Place (*pla*)	Directional (*dir*)	Non-locative (*nl*)
			wɛ
			'to'

Having introduced a series of postpositions that fulfill only one semantic role (i.e. place, directional, introducing a goal), I turn next to a series of polyfunctional postpositions. The postpositions *va*, *ma*, and *hun* can fulfill varying roles.

3.2.4 Polyfunctional Adpositions

The postposition *fa/va* encodes a number of functions. It can introduce a goal (34) or benefactive (35). Note the use of *va* with a preceding DP or PN ((34) and (35a-c)), while the unmutated version *fa* is used with the null pronoun in (35d).

(34) Goal
a. Kpàná mɔ́lí-í lɔ̀ mángù-í-síà kpɛ́lɛ́ **vá**
Kpana ask-PFV NF mango-DEF-PL all for
'Kpana asked for all of the mangoes

b. Kpàná yèngè-í lɔ̀ nàvò-í **và**
Kpana work-PFV NF money-DEF for
'Kpana worked for money.

(35) Benefactive
a. Kpàná mángù-í-síà yèyà-í lɔ̀ Mɛ́lí / ngì **và**
Kpana mango-DEF-PL buy-PFV NF Mary 3SG for
'Kpana bought the mangoes for Mary / for her.'

b. Kpàná pɛ́lɛ̀-í lò-í lɔ̀ Mɛ́lí **và**
Kpana house-DEF build-PFV NF Mary for
'Kpana built the house for Mary'

c. Kpàná kátè-í lò-í lɔ̀ Mɛ́lí níkèí **và**
Kpana fence-DEF build-PFV NF Mary cow-DEF for
'Kpana built the fence for Mary's cow.'

d. Kpàná kátè-í lò-í lɔ̀ ø **fà**
Kpana fence-DEF build-PFV NF 3SG.NH for
'Kpana built the fence for it (Mary's cow)'

Va can also introduce left peripheral topics, as in (36), where it can optionally introduce the clause-initial topic *nyapuisia* 'the girls' (Smith 2024).

(36) Topic
a. nyàpù-í-síà (**và**), tí mángù-í-síà yèyà-í lɔ̀
girl-DEF-PL for, 3PL mango-DEF-PL buy-PFV NF
'As for the girls, they bought the mangoes.'

b. ḿangù-í-síà (**và**), nyàpù-í-síà tí tí yèyà-í lɔ̀
mango-DEF-PL for girl-DEF-PL 3PL 3PL buy-PFV NF
'As for the mangoes, the girls bought them.'

The morpheme *va* can also introduce control clauses, as seen in (37), whether intransitive (37a), transitive (37b), or ditransitive (37c). I have glossed it as INF in these constructions, as it is unclear whether it is the same morpheme or not.

(37) Introducing infinitival

a. Jɔ́n wá-ì lɔ̀ mbèì [yéngé **và**]
John come-PFV NF here work INF
'John came here to work'

b. Jɔ́n wá-ì lɔ̀ mbèì [mángù-í-sía yèyà **và**]
John come-PFV NF here mango-DEF-PL buy INF
'John came here to buy mangoes'

c. Jɔ́n lò-í lɔ̀ [Kpánà gɛ̀ **và** à Mɛ́lí]
John want-PFV NF Kpana show INF to Mary
'John wanted to introduce Kpana to Mary'

Each of the various functions of *va* is Non-locative, and it is placed in the right most column of the LF Cline.

(38) LF Cline

Lexical ←			→ **Functional**
Light noun (*ln*)	Place (*pla*)	Directional (*dir*)	Non-locative (*nl*)
			wɛ
			'to'
			va
			'for'

The postposition *ma* is also polyfunctional, operating as a Place postposition and a Non-locative postposition in introducing a source, some time periods, a means of measure, and a comparison.[8] In the Place construction in (39a) it means 'on top of', while in (39b) it introduces a source 'from.' It is also used to introduce some temporal adverbs, as seen in (39c) where it can introduce 'every day' but not 'yesterday.' In (39d) it is used to indicate a unit of measure, e.g. 'by the liter', and in (39e) it is used in comparisons where it could be translated as 'than.'

[8] The particle *ma* is also used in many place names (e.g. *Kene**ma***, *Bla**ma***, *Kenja**ma***, etc.) in the Mende speaking area of Sierra Leone.

(39) a. Place
Kpàná ḿangù-í-síà wù-í lɔ̀ bɛ̀tè-í-síà **mà**
Kpana mango-DEF-PL put-PFV NF table-DEF-PL on
'Kpana put the mangoes on the tables.'

b. Source
Kpàná ḿangù-í-síà yèyà-í lɔ̀ Mɛ́lí **mà**
Kpana mango-DEF-PL buy-PFV NF Mary from
'Kpana bought the mangoes from Mary.'

c. Temporal Adverb
Kpàná ḿangù-í-síà yèyà-í lɔ̀ {folo gbi **ma**} / {gboi *(ma)}
Kpana mango-DEF-PL buy-PFV NF day all on yesterday on
'Kpana bought the mangoes every day / yesterday.

d. Measure
Kpàná njè-í màjíà-í lɔ̀ lítè **mà**
Kpana water-DEF sell-PFV NF liter by
'Kpana sells water by the liter.'

e. Comparison
Kpàná gùá-ngɔ̀ Mɛ́lí **mà**
Kpàná tall-STAT Mary COMPAR
'Kpana is taller than Mary.'

On the LF Cline its two meanings are located under Place adpositions and Non-locative adpositions.

(40) LF Cline:

Lexical ←			→ **Functional**
Light noun (*ln*)	Place (*pla*)	Directional (*dir*)	Non-locative (*nl*)
	ma 'on'		*wɛ* 'to' *va* 'for' *ma* various meanings

The postposition *hun* also encodes a variety of meanings related to place, directionality, and non-locativity.[9] Place constructions shown in (41) include 'on' (41a), 'at' (41b), 'by' (41c), and 'in' (41d). In (42) it carries the metaphorical meaning 'in.'

[9] The particle *hun* is also used in many place names such as *Puje**hun***, *Nyana**hun***, and *Booma**hun***.

(41) Place
a. Kpàná Mɛ́lí lɔ́-ì lɔ̀ kpàá **hún**
Kpana Mary see-PFV NF farm on
'Kpana saw Mary on the farm.'

b. Kpàná Mɛ́lí málè-í lɔ̀ njɔ̀pɔ́wá **hún**
Kpana Mary meet-PFV NF market at
'Kpana met Mary at the market.'

c. Kpàná Mɛ́lí lɔ́-ì lɔ̀ njɔ̀pɔ́wá **hún**
Kpana Mary see-PFV NF market by
'Kpana saw Mary by the market.'

d. Kpàná kɔ́lè-í-síà gɔ̀kɔ́-ì lɔ̀ kàŋá **hún**
Kpana book-DEF-PL find-PFV NF box in
'Kpana found the books inside of the box.'

(42) Kpàná yɛ̀pɛ̀-í lɔ̀ Kíyó yɛ̀ **hún**
Kpana speak-PFV NF Krio language in
'Kpana spoke in Krio.'

As a Directional postposition, the meaning of *hun* is encoded in cooperation with the verb. In (43a) and (43b) it means 'to' and from' respectively, with the distinction being driven by different verbal constructions.[10] In (43a) the simple intransitive verb *wimɛ* 'run' is used, while in (43b) the construction is *gbia a pimɛ* 'came from *x* running.' In (43c) the verb *tɔ* 'follow' in conjunction with *hun* yields the meaning 'into,' while in (43d) the verb *nga* 'bring' in cooperation with *hun* yields the meaning 'from.'

(43) Directional
a. Kpàná wímɛ̀-í lɔ̀ sɔ́ɔ́sí-í **hùn**
Kpana run-PFV NF church-DEF P
'Kpana ran to the church.'

b. Kpàná gbìá-í lɔ̀ á pímɛ̀ ɔ́ɔ́ɔ́sí-í **hùn**
Kpana come-PFV NF A run church-DEF P
'Kpana ran out of the church.'

c. Kpàná tɔ́-ì lɔ̀ Mɛ́lí mà sɔ́ɔ́sí-í **hún**
Kpana follow-PFV NF Mary MA church-DEF P
'Kpana followed Mary into the church.'

[10] The distinction between allative 'to' and ablative 'from,' which both use the postposition *hun*, is encoded by the verb, a distinction that Heath (2017) points out for Jalkunan and argues is typical for Mande languages.

d. Kpàná gbùá-í lɔ̀ á Mɛ́lí fùlè-í **hún**
Kpana bring-PFV NF A Mary village from
'Kpana brought Mary from the village.'

It can also have a genitive role in an *x of y* construction within a restricted set of nouns, as seen in (44). In this construction, it mediates the relationship between *fula* 'village' and *mahei* 'the chief,' indicating the chief belongs to the village.

(44) Genitive
Kpàná fùlá *(**hún**) màhè-í lɔ̀-í lɔ̀
Kpana village HUN chief-DEF see-PFV NF
'Kpana saw the village chief / chief of the village.'

The varying positions within the cline for *hun* are shown below.[11]

(45) LF Cline

Lexical ◄			► **Functional**
Light noun (*ln*)	Place (*pla*)	Directional (*dir*)	Non-locative (*nl*)
	ma	*hun*	*wɛ*
	'on'	'to, into, from'	'to'
	hun		*va*
	'in'		'for'
			ma
			various meanings
			hun
			various meanings

Summarizing the description of simple postpositions thus far, we have found a variety of Place positions (*mbu/bu* 'in, under', *kulɔ/guɔ* 'in front of', *poma/woma* 'behind', *nda/la* 'at', *ndia/lia* 'in the middle of', and *nga/ya* 'on the surface of'), the Directional postposition *gama* 'towards', the Non-locative postpositions *wɛ* 'to' and *va* 'for', and polyfunctional *ma* and *hun*, which each encode a variety of meanings across the cline. I next consider the syntactic structure of these postpositions, before considering how the position on the cline of simple postpositions is manifested in the semantic and syntactic structure of complex adpositions.

[11] Both *hun* and *ma* are unique cases when it comes to surfacing as the clausal subject with a determiner. Both can occur clause-initially, but they cannot take the determiner. I am not sure as to why this distinction occurs. Perhaps, it is due to their polymorphemic nature or perhaps there is some other factor which blocks this structure.

(46) LF Cline

Lexical ◄			► **Functional**
Light noun (*ln*)	Place (*pla*)	Directional (*dir*)	Non-locative (*nl*)
	mbu/bu	*kama/gama*	*wɛ*
	'in, under'	'towards'	'to'
	kulɔ/gulɔ	*hun*	*fa/va*
	'in front of'	'to, into, from'	'for'
	poma/woma		*ma*
	'behind'		various meanings
	nda/la		*hun*
	'at'		various meanings
	ndia/lia		
	'in the middle of'		
	nga/ya		
	'on the surface of'		
	ma		
	'on'		
	hun		
	'in'		

3.2.5 The Syntactic Structure of Simple Postpositions

Turning next to a consideration of the syntactic structure and derivation of Mende simple postpositions, recall from section 3.1 that I made four analytical assertions that help us understand the distribution and structure of adposition in Mende. I have already discussed the first assertion, namely, that Mende adpositions exist on a Lexical-Functional Cline. The second assertions is that underlyingly Mende adpositions are head-initial, that is the adpositional head c-selects its complement, which necessarily follows it (head-complement). The third assertions is that postpositional order is derived via leftward movement of the DP complement into the Specifier of a null Kase head (I mark it in trees as FP_{KASE}). As we investigate the syntactic structure of simple postpositions, I show how these assertions play out.

On the surface, Mende postpositional phrases have a [*DP P*] structure, which resembles the structure of canonical verb phrases with their [*DP V*] structure. In Chapter 2, I argue that DPs raise from a post-verbal position into the specifier of a higher (Kase) Phrase to be licensed. I argue,

likewise, that all adpositional phrases in Mende are head-initial with postpositional structure resulting from leftward movement of the adposition's complement into a higher position. There are two types of evidence for the head-initial underlying structure of adpositions in Mende: stranded quantifiers and coordinated objects.

In section 2.5.2 I show that the quantifier of a pre-verbal direct object can surface in a post-verbal position, as in (47).

(47) Kpàná nyàpù-í-síà {**kpɛ́lɛ́**} lɔ̀-í lɔ̀ {**kpɛ́lɛ́**}
Kpana girl-DEF- PL all see-PFV NF all
'Kpana saw all of the girls.'

Similarly, the quantifier of the complement of a postposition can surface in a position to the right of the postposition. This is the case for Place postpositions (48a), Directional postpositions (48b), and Goals / Non-locatives (48c).

(48) a. Place
Kpàná mbè-í wù-í lɔ̀ **mángù-í-síà** {**kpɛ́lɛ́**} bù {**kpɛ́lɛ́**}
Kpana rice-DEF put-PFV NF mango-DEF-PL all under all
'Kpana put the rice under all of the mangoes.'

b. Directional
Kpàná ẃimɛ̀-í lɔ̀ **nyàpù-í-síà** {**kpɛ́lɛ́**} gámá {**kpɛ́lɛ́**}
Kpana run-PFV NF girl-DEF-PL all to all
'Kpana ran to all of the girls.'

c. Goal
Kpàná mbè-í vè-í lɔ̀ **nỳapù-í-síà** {**kpɛ́lɛ́**} wɛ̀ {**kpɛ́lɛ́**}
Kpana rice-DEF give-PFV NF girl-DEF-PL all to all
'Kpana gave the rice to all of the girls.'

The most straightforward analysis of this type of construction is that the object of the postposition merged as its complement in a head-initial structure before raising into a higher position, optionally pied-piping the quantifier with it.

The structure of coordinated adpositional arguments provides further evidence for an underlying head-complement structure. In these constructions the first conjunct can surface alone

before the adposition, stranding the coordinator and second conjunct, or the entire coordinated phrase can surface in the pre-adpositional complement position. In (49a) just *Jɔn* can precede the postposition *gama* 'to,' or the entire phrase *Jɔn kɛ Mɛli* 'John and Mary' can surface before the postposition. The data in (49b) shows a similar variance with either one or both DPs surfacing before the postposition.

(49) a. Kpàná wímè-í lɔ̀ Jɔ́n {**gámá**} kɛ̀ Mɛ́lí {**gámá**}
Kpana run-PFV NF John to and Mary to
'Kpana ran to John and Mary.'

b. Kpàná nyàpù-í-síà wímè-í lɔ̀ njɔ̀pɔ́wá {**hún**} kɛ̀ súkù-í {**hún**}
Kpana girl-DEF-PL see-PFV NF market at and school-DEF at
'Kpana saw the girls at the market and the school. '

Evidence that this movement is Case-driven is found in relative clause data. Significantly, it is not only quantifiers that can be stranded in a post-adpositional position, as relative clause modifiers must be stranded. In (50) the dative object DP *nyapuisia* 'the girls' is modified by the relative clause *ti nikeisia yeyani* 'who sold the cows.' We see that the relative clause must surface in a position below the adposition. It is ungrammatical to surface above it.

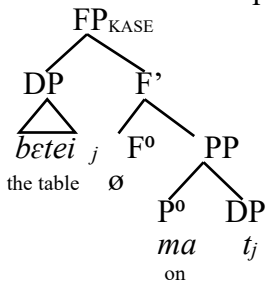
(50) Kpàná mbè-í yóyò-í lɔ̀ **nyàpù-í-síà** {wɛ̀}[**tí níkè-í-síà yeỳá-ní**] {*wɛ}
Kpana rice-DEF send-PST NM girl-DEF-PL to 3PL cow-DEF-PL sell-PST to
'Kpana sent the rice to the girls who sold the cows.'

Given that adpositions can assign case (Stowell 1981, McFadden 2004, Asbury 2008) and that CPs do not need case (Stowell 1981), we can postulate that the DP raises to the left of the postposition for Case while the relative clause CP remains stranded. This is the same argument that I made for direct objects raising from a post-verbal into a pre-verbal position for Case-licensing. In both cases a clear pattern emerges: DPs raise while CP modifiers obligatorily remain stranded.

In light of this data and analysis, I argue that underlyingly Mende postpositions take their complement to the right; that is they are underlyingly prepositions. DP objects then raise into a higher position for case licensing, generating the surface postpositional phrase structure. A number of arguments have been made for a functional structure for adpositional phrases (c.f. the papers in Cuyckens and Radden 2002, Aboh 2004, the papers in Cinque and Rizzi 2010), which I suggest gives insight into their structure in Mende. Specifically, since only DPs raise into a higher position, this movement is Case-driven, hence an FP_{KASE} surfaces above the PP level. This analysis is laid out in (52), based on the data in (51). The Place postposition *ma* 'on' takes *bɛtei* 'the table' as its complement. Similar to the analysis for case-driven movement for verbal objects, I propose that a null-headed FP_{KASE} attracts the DP adpositional complement into its specifier, leading to a surface postpositional structure *bɛtei ma* 'on the table.'

(51) Kpàná mángù-í-síà wù-í lɔ̀ **bɛ́tè-í mà**
Kpana mango-DEF-PL put-PFV NF table-DEF ON
'Kpana put the mangoes on the table.'

(52) Derivation of a Postpositional Phrase



3.2.6 Complex Postpositions

I turn next to complex postpositions, which consist of at least two lexical units, and whose meanings can range from being more compositional to more idiomatic. I consider five complex postpositions: *kɔ-hun / gɔ-hun* 'into, towards,' *ngu-mba / yu-mba* 'on top of, on the roof of,' *ma-hun* 'on top,' *kpela-nga / gbela-nga* 'near,' and *ndoa-hun / loa-hun* 'between, among.' They are

shown in Table 3, which lists the first morpheme, its category and definition, the second morpheme, its category and definition, and the definition of the complex adposition.

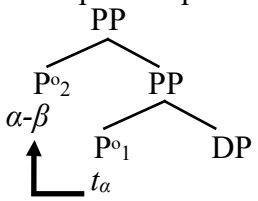
Morpheme 1			Morpheme 2			Complex Adposition
Morph.	Syntactic Category	Definition	Morph.	Syntactic Category	Definition	
kɔ	ln	'abdomen, belly'	*hun*	Pla, Dir	'in, to'	'into, towards'
ngu	ln	'head'	*mba*	Pla	'on top'	'on top of'
ma	Pla	'on'	*hun*	Pla, Dir	'in'	'on top, over'
kpela	Pla	'near'	*nga*	Pla	'edge'	'near'
ndo(a)	ln/v ??	'leave behind'	*hun*	Pla, Dir	'in'	'between'

Table 3 - Complex Adpositions

Before discussing each of these in turn, there are a few initial observations to make. First, semantically, the overall meaning of each of these complex adpositions is as a Place or Directional, which is unsurprising given their morphological makeup. In each case the second morpheme is a Place or Directional adposition, which determines the overall meaning of the complex adposition.

Second, I now introduce my final analytical proposal indicated at the beginning of the chapter, which is that complex adpositions are derived via head movement. Crucial evidence for this is that consonant mutation does not occur on the second morpheme in the sequence. As we have seen, a DP triggers mutation on the following XP when they are in the same phrase (e.g. VP or PP). In complex adpositions mutation does not occur on the second constituent, and I conclude that they are not in the same XP, rather, that they are in the same head. As shown in (53) the lower adposition, labeled as α head-raises from its merged position (P^{o}_{1}), adjoining the higher adposition, labeled as β in its merged position (P^{o}_{2}). In this environment, mutation is not triggered.

(53) Complex Adposition (no consonant mutation)



This is best illustrated with the *ngu-mba* 'on top of,' in which the first morpheme *ngu* 'head' is nominal-like (I argue below that it is a Light noun) but does not trigger mutation on the second constituent. If it did, the complex adposition would instead by **ngu-ba*.[12] This aligns with the previously mentioned assertion that it is the higher, that is, the second morpheme which determines the overall meaning. In this case, since *mba* 'on top' is a Place adposition, the overall meaning of *ngu-mba* is also a Place adposition.

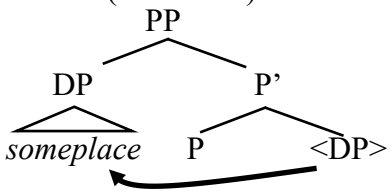
Third, when we look at the complex adpositions in the table, we can observe that in each case the first morpheme belongs to a class that is the same as or to the left of the second morpheme on the LF Cline. In order to facilitate this discussion, I want to briefly introduce *Light nouns* (*ln*). Using data that argues for the establishment of the concept of *light verbs*, Kishimoto (2000) proposes a category that he calls *light nouns.* He compares the syntactic and semantic qualities of the English words *thing, one,* and *place*, with their qualities in words like *something, everyone,* and *someplace*. He notes that when they function as lexical nouns on their own, they can be split and a modifying adjective surfaces to the left of the lexical noun, e.g. *some cold place.* However, when they occur in the Light noun construction (as part of an indefinite pronoun), the modifying

[12] This argument is somewhat complicated by two factors. First, the three complex adpositions in which the second constituent is *hun* are unhelpful in demonstrating this assertion, as [h] does not take part in the mutation scheme. Second, the only remaining complex adposition is *kpelanga*, whose structure and meaning are a bit opaque. Independently, *kpela* has the meaning of 'near', while the addition of *nga* is morpho-syntactically optional and, seemingly, semantically vacuous. I discuss it further below, but for now, point out that the Place adposition *kpela* (which admittedly is less nominal-like (according to the L-F Cline) than the light noun *ngu*) does not trigger mutation on *nga.* This contrasts with the complex adverbs *nafayahunwɛ* 'successfully' and *kɔɔyahunwɛ* 'obviously,' discussed below in section 3.4 in which the morpheme *nga* mutates to *ya* in the same word, suggesting that these words are formed differently.

adjective occurs to the right, e.g. *someplace cold*. He also notes a semantic difference, as the word *body,* when used independently denotes a specific reference, which is lacking when used in *anybody*. He further suggests that the class of light nouns is a small class.

Collins (2007) proposes a movement analysis to derive a word like *someplace*, which he claims is a PP, arguing that the light noun raises into the specifier of a null P, pied-piping the rest of the DP with it (which would otherwise generate *place some).[13]

(54) Collins (2007: #35)



The words that I suggest are light nouns in Mende include *kɔ* 'abdomen' and *ngu* 'head,' which, as I show below can have clear lexical meanings. In these complex adpositional constructions, however, they referentially seem to clarify the following adposition. For example, while *hun* can mean 'in', *kɔ-hun* could be understood to clarify what degree of 'in,' that is 'in the abdomen' (i.e. 'deep inside').

While Moltmann (2023) argues that light nouns are functional, rather than lexical, I do not draw a binary distinction, rather a cline. As such, I suggest that they are not fully nominal, nor are they fully adpositional. The evidence that they are not fully nominal is that they cannot be modified by an adjective, while typical nominals can. In (55a) *kɔ-hun* means 'inside', but when the adjective *jɛmbɛi* 'big' intervenes, as in (55b), the nominal meaning of *kɔ* is obligatory, yielding a nonsensical reading.

(55) Light Noun *kɔ* 'abdomen'
a. Kpàná wímɛ̀-í lɔ̀ kɔ́-hún
Kpana run-PRF NF abdomen-in
'Kpana ran inside.'

[13] Note the parallel between *John went someplace /to the store* or *John lived someplace / at that house for a long time*.

b. #Kpàná wímɛ̀-í lɔ̀ kɔ́ jémbè-í hún
Kpana run-PRF NF abdomen big-DEF in
literally: ‘Kpana ran in the big abdomen.’

When a full nominal is used instead, such as *njɔpɔwa* ‘market’, a grammatical and sensical Place / Directional phrase is generated whether *jɛmbɛ* ‘big’ modifies the nominal (56b) or not (56a).

(56) Full nominal *njɔpɔwa* ‘market’
a. Kpàná wímɛ̀-í lɔ̀ njɔ̀pɔ́wá hún
Kpana run-PRF NF market in
‘Kpana ran in the market.’

b. Kpàná wímɛ̀-í lɔ̀ njɔ̀pɔ́wá jémbé-ì hún
Kpana run-PRF NF market big-DEF in
‘Kpana ran in the big market.’

That the Light noun is not fully adpositional is evident by its inability to surface alone.

(57) Kpàná wímɛ̀-í lɔ̀ *kɔ / hún
Kpana run-PFV NF abdomen in
‘Kpana ran *abdomen / in.’

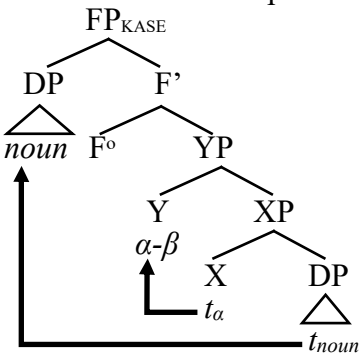
Simone and Masini (2014) argue that the *referential focus* of nouns is scalar, extending from [+NOUN] through [-NOUN]. They argue that light nouns are [-NOUN] and that they occur in a specified syntactic position. Based on the preceding data and this line of thinking, I argue that Light nouns are neither fully nominal nor adposition, and as such I place them to the farthest left on the LF cline.

(58) LF Cline

Lexical ◄			► **Functional**
Light noun (*ln*)	Place (*pla*)	Directional (*dir*)	Non-locative (*nl*)
kɔ	*mbu/bu*	*kama/gama*	*wɛ*
'abdomen'	'in, under'	'towards'	'to'
ngu	*kulɔ/gulɔ*	*hun*	*fa/va*
'head'	'in front of'	'to, into, from'	'for'
	poma/woma		*ma*
	'behind'		various meanings
	nda/la		*hun*
	'at'		various meanings
	ndia/lia		
	'in the middle of'		
	nga/ya		
	'on the surface of'		
	ma		
	'on'		
	hun		
	'in'		
	kpela		
	'near'		
	mba		
	'on top'		

Putting these observations together, we can hypothesize how these complex adpositions are formed. While Collins argues that the light noun is part of a DP complement of a null adposition, I argue that the light noun is more adposition-like, and that it merges as a head and raises to head-adjoin another adpositional head. This is shown in in (59). The first morpheme in the complex adposition (labeled as *α*) selects a DP complement (labeled as *noun* and which is the complement of the complex PP), before *α* raises and head-adjoins the second morpheme (labeled as *β*). In these constructions *α* always occurs to the left of *β* in the L-F Cline. After the complex head is built, the functional Case-assigning head merges, and the DP complement (*noun*) raises into SpecFP_{KASE} for Case-licensing.

(59) Derivation of a Complex Adposition



This analysis entails that the lower head lacks a Case-assigning / Functional structure, a not entirely unreasonable possibility, given its position towards the left edge of the L-F Cline. For the Light nouns (*kɔ* 'abdomen' and *ngu* 'head'), it may be their nominal nature that prevents them from having a functional structure, as nominals would not have a Case-licensing structure. Kayne (2010) notes that there are adpositions which are almost surely nominal and which have a reduced functional structure compared to other nouns.

Likewise, Levin (2015) suggests that all noun phrases are Kase phrases, meaning that nouns must be Case marked. There are instances, however, in which nouns do not have the requisite functional structure, e.g. pseudo noun incorporation. In these constructions, the nominal head adjoins a verbal head and is no longer nominal. As such it does not need to be Case-licensed. My argument is similar, except that the noun incorporates into an adposition, obviating the need for functional structure.

The nature of the Light noun falls between a full nominal and adposition. As such, it does not need to be licensed in the same way that a full nominal would. Its adposition-like nature provides an explanation for its ability to select a DP complement, avoiding Kayne's (2010 p. 174) observation that nouns must not have complements. Since it is a Light noun, however, it has a reduced functional structure, and there is no position into which its DP complement can raise. By

raising to head-adjoin the P that dominates it, it need not be licensed and now has a functional structure into which its DP complement can raise.

As for the constructions in which the lower head is a Place adposition (*ma* 'on' and *kpela* 'near'), it may be the presence of the second, higher adposition which blocks it from having a functional structure, e.g. the functional structure surfaces for the highest head which becomes the phrase's overall head. If so, the adposition *ma*, for example, occurring as a simple adposition, would have its own functional structure, but when it is part of a complex structure, as in *ma-hun*, the functional structure does not merge until *ma* is done with any head-movement, that is when it head-adjoins *ma.*[14]

An alternative could be that there is a functional structure above the lower phrase and that the DP raises twice, first into the specifier of the functional head that dominates X, then into the specifier of the functional head that dominates Y. The problem with this alternative is that the DP does not need to raise twice for Case, and there is otherwise no motivation for it to do so.

I now turn to a discussion of each of the complex adpositions, describing their lexical semantics and how they are derived.

The complex postposition *kɔ-hun* consists of two morphemes: *kɔ* 'abdomen, belly' and *hun*, yielding the compositional meaning 'inside, into, out from.' In this construction, *hun* operates as either a Place 'inside' or Directional 'to' adposition. In Table 3, I proposed that *kɔ* is a Light noun. In many regards it functions like a regular noun, and in the following example, we see that it is marked with a definite marker.

(60) Mɛ́lí Kpàná kɔ́-í wùà-í lɔ̀
Mary Kpana stomach-DEF wash-PFV NF
'Mary washed Kpana's stomach.'

[14] The status of *ndo(a)/lo(a)-hun* is unclear, as *ndo(a)* has an ambiguous classification. It could seemingly be more nominal with the meaning 'a leaving behind' or verbal with the meaning '(to) leave.'

However, it is also one of a highly restricted class of nouns that can combine with an adposition (*ngu* 'head' is discussed below), as such I classify it as a Light noun. Looking at the Lexical-Functional Cline, we see that *kɔ* occurs to the left of *hun* on the L-F Cline.

(61) LF Cline:

Lexical ◄			► **Functional**
Light noun (*ln*)	Place (*pla*)	Directional (*dir*)	Non-locative (*nl*)
kɔ	*hun*	*hun*	
'abdomen'	'in'	'to, into, from'	

When they combine, *kɔ-hun* can function as a complex Directional postposition, as in (62), where, depending on the verb, it can mean 'into' or 'out of,' or it can function as a complex Place postposition, as in (63) where it means 'inside.'[15]

(62) Directional

a. Kpàná wímè-í lɔ̀ njɔ̀pɔ́wá **gɔ́-hún**
Kpana run-PFV NF market abdomen-in
'Kpana ran into the market.'

b. Kpàná mángù-í-síà hún-bù-í lɔ̀ kàŋá **gɔ́-hún**
Kpana mango-DEF-PL inside-dig-PFV NF box abdomen-in
'Kpana picked up the mangoes out of the box.'

(63) Place

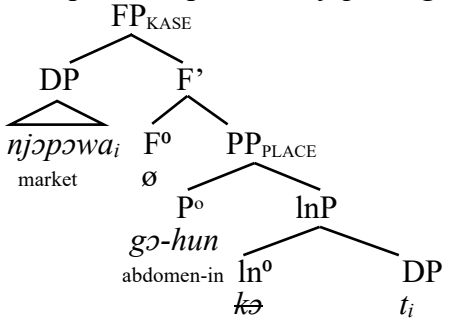
Kpàná nyàpù-í-síà lɔ̀-í lɔ̀ {pélɛ̀-í **gɔ́-hún**} / nà
Kpana girl-DEF-PL see-PFV NF house-DEF abdomen-in there
'Kpana saw the girls inside the house / there.'

The tree in (64) lays out how the structure is derived for the Place PP *njɔpɔwa gɔ-hun* 'inside the market.' The Light noun *kɔ / gɔ* 'abdomen' selects a DP complement *njɔpɔwa* 'the market,' generating a *lnP* (Light noun phrase). The Place head *hun* selects the lnP as its complement, and the Light noun head *kɔ* raises and head adjoins *hun* the Place adposition. The new constituent is a PP_{PLACE}, and the DP complement *njɔpɔwa* raises for case-licensing into $SpecFP_{KASE}$, the specifier of

[15] The distinction is driven by whether *hun* is locative or directional.

the functional phrase that immediately dominates the PP_{PLACE}. This generates the order *njɔpɔwa gɔ-hun,* with the DP now triggering mutation on the complex adposition.[16]

(64) Complex Postposition: *njɔpɔwa gɔ-hun* 'inside the market'



Similarly, the complex Place adposition *ngu-mba* consists of the Light noun *ngu* 'head' and the postposition *mba* 'on top of' and yields the compositional meaning 'on top of / on the head of.'[17] (65) shows that *ngu* 'head' is a nominal.

(65) Mɛ́lí Kpàná wù-í wùá-í lɔ̀
Mary Kpana head-DEF wash-PFV NF
'Mary washed Kpana's head.'

Ngu-mba is typically used in constructions to indicate that *x* is 'on top of' or 'on the roof of' *y.*

(66) Kpàná kásíló-í lɔ̀-í lɔ̀ pɛ́lɛ̀-í **wú-mbà**
Kpana spider-DEF see-PFV NF house-DEF head-on.top.of
'Kpana saw the spider on top of (the roof of) the house.'

In this construction the Light noun *ngu* occurs to the left of the Place adposition *mba* on the L-F Cline.

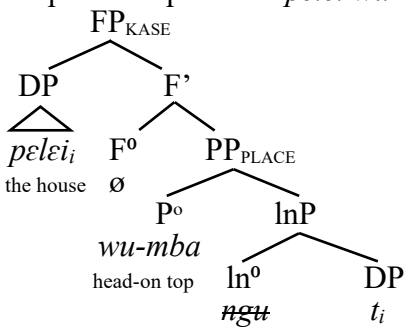
(67) LF Cline

Lexical ◄			► **Functional**
Light noun (*ln*)	Place (*pla*)	Directional (*dir*)	Non-locative (*nl*)
ngu	*mba*		
'head'	'on top'		

[16] Note that the DP *njɔpɔwa* 'the market' triggers mutation on the complex adposition, as they are in the same XP.
[17] I argue that *ngu* 'head,' like *kɔ* 'abdomen' is a light noun. In Sewama Mende, *mba* is not used independently, however, Innes uses it in his dictionary, perhaps indicating that it is used in Kɔɔ Mende. Since *mba* 'on top' can occur independently (at least in other dialects), the presence of *ngu* seems to further clarify the degree of 'on top', indicating that is particularly high.

It is derived similarly to *kɔ-hun*, as illustrated in (68), using the postpositional phrase *pɛlɛi wu-mba* 'on the roof of the house.' In this construction the Light noun *ngu* 'head' selects the DP complement *pɛlɛi* 'house,' before head-adjoining the Place adposition *mba* 'on top.' The DP then raises into $SpecFP_{KASE}$ in order to be Case-licensed, triggering mutation on the complex adposition.

(68) Complex Postposition: *pɛlɛi wu-mba* 'on the roof of the house'



The complex postposition *ma-hun* consists of *ma,* which, I have already noted, can function as a Place adposition or a Non-locative, and *hun* which can function as a Place, Directional, or Non-locative postposition. Hence, it is plausible for *ma* to be more nominal-like than *hun* in this construction, or, alternatively, they may both be of the same category.

(69) LF Cline:

Lexical ←			→ **Functional**
Light noun (*ln*)	Place (*pla*)	Directional (*dir*)	Non-locative (*nl*)
	ma 'on top'		
	hun 'in'	*hun* 'into'	

Combined together, they generate the idiomatic place meaning 'on top of' (70) or Directional 'to the top of'(71).[18] In this construction, the use of *hun* can be optional, as in the construction in (70b), where the meaning 'on top of' is generated whether *hun* is used or not.

(70) a. Kpàná mángù-í-síà wù-í lɔ̀ kɔ́lè-í **mà-hún**
Kpana mango-DEF-PL put-PFV NF book-DEF on-in
'Kpana put the mangoes on top of the books.'

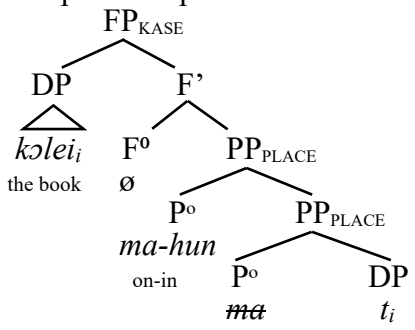
[18] When the meaning is 'on top of' *hun* is a Place adposition, and when the meaning is 'to the top of', *hun* is directional.

b. Kpàná mángù-í-síà gɔ̀kɔ̀-í lɔ̀ kɔ́ĺè-í-síà **mà(-hún)**
Kpana mango-DEF-PL find-PFV NF book-DEF-PL on-in
'Kpana found the mangoes on top of the books.'

(71) Kpàná lí-í lɔ̀ **mà-hún**
Kpana go-PFV NF on-in
'Kpana went on top.'

I propose that *ma-hun* is derived as shown in (72). In this construction the overall meaning is locative in nature, and I propose, therefore, that *ma* and *hun* are both Place adpositions in this construction, with the obligatory morpheme *ma* surfacing first. The lower Place head *ma* selects the DP *kɔlei* 'the book' as its complement, before raising to head-adjoin the Place adposition *hun.* The functional structure then merges and the DP raises into SpecFP_{KASE} for Case-licensing. Since *m-* does not participate in the mutation scheme, there is no mutation on the complex adposition.

(72) Complex Postposition: *kɔlei mahun* 'on top of the book'



The structure of the complex Place postposition *kpɛla-nga* 'near' is similar to *ma-hun*. It consists of two Place adpositions: *kpela* 'near' and *nga* 'edge' and yields the idiomatic meaning 'near,' since *kpela* can mean 'near' on its own. It is, therefore, unclear what *nga* 'edge' contributes to its overall meaning. It is often reduced to *gblanga* or even *gbla* in fast speech.

(73) a. K. ndùpù-í-síà lɔ̀-í lɔ̀ njè-í / fùlè-í / njí-í **gbèlá-ngà**
K. child-DEF-PL see-PFV NF river-DEF village-DEF goat-DEF near-edge
'Kpana saw the children near the river / village / goat.'

b. Kpàná yèngè-í lɔ̀ Mɛ́lí **gbèlá-(ngà)**
Kpana work-PFV NF Mary near-edge
'Kpana worked near Mary.'

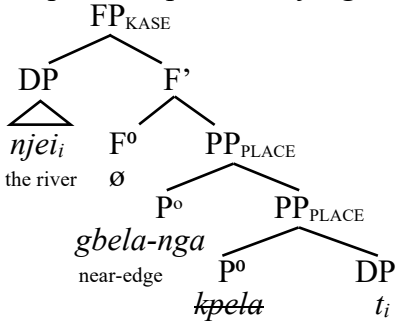
In this construction, the component parts *gbela* and *nga* are both Place postpositions, with the obligatory adposition *gbela* first and the optional *nga* following.[19]

(74) LF Cline:

Lexical ◄			► **Functional**
Light noun (*ln*)	Place (*pla*)	Directional (*dir*)	Non-locative (*nl*)
	gbela 'near' *nga* 'edge'		

I show its derivation in (75) within the postpositional phrase *njei gbela-nga* 'near the river.' In this construction the lower (obligatory) Place adposition *kpela* selects the DP complement *njei* 'the river.' The Place head raises, adjoining the optional Place head *nga*, and the functional structure subsequently merges. The DP complement then raises into $SpecFP_{KASE}$ for Case-licensing, triggering mutation on the complex adposition.

(75) Complex Postposition: *njei gbelanga* 'near the river'



The final complex adposition that I consider is *ndoahun* 'between.' Its constituent structure is not entirely clear, but it could consist of *ndo(a)* and *hun.* The morpheme *ndo* can have a nominal meaning of 'a leaving behind, forgetting' or a verbal meaning 'to leave behind.' Give the structure of the other complex adpositions, I will assume that its nominal meaning is utilized in this construction, and that it is perhaps a Light noun. The second morpheme *hun* can mean 'in' or

[19] Similar to *ngu-mba*, the first lexeme *kpela / gbela* does not trigger mutation on the second (which would instead yield **kpela-ya* / **gbela-ya.*

'into.' Its overall meaning conveys that an entity *x* is 'between' *y* and *z* or 'moving between *y* and *z*.'[20]

(76) LF Cline:

Lexical ◄			► **Functional**
Light noun (*ln*)	Place (*pla*)	Directional (*dir*)	Non-locative (*nl*)
ndo	*hun*	*hun*	
'a leaving behind'	'in'	'into'	

Syntactically, this construction can surface in two different forms with the postposition occurring after the first conjunct or after the second conjunct. In this regard they resemble the coordinated direct object constructions in Section 2.5.3 as well as the stranded quantifiers of adpositional objects in Section 3.2.5, in which I argued that the DP object must raise for case while the quantifier may be pied-piped or stranded. Similarly, at least one conjunct of the coordinated PP complement must surface before the postposition.

(77) a. Kpàná kpàá yèyà-í lɔ̀ Bó {**lòáhún }** kɛ̀ Tíkɔ́nkɔ́ {**lòáhún**}
Kpana farm buy-PFV NF Bo between and Tikonko between
'Kpana bought a farm between Bo and Tikonko.'

b. Kpàná ẃmè-í lɔ̀ Jɔ́n {**lòáhún**} kɛ̀ Mɛ́lí {**lòáhún** }
Kpana run-PFV NF John between and Mary between
'Kpana ran between John and Mary.'[21]

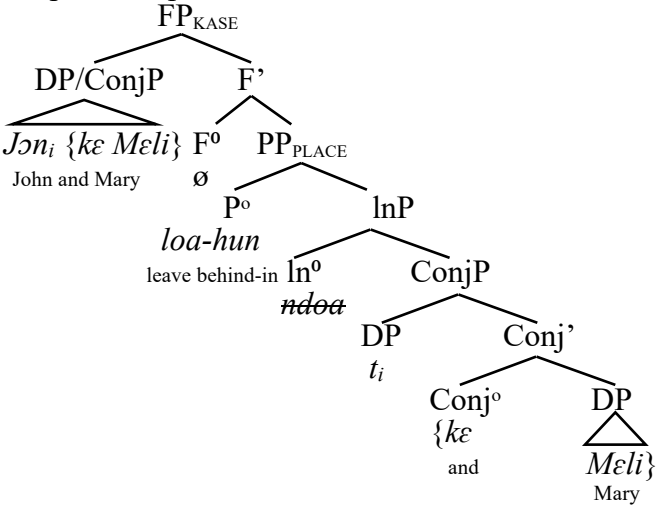
c. Kpàná ẃmè-í lɔ̀ **nà**
Kpana run-PFV NF there
'Kpana ran there (between John and Mary).'

I propose that the derivation of *loahun* is represented by the tree in (78). In this construction the (light) noun *ndoa* selects a ConjP complement. The (light) noun then head-raises adjoining the Place adposition *hun*. The functional structure then merges, and either the DP *Jɔn* raises by itself,

[20] This distinction is driven by which meaning of *hun* is utilized.
[21] This meaning can be locative or directional. The locative meaning would indicate, for example, something along the lines of 'running between John and Mary to pass messages between them', while the directional meaning would indicate, for example, 'running between John and Mary (who were walking near each other) on the way to school.'

stranding the remainder of the coordinator and second conjunct (*kɛ Mɛli*) in their base position, or the entire ConjP raises when pied-piped by *Jɔn*.

(78) Complex Postposition: *Jɔn kɛ Mɛli loahun* 'between John and Mary'



3.2.7 Summary of Postpositions

In this section I have proposed an analysis for a series of Mende complex adpositions. This analysis is built on the idea that the first morpheme in the complex adposition is farther left (or equal to) the second in the LF cline, as shown in (79).

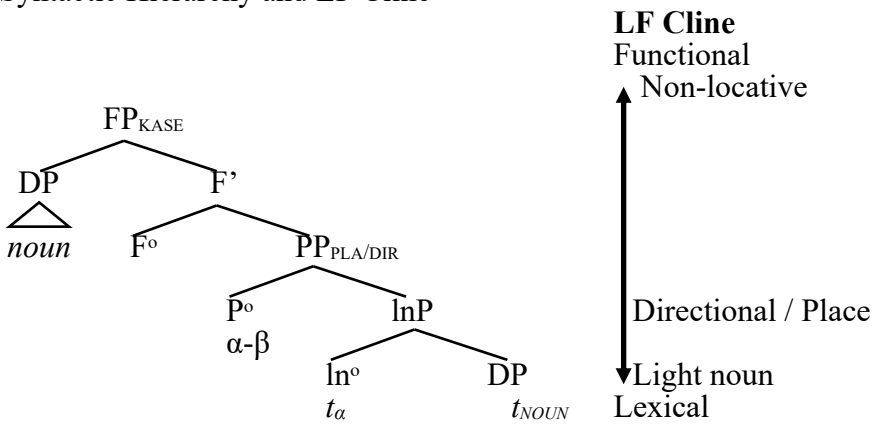
(79) LF Cline

Lexical ◄——————————————————————► **Functional**

Light noun (*ln*)	Place (*pla*)	Directional (*dir*)	Non-locative (*nl*)
kɔ 'abdomen'	*{hun}* 'in'	*{hun}* 'to, into, from'	
ngu 'head'	*mba* 'on top'		
	ma {hun} 'on' 'in'	*{hun}* 'to, into, from'	
	kpela nga 'near' 'on the surface of'		
ndoa 'leaving behind'	*{hun}* 'in'	*{hun}* 'to, into, from'	

I have argued that the left-most element is also syntactically the lower head in the construction, and that it raises, head-adjoining the higher head. In (80) I have rotated the orientation of the LF Cline so that the syntactic hierarchy in the tree is aligned with the Cline. In this example we can see that the Light noun (α) is both lowest on the LF cline and in the hierarchy. It raises, head adjoining the Place or Directional adposition (β) which immediately dominates it. Evidence that this complex structure is derived via head raising is that there is no consonant mutation on the second morpheme (the Place / Directional adposition) and that the overall meaning of the complex adposition is driven by the type of the second adposition (e.g. Directional or Place).

(80) Syntactic Hierarchy and LF Cline



I return to the discussion of the syntactic hierarchy of postpositions when discussing PP adverbs below. Next, though, I consider Mende's singular preposition.

3.3 The Syntax and Semantics of Polyfunctional a

Moving towards the right end of the Lexical-Functional Cline, I turn next to the only surface preposition used in Sewama Mende, polyfunctional *a,* which can introduce instrumental, comitative, dative, and some temporal phrases. On the LF Cline, I mark it as Non-locative, since it does not have a Place or Directional meaning (similar to *wɛ* 'to', *va* 'for', etc.) nor, as shown below, can it be pronominalized by *na.*

The preposition *a* can introduce instruments, as seen in (81), where it introduces *kaliisia* 'the hoes' and *mbowei* 'the knife.' Note that replacing the instrumental phrase with *na* changes the meaning of the clause. I also include in this reading its usage in (82) where it introduces *keke* (a 3 wheeled vehicle / instrument of transportation) and *manguisia* 'mangoes' which are used to fill a box.

(81) Instrumental

a. Kpàná yéngè-í lɔ̀ kpàá hún **à** kàlí-í-síà
Kpana work-PFV NF farm on with hoe-DEF-PL
'Kpana worked on the farm with the hoes.'

b. Kpàná nésí-í lèwè-í lɔ̀ **à** mbówè-í
Kpana pineapple-DEF cut-PFV NF with knife-DEF
'Kpana cut the pineapple with a knife.'

c. # Kpàná nésí-í lèwè-í lɔ̀ **nà**
Kpana pineapple-DEF cut-PFV NF there
'Kpana cut the pineapple there.'
*'Kpana cut the pineapple with it.'

(82) a. Kpàná lí-í lɔ̀ Sàlóŋ **à** kɛ́kɛ́
Kpana go-PST NF Freetown by keke
'Kpana went to Freetown by (in a) keke (a 3 wheeled vehicle).'

b. Kpàná káŋá véndà-í lɔ̀ **à** mángù-í-síà
Kpana box fill-PFV NF with mango-DEF-PL
'Kpana filled the box with mangoes.'

Prepositional *a* is also used to introduced comitative objects. Again, we see that the use of *na* instead of the PP changes the meaning of the clause.

(83) Comitative

a. Kpàná yèngè-í lɔ̀ **à** nyàpù-í-síà kpàá hún
Kpana work-PFV NF with girl-DEF-PL farm on
'Kpana worked with the girls on the farm.'

b. Kpàná ndòlí-í gà-í lɔ̀ **à** Mɛ́lí
Kpana dance-DEF do-PFV NF with Mary
'Kpana danced with Mary.'

c. #Kpàná ndòlí-í gà-í lɔ̀ **nà**
Kpana dance-DEF do-PFV NF there
'Kpana danced there.'
*'Kpana danced with her.'

One of the unique aspects of the Mande languages is that they do not utilize double object constructions, in which the direct and dative object occur on the same side of the verb (Kastenholz 2003, Nikitina 2011). As a result, Mende uses various dative constructions, employing postpositions such as *wɛ* with the verb *ve* 'give' and *gama* with the verb *yoyo* 'send' to introduce the post-verbal dative object. The ditransitive verbs *gɛ* 'introduce, show' and *hungɛ* 'explain' use the preposition *a* to introduce dative objects.[22]

(84) Dative Object
a. Kpàná Mɛ́lí gɛ̀-í lɔ̀ **à** nyàpù-í-síà
Kpana Mary present-PFV NF to girl-DEF-PL
'Kpana introduced Mary to the girls.'

b. Kpàná mángù-í-síà gɛ̀-í lɔ̀ **à** Mɛ́lí
Kpana mango-DEF-PL present-PFV NF to Mary
'Kpana showed the mangoes to Mary.'

c. #Kpàná mángù-í-síà gɛ̀-í lɔ̀ **na**
Kpana mango-DEF-PL present-PFV NF there
'Kpana showed the mangoes there.'
*'Kpana showed the mangoes to her.'

(85) Dative Object
Kpàná ndɔ̀mɛ̀-í húngɛ̀-í lɔ̀ **à** Mɛ́lí
Kpana story-DEF explain-PFV NF to Mary
'Kpana explained the story to Mary.'

The preposition *a* can also be used to introduce a limited number of temporal constructions. It is unclear why it is used to introduce a phrase like *ngendei ji* 'this morning' but not *gboi* 'yesterday,' or *wɔɔkpɔ* 'long ago.'

(86) a. Kpàná yéngè-í lɔ̀ kpàá hún **à** ngéndè-í jì
Kpana work-PFV NF farm on A morning-DEF this
'Kpana worked on the farm this morning.'

b. Kpàná yì-í lɔ̀ (***a**) gbòí / wɔ́ɔ́kpɔ̀
Kpana sleep-PFV NF A yesterday long.ago
'Kpana slept yesterday / long ago.'

[22] *Hungɛ* is actually a pre-verbal particle composed of the verb *kɛ* 'show' and the adposition *hun* 'inside' which incorporates into it, generating the meaning 'explain' (literally 'show the inside'). I discuss these types of constructions in Chapter 4.

The preceding data has shown that the preposition *a* can introduce instrumental, comitative, dative, and some temporal objects, and that it cannot be pronominalized with *na*, as such I classify it as Non-locative, placing it in the right-most position of the L-F Cline.

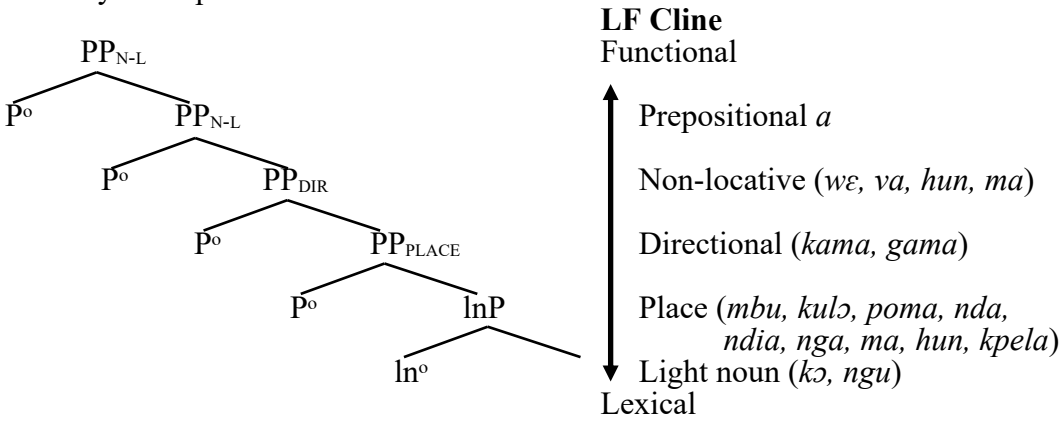
(87) LF Cline:

Lexical ◄			► **Functional**
Light noun (*ln*)	Place (*pla*)	Directional (*dir*)	Non-locative (*nl*)
			wɛ
			'to'
			fa/va
			'for'
			ma
			various meanings
			hun
			various meanings
			a
			various meanings

While semantically there is some overlap between prepositional and postpositional Non-locatives (e.g. both can introduce dative objects), the more substantial difference is syntactic. Crucially, I argue that *a* always occurs highest in complex adpositional phrases. We see this in the hierarchy of adpositions in (88), which I suggest is the underlying structure, and which reflects the LF Cline.[23] Light nouns are at the bottom, with Place adpositions, Directional adpositions, Non-locative adpositions, and the preposition a, in subsequently higher positions.

[23] Schweikert (2004, 2005) suggests a standard hierarchy of PPs in German and English. While my categorization does not align with his, his means of conceptualizing a hierarchy of adpositions is applicable to Mende.

(88) Hierarchy of Adpositions



We have already seen how complex postpositions are derived via head movement. In the following section, I show how the surface form of PP (complex) adverbials are derived from this base structure.

3.4 PP Adverbs

I first discussed PP Adverbs in Section 1.4.5, where we noted their surprising occurrence in pre-verbal positions. In this section I investigate their syntactic structure where we see the strongest evidence yet for the correlation between the LF Cline and syntactic hierarchy.

Having both a preposition and postpositions, these constructions resemble circumpositions, which have been attested in the literature in Germanic languages like Dutch and German (Van Riemsdijk 1990, Ayano 2001). Koopman (2010) describes circumpositional PPs as consisting of a lexical preposition on the left, a DP in the center, and a postposition, which is either homophonous with a preposition or a lexicalization of Path (directionality) on the right. They encode complex meanings, combining Place (e.g. *onder* ‘under’ and *over* ‘over’) and Direction (e.g. *door* ‘through’ and *op* ‘up’).

(89) Dutch Circumpositions (Koopman 2010: p. 48 #55)

a. '*door, op, aan'* *onder* de brug ***door*** *tegen* het huis ***op***
under the bridge through against the house up

b. '*heen, vandaan'* *over* de stoel ***heen*** *(van)* onder het bed ***vandaan***
over the chair Part (of) under the bed from

In Mende these constructions consist of the instrumental preposition *a* 'with', a base word whose syntactic category is not clearly nominal or verbal, and a series of adpositions. In (90a) the base *ndondo* 'quiet' combines with *nga* (mutation changes it to *ya*), *hun* and *wɛ* meaning 'quietness' or 'secrecy,' such that the phrase *a ndondo-ya-hun-wɛ* means 'with quietness / secrecy' or 'silently.' In (90b) *nafa* 'profit' combines with *nga*, *hun,* and *wɛ* generating '(financial) success.' In (90c) *kɔɔ* 'knowledge' combines with *nga, hun,* and *wɛ* with the meaning 'obviousness.'[24] With the comitative preposition the meanings of the respective phrases are 'with (financial) success / successfully' and 'with knowledge / obviously.'[25]

(90) a. Kpàná **à** **ndóndó-yà-hún-wɛ̀** mángù-í-síà yèyá-ì lɔ̀
Kpana with quiet-YA-HUN-WƐ mango-DEF-PL buy-PFV NF
'Kpana secretly bought the mangoes.'

b. Kpàná **à** **nàfá-yà-hún-wɛ̀** mángù-í-síà yèyá-ì lɔ̀
Kpana with profit-YA-HUN-WƐ mango-DEF-PL buy-PFV NF
'Kpana successfully bought the mangoes.'

c. Kpàná mángù-í-síà hùmá-ì lɔ̀ **à** **kɔ́ɔ́-yà-hún-wɛ̀**
Kpana mango-DEF-PL steal-PFV NF with knowledge-YA-HUN-WƐ
'Kpana obviously stole the mangoes.'

This type of construction is also used when introducing a parenthetical phrase like *a nya ngiyahunwɛ* 'in my opinion,' in which *ngi* 'thought' combines with *ya, hun* and *wɛ*.

(91) **à** **nyà** **ngí-yà-hún-wɛ̀**, Kpàná gùá-ngɔ́
with 1SG thought-HUN-WƐ, Kpana tall-STAT
'In my opinion, Kpana is tall.'

[24] There are a number of words in Mende that fall into this category, with the words syntactic position and consonant mutation clarifying whether it functions as a noun or verb in the clause. In this instance *ndondo* is a noun meaning 'silence,' though my language consultant says that *ndondohun* also means silence. The verbal form *londo* means 'be quiet.'

[25] In these constructions where the precise contribution of the postpositions is unclear, I simply gloss them as HUN, WƐ, YA, etc.

Using the summary data in Table 4 below, we can make a number of observations concerning the surface structure of these constructions. First, in each case, the Non-locative postposition *wɛ* surfaces in a phrase final position. Each also includes polyfunctional *hun*. While the meaning of *hun* is unclear in these constructions, on the L-F Cline, it precedes (or potentially is in the same class as) *wɛ.* This aligns with the observation that Place and Directional adpositions (*hun* can function as either) precede Non-locatives, such as *wɛ*, in the Lexical-Functional Cline. Finally, we see that when present *nga* (always a Place postposition) or *ma* (polyfunctional, including as a Place postposition) precedes *hun*, which is also compatible under the LF Cline.

We can summarize that the surface order of these constructions is *a* X_{BASE}-(*ma*/*nga*)-*hun*-*wɛ*. Following the base, moving through the surface order, the adpositions *ma* and *nga* can both function as a Place postposition, while *hun* can function as a Directional and *wɛ* must function as a Non-locative. Interestingly, there are no instances where both *ma* and *nga* occur. The surface order, therefore, is Non-locative$_{a}$ - Base – Place$_{nga/ma}$ – Directional$_{hun}$ – Non-Locative$_{wɛ}$.

Adverb	Nominal (X)	Structure					
		P_a	prefix	noun	loc	???	non-loc
a kitihunwɛ 'doubtfully'	*kiti* 'doubt, uncertainty'	a		kiti		hun	wɛ
a baikahunwɛ 'thankfully'	*baika* ' thanks'	a		baika		hun	wɛ
a tonyahunwɛ 'truthfully'	*tonya* ' truth'	a		tonya		hun	wɛ
a nɛmahunwɛ 'wisely'	*nɛma* 'mind'[26]	a		nɛma		hun	wɛ
a ngaungauhunwɛ 'arrogantly'	*ngau* 'face'	a		ngaungau		hun	wɛ
a baangɔhunwɛ 'respectively'	*baa* 'respect'	a		baa		hun	wɛ[27]
a ndondoyahunwɛ 'secretly'	*ndodno* 'quietness, silence'	a		ndondo	nga	hun	wɛ
a nafayahunwɛ 'sucessfully'	*nafa* 'profit'	a		nafa	nga	hun	wɛ
a kɔɔyahunwɛ 'obviously'	*kɔɔ* 'knowledge'	a		kɔɔ	nga	hun	wɛ
A ngiyahunwɛ 'in my opinion'	*ngi* 'thought'	A		Ngi	nga	hun	wɛ
a baamahunwɛ 'allegedly'	*ba* 'miss, go without'	a		ba	ma	hun	wɛ
a magɛhunwɛ 'reportedly'	*kɛ* 'show'	a	ma	gɛ		hun	wɛ
a hunluwawɛ 'fearfully'	*luwa* 'fear'	a	hun	luwa			wɛ[28]

Table 4 - Complex Adpositional Phrases

According to the LF Cline, however, the underlying order is Non-locative$_{a}$ - Non-locative$_{wɛ}$ – Directional$_{hun}$ – Place$_{nga/ma}$ – Base. (92) shows the correlation between the LF Cline and the underlying syntactic hierarchy. The lower the constituent in the underlying structure, the farther left it is located on the LF Cline.

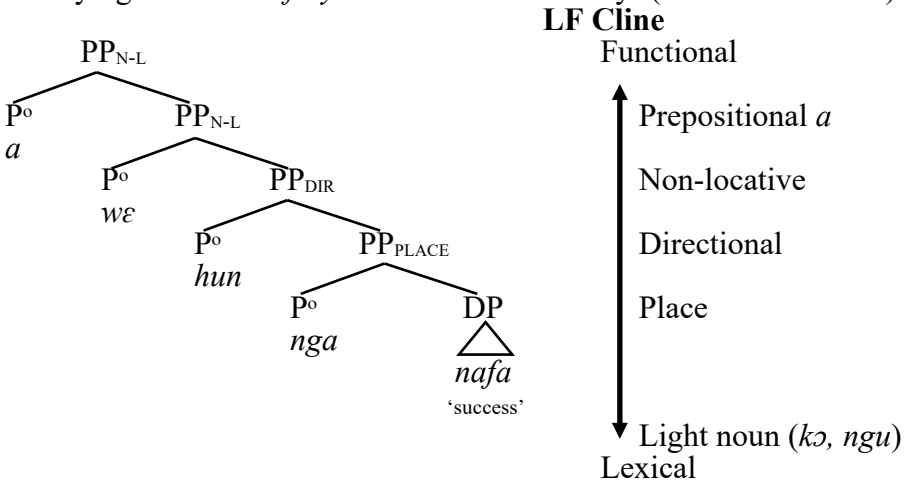
[26] Innes (1969) lists *nɛmahu* as 'mind.'

[27] The morpheme *-ngɔ* functions as a stative copula.

(i) Kpana hua-ngɔ / nɛmu-ngɔ / kɔle-ngɔ
Kpana tall-STAT wound-STAT cold-STAT
'Kpana is tall / wounded / cold.'

[28] The adverbs *a ma-gɛ-hun-wɛ* and *a hun-luwa-wɛ* resumble pre-verbal particle verbs, which I discuss in Chapter 4. It is interesting to note, however, in these PP adverbs that even the pre-base adpositions follow a consistent ordering with those where the adposition follows the base.

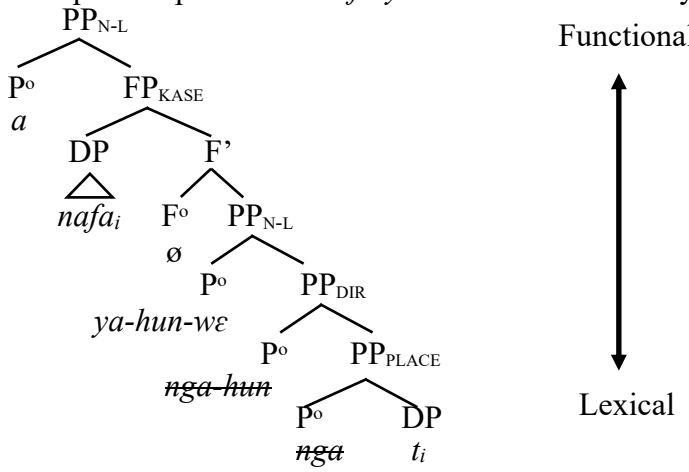
(92) Underlying Order: *a nafa-ya-hun-wɛ* 'successfully' (lit. 'with success')



How does this underlying order, derive the surface order? I lay out the derivation in (93).[29] The Place head *nga* selects the DP *nafa* 'success' as its complement. The Place head *nga* raises, head-adjoining the Directional head *hun*, and this complex head *nga-hun* raises adjoining the Non-locative goal *wɛ,* generating *nga-hun-wɛ*.[30] Since the process of head-raising is now complete, the functional structure merges, and the DP complement *nafa* 'success' raises into the specifier of the FP$_{KASE}$ which immediately dominates the Non-locative postpositional phrase in order to be case-licensed.[31] The DP triggers mutation on the initial consonant in the complex adposition, generating *nafa-ya-hun-wɛ* 'success.' The preposition *a* then selects this complex structure as its complement.

[29] In the tree I leave out the functional phrases above the Place and directional PPs. It is unclear whether they are there or not, and it also does not influence the derivation.
[30] Recall from section 2.3.2 that the goal / mutated version *wɛ* is always used. As such, this does not necessarily demonstrate that head-movement is a context which blocks consonant mutation from occurring.
[31] If functional structure dominates the Place and directional PPs, I assume that the DP complement moves through their specifiers on its way to SpecKaseP.

(93) Complex Adposition: *a nafa-ya-hun-wɛ* ‘successfully’ (lit. ‘with success’)



At this point, we encounter an important question: why does a surface prepositional structure occur, e.g. *a nafa-ya-hu-nwɛ* ‘with success / successfully’? The most plausible answer is that the DP *nafa* ‘success’ has already raised for Case into the specifier of the FP$_{KASE}$ that dominates the complex Non-locative adpositional structure. Since it has already raised for Case, it cannot raise into a higher position above *a*. This means that the preposition *a* selects a DP phrase that is already Case-licensed. In the next section, I argue that this has crucial implications on the structure of a simple prepositional phrase, to which I turn next.[32,]

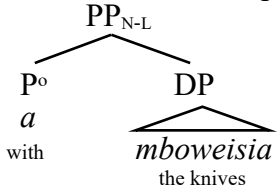
3.5 The Structure of Prepositional Phrases

In this section I consider the structure of simple prepositional phrases, that is comitatives, (non PP adverb) instrumentals, datives, and temporal phrases. In the previous section I argued that the

[32] While the question of how the meaning ‘successfully / with success’ is generated from *a nafa-ya-hun-wɛ* is rather unclear, it is important to note that only a limited set of lexical bases are available for this structure. Further research is necessary to investigate how the meaning of these structures is generated, and, for now, I simply suggest that the meaning is idiomatic, while affirming that the syntactic structure is predictable and aligned with numerous proposals set out in the literature. It is also unclear if all base words are nouns, or if some are verbs.

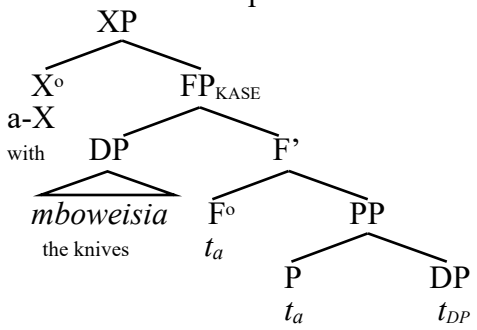
preposition *a* only selects a Case-licensed DP/ FP_{KASE}. This immediately rules out the following structures. In (94) the DP *mboweisia* 'the knives' cannot be Case-licensed in situ.

(94) *Derivation of a Prepositional Phrase



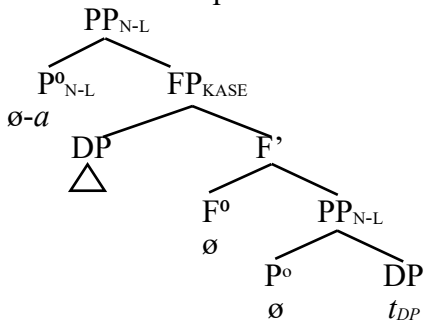
In (95) the DP *mboweisia* 'the knives' raises into a functional structure above the instrumental head *a*, generating a postpositional structure and yielding **mboweisia a*. The surface structure, however, is prepositional, and, as such, we must account for why the preposition raises into a higher position and into what position it would raise. This seems too stipulative.

(95) *Derivation of a Prepositional Phrase



The solution that I propose accounts for a head-initial structure both at merge and on the surface. The crux of this analysis is that a null adposition (ø) c-selects the DP complement, which subsequently raises for case. Similar to the previous example, this leaves us with a postpositional structure, but the crucial difference is that as this point in the derivation, there is no phonologized adposition to license the PP. As such, I propose that the Non-locative adposition *a* merges. Since the DP has already raised for case, it does not raise above or precede *a.* The surface structure is therefore prepositional. Similar to the complex PP structures above, the preposition *a* selects a DP/ FP_{KASE} that is already Case-licensed.

(96) Derivation of Prepositional Phrase



I now unpack the details of this analysis. First, this analysis posits a null adposition. Kayne (1994) argues that a null P is, in fact, a C, an argument which Koopman (2010) extends to Dutch, noting that null Ps have no semantic relationship with their complement. Kayne (2005) and Collins (2007), likewise, propose that there is a null preposition in sentences like those in (97).

(97) Collins (2007: #3)
a. They went home (literally: they went TO their home(s))
b. They stayed home (literally: they stayed AT their home(s))

I argue that, similarly, the null adposition in Mende serves a purely syntactic function: it c-selects the DP argument. Given its completely functional syntactic purpose in Case-licensing the DP object, I classify the null adposition as a Non-locative on the LF Cline.[33]

[33] Holmberg (2002) posits a null adposition for Zina Kotoko, and Aboh (2010) proposes a null head in Gbe locative constructions in an $XP_{[Possesor]} - ø - YP_{[Possesum]}$ construction. While I do not follow either of their proposals, these proposals justify the plausibility of null adpositions in African languages.

(98) LF Cline:

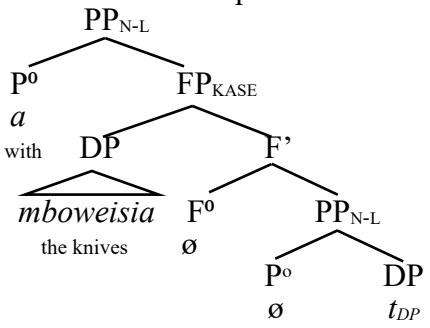
Lexical ◄			► **Functional**
Light noun (*ln*)	Place (*pla*)	Directional (*dir*)	Non-locative (*nl*)
			wɛ
			'to'
			fa/va
			'for'
			ma
			various meanings
			hun
			various meanings
			a
			various meanings
			ø
			Case-licenses DP

Second, this analysis parallels the derivation of surface postpositional structures in arguing for a head-initial PP and raising of the DP into a Case-licensing position.

Finally, this analysis follows the proposal for PP adverbs that the preposition *a* can only select already Case-licensed DPs.

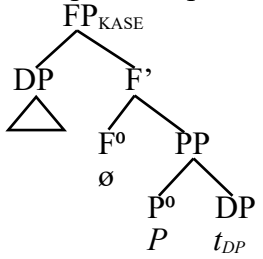
This proposal is exemplified in (99). The null adposition *ø* c-selects its DP complement *mboweisia* 'the knives.' Above the PP structure is the Functional structure, and the DP complement raises into SpecFP_{KASE} for Case-licensing. Since it is unable to surface with a null adposition, the Non-locative adposition *a* surfaces and selects the DP/FP_{KASE} as its complement. The DP object *mboweisia* 'the knives' has already raised for Case licensing, and as a result, it need not raise again above the adposition. This yields the prepositional surface order *a mboweisia* 'with the knives.'

(99) Derivation of a Prepositional Phrase

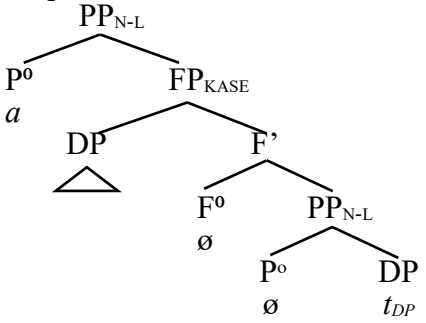


This analysis suggests that prepositional structures are larger and more complex than postpositional structures, as shown in the following trees. While both start with a head-initial PP, the presence of the phonologically realized adposition in the postpositional structure enables both Case-driven movement and licensing of the postposition within its functional structure. In contrast, the null adposition in the prepositional structure provides the functional structure to enable Case-licensing, and the preposition can now select the Case-licensed DP / FP_{KASE}.

(100) "Simple" Postpositional Phrase



(101) Prepositional Phrase



Having considered the structure of both postpositions and prepositions, I turn to differences between the adpositions in regards to Ā-movement.

3.6 Ā-movement of Adpositions

In this section I consider the relationship between the surface position and underlying position of adpositional phrases and their constituent parts in Mende. I begin with a discussion of their surface distribution.

3.6.1 Syntactic Distribution

The assertion that Mande languages are SOVX typically signifies that all adpositional phrases occur post-verbally (c.f. Nikitina 2009). As has previously been discussed, this is clearly not the case for Mende. The data in (102) shows various positions in which adpositional phrases can surface including in copular constructions (102a), post-verbally in transitive constructions (102b), in left peripheral focus constructions (102c), between the subject and subject-marker (102d), as part of a DP subject (102e), and between the object and verb (102f).[34]

(102) Syntactic Distribution of Adpositional Phrases

a. Copular Predicate PP
mángù-í-síà lɔ̀ **bɛ́tè-í** **bù**
mango-DEF-PL NF table-DEF under
'The mangoes are under the table.'

b. Post-verbal Adjunct PP
S O V X_{LOC}
Kpàná mángùí-i-síà yèyá-ì lɔ̀ **njɔ̀pɔ́wá** **hún**
Kpana mango-DEF-PL buy-PFV NF market in
'Kpana bought the mangoes in the market.'

c. Left Peripheral Adjunct Focus
Foc S O V X
njɔ̀pɔ́wá **hún** míà Kpàná mángù-í-síà yèyá-ní nà
market in LPF Kpana mango-DEF-PL buy-PFV LOC
'It is in the market that Kpana bought the mangoes.'

d. Pre-verbal PP Adverb
S X_{ADV} O V
Kpàná **à** **bá-ngɔ̀-mà-hún-wɛ̀** máhè-í làtò-í lɔ̀
Kpana P price-STAT-MA-HUN-WɛPFV chief-DEF praise-PFV NF
'Kpana respectfully praised the chief.'

e. DP Subject with Embedded PP
S PP O V
ndùpù-í-síà (tì) **pɛ́lɛ̀-í** **bù** (tì) mángù-í-síà mɛ̀-í lɔ̀
child-DEF-PL 3PL house-DEF under 3PL mango-DEF-PL eat-PFV NF
'The children in the house ate the mangoes.'

[34] Having discussed the distribution of complex adverbs in Chapters 1 and 2, and their structure in this chapter, I have nothing more to add to the discussion at this point. I discuss pre-verbal particle verb constructions in Chapter 4.

f. Pre-verbal particle verb construction
S O PP V
Kpàná **hakpè-í** **hún** mɛ̀-í lɔ̀
Kpana sauce-DEF HUN eat-PFV NF
'Kpana picked out something from the sauce.'

Exploring these distributions in greater detail, I begin with a brief discussion of copular predicates, as seen in (103) and (104). In locative copula constructions the verb is phonologically null, and only a focus marker intervenes between the subject and the postpositional predicate. Subject markers are not used with plural subjects (104a), nor can the left peripheral focus marker be used (104b).

(103) Jɔ́n lɔ̀ Mɛ́lí gúlɔ̀ / towards / gblàngá (fɔ́ɔ́)
John NF Mary in.front.of with near very
'John is in front of / with / (very) near Mary.'

(104) a. ndùpù-í-síà (*ti) lɔ̀ njɔ̀pɔ́wá hún
child-DEF-PL 3PL NF market in
'The children are at the market.'

b. mángù-í-síà {*mia} / {lɔ̀} bɛ́tè-í bù̀
mango-DEF-PL FOC.LP NF table-DEF under
'The mangoes are under the table.'

Nominal copulas, that is clauses which equate two items, have a different construction, with the left peripheral focus marker *mia* being used in these constructions. Interestingly, the word order can vary, surfacing as either *Nominal$_1$ mia a Nominal$_2$* in which case the second nominal is introduced by the preposition *a* or *Nominal$_1$ Nominal$_2$ mia a RP$_2$* in which case the second nominal surfaces before the focus marker with a resumptive pronoun occurring after.

(105) a. Nyà kámɔ̀-í mía à Kpàná
1SG teacher-DEF LPF A Kpana
'My teacher is Kpana.'

b. Kpàná nyà kàmɔ̀-í mía à ngíyè
Kpana 1SG teacher-DEF LPF A 3SG
'Kpana is my teacher.'

Given their different syntactic structure and in light of the absence of any previous work on Mende copulas, I leave further investigation for future research.

Moving on to non-copular constructions, modifying adpositional phrases can occur within a larger DP throughout the clause. The data in (106) and (107) shows both postpositional phrases and prepositional phrases can modify the subject DP. There are two further pieces of evidence that they are part of the clausal subject. First, in both (106a) and (107a), they are part of the constituent that precedes the subject marker, which I suggested in Chapter 1, agrees with the clausal subject. Second, the data in (106b) and (107b) show that they can be pronominalized along with the DP portion of the subject.

(106) Subject-modifying Postpositional Phrase
a. [ndùpù-í-síà **pɛ́lɛ̀-í bù**] tì mángù-í-síà mɛ̀-í lɔ̀
child-DEF-PL house-DEF under 3PL mango-DEF-PL eat-PFVNF
'The children in the house ate the mangoes.'

b. **tì** mángù-í-síà mɛ̀-í lɔ̀
3PL mango-DEF-PL eat-PFVNF
'They (the children in the house) ate the mangoes.'

(107) Subject-modifying Prepositional Phrase
a. [nyàpù-í-síà **à kɔ́ní-í-síà**] tì yèngè-í lɔ̀ kpàá hùn
girl-DEF-PL with axe-DEF-PL 3PL work-PFV NF farm on
'The girls with the axes worked on the farm.'

b. **tì** yèngè-í lɔ̀ kpàá hùn
3PL work-PFV NF farm on
'They (the girls with the axes) worked on the farm.'

As discussed in chapter 2, phrasal and clausal modifiers of a DP direct object obligatorily occur in a post-verbal position, including CP modifiers, relative clauses, and quantifiers. Unsurprisingly, PP modifiers of the object are also obligatorily extraposed in a post-verbal position, whether postpositional (108) or prepositional (109).

(108) Postpositional Modifiers of the Direct Object
Kpàná **mángù-í-síà** yèyà-í lɔ̀ **kàŋá hún**
Kpana mango-DEF-PL buy-PFV NF box in
'Kpana bought the mangoes in the box (not the mangoes on the table).'

(109) Prepositional Modifiers of the Direct Object
Kpàná **nyàpù-í-síà** lɔ̀-í lɔ̀ **à kɔ́ní-í-síà** kpàá hún
Kpana girl-DEF see-PFV NF with axe-DEF-PL farm on
'Kpana saw the girl with the axes at the farm.'

Postpositional phrases can surface post-verbally as locative (Place) arguments (110), while both postpositions and prepositions can surface as adjuncts (111) or modify DP adjuncts (112).

(110) Post-verbal Place Argument
Kpàná mángù-í-síà wù-í lɔ̀ **bɛ́tè-í mà**
Kpana mango-DEF-PL put-PFV NF table-DEF on
'Kpana put the mangoes on the table.'

(111) Post-verbal Adjunct
Lɔ̀ré́ns méndè-yé yáwòtè-í lɔ̀ {**Jésín ṿ̀a**} / {**à Jésín**}
Lawrence mende-talk translate-PFV NF Jason for with Jason
'Lawrence translated Mende for / with Jason'

(112) Adjunct-modifying Adpositional Phrase
Kpàná mángù-í-síà yèyà-í lɔ̀ nyàpù-í và **{pɛ́lɛ̀-í bù} / {à kɔ́ní-í}**
Kpana mango-DEF-PL buy-PFV NF girl-DEF for house-DEF in with axe-DEF
'Kpana bought the mangoes for the girl in the house / with the axe.'

In the preceding data, I showed that postpositional and prepositional phrases can occur in nearly the exact same syntactic constructions. In the following section, I investigate differences in regards to Ā-movement.

3.4.2 Wh-Movement of the DP Complement of Adpositions

In this section I investigate three properties of movement: resumption, pied piping, and copying. I begin with adpositional stranding (P-stranding) constructions, that is constructions in which the DP object moves to the left periphery while the adposition and a resumptive pronoun remain in-situ.[35] Beginning with postpositions, we find a similar pattern for Place postpositions, Directional postpositions, and Non-locative postpositions: the DP object moves into the left periphery with a resumptive pronoun remaining in-situ. In (113a) the Place position *ma* 'on' takes the DP *bɛteisia* 'the tables' as its object. When the object or corresponding wh-word surfaces in the left periphery in (113b), the third person plural resumptive pronoun *ti* surfaces in the base position. The pattern

[35] For further evidence that these are movement constructions and not generated in-situ, see Smith (2022b, 2023, 2024).

holds for the Directional adposition *gama* 'towards' with the DP object *nyapuisia* 'the girls' in (114) and the Non-locative postposition *va* 'for' with the DP object *nyapuisia* 'the girls' in (115). In each case, when the DP object or wh-word surfaces in the left periphery, the adposition and third person resumptive pronoun *ti* remain downstairs.

(113) Place Postpositions
a. Kpàná mángù-í-síà gɔ̀kɔ̀-í lɔ̀ **bɛ́tè-í-síà mà**
Kpana mango-DEF-PL find-PFV NF table-DEF-PL on
'Kpana found the mangoes on the tables.'

b. **bɛ́tè-í-síà / gbɛ̀-ngá** míà Kpàná mángù-í-síà gɔ́kɔ̀-ní **tí mà**
table-DEF-PL what-PL LPF Kpana mango-DEF-PL find-PFV 3PL on
'It is the tables / what (PL) is it that Kpana found the mangoes on.'

(114) Directional Postpositions
a. Kpàná wìmɛ̀-í lɔ̀ **nyàpù-í-síà gàmá**
Kpana run-PFV NF girl-DEF-PL towards
'Kpana ran towards the girls.'

b. **nyápù-í-síà / yè-ní** míà Kpàná wímɛ̀-ní **tí gàmá**
girl-DEF-PL who-PL LPF Kpana run-PFV 3PL towards
'It is the girls / who is it (PL) that Kpana ran towards.'

(115) Non-locative Postpositions
a. Kpàná mángù-í-síà yèyà-í lɔ̀ **nyàpù-í-síà và**
Kpana mango-DEF-PL buy-PFV NF girl-DEF-PL for
'Kpana bought the mangoes for the girls.'

b. **nyàpù-í-síà / yè-ní** mía Kpàná mángù-í-síà yèyà-ní **tí vá**
girl-DEF-PL who-PL LPF Kpana mango-DEF-PL buy-PFV 3SG for
'It is the girls / who is it (PL) that Kpana bought the mangoes for.'

Using corresponding examples with a singular DP object, we see a similar pattern. In (116a) the Place adposition *ma* 'on' takes a singular non-human object *bɛtei* 'the table,' and in (116b) when the object or wh-word surfaces in the left periphery, the resumptive pronoun is null. In (117) and (118) with a human object (*Mary* or *nyapui* 'the girl), when the object surfaces in the left periphery, the third person singular resumptive pronoun *ngi* surfaces in the canonical position ((117b) and (118b)).

(116) Place Postpositions
a. Kpàná mángù-í-síà gɔ̀kɔ̀-í lɔ̀ **bɛ́tè-í mà**
Kpana mango-DEF-PL find-PFV NF table-DEF on
'Kpana found the mangoes on the table.'

b. **bɛ́tè-í / gbɛ̀** mía Kpàná mángù-í-síà gɔ̀kɔ̀-ní ø **mà**
table-DEF what LPF Kpana mango-DEF-PL find-PFV 3SG.NH on
'It is the table / what is it that Kpana found the mangoes on.'

(117) Directional Postpositions
a. Kpàná wímɛ̀-í lɔ̀ **nyápù-í gámá**
Kpana run-PFV NF girl-DEF towards
'Kpana ran towards the girl.'

b. **nyápù-í / yè** mía Kpàná wímɛ̀-ní **ngì gámá**
girl-DEF who LPF Kpana run-PFV 3SG towards
'It is the girl / who is it that Kpana ran towards.'

(118) Non-locative Postpositions
a. Kpàná mángù-í-síà yèyà-í lɔ̀ **Mɛ́lí vá**
Kpana mango-DEF-PL buy-PFV NF Mary for
'Kpana bought the mangoes for Mary.'

b. **Mɛ́lí / yè** mía Kpàná mángù-í-síà yèyà-ní **ngì vá**
Mary who-PL LPF Kpana mango-DEF-PL buy-PFV 3SG for
'It is Mary / who is it that Kpana bought the mangoes for.'

Prepositional phrases behave similarly, apart from a different object pronoun. In these constructions the third person singular resumptive pronoun *ngiye* and plural resumptive pronoun *tiye* surface.[36]

(119) Comitative Prepositional Phrase
a. Kpàná yèngè-í lɔ̀ **à Mɛ́lí / nyàpù-í-síà** kpàá hún
Kpana work-PFV NF with Mary girl-DEF-PL farm on
'Kpana worked with Mary / the girls on the farm.'

b. **Mɛ́lí / yè** mía Kpàná yèngè-ní **à ngíyè** kpàá hún
Mary who LPF Kpana work-PFV with 3SG farm on
'It is Mary / who is it that Kpana worked with on the farm.'

c. **nyàpù-í-síà / yè-ní** mía Kpàná yèngè-ní **à tìyé** kpàá hún
girl-DEF-PL who-PL LPF Kpana work-PFV with 3PL farm on
'It is the girls / who (PL) is it that Kpana worked with on the farm.'

[36] For a discussion of the differing resumptive pronoun, see Smith (2022) and Chapter 4 of this dissertation. A differing class of pronouns / resumptive pronouns surface as the object of prepositions, as compared to postpositions. While this seemingly affirms that there is a different underlying structure, I do not yet have an analysis for these and do not discuss them at length in this dissertation.

For nonhuman singular focused objects (or objects transformed into wh-words) that surface in the left periphery, the resumptive pronoun *la* is used, while 3rd person plural *tiye* is used for plural objects.[37]

(120) Instrumental Prepositional Clause

a. Kpàná yèngè-í lɔ̀ **à** **kálí-í** / **kálí-í-síà** kpàá hún
Kpana work-PFV NF with hoe-DEF / hoe-DEF-PL farm on
'Kpana worked with the hoe / the hoes on the farm'

b. **kálí-í** / **gbɛ̀** mía Kpàná yèngè-ní **là** kpàá hún
hoe-DEF what LFP Kpana work-PFV with.3SG farm on
'It is the hoe / what is it that Kpana worked with on the farm.'

c. **kálí-í-síà** / gbɛ̀-ngà mía Kpàná yèngè-ní **à** **tìyé** kpàá hún
hoe-DEF-PL what-PL LFP Kpana work-PFV with 3PL farm on
'It is the hoes / what is it that Kpana worked with on the farm.'

A similar pattern emerges for long-distance Ā-movement of adpositional objects: a resumptive pronoun is required. In (121a) the Directional (source) postpositional phrase occurs in an embedded clause, while (121b-c) show that it is possible for the DP object of the postposition to be focused in the left periphery of either the embedded clause (121b) or the matrix clause (121c), with a resumptive pronoun in either case.

(121) a. Embedded Clause with Postpositional Phrase
Jɔ́n máwè-í lɔ̀ [kɛ̀ Kpàná wímɛ̀-í lɔ̀ **Mɛ́lí gámá]**
John deny-PFV NF C Kpana run-PFV NF Mary towards
'John denied that Kpana ran towards Mary.'

b. Partial Movement of Postpositional Object
Jɔ́n máwè-í lɔ̀ [kɛ̀ **Mɛ́lí** mía Kpàná wímɛ̀-ní **ngì** **gámá**]
John deny-PFV NF C Mary LPF Kpana run-PFV 3PL.H towards
'John denied that Kpana ran towards Mary.'

c. Full Movement of Postpositional Object
Mɛ́lí mía J máwè-ní [kɛ̀ Kpàná wímɛ̀-í lɔ̀ **ngì** **gámá**]
Mary FOC.L J deny-PFV C Kpana run-PFV NF 3PL.H towards
'It is Mary that John denied that Kpana ran towards.'

[37] The pronoun *la* seems to be a merging of the preposition *a* and an object pronoun.

Prepositional phrases show a similar pattern, as seen in (122), where the prepositional phrase occurs in an embedded CP. Both embedded movement (122b) and long distance left peripheral movement of the DP object are sanctioned (122c).

(122) a. Embedded Clause with Prepositional Phrase
Jɔ́n máwè-í lɔ̀ [kɛ̀ Kpàná yèngè-í lɔ̀ **à** **kálí-í-síà** kpàá hún**]**
John deny-PFV NF C Kpana work-PFV NF with hoe-DEF-PL farm on
'John denied that Kpana worked with the hoes on the farm.'

b. Partial Movement of Prepositional Object
J máwè-í lɔ̀ [kɛ̀ **kálí-í-síà** mía K yèngè-ní **à** **tíyè** kpàá hún**]**
J deny-PFV NF C hoe-DEF-PL FOC.L K work-PFV with 3PL farm on
'John denied that it is the hoes that Kpana worked with on the farm.'

c. Full Movement of Prepositional Object
kálí-í-síà mía J máwè-ní [kɛ̀ K yèngè-í lɔ̀ **à** **tíyè** kpàá hún**]**
hoe-DEF-PL FOC.L J deny-PFV C K work-PFV NF with 3PL farm on
'It is the hoes that John denied that Kpana worked on the farm.'

Turning next to pied-piping constructions, we find variation, particularly within the class of postpositions. I begin by investigating Place and Directional adpositions. Consider the data in (123) with the Place postposition *ma* 'on.' In (123a) the Place postposition *ma* 'on' takes *bɛtei* 'the table' as its DP object. When the DP pied-pipes the object or its wh-equivalent to the left periphery, two strategies are available. Either the locative resumptive pronoun *na* 'there' is used (123b) or the postposition is doubled, surfacing in both the left periphery and the base position, with the DP object in the left periphery and the null resumptive pronoun in the base position (123c).

(123) Place Postposition
a. Kpàná mángù-í-síà gɔ́kɔ̀-í lɔ̀ **bɛ́tè-í** **mà**
Kpana mango-DEF-PL find-PFV NF table-DEF on
'Kpana found the mangoes on the table.'

b. **bɛ́tè-í** / **gbɛ̀** **mà** mía Kpàná mángù-í-síà gɔ́kɔ̀-ní ***(nà)**
table-DEF what on LPF Kpana mango-DEF-PL find-PFV RP.LOC
'It is on the table / what that Kpana found the mangoes on.'

c. **bɛ́tè-í** / **gbɛ̀** **mà** mía Kpàná mángù-í-síà gɔ́kɔ̀-ní ø **mà**
table-DEF what on LPF Kpana mango-DEF-PL find-PFV 3SG.NH on
'It is on the table / what that Kpana found the mangoes on.'

The Directional postposition *gama* 'towards' can also be pied-piped into the left periphery (124). The use of the locative resumptive *na* in this construction generates a different meaning (124b), but particle doubling with a resumptive pronoun is fine (124c).

(124) Directional Postpositions
a. Kpàná wímɛ̀-í lɔ̀ **Mɛ́lí gámá**
Kpana run-PFV NF Mary towards
'Kpana ran towards Mary.'

b. #**Mɛ́lí / yè gámá** mía Kpàná wímɛ̀-ńi **nà**
Mary who towards LPF Kpana run-PFV RP.LOC
'It is towards Mary / who that Kpana ran there.'

c. **Mɛ́lí / yè gámá** mía Kpàná wímɛ̀-ní **ngí gámá**
Mary who towards LPF Kpana run-PFV 3SG towards
'It is towards Mary / who that Kpana ran.'

Non-locative postpositions show a different pattern, in that pied piping of the adposition is blocked, regardless of any resumptive strategy. When *va* 'for' surfaces in the left periphery, it is ungrammatical for resumptive *na* to surface in the base position or for adpositional doubling to occur with *va* also surfacing in its base position (125b). It is also ungrammatical for there to be no resumption at all (125c).

(125) Non-locative Postpositions
a. Kpàná mángù-í-síà yèyà-í lɔ̀ **Mɛ́lí và**
Kpana mango-DEF-PL buy-PFV NF Mary for
'Kpana bought the mangoes for Mary.'

b. ***Mɛ́lí / yè và** mía Kpàná mángù-í-síà yèyà-ní **(na / ngi va)**
Mary who-PL for LPF Kpana mango-DEF-PL buy-PFV RP 3SG for
'It is for Mary / whom that Kpana bought the mangoes for.'

c. ***Mɛli / ye va** mia Kpana mangu-i-sia yeya-ni
Mary who-PL for LPF Kpana mango-DEF-PL buy-PFV
'It is for Mary / whom that Kpana bought the mangoes for.'

While this might seem a somewhat surprising result, we will see later in this chapter and in the next chapter that functional adpositions are more likely to remain in situ and not move, in contrast to Place adpositions which show a greater propensity to movement.

When a postposition can be pied-piped in a clausal construction, both partial (126b) and long-distance (126c) pied-piping of the PP are also fine.

(126) a. Embedded Postpositional Phrase
Jɔ́n màwè-í lɔ̀ [kɛ̀ Kpàná wímɛ̀-í lɔ̀ **Mɛ́lí gámá**]
John deny-PFV NF C Kpana run-PFV NF Mary towards
'John denied that Kpana ran towards Mary.'

b. Partial Movement of Postpositional Phrase
Jɔ́n màwè-í lɔ̀ [kɛ̀ **Mɛ́lí gámá** mía Kpàná wímɛ̀-ní **ngí gámá**]
John deny-PFV NF C Mary towards LPF Kpana run-PFV 3SG towards
'John denied that it is towards Mary that Kpana ran.'

c. Full Movement of Postpositional Phrase
Mɛ́lí gámá mía Jɔ́n màwè-ní [kɛ̀ Kpàná wímɛ̀-í lɔ̀ **ngí gámá**]
Mary towards LPF John deny-PFV C Kpana run-PFV NF 3SG towards
'It is towards Mary that John denied that Kpana ran.'

Prepositional phrases behave most similarly to Directional postpositions. In (127) the prepositional phrase can move to the left periphery with obligatory adposition doubling and the resumptive pronoun in (127b), but an ungrammatical construction results with *na* in (127c).

(127) Comitative Prepositional Phrase
a. Kpàná yèngè-í lɔ̀ **à nyàpù-í-síà** kpàá hún
Kpana work-PFV NF with girl-DEF-PL farm on
'Kpana worked with the girls on the farm.'

b. **à nyàpù-í-síà** mía Kpàná yèngè-ní ***(a tiye)** kpàá hún
with girl-DEF-PL LPF Kpana work-PFV with 3PL farm on
'It is with the girls that Kpana worked on the farm.'

c. ***a nyapu-i-sia** mia Kpana yenge-ni (**na**) kpaa hun
with girl-DEF-PL LPF Kpana work-PFV RP farm on
'It is with the girls that Kpana worked on the farm.'

The instrumental phrase in (128) follows the same pattern. When the DP pied-pipes the preposition to the left periphery in (128b), the sentence is grammatical with doubling of the preposition and a resumptive pronoun, while it is ungrammatical for the resumptive *na* (128c) to be used.

(128) Instrumental Prepositional Phrase

a. Kpàná yèngè-í lɔ̀ **à** **kálí-í-síà** kpàá hún
Kpana work-PFV NF with hoe-DEF-PL farm on
'Kpana worked with the hoes on the farm'

b. **à** **kálí-í-síà** míà Kpàná yèngè-ní ***(a** **tiye**) kpàá hún
with hoe-DEF-PL LPF Kpana work-PFV with 3PL farm on
'It is with the hoes that Kpana worked on the farm'

c. ***a** **kali-i-sia** mia Kpana yenge-ni (**na**) kpaa hun
with hoe-DEF-PL LPF Kpana work-PFV RP farm on
'It is with the hoes that Kpana worked on the farm'

Table 6 summarizes the movement characteristics of DP objects and adpositions. All four types of adpositional phrases allow P-stranding, while only Non-locative postpositions are blocked from being pied-piped and undergoing adpositional doubling. Only locative postpositions can be resumed by *na*.

Adposition Type	P-Stranding	Pied-Piping of P	Adposition Doubling	Resumption with *na*
Locative Postposition	✓	✓	✓	✓
Directional Postposition	✓	✓	✓	*
Non-locative Postposition	✓	*	*	*
Preposition	✓	✓	✓	*

Table 6 - Adpositions and Movement

Cross-linguistically, there is substantial variation in whether pied-piping and/or P-stranding can occur. In Dutch, both options are available (Zwarts 1997; Koopman 2010; Den Dikken 2010), with the distinction purportedly driven by the functional structure of the PP. For example, Koopman (2010) argues that circumpositions in Dutch cannot be pied-piped since they lack a CP (path) level.

Aboh (2010) relates that there are two types of adpositions in Gbe, prepositions (P_1) and postpositions (P_2), with P_2 able to pied-piped or stranded, depending on the context. P_1, on the other hand, must be stranded. When both P_1 and P_2 combine to form a complex adposition, only the sequence DP – P_2 can be fronted, as P_1 must remain stranded (129). He argues that the

distinction between P_1 and P_2 is driven by their ability to introduce arguments and assign Case – P_1 can do so while P_2 cannot.

(129) Complex Adposition in Gbe (Aboh 2010: #2c, 7a, 7b)
a. Kpɔ̀nɔ̀n lɛ́ nyì àgbàn cè **xlán** gbó **jí**
police NUMB throw luggage POSS P_1 trash P_2
'The policemen threw my luggage on/to the Dumpster (lit. at the top of trash).'

b. gbó **jí** wɛ̀ kpònɔ̀n lɛ́ nyì àgbàn cè **xlán**
trash P_2 FOC police NUMB throw luggage POSS P_1
'The policemen threw my luggage ON/TO THE DUMPSTER (lit. at the top of trash).'

c. *[**Xlán** gbó **jí**]$_i$ wɛ̀ kpònɔ̀n lɛ́ nyì àgbàn cè t_i
P_1 trash P_2 FOC police NUMB throw luggage POSS
'The policemen threw my luggage ON/TO THE DUMPSTER (lit. at the top of trash).'

Ajayi (2019) likewise indicates that P-stranding occurs in Yoruba. He identifies three alternatives in left peripheral focus constructions – some prepositions can be stranded (130), while others can be pied-piped (131), and still others are dropped (132).

(130) Stranded Preposition in Yoruba (Ajayi 2019: # 3)
a. Iná$_i$ ni Fémi gbé omi **kà** t_i
Fire FOC Fémi put water on
'It was on fire that Fémi boiled water.'

b. ***Ka** iná$_i$ ni Fémi gbé omi t_i
on fire FOC Fémi put water
'It was on fire that Fémi boiled water.'

(131) Piped-piped Preposition in Yoruba (Ajayi 2019: # 4)
a. **Nítòsí** ojà ni Tólá ti na Péjú
Near market FOC Tólá PERF beat Péjú
'It was near market that Tólá beat Péjú.'

b. *ojà ni Tólá ti na Péjú **nítòsí**
market FOC Tólá PERF beat Péjú near
'It was near market that Tólá beat Péjú.'

(132) Dropped Preposition in Yoruba (Ajayi 2019: # 5)
a. Ojà$_i$ ni mo ti rí Túndé t_i (Mo ri Túndé **ní** Ojà)
Market FOC I PERF see Túndé
'It was at the market that I saw Túndé'

b. ***Ní** ojà$_i$ ni mo ti rí Túndé t_i (Mo ri Túndé **ní** Ojà)
At market FOC I PERF see Túndé
'It was at the market that I saw Túndé'

Cross-linguistically, in these types of constructions the consensus is that the structure of the adpositional phrase plays an important role in whether the adposition can be pied-piped or not. The story in Mende seems to be different. That Place and Directional postpositions can move, while Non-locative postpositions cannot, is unsurprising, given that I have argued that they have a similar structure. In my investigation of particle verbs in chapter 4, we will see that Place postpositions can move in various constructions. The more surprising data is that prepositional *a* can move, while other functional adpositions cannot. To this point, we have seen that functional adpositions behave similarly, whether prepositional or postpositional, but as we look at movement, however, we find a difference. At this point, it is still unclear what drives the distinction, and I leave it as an open question for future research.

3.7 Conclusion

In the previous sections I have discussed the lexical semantics and syntactic structure for adpositions in Mende. I have made four assertions that explain the semantic variation and syntactic structure of the various adpositional structures. Specifically, I have shown there is a lexical-functional cline which correlates semantic class with syntactic structure. I have argued that all adpositional structures are underlyingly head-initial and that postpositional structures are derived via leftward movement into SpecKaseP. Finally, I have argued that complex adpositional structures are derived via head-raising of the lowest head, corresponding to the left-most position on the LF Cline. Table 7 summarizes the semantic meanings and classification of Mende's adpositional system.

Adpositions			
Simple Postposition	Translation	nominal meaning	Class
mbu	'under, below'	'underside'	Place
kulɔ	'in front of'	'front'	Place
poma	'behind'	'back, rear'	Place
nda	'at (the entrance of)'	'mouth'	Place
ndia	'in the middle'	'middle'	Place
nga	'on the edge'	'surface, edge'	Place
kama	'to(wards)'	'whereabouts'	Directional (goal)
wɛ	'to, for'		Non-locative (goal)
fa	'for'		Non-locative (benefactive, goal, topic, introduce inf. V)
ma	'on'	'the top'	Place
ma	'from'		Directional (source)
ma	'at'		Non-locative (temporal)
ma	'by'		Non-locative (measure)
ma	'than'		Non- locative (comparison)
hun	'at, on, by, in'	'the inside'	Place
hun	'in(to) out(of)'		Directional (varies w/ verb)
Complex Postposition	Translation		Class
ko-hun	'inside'	*ko* 'abdomen'	Place
ma-hun	'on top of'		Place
kpela-nga	'near, beside'	*kpela* 'near'	Place
ngu-mba	'on top of'	*ngu* 'head'	Place
ndoa-hun	'between'	'difference'	Place
Preposition	Translation		Class
a	'with'		Non-locative (instrumental)
a	'with'		Non-locative (comitative)
a	'to'		Non-locative (dative/goal)
a	'at'		Non-locative (temporal)
Complex Adposition	Translation		Class
a X-(ma/nga)-hun-wɛ	'with X'		manner adverb

Table 7 - Mende's Adpositional System

This chapter has set out the first systematic description of the adpositional system of Mende. I argue that Mende adpositions occur on a Lexical-Functional Cline, reflecting analysis of Zina Kotoko (Holmberg 2002), the Mande language Wan (Nikitina 2009), and Dutch (Koopman 2010). Adpositions that occur on the Lexical end of the cline are more nominal in nature, while those on the Functional end show no nominal characteristics. Crucially, I propose that the cline naturally falls out from the syntactic hierarchy of adpositions in the language. Adpositions to the left (the

lexical end) of the cline occur as syntactically lower heads than adpositions to the right (the functional end).

With this in place, we see how complex adpositions and PP adverbs form. In complex adpositional structures, the lexical head takes a DP complement before head-raising to adjoin the next higher head (which is farther right on the cline). Once the final head structure is formed, the functional structure merges, and the DP raises for Case-licensing.

In PP adverbs, the lowest head is found farthest to the left on the cline, with subsequent heads occurring to the right. The lowest head takes a DP complement, then head-raises adjoining any other adpositional heads. Once the adpositional heads have all head-adjoined, the DP complement raises into its functional structure for Case-licensing. The adposition *a,* meaning 'with' in these constructions, takes the complex PP as its complement, generating the surface structure: *a X-(nga)-hun-wɛ*. Evidence for head-raising in both complex adpositions and PP adverbs is that consonant mutation cannot occur on any of the adpositions, apart from the first, which is triggered by the DP object that precedes it.

This analysis lines up with the previous investigations by Ayano (2001), Holmberg (2002), Cinque (2010), Koopman (2010), and Svenonius (2010) in arguing that there is a consistent, predictable hierarchy of adpositions. It also supports Kayne's (1994) proposals that all XPs are head-initial, c-selecting their complement to the right, and that postpositional objects are case-licensed via leftward movement into the specifier of a Kase Phrase. Finally, it also aligns with Svenonius' proposal that complex postpositions are generated via head-movement.

At the same time, it leaves a few questions unanswered. The first unresolved question concerns how the meaning of complex adverbs are derived. Consider the phrase *a nafa-ya-hun-wɛ* 'successfully' in which the base *nafa* means 'success.' The role of the preposition *a* is pretty clearly

comitative, but how do the other adpositions help derive the meaning? *Nga/ya* refers to 'the surface of X', *hun* typically means 'in X', and *wɛ* is typically a benefactive 'to / for X', yet how they cooperate to generate the meaning 'successfully' is unclear.

A related issue is whether all the bases in these complex PPs are even nouns. In the phrase *a baa-ngɔ-hun-wɛ* 'reportedly,' the morpheme *baa* means 'respect,' but the morpheme *-ngɔ* marks stative verbs. This suggests that *baa* is, in fact, a verb. This ambiguity has long been noted in Mende, with Innes (1969) even using the term *neutral* to indicate a word that can function as either a noun or a verb.

Another unresolved question concerns the discrepancy in Ā-movement of Non-locative postpositions in contrast to Non-locative prepositional *a* and Place and Directional postpositions. While the DP object of a Place or Directional postpositional phrase or a prepositional phrase can pied-pipe its adposition, the DP object of a Non-locative postpositional phrase cannot do so. It is unclear why this distinction occurs and further research is necessary to tease it out.

Having looked at verbs and adpositions in the past two chapters, in Chapter 4 I investigate complex predicates. I look at pre-verbal and post-verbal particle verb constructions, that is, phrases in which the verb takes a PP complement. We will see that pre-verbal PP objects can range from compositional to idiomatic meanings, while post-verbal particle verbs nearly always have idiomatic meanings. We will see how the category of the verb and the adposition play into the derivation of these structures, and how Case-licensing drives movement.

Chapter 4

Complex Predicates

4.1 Introduction

In Chapter 2 I investigated Mende canonical verbs, and in Chapter 3 I considered Mende's adpositional system. In this chapter, I investigate constructions in which the verb's theme is not a bare DP, but instead is encoded in what looks to be an adpositional phrase. In order to introduce these constructions, consider the data in (1), with the phrase *bɛteisia ma* occurring in all three examples. In (1a) it is an adjunct PP meaning 'on the tables,' while in (1b) it means 'the top of the tables,' and in (1c) it simply means 'the tables.' The same string conveys three different meanings, dependent on its syntactic context.

(1) a. Adjunct PP
Kpàná mángù-í-síà wùá-í lɔ̀ **bɛ́tè-í-síà mà**
Kpana mango-DEF-PL wash-PFV NF table-DEF-PL on
'Kpana washed the mangoes on the tables.'

b. Pre-verbal Particle Verbs
Kpàná **bɛ́tè-í-síà mà** wùá-í lɔ̀
Kpana table-DEF-PL MA wash-PFV NF
'Kpana washed the top of the tables.'

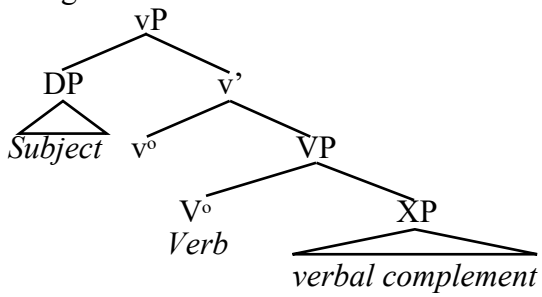
c. Post-verbal Particle Verb
Kpàná lèmà-í lɔ̀ **bɛ́tè-í-síà mà**
Kpana forget-PFV NF table-DEF-PL MA
'Kpana forgot the tables.'

Having discussed constructions like (1a) in Chapter 3, in this chapter, I explore the syntax and lexical semantics of constructions like those in (1b) and (1c). In these constructions we see

that the verb's theme occurs in what looks like an adpositional phrase, surfacing in a pre-verbal position in (1b) and a post-verbal position in (1c).

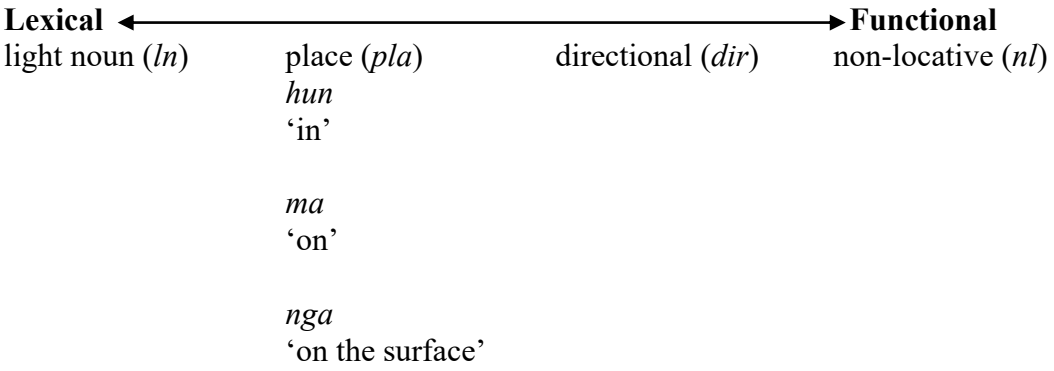
The keys to understanding these constructions are the particle and the verb. We will see a distinction in the class of particles that can surface before the verb, specifically, that they are lexical (towards the left of LF-Cline), and those that occur after the verb, which are functional (towards the right of the LF-Cline). We will further note that only certain types of verbs can surface with their theme encoded in a post-verbal particle phrase. Crucially, I will continue to argue that the underlying structure of every Mende verb phrase is the same: the verbal head selects its complement in a head-initial structure (2).

(2) Merge Structure: All Verbs



The variation in surface order is derived by the class of the verb, and the type of adposition it selects. A subset of canonical verbs, such as *wua* 'wash' in (1b) can take Place phrases as their complement in a *DP P V* construction. In these constructions the particle is always a Place adposition, with *hun, ma,* and *nga* occurring most commonly. I refer to these as *pre-verbal particle verb constructions*.

(3) Lexical-Functional Cline



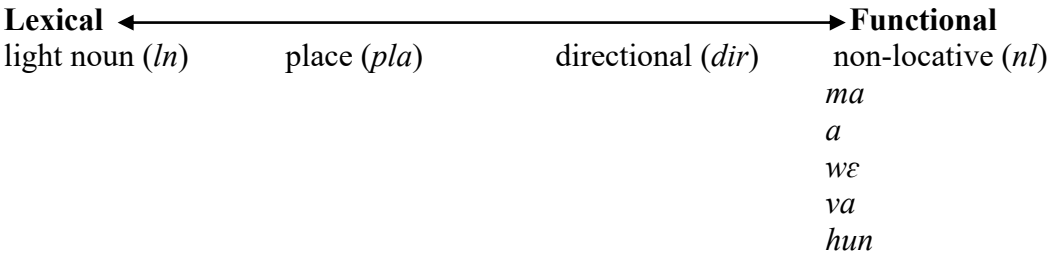
While they all surface with a *DP P V* linear order, they vary in their compositionality. Some are *non-compositional*, that is, a construction in which the particle is vacuous, with no apparent contribution to the overall meaning of the predicate. Some are *semi-compositional* with the particle modifying the basic meaning of the verb, while I consider the third group to be *compositional*, with the particle conveying a clear locative / Place meaning. They also vary syntactically. In most constructions the particle forms a constituent with the DP object in a *[DP P] V* structure, which I refer to as *unincorporated*. I have also discovered a case where the particle has incorporated with the verb in a *DP [P-V]* construction, that is the verb *hun-gbɛ* 'investigate (literally observe inside).'

Verbs like *lema* 'forget' in (1c) always surface with their DP theme in a post-verbal position, encoded in a PP, with most selecting *ma* or *a*, while a few select *wɛ, va,* and *hun.*[1] We will see that in these constructions, crucially, the particle is always functional.[2]

[1] Not all of my language consultants find the use of *hun* in (5e) grammatical.

[2] I have indicated that *ma* and *hun* can occur in both pre-verbal and post-verbal constructions. To this point, I have only uncovered one construction in which *hun* encodes a post-verbal DP object, while *ma* occurs quite frequently in both constructions.

(4) Lexical-Functional Cline



The data in (5) shows an example of each of the adpositions that can encode the verb's theme. I show below that there is a one-to-one correspondence between the verb and the adposition it selects. For now, however, note the variety of verbs and particles used in these constructions.

(5) Post-verbal Particle Verbs

a. Kpàná **lólò**-í lɔ̀ **à màhè-í**
Kpana hate-DEF NF A chief-DEF
'Kpana hated the chief.'

b. Kpàná **và**-í lɔ̀ **màhè-í mà**
Kpana greet-PFV NF chief-DEF MA
'Kpana greeted the chief.'

c. ngèngè-í **nɛ̀**-í lɔ̀ **màhè-í wɛ̀**
work-DEF please-PFV NF chief-DEF WƐ
'The work pleased the chief.'

d. Kpàná **gbè**-í lɔ̀ **mángù-í-síà và**
Kpana need-PFV NF mango-DEF-PL VA
'Kpana needed the mangoes'

e. #hùmà-mɔ̀-í **wù**-í lɔ̀ **nyà hàkè-í-síà hún**
steal-person-DEF grab-PFV NF 1SG luggage-DEF-PL HUN
'The thief grabbed my luggage.'

I refer to this class of constructions as *post-verbal particle verbs*, as they consist of a verb, an adpositional like particle, and a nominal theme, that occurs as an adpositional object. I describe those that surface with the prepositional particle *a* encoding the verb's object in a *V [P DP]* construction as *a-verbs* (5a). The majority of the post-verbal particle verbs with a *V [DP P]* structure involve *ma*, and, as such, I refer to the entire class as *ma*-verbs, even though other particles such as *wɛ* (5c), *va* (5d), and *hun* (5e) are sometimes found.

In both instances, these complex predicates greatly resemble German prefix and particle verb constructions. In the German data in (6), the particle *durch* 'through' can head a prepositional phrase like *durch die Tür* 'through the door' in (6a), can surface in a particle verb construction like *durchgeregnet* 'rained through' in (6b), or can prefix onto a verb, as in *durchwandert* 'wandered through (*durch*-wandered)' in (6c). Though they appear similar, Dewell (2011) indicates that the particle can separate from the verb in particle verb constructions in certain syntactic environments, while prefixed particles cannot.

(6) German (Dewell 2011: p. 5 #4 adapted)
   a. Prepositional Phrase
      Man geht *durch die Tür* in die Toilette.
      'One goes *through the door* to the toilet'

   b. Particle Verb
      Es hat bei extremen Witterungen öfter schon mal *durchgeregnet*.
      'It has already *rained through* several times during extreme thunderstorms'

   c. Prefix Verb
      Ich habe fast ganz Deutschland *durchwandert*, ich kann aber nirgends ruhe finden.
      'I've wandered through [*durch*-wandered] almost all of Germany, but nowhere can I find peace'

In Mende we see that the same particle can likewise surface in a postpositional, post-verbal particle verb (resembling the German Particle Verb), and pre-verbal particle verb (resembling the German Prefix Verb) construction. In (7a) *ma* heads the locative postpositional phrase *pujɛisia ma* 'on the peppers,' while in (7b) it encodes the theme of the predicate and is semantically vacuous. In (7c) it surfaces in a pre-verbal position and modifies the meaning of the verb, generating the meaning 'nibbled' (literally 'eat from the top').

(7) Mende
   a. Postpositional Phrase
      Kpàná ndì-í lɔ̀-í lɔ̀ **pùjɛ̀-í-síà mà**
      Kpana fly-DEF see-PFV NF pepper-DEF-PL on
      'Kpana saw a fly on the peppers.'

b. Post-verbal Particle Verb Theme
Kpàná lèmà-í lɔ̀ **pùjɛ̀-í-síà** **mà**
Kpana forget-PFV NF pepper-DEF-PL MA
'Kpana forgot the peppers.'

c. Pre-verbal Particle Verb Theme
Kpàná **pùjɛ̀-í-síà** **mà** mɛ̀-í lɔ̀
Kpana pepper-DEF-PL MA eat-PFV NF
'Kpana nibbled on the peppers.'

To this point, a vast majority of research on particle verbs has focused on Germanic languages. By investigating similar types of constructions in Mende we can gain greater insight into the nature of verb-particle constructions.

In the remainder of this chapter I flesh out these distinction is greater detail, investigating how these verbs, adpositions, and nominals interact in the derivation of particle verb constructions. In Section 4.2 I describe and analyze the syntax of pre-verbal particle verbs, while section 4.3 is an investigation of post-verbal particle verbs. In Section 4.4 I look at some crucial observations we can make regarding CP complements of *a*- and *ma*-verbs. Section 4.5 is a summary comparison of Mende particle verb constructions to Germanic particle verbs, and Section 4.6 is a conclusion.

4.2 Pre-verbal Particle Verbs

In this section I investigate pre-verbal particle verbs. To begin, consider the following data. The verb *mɛ* 'eat' in (8a) takes its theme *hakpei* 'the sauce' in a pre-verbal position, and the predicate encodes the meaning 'ate the sauce.' (8b) is a ditransitive construction in which the locative object *hakpei ma* 'on the sauce' occurs in a post-verbal position. I consider the sentences in (8) as canonical verb constructions (transitive and ditransitive respectively).

(8) a. Canonical Transitive Verb
Kpàná **hàkpè-í** **mɛ̀-í** lɔ̀
Kpana sauce-DEF eat-PFV NF
'Kpana ate the sauce.'

b. Canonical Ditransitive Verb
Kpàná gòlù-í wù-í lɔ̀ **hàkpè-í** **mà**
Kpana oil-DEF put-PFV NF sauce-DEF on
'Kpana put the oil on the sauce.'

In (9) we see that it's possible for the verb's theme to surface in a pre-verbal position, encoded in a postpositional phrase. Significantly, in this construction the meaning of the verb is modified by the particle. The construction *hakpei ma mɛ* in (9a) yields the meaning 'nibble on the sauce,' while the meaning of *hakpei hun mɛ* in (9b) is 'pick something out from the sauce.' I classify these constructions as instances of pre-verbal particle verbs. The interpretive difference between (9a) and (9b) indicates that it is the presence of the particle which alters the meaning of the predicate. The combination *ma mɛ* 'nibble' refers to eating of the theme bit by bit, while the combination *hun mɛ* refers to eating a subpart of the theme.

(9) Pre-verbal Particle Verbs
a. Kpàná **hàkpè-í** **mà** mɛ̀-í lɔ̀
Kpana sauce-DEF MA eat-PFV NF
'Kpana nibbled at the sauce.'

b. Kpàná **hàkpè-í** **hùn** mɛ̀-í lɔ̀
Kpana sauce-DEF HUN eat-PFV NF
'Kpana picked out something from the sauce.'

These types of constructions are quite common in the Mande language family and are typically referred to as "pre-verb" constructions (c.f. Dan-Gweta: Vydrin (2009); Mano: Khachaturyan (2013); Susu: Shluinsky (2014); Seenku: McPherson (2020)). These investigations consider the morphology, tonology, and semantics, but do not consider their syntactic distribution or properties in substantial detail. Note that in (10) and (10b) that in Dan-Gweta (Vydrin 2009) and Mano (Khachaturyan 2013) the pre-verbal particles are glossed as 'surface' and 'interior' respectively, both locative terms. Mende pre-verbal particles, likewise, include locative / Place particles such as *hun* 'inside' and *nga* 'surface.' McPherson (2020) suggests that the Seenku particle *nɛ* is a transitizer, while Shluinsky (2014) proposes that the Susu particle *ma* is a

distributive (pluractional) marker, in that each repetition of the event can include new participants or the same participants can be involved in numerous events. Both McPherson (2020) and Vydrin (2009) further comment that the semantics of these types of constructions vary widely, which we will see is also true in Mende.[3]

(10) Mande pre-verb constructions
a. Dan-Gweta (Vydrin 2021#107a, with English translation in Khachaturyan 2017)
Gbȁtȍ yȁ ɣ̄ bhā dhēbʌ̏ **tȁ**-kún
Gbato 3SG.PRF REFL.SG POSS woman surface-grasp
'Gbato helped his wife.'

b. Mano (Khachaturyan 2017 #6)
Ē pı̰̄à̰ **yí** ɓō
3SG.PST story interior implement
'She told a story.'

c. Seenku (McPherson # 2020)
ȉ nǎ wɛ́tənɛ̌ ȁ **nɛ̏**-fɛ̏
3PL PROSP now 3SG TRANS-blow.IRR
'They are going to winnow it now.'

d. Susu (Shluinsky 2014: #2)
dime-e bara gɛmɛ **ma**-yensen
child-PL TRMN stone MA-disperse
'Children scattered the stones.'

Returning now to Mende, Cowper and Rice (1987) investigates the status of *hun* and *ma* in Mende, with a principle focus on pre-verbal constructions (although they do not use that terminology). They show that they can surface as part of the clausal subject (11) or object (12).[4]

(11) Adapted from Cowper and Rice (1987: #1)
nyá hụ̀ / mà nyámú-ngɔ
I inside outside ugly-stative
'I am ugly inside / outside.'

(12) Adapted from Cowper and Rice (1987: #20)
ì kpàá hụ̀ híìngà
he farm inside plant-past
'He has planted the farm.'

[3] Tone marking and glossing are from the original papers.
[4] Tone marking and glossing are from the original paper.

They rule out that *hun* and *ma* are prefixes or part of a compound verb and instead propose that they are syntactically nouns but phonologically proclitics, attaching to the word that follows them.[5] As evidence, they argue that *hun* and *ma* have the same distribution as nouns and trigger consonant mutation on the following lexical item.

Their analysis serves as part of the basis for my analysis, though I propose a number of critical adjustments. First, I suggest that instead of being classified as nouns that *hu* and *ma* in these constructions should be classified as Place particles, surfacing towards the left (lexical) edge of the Lexical-Functional Cline.[6] I show below that this categorization helps explain the syntactic behavior of pre-verbal particle verbs.

Second, while Cowper and Rice (1987) limit their investigation to *hu* and *ma*, in reality, there are many more particles which can surface in pre-verbal positions. In fact, seemingly all Place particles can surface as pre-verbal particles in these types of constructions:

(13) Pre-verbal Particle Verb
Kpàná pɛ́lɛ̀-í wùá-í lɔ̀
Kpana house-DEF clean-PFV NF
'Kpana cleaned the house.'

(14) Pre-verbal Particle Verb
Kpàná pɛ́lɛ̀-í hún / mà / yà / bù / kùlɔ̀ / wómá wùá-í lɔ̀
Kpana house-DEF inside top edge inside front back clean-PFV NF
'Kpana cleaned the inside / top / edge / inside / front / back of the house.'

4.2.1 Compositionality

In this section, I discuss meaning and suggest that pre-verbal particle verbs fall into three groups with respect to compositionality. While linearly all three have *DP-P-V* word order, they vary in their degree of compositionality, with the variance seeming to be more gradient than discrete. We find some constructions in which the particle is vacuous, which I classify as non-compositional.

[5] They write the terms as *hụ* and *maa* respectively.
[6] They also discuss the phonological nature, of these constructions, which I do not address in this thesis.

In a second group the particle has a locative meaning, and I refer to these as compositional. The third group falls between these, with the particle modifying the meaning of the verb. I refer to these as semi-compositional. We can classify them on a scale like that shown in (15), recognizing that the degree of compositionality can vary.

(15) Compositionality of Pre-verbal Particle Verbs

Degree of compositionality

|----------|

Non-Compositional Semi-Compositional Compositional

I now take a more detailed look at each of these constructions. The first type is *non-compositional,* as the encoding adposition is semantically vacuous. In this construction, the verb maintains its meaning, while the particle seemingly contributes nothing to the overall meaning. In (16a) the verb *mɛni* means 'hear,' and when the adposition *hun* is present, as in (16b), there is no change in meaning.

(16) Non-Compositional

a. Kpàná ndɔ̀mɛ̀-í / ngílì-í **mɛ̀ní**-í lɔ̀
Kpana story-DEF thunder-DEF hear-PFV NF
'Kpana heard the thunder / story.'

b. Kpàná ndɔ̀mɛ̀-í / ngílì-í **hún** **mɛ̀ní**-í lɔ̀
Kpana story-DEF thunder-DEF HUN hear-PFV NF
'Kpana heard the thunder / story.'

Similarly, in (17a) the verb *mɔli* means 'question,' and the addition of *hun* in (17b) does not change the meaning.

(17) Non-Compositional

a. Kpàná hùmàmɔ̀-í **mɔ̀lí**-í lɔ̀
Kpana thief-DEF question-PFV NF
'Kpana questioned the thief.'

b. Kpàná hùmàmɔ̀-í **hún** **mɔ̀lí**-í lɔ̀
Kpana thief-DEF HUN question-PFV NF
'Kpana questioned the thief.'

The next type of construction is what I call a *semi-compositional* construction, in which the meaning of the verb is modified, but not completely changed, by the particle. The verb *vonya* 'wring out' in (18a) takes a pre-verbal object *kuleisia* 'the clothes.' In (18b) the addition of the particle *hun* modifies the meaning of the predicate, such that it means 'wring out completely,' which can be understood as an intensive modification of the verb.

(18) Semi-Compositional Meaning
a. Canonical Verb
Kpàná kùlèísíà **vɔ́nyà**-í lɔ̀
Kpana cloth-DEF-PL wring.out-PFV NF
'Kpana wrung out the clothes.'

b. Pre-verbal Particle Verb
Kpàná kùlèísíà **hún** **vɔ́nyà**-í lɔ̀
Kpana cloth-DEF-PL inside wring.out-PFV NF
'Kpana completely wrung out the clothes.'

In a similar vein, the verb *gbua* 'remove' takes a bare DP object *mbei* 'rice' in (19a). When the particle *ma* intervenes between the object and verb in (19b), the meaning of the predicate changes, as *mbei ma gbua* means 'to husk the rice' (literally 'to remove the top of the rice').

(19) Semi-Compositional Meaning
a. Kpàná mbè-í **gbùá**-í lɔ̀
Kpana rice-DEF remove-PFV NF
'Kpana removed the rice.'

b. Kpàná mbè-í **mà** **gbùá**-í lɔ̀
Kpana rice-DEF top remove-PFV NF
'Kpana husked the rice.'

The final group are what I call *compositional* constructions. In these constructions the meanings of the particle and verb are transparent, and the overall meaning is derived from the contribution of each of the parts, with the contribution of the particle being locative. This can be seen in (20), where in (20a) the verb *yela* 'sweep' takes a bare pre-verbal DP object *pɛlɛi* 'the house.' In (20b), however, the DP *pɛlɛi* 'the house' is encoded in a particle phrase headed by *bu* 'inside,' generating the meaning 'the inside of the house,' which is the entity that 'Kpana swept.'

(20) Compositional Meaning
a. Kpàná pɛ́lɛ̀-í **yèlà**-í lɔ̀
Kpana house-DEF sweep-PFV NF
'Kpana swept the house.'

b. Kpàná pɛ́lɛ̀-í **bù** **yèlà**-í lɔ̀
Kpana house-DEF inside clean-PFV NF
'Kpana swept the inside of the house.'

Similarly, in (21) the verb *wua* 'wash' can take a bare verbal object, as in (21a), where *bɛteisia wua* means 'wash the tables.' In (21b) with the particle *ma* intervening, the meaning of *bɛteisia ma wua* is 'wash the top of the tables.'

(21) Compositional Meaning
a. Kpàná bɛ́tɛ̀-í-síà **wùá**-í lɔ̀
Kpana table-DEF-PL wash-PFV NF
'Kpana washed the tables.'

b. Kpàná bɛ́tɛ̀-í-síà **mà** **wùá**-í lɔ̀
Kpana table-DEF-PL top wash-PFV NF
'Kpana washed the top of the tables.'

In both (20) and (21), the particle is locative: *bu* means 'inside' and *ma* means 'top.' As such, I label these constructions as compositional.

In the preceding data, we find a continuum ranging from non-compositional, in which the particle is vacuous, to compositional, in which the particle has a locative meaning. Importantly, in each of these constructions the particle is a Place particle, and, to this point, I have been unable to find any instances in which non-place Ps are used in pre-verbal particle verb constructions.

4.2.2 The Particle

In this section I explore in more detail the nature of the particle in pre-verbal particle verb constructions. While Cowper and Rice (1987) argues that *hu* and *ma* are nouns, I modify their analysis, arguing instead that *hu, ma,* and the other particles shown in (14) that surface in these

constructions are, in fact, Place particles. As such, they are neither fully nominal nor fully adpositional, possessing properties of both.

I begin with a comparison of possessed direct objects, with a *DP <u>DP</u> V* order and pre-verbal particle verb constructions, which (I argue) have a *DP <u>Place</u> V* order. I show that while the second DP in a possessive construction is a noun, the Place in the particle verb constructions is not.

The first difference concerns the presence of a determiner. In a possessed DP the determiner occurs on the possessum (second DP), while in a pre-verbal particle verb construction, the determiner occurs on the DP. We can see this asymmetry in (22a) where the determiner *-i* occurs on the possessum *yile* 'dog', and in (22b) where it cannot occur on the particle *hu(n)*, but must occur on the DP *pɛlɛ* 'house.'[7]

(22) a. Possessed DP Object
Kpàná nyàpù-{*i} yìlè-***{í}** lɔ̀-í lɔ̀
Kpana girl- DEF dog- DEF see-PFV NF
'Kpana saw the girl's dog.'

b. Pre-verbal Particle Verb
Kpàná pɛ́lɛ̀-***{í}** hú- {*i} wùá-í lɔ̀
Kpana house-DEF inside DEF wash-PFV NF
'Kpana washed the inside of the house.'

The second distinction concerns plurality. While a DP possessum can be pluralized, a particle cannot. (23a) shows that that a DP possesum *yileisia* 'the dogs' can be pluralized, while (23b) indicates that the particle *hun* cannot be pluralized.[8]

[7] In Chapter 2, I argued that Place particles can take a determiner when they surface as the clausal subject, apart from *hun* and *ma*, which I note in FN 11 of Chapter 2 are special cases. They also happen to be the most frequent particles in pre-verbal particle verb constructions. When we look at other particles, such as *nga* 'surface' or *kulɔ* 'behind' we see that they surface with the determiner as the clausal subject (which is a characteristic of nominals) and do not have the determiner in these constructions, which is more adpositional. I argue that even though these are homophonous particles, they head phrases that ultimately have different syntactic structures, accounting for the distinction.

[8] The construction below is used instead, with a plural DP object, plural possessive pronoun, and the particle.
i. Pre-verbal Particle Verb
Kpàná pɛ́lɛ̀-í-síà tì hún wùá-í lɔ̀
Kpana house-DEF-PL 3PL inside wash-PFV NF
'Kpana washed the insides of the houses.'

(23) a. Possessed DP Object
Kpàná **nyàpù-í-síà tì yìlè-í-síà** lɔ̀-í lɔ̀
Kpana girl-DEF-PL 3PL dog-DEF-PL see-PFV NF
'Kpana saw the girls' dogs.'

b. Pre-verbal Particle Verb
*Kpana **pɛlɛ-i-sia ti hu(n)-i-sia** wua-i lɔ
Kpana house-DEF-PL 3PL inside-DEF-PL wash-PFV NF
'Kpana washed the insides of the houses.'

The final distinction between a possessed DP object and pre-verbal particle verb is whether they are able to be modified by an adjective. The possessum in (24a) *yile* 'dog' can be modified by the adjective *nɔhɔ* 'dirty,' but the particle *hun* 'inside' in (24b) cannot be modified by the adjective.[9]

(24) a. Pre-verbal Particle Verb
Kpàná **nyàpù yìlè nɔ̀hɔ̀-í** lɔ̀-í lɔ̀
Kpana girl dog dirty-DEF see-PFV NF
'Kpana saw the girl's dirty dog.'

b. Pre-verbal Particle Verb
*Kpàná **pɛ́lɛ̀-i hún nɔ̀hɔ̀** wùá-í lɔ̀
Kpana house-DEF inside dirty wash-PFV NF
'Kpana washed the dirty inside of the house.'

These preceding data indicate that there is a clear distinction in the syntactic category of the DP possessum and the particle. The key idea is that the particle cannot be marked with the definite marker, pluralized, or modified. As such, we can conclude that the particle is not fully nominal.

There is, however, an important property of Place particles which points towards them not being fully adpositional, and, instead, having a nominal nature. Specifically, as noted by Cowper and Rice (1987), they trigger consonant mutation. We see this in the following left peripheral focus

[9] Instead, the adjective follows the noun. This does not seem to convey precisely the same meaning, but it is the closest meaning to the target construction that I could elicit.
i. Kpàná pɛ́lɛ̀ nɔ̀hɔ̀-í hún wùá-ì lɔ̀
Kpana house dirty-DEF inside wash-PFV NF
'Kpana washed the inside of the dirty house.'

constructions. Based on (25a), when the bare DP object *pɛlɛi* 'the house' surfaces in the left periphery in (25b), the phonologically null DP pronoun surfaces before the verb, and there is no mutation on the verb.

(25) Canonical Verb
a. Kpàná pɛ́lɛ̀-í **wùá**-í lɔ̀
Kpana house-DEF wash-PFV NF
'Kpana washed the house.'

b. pɛ́lɛ̀-í mía Kpàná ø **ngùá**-ní
house-DEF LPF Kpana 3SG.NH wash-PFV
'It is the house that Kpana washed.'

The data in (26a) shows a particle plus verb string, with mutation on the verb. In the focus construction in (26b), the preverbal DP object is focused and is resumed by a null 3SG pronoun. The particle *hun* 'inside' remains in-situ, and there is mutation on the verb. This strongly points towards the particle having a nominal nature, as only DPs can trigger mutation on the following word.

(26) Pre-verbal Particle Verb
a. Kpàná pɛ́lɛ̀-í hún **wùá**-í lɔ̀
Kpana house-DEF inside wash-PFV NF
'Kpana washed the inside of the house.'

b. pɛ́lɛ̀-í mía Kpàná ø hún {***ngua**-} / {**wùá**-} ní
house-DEF LPF Kpana 3SG.NH inside wash- wash- PFV
'It is the house that Kpana washed the inside of.'

We can see another example of this process in(27). In (27a) the DP *pɛlɛi* 'the house' triggers mutation on the verb, which surfaces as *yela* 'sweep.' When there is a focus construction, the preverbal DP is focused and is resumed by a null 3SG pronoun, as in (27b). There is no mutation on the verb, and *ngela* 'sweep' surfaces. When we have the pre-verbal particle verb construction in (28a), it triggers mutation on the verb, and *yela* surfaces. Finally, in (28b) when we have the left peripheral construction with the DP in the left periphery and null pronoun and particle *bu* in-situ, we see that there is mutation on the verb, which is presumably triggered by the particle *bu*.

(27) Canonical Verb.
a. Kpàná pɛ́lɛ̀-í **yèlà**-í lɔ̀
Kpana house-DEF sweep-PFV NF
'Kpana swept the house.'

b. pɛ́lɛ̀-í mía Kpàná ø {***yela**-ni} / {**ngèlà**-ní}
house-DEF LPF Kpana 3SG.NH sweep-PFV sweep-PFV
'It is the house that Kpana swept.'

(28) Pre-verbal Particle Verb
a. Kpàná pɛ́lɛ̀-í bù **yèlà**-í lɔ̀
Kpana house-DEF inside clean-PFV NF
'Kpana swept the inside of the house.'

b. pɛ́lɛ̀-í mía Kpàná ø bù {**yèlà**-ní} / {***ngela**-ni}
house-DEF LPF Kpana 3SG.NH inside clean-PFV clean-PFV
'It is the house that Kpana swept the inside of.'

In light of these examples, we can conclude that Place particles fall somewhere between DPs and Adpositions. In some regards they behave like adpositions: they cannot take an article, be pluralized, or be modified by an adjective. Yet, they also behave in one crucial aspect like nominals in triggering consonant mutation on the following DP.

4.2.3 Analysis of Pre-verbal Particle Verbs

To this point, I have argued that the there are three semantic classes of particle verb constructions: non-compositional, semi-compositional, and compositional. I have also argued that the particle corresponds to a *Place* element, and, as such, it has both nominal and adpositional properties. I now to turn the syntactic derivation of these constructions. While Innes' (1969) lists preverbal particle verbs as a single lexical unit (e.g. *humɛ* 'eat the inside,' *huwua* 'wash the inside,' *hugbɛ* 'investigate'), Cowper and Rice (1987) argue that the particle and verb are separate words. I argue that both possibilities occur in Mende, but they are challenging to discern as the linear order remains the same. I argue that in one type, *incorporated,* the particle incorporates into the verb and forms a constituent with it, though to this point, I have only found a few examples. In the second

type, *unincorporated*, the particle forms a constituent with the preverbal DP (theme). For both types, in the simple case, the surface order is *DP P V*. In order to motivate the distinction, we can again look at Ā-movement data, as seen in the following examples. In (29) the verbs *yela* and *gbe* mean 'sweep' and 'observe' respectively. When the particle *hun* precedes them, *hun yela* means 'sweep the inside' while *hun-gbe* means 'investigate (observe the inside).'[10] Innes lists both of these particle verb constructions as one word, while according to the arguments laid out in Cowper and Rice (1987), they should each be considered as two words.

(29) Canonical Construction
a. Kpàná pɛ́lɛ̀-í **yèlà**-í lɔ̀
Kpana house-DEF sweep-DEF NF
'Kpana swept the house.'

b. Kpàná nyàpù-í-síà **gbè**-í lɔ̀
Kpana girl-DEF-PL observe-PFV NF
'Kpana observed the girls.'

(30) Pre-verbal Particle Verb
a. Kpàná pɛ́lɛ̀-í **hún** **yèlà**-í lɔ̀ *Unincorporated*
Kpana house-DEF inside sweep-PFV NF
'Kpana swept the inside of the house.'

b. Kpàná nyàpù-í-síà **hún-gbè**-í lɔ̀ *Incorporated*
Kpana girl-DEF-PL inside-observe-PFV NF
'Kpana investigated the girls.'

I argue that neither of these analyses is fully correct, as seen when the DP object moves to the left periphery. In (31) we see that in both instances the DP object can move to the left periphery with the particle remaining in place, and yielding the particle verb reading.

(31) DP in Left Periphery with Particle In-situ
a. pɛ́lɛ̀-í mía Kpàná ø **hún** **yèlà**-ní *Unincorporated*
house-DEF LPF Kpana 3SG.NH inside sweep-PFV
'It is the inside of the house that Kpana swept.'

b. nyàpù-í-síà mía Kpàná tì **hún-gbè**-ní *Incorporated*
girl-DEF-PL LPF Kpana 3PL inside-observe-PFV
'It is the girls that Kpana investigated.'

[10] The verb *hungbe* investigate' seems to be lexicalized at this point.

The critical examples, however, are in (32). In (32a) the particle *hun* moves with the DP *pɛlɛi* 'the house,' with a null resumptive pronoun remaining in-situ before the verb, which maintains its meaning 'sweep.' In (32b), when the particle *hun* moves with the DP *nypauisia* 'the girls,' it only modifies the DP yielding 'the inside of the girls,' and the verb reverts to its non-modified meaning 'observe,' as seen above in (29b).

(32) DP and Particle in Left Periphery

a. pɛ́lɛ̀-í **hún** míà Kpàná ø **ngèlà**-ní *Unincorporated*
house-DEF inside LPF Kpana 3SG.NH sweep-PFV
'It is the inside of the house that Kpana swept.'

b. #nyàpù-í-síà **hún** míà Kpàná tì **gbè**-ní *Incorporated*
girl-DEF-PL inside LPF Kpana 3PL observe-PFV
'It is the inside of the girls that Kpana observed.'
*'It is the girls that Kpana investigated.'

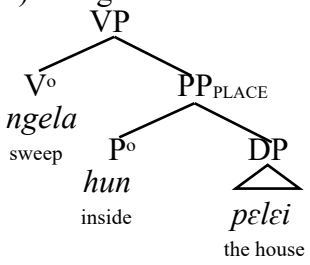
I argue that this distinction results from the constituency relationships that the particle forms. In (32a) *hun* forms a constituent with the DP object, and it can be pied-piped with the DP to the left periphery. In (32b), however, the particle cannot separate from the verb and maintain the same meaning, as it is incorporated into the verb.

Using the data in (33), I next show how an unincorporated particle verb is derived. I argue that Case plays a central role in accounting for the surface *DP P V* order, just as with canonical verbs.

(33) Kpàná **pɛ́lɛ̀-í** **hún** **yèlà**-í lɔ̀
Kpana house-DEF inside sweep-PFV NF
'Kpana washed the inside of the house.'

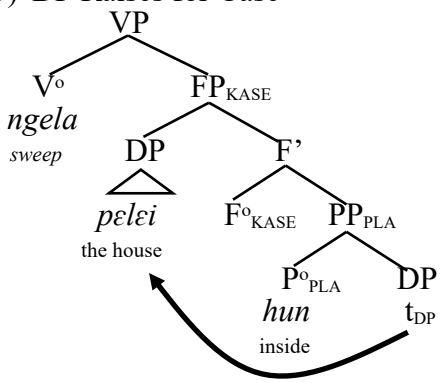
Following the analysis laid out in chapter 3, we see in (34) that the place particle *hun* 'inside' takes *pɛlɛi* 'the house' as its complement in a PP_{PLACE}. The verb *ngela* 'sweep' then takes the PP as its complement.

(34) Merge Structure of Pre-verbal Particle Verb



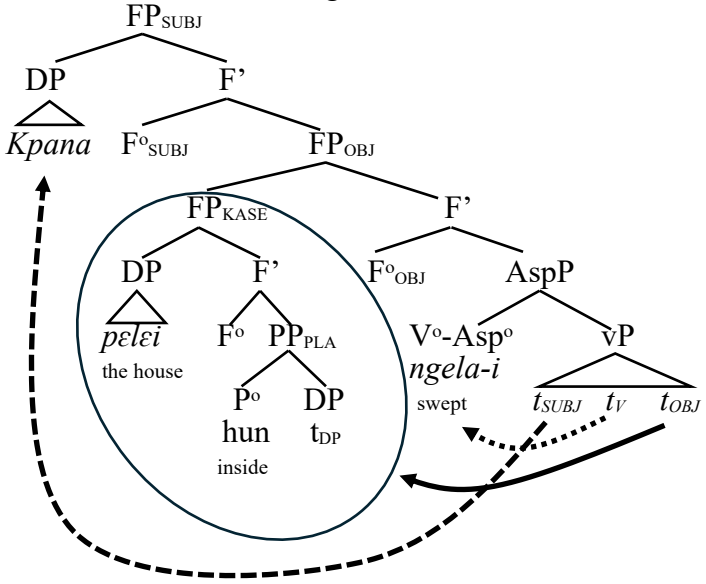
In Chapter 3 I argued that adpositional phrases are able to project a functional structure, with the DP object moving into SpecKaseP for Case-licensing. In cases like (33), the extended projection of the Place particle contains FP_{KASE} , and the DP *pɛlɛi* 'the house' raises into its specifier in order to be Case-licensed (35). Crucially, the Place particle itself is sufficiently nominal that it too will require Case licensing.

(35) DP Raises for Case



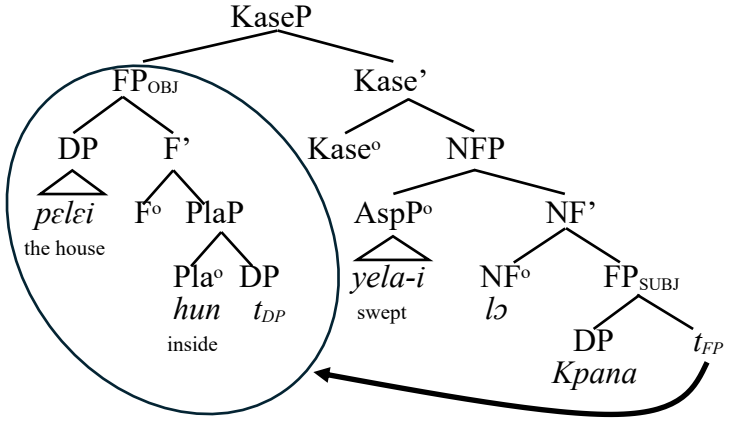
As I have argued is true for all verbs, in (36) we see that the verb *ngela* head-raises adjoining the Aspect head, while its arguments raise out of the vP into the specifiers of the corresponding FPs. The Place Phrase *pɛlɛi hun* 'the inside of the house' raises into $SpecFP_{OBJ}$, while the subject *Kpana* raises into $SpecFP_{SUBJ}$.

(36) Verb Head-raises and Arguments Raise



In (37), the complex verb-aspect head raises into the specifier of the Neutral Focus Phrase, pied piping the AspP with it. It is at this point that the nominal nature of the Place particle comes into play. While the DP object *pɛlɛi* 'the house' has been Case-licensed within the Place Phrase (as seen in(35)), the Place particle *hun* 'inside' has not. It, therefore, raises for Case-licensing into SpecKaseP, the same as any other DP object. In this movement it pied-pipes the DP theme with it. The subject then raises through SpecSubjP into SpecFinP (not shown). The tree in (37) shows the surface position of the direct object, particle, and verbal complex. In this surface configuration the PlaceP triggers mutation on the verb, yielding *yela*.

(37) Derived Surface Position of a Pre-verbal Particle Verb



This analysis explains the Ā-movement patterns in (31a) and (32a), renumbered here as (38a-b). The DP *pɛlɛi* 'the house' can move out of SpecFP$_{OBJ}$ into the clausal left periphery, generating the order in (38a). It can also pied-pipe the Place particle with it, deriving the order in (38b). The data in (38c), however, shows that the Place particle *hun* 'inside' cannot move by itself into the left periphery, which is unsurprising, as it is a head.

(38) a. pɛ́lɛ̀-í mía Kpàná ø **hún** **yèlà**-ní
house-DEF LPF Kpana 3SG.NH inside sweep-PFV
'It is the inside of the house that Kpana swept.'

b. pɛ́lɛ̀-í **hún** mía Kpàná ø **ngèlà**-ní
house-DEF inside LPF Kpana 3SG.NH sweep-PFV
'It is the inside of the house that Kpana swept.'

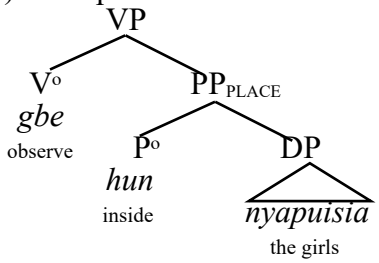
c. *hun mia Kpana pɛlɛ-i yela-ni
inside LPF Kpana house-DEF sweep-PFV
'It is the inside that Kpana swept of the house.'

I next consider the derivation of an incorporated pre-verbal particle verb. In this construction, only the DP theme is Case-licensed, as the particle incorporates into the verb and does not need to be Case-licensed (Baker 1985). To begin, consider (39).

(39) Kpàná nyàpù-í-síà hún-gbè-í lɔ̀
Kpana girl-DEF-PL inside-observe-PFV NF
'Kpana investigated the girls.'

As shown in (40), the Place particle *hun* 'inside' selects the DP *nyapuisia* 'the girls' as its complement. The verb *gbe* 'observe' selects this PP$_{PLACE}$ as its complement.

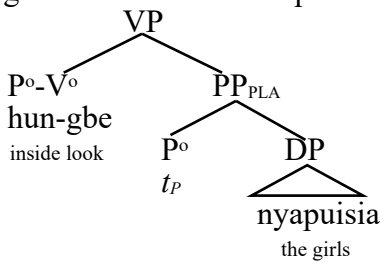
(40) Incorporated Pre-verbal Particle Verb



Crucially, at this point the particle *hun* 'inside' raises to head-adjoin the verb (Baker 1995). As such, it does not project an extended domain containing a Case-licensing phrase to which DP

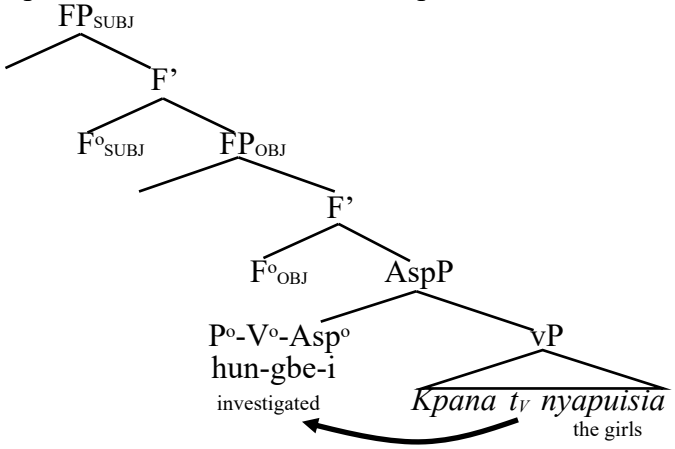
the DP complement to P can raise, yielding the structure in (41). This contrasts with the structure in (35) and raises the question of why the particle does not project a functional Case-licensing phrase. This is not immediately apparent, though perhaps it raises before projecting the functional structure, similar to the analysis proposed for complex adpositions in Section 3.2.6, where only the highest head projects a Case-licensing phrase. For now, however, I leave it as an open question.

(41) Merge Position of an Incorporated Pre-verbal Particle Verb



At this point, the complex predicate then further raises, adjoining to the Aspect head, and the verbal arguments all raise into functional phrases. The tree in (42) show the movement of the verbal complex before the arguments raise.

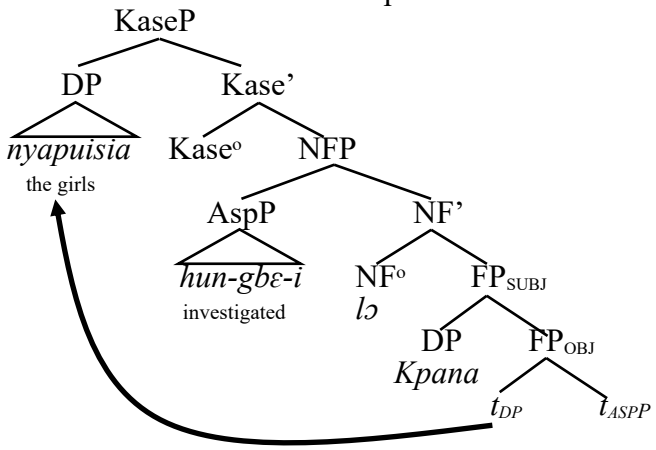
(42) Complex Verbal Head Raises to Aspect Head



In (43), the AspectP raises into SpecNFP. The DP theme *nyapuisia* 'the girls' has yet to be Case-licensed. Since there was no Case-licensing position within the extended structure of the

PlaceP into which it could raise for Case, it now raises into SpecKaseP to be licensed. The subject subsequently raises into its surface position (not shown).

(43) Derived Surface Position of an Incorporated Pre-verbal Particle Verb



This analysis accounts for the Ā-movement facts in (31b) and (32b), renumbered below as (44). In (44a) the DP object *nyapuisia* 'the girls' surfaces in the left periphery, which is compatible with the analysis in (43). In (44b) the DP object and particle surface in the left periphery, but the meaning of the verb is changed. I would argue that in order to generate this construction, the particle *hun* has seemingly never incorporated into the verb. As such, it yields the (semantically odd sounding) locative meaning 'the inside of the girls,' with the verb maintaining its unmodified meaning 'observe.'

(44) Incorporated Verb

a. nyàpù-í-sìà mía Kpàná tì **hún-gbè**-ní
girl-DEF-PL LPF Kpana 3PL inside-observe-PFV
'It is the girls that Kpana investigated.'

b. Incorporated
#nyàpù-í-sìà **hún** mía Kpàná tì **gbè**-ní
girl-DEF-PL inside LPF Kpana 3PL observe-PFV
'It is the inside of the girls that Kpana observed.'
*'It is the girls that Kpana investigated.'

4.2.4 The Relation between Syntactic Structure and Semantics of Particle Verbs

To this point, we have identified three semantic types of pre-verbal particle verbs, characterized by their compositionality: non-compositional, semi-compositional, and compositional. We have also identified two syntactic types of pre-verbal particle verbs: incorporated and unincorporated. In this section, I offer some observational remarks on the relationship between semantic type (compositional / non-compositional / semi-compositional) and syntactic structural type. Much more work needs to be done before any firm conclusions can be drawn, but this data provides some initial data for consideration. In the following examples, I test whether the meaning of the predicate that is generated in a neutral-focus construction, that is when the particle immediately precedes the verb, is maintained when the particle surfaces in the left periphery.

I begin with the incorporated verb *hun-gbɛ* 'investigate' in (45). In both (45a) and (45b) the particle *hun* 'inside' is adjacent to the verb *gbe* 'observe' modifying its meaning from 'observe' to 'investigate (observe inside).' In (45c) when the particle surfaces in the left periphery, the verb carries only the ordinary meaning 'observe.' This seemingly confirms the observation noted above in footnote 10 that *hungbe* 'observe' is likely lexicalized at this point.

(45) Incorporated: Semi-compositional

a. Kpàná nyàpù-í-síà **hún-gbè**-í lɔ̀
Kpana girl-DEF-PL inside-observe-PFV NF
'Kpana investigated the girls.'

b. nyàpù-í-síà mía Kpàná tì **hún-gbè**-ní
girl-DEF-PL LPF Kpana 3PL inside-observe-PFV
'It is the girls that Kpana investigated.'

c. #nyàpù-í-síà **hún** mía Kpàná tì **gbè**-ní
girl-DEF-PL inside LPF Kpana 3PL observe-PFV
'It is the inside of the girls that Kpana observed.'
*'It is the girls that Kpana investigated.'

I turn next to unincorporated verbs. In (46a) the verb *wua* 'clean' takes a bare DP object *bɛteisia* 'the tables,' which, in (46b), surfaces in an particle phrase headed by *ma*. This is a

compositional construction, as the particle has a locative meaning of 'on / top.' In (46c) when the DP object and particle surface in the left periphery, the predicate maintains its compositional meaning of 'wash the top.'

(46) Unincorporated: Compositional Meaning
a. Kpàná bɛ́tè-í-síà **wùá**-í lɔ̀
Kpana table-DEF-PL wash-PFV NF
'Kpana washed the tables.'

b. Kpàná bɛ́tè-í-síà **mà wùá**-í lɔ̀
Kpana table-DEF-PL top wash-PFV NF
'Kpana washed the top of the tables.'

c. bɛ́tè-í-síà **mà** míà Kpàná ti **wùá**-ní
table-DEF-PL top LPF Kpana 3PL wash-PFV
'It is the top of the tables that Kpana washed.'

Likewise, in (47a) the verb *mɛ* 'eat' takes a bare DP object *hakpei* 'the sauce,' which is encoded in a particle phrase in (47b) headed by *ma,* in a semi-compositional structure. In (47c) the semi-compositional meaning 'nibbled' is maintained when the particle *ma* surfaces in the left periphery with the DP object.

(47) Unincorporated: Semi-compositional Meaning
a. Kpàná hàkpè-í **mɛ̀**-í lɔ̀
Kpana sauce-DEF eat-PFV NF
'Kpana ate the sauce.'

b. Kpàná hàkpè-í **mà mɛ̀**-í lɔ̀
Kpana sauce-DEF MA eat-PFV NF
'Kpana nibbled at the sauce.'

c. hàkpè-í **mà** míà Kpàná **mɛ̀**-ní
sauce-DEF MA LPF Kpana eat-PFV
'It is the sauce that Kpana nibbled at.'

Thus far, I have shown that unincorporated verbs can be compositional and semi-compositional. We find a different pattern with the non-compositional construction in (48). The meaning of the predicate is 'hear the thunder' whether the verb surfaces with a bare DP object (48a) or the particle *hun* intervenes (48b). In (48c) when the particle surfaces in the left periphery,

the meaning of the predicate changes, as the particle no longer modifies the verb. Instead, it now modifies the DP object with which it has moved to the left periphery.

(48) Unincorporated: *Non-compositional Meaning
a. Kpàná ngílì-í **mɛ̀ní**-í lɔ̀
Kpana thunder-DEF hear-PFV NF
'Kpana heard the thunder.'

b. Kpàná ngílì-í **hún** **mɛ̀ní**-í lɔ̀
Kpana thunder-DEF HUN hear-PFV NF
'Kpana heard the thunder.'

c. #ngílì-í **hún** mia Kpàná **mɛ̀ní**-ní
thunder-DEF HUN LPF Kpana hear-PFV
'It is the inside of the thunder that Kpana heard.'
'#It is the thunder that Kpana heard.'

The data in (48) is representative of the various non-compositional pre-verbal particle verbs that I have tested. When the DP pied-pipes the particle with it to the left periphery, the meaning of the predicate changes, with the particle modifying the DP.

Concluding this section, I have argued that pre-verbal particle verb constructions (*DP P V*) are derived from a head-initial VP in which the verb selects the Place particle as its complement. The Place particle projects a PP structure, taking the verb's theme as its DP object. From this base structure, both unincorporated and incorporated constructions are derived. Semantically, non-compositional, semi-compositional, and compositional constructions are generated. In the following section I look at post-verbal particle verb constructions, in which the verb's theme surfaces in an adpositional phrase that obligatorily follows the verb.

4.3 Post-Verbal Particle Verbs

To this point I have considered two types of transitive verb constructions. In chapter two I investigated canonical verbs, in which the theme occurs in a pre-verbal position (*DP V*). In section 4.2 I considered pre-verbal particle verbs, in which a Place particle intervenes between the DP

theme and verb (*DP P V*). In this section I turn to constructions in which the verb's theme surfaces in a post-verbal position, introduced by a particle (*V {P} DP {P}*).

4.3.1 First Look at the Data

For a first look at the phenomenon, consider the following data in (49) in which we compare the canonical verb *yeya* 'buy' in (49a) with the post-verbal particle verbs *lema* 'forget' in (49b) and *ja* 'touch' in (49c). The verb *yeya* 'buy' takes its DP object *bɛtei* 'the table' in a pre-verbal position, with no encoding particle. In contrast, *lema* 'forget' and *ja* 'touch' take their DP theme in a post-verbal position, encoded by the particles *ma* and *a* respectively. At first glance these encoding constructions resemble adpositional phrases, yet in both cases the particle / adposition is semantically vacuous.

(49) a. S O V
Kpàná **bɛ́tè-í** yèyà-í lɔ̀ *Canonical Verb*
Kpana table-DEF buy-PFV NF
'Kpana bought the table.'

b. S V O P
Kpàná lèmà-í lɔ̀ **bɛ́tè-í** mà *Post-verbal Particle Verb*
Kpana forget-PFV NF table-DEF MA
'Kpana forgot the table.'

c. S V P O
Kpàná jà-í lɔ̀ à **bɛ́tè-í** *Post-verbal Particle Verb*
Kpana touch-PFV NF A table-DEF
'Kpana touched the table.'

The constituency and ordering in these constructions is strict. There are three components: the verb, the particle, and the DP. The verb *lema* 'forget' cannot have a pre-verbal object whether the particle accompanies the DP (50a), remains stranded or is completely absent (50b). The order is *V DP P*, and I refer to particle verbs with this order as *ma*-verbs, as they typically use the particle *ma*, though as shown below *wɛ, va,* and *hun* are also used with a few verbs.

(50) Post-verbal Particle Verb: *ma*-Verb

a. Kpàná {***bɛte-i** ma} lèmà-í lɔ̀ {**bɛ́tè-í** mà}
Kpana table-DEF MA forget-PFV NF table-DEF MA
'Kpana forgot the table.'

b. *Kpana **bɛte-i** lema-i lɔ (ma)
Kpana table-DEF forget-PFV NF MA
'Kpana forgot the table.'

Likewise, the verb *ja* 'touch' cannot have a pre-verbal object whether the particle accompanies the DP (51a), or is stranded or absent (51b). The order is strictly *V P DP,* and I refer to these particle verbs as *a*-verbs, as they co-occur with the particle *a*

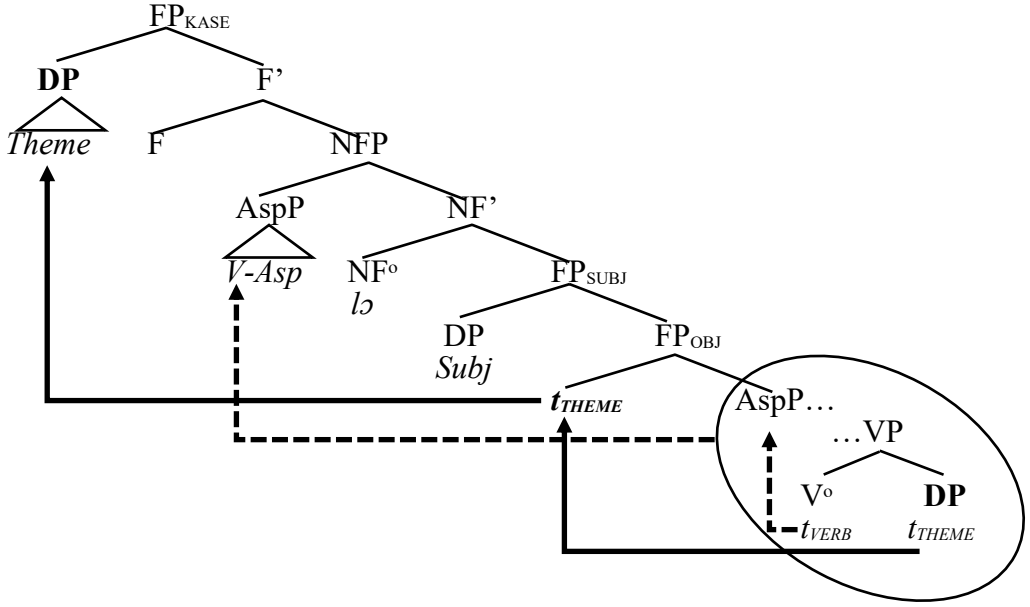
(51) Post-verbal Particle Verb: *a*-Verb

a. Kpàná {*a **bɛte-i** } jà-í lɔ̀ {à **bɛ́tè-í**}
Kpana A table-DEF touch-PFV NF A table-DEF
'Kpana touched the table.'

b. *Kpana {**bɛte-i** } ja-i lɔ (a)
Kpana table-DEF touch-PFV NF A
'Kpana touched the table.'

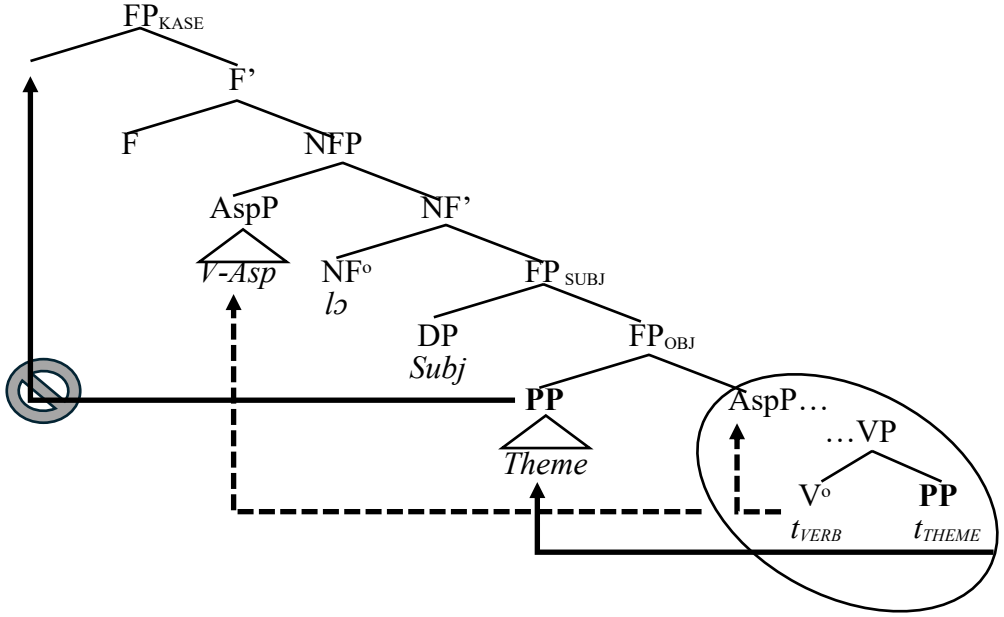
In this chapter, I argue that each of these constructions is derived from a head-initial verb phrase, just like canonical verbs. The difference, however, is that canonical verbs take a DP theme, while the complex predicate (V+P) takes a DP theme that is merged as the sister / complement to the particle in a PP. In the canonical verb derivation in (52) the verb raises to the Aspect head and the arguments of the verb raise into the specifiers of post-verbal functional heads (FP_{SUBJ} and FP_{OBJ} respectively). The DP object / theme still needs to be Case-licensed, so it further raises into a licensing position above the verb generating *DP V* word order.

(52) Derivation of a Canonical Verb



In the particle verb derivation in (53), the DP theme is encoded in a PP. Similar to the derivation in (52), the verb head-raises adjoining the Aspect head, and its arguments all raise into the specifiers of post-verbal functional phrases. The PP hosing the theme raises into FP$_{OBJ}$, but, crucially, it does not raise into a higher pre-verbal position for Case-licensing, since the DP is Case-licensed within the PP, as described in Chapter 3.

(53) Derivation of a Post-verbal Particle Verb



Differing from pre-verbal particle verbs, the particle in a post-verbal particle verb construction is not lexical but is functional (*a, ma, wɛ, va,* and *hun*) and does not need to be Case-licensed. As a result, there is no nominal or nominal-like element in need of Case-licensing, and the PP object remains below the verb, resulting in *V [{P} DP {P}]* word order.

In the following sections I develop this analysis in greater detail.

4.3.2 Post-verbal Particle Verb Components

Mende post-verbal particle verbs consist of a verb (from a seemingly idiosyncratic class of verbs) and a functional particle (*a, ma, wɛ, va,* or *hun*), which together constitute the predicate, and the verbal theme. They surface in one of the constructions shown in (54).

(54) Post-verbal Particle Verbs
ma-Verb: V-Asp NF [DP_{THEME} P]
a-Verb: V-Asp NF [P DP_{THEME}]

In comparison to the Germanic languages, Mende aligns more closely with Danish or Swedish where the ordering of the particle and DP theme are fixed. Danish has a fixed *V [DP P]* order (55b), while Swedish has a fixed *V [P DP]* order (55c). These contrast with languages like Norwegian (55a) or English where the particle can either precede or follow the DP object in the same construction.

(55) Larsen (2014) citing Svenonius (1996: 60, modified)

a. Vi	slapp {ut} hunden {ut}	*Norwegian*
b. Vi	slap {*ud} hunden {ud}	*Danish*
c. Vi	släpte {ut} hunden {*ut}	*Swedish*

we let out the.dog out
'We let the dog out'

Returning to Mende, I turn now to a discussion of each of the three components of the particle verb, beginning with the DP theme, which, as seen in the following data, has no lexical restrictions.[11]

(56) *ma*-verb
Kpàná lùwà-í lɔ̀ Mɛ́lí / nyàpù-í / kɔ́lí-í / njè-í / ndɔ̀mè-í mà
Kpana fear-DEF NF Mary girl-DEF leopard-DEF water-DEF story-DEF MA
'Kpana feared Mary / the girl / the leopard / the water / the story.'

(57) *ma*-verb
Kpàná fólò-í lɔ màhè-í / níkè-í / sɔ́sí-í / ngùlí-í mà
Kpana visit-PFV NF chief-DEF cow-DEF church-DEF tree-DEF MA
'Kpana visited the chief / the cow / the church / the tree.'

(58) *a*-verb
Kpàná lólò-í lɔ̀ à Mɛ́lí / nyàpù-í / kɔ́lí-í / njè-í / ndɔ̀mè-í
Kpana hate-PFV NF A Mary girl-DEF leopard-DEF water-DEF story-DEF
'Kpana hated Mary / the girl / the leopard / the water / the story.'

(59) *a*-verb
Kpàná jà-í lɔ̀ à màhè-í / níkè-í / sɔ́sí-í / ngùlí-í
Kpana touch-PFV NF A chief-DEF cow-DEF church-DEF tree-DEF
'Kpana touched the chief / the cow / the church / the tree.'

In this regard, Mende differs from Germanic languages. Larsen (2014) notes that in Germanic there are instances in which the semantic properties of DP objects of verbs can differ from those of particle verbs. He uses the example of the verbs *start* and *start up*, in which the particle limits the types of DPs that can surface as the object. While the DP objects *a car, a project, a company, a website,* and *a film* in (60a-b) can surface with either the bare verb *start* or the particle verb *start up*, the DPs *an essay, a book,* and *one's dinner* can surface with the bare verb (60c), but not the particle verb (60d).

(60) Larsen (2014: p. 115)
a. start a car / a project / a company / a website / a film
b. start up a car / a project / a company / a website / a film
c. start an essay / a book / one's dinner
d. *start up an essay / a book / one's dinner

[11] I discuss CP complements below.

This restriction does not occur in Mende. Mende post-verbal particle verb constructions can take the same range of complements as their synonymous canonical counterparts. The question of what causes the distinction in the mechanisms by which Case is licensed by canonical and particle verbs, apart from it being an idiosyncratic characteristic of the verb, remains an intriguing topic for future research.[12]

I want to take a brief but (I would argue) significant detour in order to clarify the terminology I use in this chapter. In much of the Mandeist literature, the pre-verbal DP objects of canonical verbs are considered an *object* while those that follow the verb are classified as an *oblique*, as they are encoded in an adpositional phrase. For example, in discussing similar constructions in Bambara, Creissels (2007) refers to the verbs' internal arguments as obliques.

(61) Bambara Oblique Arguments (Creissels 2007: ex. 8a, d)
a. à ká sàya bàla-la **bɛ́ɛ lá**
3S GEN death.DEF surprise-PF.POS all POSTP
'His death surprised everybody.'

b. à fɔ́-ra **ń kɔ́**
3S miss-PF.POS 1S POST
'He did not find me.'

This analysis, while understandable, tends to obscure the fact that in Mende, even when encoded in an adpositional phrase, oblique objects are still the internal argument of the predicate. The strongest evidence for this is an alternation in the position and encoding structure of the theme in a set of unergative verbs with cognate DP themes. Verbs in this class include *ngele* 'smile', *tiso* 'cough', *pindɛ* 'jump', *tɔhe* 'cough', *pimɛ* 'run', *jia* 'walk', *hambo* 'yawn', and *ndaapi* 'swim. In (62a) the verb *yɛlɛ* 'smile' can take a bare pre-verbal DP theme *ngɛlɛ jɛmbɛ* 'big smile,' or the verb can form a complex predicate with the functional adposition *a*, in which case the "cognate theme"

[12] In her investigation of verbal argument structure in the Mande language Jalonke, Lüpke (2005) discusses the lexical semantics of verbs, yet she does not discuss what might distinguish verbs that take DP objects (what I call canonical verbs) from verbs that take PP objects (what I call particle verbs). This might be an interesting route to consider, however, it not readily apparent and I do not consider it in this thesis.

(outside of Mande a 'cognate object') is encoded in a post-verbal adpositional phrase.[13] Note, further, that the sentence is ungrammatical when the functional adposition *a* surfaces in a pre-verbal position (marked as (*a)). Similarly in (62b) the verb *windɛ* 'jump' can take a bare pre-verbal DP cognate theme *pindɛ jɛmbɛ* 'big jump,' or the verb can combine with the adposition *a,* taking its theme in a post-verbal adpositional phrase headed by the particle.[14]

(62) Unergative Verbs with Cognate Objects

a. Pítá {(*a) **ngɛ̀lɛ́ jɛ́mbɛ**} yɛ̀lɛ̀-í lɔ̀ {à **ngɛ̀lɛ́ jɛ́mbɛ̀**}
Peter A smile big smile-PFV NF A smile big
'Peter smiled a big smile'

b. Pítá {(*a)**píndɛ̀ jɛ́mbɛ̀**} wíndɛ̀-í lɔ̀ {à **píndɛ̀ jɛ́mbɛ̀**}
Peter A jump big jump-PFV NF A jump big
'Peter jumped a big jump'

In both cases, though the syntactic structure differs, the meaning of the sentence is the same. These unergative constructions are important because they show that a theme can be encoded as a bare pre-verbal DP *or* as a PP, with no apparent change in meaning. I, therefore, avoid using the term oblique, as it obscures this relationship.[15]

Further evidence that these DPs are themes can be seen by comparing canonical verbs with apparently synonymous (or nearly synonymous) particle verbs. Table 8 shows verb pairs, where one is a canonical verb and the other is a *ma*-verb or *a*-verb.

[13] Why these verbs permit this variation is outside the scope of this research, but the crucial observation holds: when the direct object follows the verb, it is encoded in a particle phrase headed by *a*.

[14] *ngɛlɛ* is the unmutated form of *yɛlɛ,* while *pindɛ* is the unmutated form of *windɛ.*

[15] Khachaturyan (2013) reports a similar construction in the Mande language, Mano, where the verb *folo* 'miss' can take either a bare DP object (ia), or encode its object in a post-verbal postpositional phrase (ib). Using the analysis that I set out in this dissertation, it appears that *folo* can alternate between having a bare pre-verbal object or a post-verbal object encoded in a postpositional phrase. The most obvious distinction being that the verb and object are not cognates, though the pattern otherwise aligns nicely.

i. Alternation in Mano (Khachaturyan 2013 #10-11)

a. ē **wìì** fòló
3SG animal miss
'He missed the animal.'

b. ē fòló **wìì** **mɔ̀**
3SG miss animal under
'He missed the animal.'

ma-verb	*canonical verb*	*a-verb*	*canonical verb*
gɔmɛ 'encounter'	*male* 'meet'	*gayɛ* 'confess'	*hungɛ* 'explain'
hou 'grab'	*kapu* 'snatch'	*la* 'believe'	*kɔɔ* 'know'
vɛli 'salute'	*fali* 'bid farewell'	*ndo* 'want, prefer, love'	*mani* 'desire'
nde 'tell'	*hungɛ* 'explain'		

Table 8 - Synonymous Pairs of ma-Verbs and Canonical Verbs

These verbs can take the same DP themes, as seen in the following examples. I suggest that there is little substantial difference in the meaning of 'encountering' *Mary* in (63a) from 'meeting' *Mary* in (63b), with a similar situation for 'saluting' and 'bidding farewell' 'the chief' in (64) and 'wanting' or 'desiring' all of the money in (65).

(63) a. *ma*-Verb
Kpàná gɔ́mɛ̀-í lɔ̀ **Mɛ́lí** mà
Kpana encounter-PFV NF Mary MA
'Kpana encountered Mary.'

b. Canonical Verb
Kpàná **Mɛ́lí** màlè-í lɔ̀
Kpana Mary meet-PFV NF
'Kpana met Mary.'

(64) a. *ma*-Verb
Kpàná vɛ̀lí-í lɔ̀ **màhè-í** mà
Kpana salute-PFV NF chief-DEF MA
'Kpana saluted the chief.'

b. Canonical Verb
Kpàná **màhè-í** fàlí-í lɔ̀
Kpana chief-DEF bid.farewell-PFV NF
'Kpana bid the chief farewell.'

(65) a. *a*-Verb
Kpàná lò-í lɔ̀ à **nàvò-í** **gbì**
Kpana want-PFV NF A money-DEF all
'Kpana wanted all of the money.'

b. Canonical Verb
Kpàná **nàvò-í** **gbì** màní-í lɔ̀
Kpana money-DEF all desire-PFV NF
'Kpana desired all of the money.'

Turning next to the predicate, I begin by placing these constructions within the broader array of transitive verb constructions in Mende. In this dissertation, I have thus far considered canonical verb constructions, which have a *[DP] V* structure, and two types of pre-verbal particle

verbs, unincorporated, which have a *[DP P_{PLACE}] V* structure and incorporated, which have a *[DP] [P_{PLACE} V]* structure. Post-verbal particle verbs also have two possible structures: *ma*-verbs which have a *V [DP P_{FUNC}]* structure and *a*-verbs which have a *V [P_{FUNC} DP]* structure.[16]

As previously indicated, verbs in Mende can be classified as either canonical or post-verbal particle verbs, that is transitive verbs which obligatorily encode their internal argument in a post-verbal adpositional phrase. In (66) we see that the verbs *fa* 'greet,' *gbɔ* 'help,' and *manu* 'forgive' encode their DP theme *mahei* 'the chief' in a particle phrase headed by *ma*. I refer to these verbs as *ma*-verbs, as a vast majority of verbs in this class encode their theme with the particle *ma*.

(66) *ma*-verbs
a. Kpàná **fà**-í lɔ̀ màhè-í mà
Kpana greet-PFV NF chief-DEF MA
'Kpana greeted the chief.'

b. Kpàná **gbɔ̀**-í lɔ̀ màhè-í mà
Kpana help-PFV NF chief-DEF MA
'Kpana helped the chief.'

c. Kpàná **mánù**-í lɔ̀ màhè-í mà
Kpana forgive-PFV NF chief-DEF MA
'Kpana forgave the chief.'

Likewise, in (67) the verbs *lolo* 'hate,' *ja* 'touch,' and *lo* 'want' encode their theme *manguisia* 'the mangoes' with the particle *a*. I refer to verbs in this class *a*-verbs, as they all use the particle *a* to encode their DP theme.

(67) *a*-verbs
a. Kpàná **lólò**-í lɔ̀ à mángù-í-síà
Kpana hate-PFV NF A mango-DEF-PL
'Kpana hated the mangoes.'

b. Kpàná **jà**-í lɔ̀ à mángù-í-síà
Kpana touch-PFV NF A mango-DEF-PL
'Kpana touched the mangoes.'

[16] There is another structure that I have encountered, which is a *DP V-Particle* in which the verb particle appears on the surface in a post-verbal position while the DP surfaces in a bare pre-verbal position. These are part of my future research agenda.

c. Kpàná **lò**-í lɔ̀ à mángù-í-síà
Kpana want-PFV NF A mango-DEF-PL
'Kpana wanted the mangoes.'

Table 9 lists the *ma*-verbs that I have documented to this point. Looking at the list, the class of *ma*-verbs appears quite idiosyncratic with a wide variety of meanings. Action verbs include *folo* 'visit', *gɔla* 'surprise', and *gomɛ* 'encounter', while mental verbs include *mawɛ* 'deny', *seka* 'mistrust', and *manu* 'forgive.'

***ma*-verb**	**translation**	***ma*-verb**	**translation**	***ma*-verb**	***translation***
jowi	'abstain'	*yaka*	'forget'	*vela*	'miss'
kakpa	'attack'	*manu*	'forgive'	*seka*	'mistrust'
kpɔndalɔ	'compel'	*gbla*	'get wrong'	*gbiti*	'participate'
mawe	'deny'	*gbunde*	'grab'	*lewe*	'pass'
kiti	'doubt'	*fa*	'greet'	*hɛ*	'pray'
gomɛ	'encounter'	*gbɔ*	'help'	*gbelei*	'refuse, divorce'
gbaha	'fail'	*ndɔwu*	'hide'	*vɛli*	'salute'
nduwa	'fear'	*hɔlo*	'hit'	*lali*	'speak of'
to	'follow'	*hou*	'hold, catch'	*gɔla*	'surprise'
lema	'forget'	*gbe*	'leave'	*nde*	'tell'
				folo	'visit'

Table 9 – Mende ma-Verbs

Table 10 shows a list of Mende *a*-verbs that I have elicited to this point. Similar to *ma*-verbs, they are an idiosyncratic class. Action verbs include *lawe* 'brag', *ja* 'touch', and *bali* 'vomit', while mental verbs include *la* 'believe', *lolo* 'hate', and *ndo* 'want, love.'

***a*-verb**	**translation**	***a*-verb**	**translation**
wote	'become'	*lolo*	'hate'
la	'believe'	*mbaa*	'lack'
lawe	'brag'	*ngi*	'remember'
gaye	'confess'	*ja*	'touch'
henga	'dream'	*bali*	'vomit'
kpaha	'fail'	*ndo*	'want, love'
baa	'forfeit, lose'		

Table 10 - Mende a-Verbs

To this point, I have been unable to develop any semantic classification that would straightforwardly distinguish the classes of canonical verbs, *ma*-verbs, and *a*-verbs.

The third component of post-verbal particle verb constructions is the particle. The data in (68) shows that the particles *a*, *ma*, *wɛ*, *va*, and *hun* can encode the verbal theme in a post-verbal construction. I use the term *ma*-verb for verbs that use a postpositional particle, with all but five verbs in this class (that I have thus far encountered) using *ma.* Those that do not use *ma* include *wu* (hun) 'grab', *kpei* (*va*) 'need', *kolo* (*wɛ*) 'obey,' *tuma* (*wɛ*) 'permit,' and *nɛi* (*wɛ*) 'please.'

(68) Post-verbal Particle Verbs.

a. Kpàná ngí-í lɔ̀ *(**à**) màhè-í
Kpana remember-PFV NF A chief-DEF
'Kpana remembered the chief.'

b. Kpàná gɔ̀là-í lɔ̀ màhè-í *(**mà**)
Kpana surprise-PFV NF chief-DEF MA
'Kpana surprised the chief.'

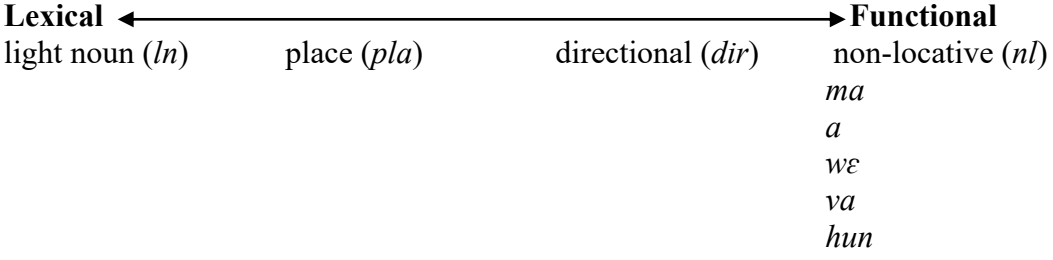
c. Kpàná kòlò-í lɔ̀ màhè-í *(**wɛ̀**)
Kpana obey-PFV NF chief-DEF WƐ
'Kpana obeyed the chief.'

d. Kpàná gbè-í lɔ̀ màhè-í *(**và**)
Kpana need-PFV NF chief-DEF VA
'Kpana needed the chief.'

e. #Kpàná wù-í lɔ̀ mángù-í-sìà *(**hún**)
Kpana grab-PFV NF mango-DEF-PL HUN
'Kpana grabbed the mangoes.'

Crucially, these particles are all members of the class of functional adpositions discussed in Chapter 3. While *ma* and *hun* can surface in other categories, *a, wɛ,* and *va* can only operate as functional particles, and, as such, I argue that the manifestations of *ma* and *hun* in post-verbal particle verb constructions are functional in nature as well.

(69) Functional Particles on L-F Cline



I next consider the semantic contribution of the particle to the overall meaning of the predicate. From what I have thus far encountered, most verbs pattern according to the data in (68). In these examples the particle is obligatory, but it does not convey its typical adpositional meaning. For example, the particle *a* in (68a) does not encode any of its adpositional meanings (comitative / instrumental 'with,' goal 'to,' etc), nor do the particles *wɛ* and *va* in (68c) and (68d) encode their benefactive meanings ('to' and 'for' respectively). It seems, then, that they are semantically vacuous in these constructions.[17]

There are a few verbs, however, where the use of a particle is optional, and in these constructions, the presence of the particle modifies the meaning of the verb. Consider first the verb *la* in (70), which can be intransitive, as in (70a), having the meaning 'lay down (to rest/sleep),' or transitive, as in (70b), in which it means 'lay down (to build) a road.' These interpretations convey a similar idea of either 'putting oneself down' or 'putting something else down.' When it combines with the particle *a* in (70c), it conveys a very different meaning, that is 'believe,' and when it combines with the particle *ma* (70d), it means 'discuss,' neither of which have a meaning plainly composed from the verb and particle.

(70) Verbal Constructions With *la*

a. Kpàná **là**-í lɔ̀ *Intransitive*
Kpana lay-PFV NF
'Kpana laid down.'

b. Kpàná pélè-í **là**-í lɔ̀ *Canonical*
Kpana road-DEF lay-PFV NF
'Kpana built (laid / laid down) a road.'

c. Kpàná **là**-í lɔ̀ **à** kɛ́yɛ̀pɛ̀-í *a-Verb*
Kpana lay-PFV NF A rumor-DEF
'Kpana believed the rumor.'

[17] There are two arguments against the meaning of the verb being derived from the verb and particle together. First, many of these verbs also have a nominal counterpart, that does not include the particle. For example, *kɔ́la* can have the nominal meaning '(a) surprise' and *kolo* can mean 'obedience.' Second, as discussed below in section 4.4 when a post-verbal particle verb takes a CP complement, the particle does not surface. I argue below that this results from its role as a Case-assigning particle.

d. Kpàná ké Mɛ́lí tì **là**-í lɔ̀ kéyɛ̀pɛ̀-í **mà** *ma-Verb*
Kpana and Mary 3PL lay-PFV NF rumor-DEF MA
'Kpana and Mary discussed the rumor.'

The verb *lo* in (71) can be intransitive meaning 'remain', or when the particle *a* is present, it can be transitive meaning 'want,' which, again, is not a clearly compositional meaning.

(71) Verbal Constructions with *lo*
a. Kpàná **lò**-í lɔ̀ pɛ́lɛ̀-í hún *Intransitive*
Kpana remain-PFV NF house-DEF in
'Kpana remained in the house.'

b. Kpàná **lò**-í lɔ̀ **à** pɛ́lɛ̀-í *a-Verb*
Kpana remain-PFV NF A house-DEF
'Kpana wanted the house.'

These examples are insightful, as they show that the particle *can* play a role in generating the meaning of the verb phrase, though it is not plainly compositional. To the best of my knowledge, verbs like *la* and *lo* are a small minority of cases. As seen in data throughout this chapter, in most cases, the overall meaning of the particle verb is seemingly generated by the verb itself. This is a significant contrast with Germanic languages, where the semantic contribution of the particle tends to be much more explicit (Zeller 2001, Cappelle 2005, Blom 2005), with some researchers, such as Larsen (2014), suggesting that particles always contribute to the meaning of particle verb constructions, including a sometimes consistent metaphorical meaning.

Having argued that the role of the particle is principally syntactic, I now consider its specific function.

I have argued that in Mende there are two classes of verbs that form complex particles and that there are five particles that surface in these constructions. Crucially, in nearly all cases there is a one to one relationship between the verb and the particle. We can see this when looking again at the verbs in (68), shown below in (72) to (75).

(72) a. Kpàná ngí-í lɔ̀ *{**à**} màhè-í
Kpana remember-PFV NF A chief-DEF
'Kpana remembered the chief.'

b. *Kpana ngi-i lɔ mahe-i {ma / wɛ / va}
Kpana remember-PFV NF chief-DEF MA WƐ VA
'Kpana remembered the chief.'

(73) a. Kpàná gɔ̀là-í lɔ̀ màhè-í *{**mà**}
Kpana surprise-PFV NF chief-DEF MA
'Kpana surprised the chief.'

b. *Kpana gɔla-i lɔ {a} mahe-i {wɛ / va}
Kpana surprise-PFV NF A chief-DEF WƐ VA
'Kpana surprised the chief.'

(74) a. Kpàná kòlò-í lɔ̀ màhè-í *{**wɛ̀**}
Kpana obey-PFV NF chief-DEF WƐ
'Kpana obeyed the chief.'

b. *Kpana kolo-i lɔ {a} mahe-i {ma / va}
Kpana obey-PFV NF A chief-DEF MA VA
'Kpana obeyed the chief.'

(75) a. Kpàná gbè-í lɔ̀ màhè-í *{**và**}
Kpana need-PFV NF chief-DEF VA
'Kpana needed the chief.'

b. *Kpana gbe-i lɔ {a} mangu-i-sia {ma / wɛ}
Kpana need-PFV NF A mango-DEF-PL MA WƐ
'Kpana needed the mangoes'

In (72) the verb *ngi* 'remember' can only form a complex predicate with the particle *a*. Likewise, in (73) the verb *gɔla* 'surprise' forms a predicate only with *ma*, the verb *kolo* 'obey' in (74) forms a predicate only with *wɛ*, and in (75) the verb *gbe* 'need' forms a predicate only with the particle *va*.

This clearly differs from English where a verb can take multiple particles, with the meaning of the complex predicate determined compositionally by the verb and particle, as seen in (76) where the verb *turn* can occur with a number of particles including *up, down, away, over,* and *in* (among others).

(76) a. John turned the car onto State Street.
b. John turned {up / down} the music {up / down}
c. John turned {away} the guest {away}
d. John turned {over} the pancakes {over}
e. John turned {in} his homework {in}

Further evidence that the verb in post-verbal particle verb constructions selects the adposition is found in the interaction of two consecutive post-verbal phrases headed by the preposition / particle *a*. When two consecutive *a*-phrases follow an *a*-verb, the phrase nearest the verb obligatorily functions as the direct object. This is seen in (77) where either of the DPs *nikeisia* 'the cows' or *koniisia* 'the axes' can follow the verb, with the one closest to the verb functioning as the direct object, while the other maintains its instrumental meaning.

(77) Order of a-Phrases
a. Kpàná jà-í lɔ̀ **à** **nìké-í-síà** à kóní-í-síà
Kpana touch-PFV NF A cow-DEF-PL A axe-DEF-PL
'Kpana touched the cows with the axes'

b. Kpàná jà-í lɔ̀ à kóní-í-síà **à** **nìké-í-síà**
Kpana touch-PFV NF A axe-DEF-PL A cow-DEF-PL
'Kpana touched the axes with the cows.'

In (77a) when the PP string *a nikeisia* follows the verb, the DP *nikeisia* 'the cows' is the theme whose 'touching' is facilitated by the instrument 'the axes'. When the order is reversed, as in (77b), however, and the PP string *a koniisia* 'the axes' follows the verb, *koniisia* 'the axes' is the theme whose touching is facilitated by 'the cows' (if we imagine toy cows, for example). Crucially, this shows that there is a selectional relationship between the verb and the particle.

In order to further clarify the role of the particle, I return to the discussion of the unergative alternation considered above. Using the data in (62), renumbered here as (78), we see that there are two possible constructions that encode the theme of the verb, and that the meaning remains the same regardless of the structure. The cognate theme / object can either appear in a bare pre-verbal position or encoded in a post-verbal position headed by the particle *a*.

(78) Unergative Verbs with Cognate Objects
a. Pítá {(*a) **ngɛ̀lɛ́** **jɛ́mbɛ**} yɛ̀lɛ̀-í lɔ̀ {à **ngɛ̀lɛ́** **jɛ́mbɛ̀**}
Peter A smile big smile-PFV NF A smile big
'Peter smiled a big smile'

b. Pítá {(*a) **píndɛ̀ jɛ́mbɛ̀**} wíndɛ̀-í lɔ̀ {à **píndɛ̀ jɛ́mbɛ̀**}
Peter A jump big jump-PFV NF A jump big
'Peter jumped a big jump'

This data points to the role of the particle being syntactic, and not semantic. When the particle is present the DP theme remains in a post-verbal position, and when the particle is absent, the theme raises into a position before the verb. I suggest, therefore, that the particle is responsible for Case-licensing the DP theme. The DP theme is able to raise into a Case-marking position within the particle phrase that hosts it, and, as a result, it cannot raise into a higher position. In contrast, the bare theme must raise into a pre-verbal position to be Case-licensed.[18]

Further evidence that the particle serves a syntactic purpose can be seen in the cases with the verbs *lo* and *la* above, where the verb's valency can change depending on the presence of the particle. Looking again at the data we see that both of these verbs can surface as intransitive verbs in (79a) and (80a), while *la* in (79b) has a bare pre-verbal theme. Significantly, both verbs can also form complex predicates with particles. The verb *la* can combine with both *a* and *ma*, and in both cases, the theme remains post-verbal. Similarly, the verb *lo* can combine with the particle *a* to form a complex predicate with the theme in a post-verbal position.

(79) Valency Change With *la*

a. Kpàná **là**-í lɔ̀ *Intransitive*
Kpana lay-PFV NF
'Kpana laid down.'

b. Kpàná pélɛ̀-í **là**-í lɔ̀ *Canonical*
Kpana road-DEF lay-PFV NF *Transitive*
'Kpana built (laid / laid down) a road.'

c. Kpàná **là**-í lɔ̀ **à** kɛ́yɛ̀pɛ̀-í *a-Verb*
Kpana believe-PFV NF A rumor-DEF *Transitive*
'Kpana believed the rumor.'

[18] I discuss the specifics of this type of analysis in chapter 3 where I argue that the particle in a prepositional phrase is null. This null particle selects a DP complement which raises into SpecKaseP in the particle's functional structure for Case-licensing. The PP cannot surface without a phonologically realized adposition, and, as a result, the preposition *a* surfaces taking the PP as its complement.

d. Kpàná ké Mɛ́lí tì **là**-í lɔ̀ kɛ́yɛ̀pɛ̀-í **mà** *ma-Verb*
Kpàná and Mary 3PL discuss-PFV NF rumor-DEF MA *Transitive*
'Kpana and Mary discussed something.'

(80) Valency Change with *lo*
a. Kpàná **lò**-í lɔ̀ pɛ́lɛ̀-í hún *Intransitive*
Kpana remain-PFV NF house-DEF in
'Kpana remained in the house.'

b. Kpàná **lò**-í lɔ̀ **à** pɛ́lɛ̀-í *a-Verb*
Kpana want-PFV NF A house-DEF *Transitive*
'Kpana wanted the house.'

Larsen (2014) notes that in English, particles can influence the verb's valency in various ways. Sometimes there is no change in valency (81), other times an argument can be removed (82), while in other instances the particle fills a PP argument position (83) or adds an argument (84).

(81) Larsen (2014) p. 112 # 170
a. John ran (out).
b. John spoke (up).

(82) Larsen (2014) p. 113 #173
a. John shut *(his mouth).
b. John shut (*his mouth) up.

(83) Larsen (2014) p. 114 #177
a. John darted *(out of the house.) / John darted out.
b. John put the ball *(in the box.) / John put the ball away.

(84) Larsen (2014) p. 114 #178
a. John waited (*the storm).
b. John waited out *(the storm).

Apart from *lo* and *la*, the behavior of most Mende particle verbs differs from English. The valency of the verb is seemingly a fixed property.

At this point, we can draw three important implications regarding these complex predicates. First, we have seen that the particle can play a role in determining the meaning of the predicate, even though it does not do so in most cases. Second, we have seen that the particle plays a syntactic role in licensing post-verbal themes. Finally, we have seen that the DP theme remains

the theme, regardless of whether it occurs bare in a pre-verbal position or encoded in a particle phrase in a post-verbal position.

4.3.3 The Syntactic Structure of Particle Verbs

In this section I lay out a derivation of post-verbal particle verbs. I look first at the relationship between the verb and particle, before arguing that the particle and DP form a phrasal constituent. I next show that since adverbs can surface between the verb and particle, that they are not a constituent. With this groundwork laid, I subsequently walk through the derivation.

Recall that the data in (72) to (75) renumbered as (85) to (88) below shows that there is a tight relationship between the verb and the particle. For example the verb *ngi* 'remember' must encode its DP theme in an adpositional phrase, and it only uses the particle *a*; the clauses is ungrammatical with *ma, wɛ,* or *va*.

(85) a. Kpàná ngí-í lɔ *{**à**} màhè-í
Kpana remember-PFV NF A chief-DEF
'Kpana remembered the chief.'

b. *Kpana ngi-i lɔ mahe-i {ma / wɛ / va}
Kpana remember-PFV NF chief-DEF MA WƐ VA
'Kpana remembered the chief.'

(86) a. Kpàná gɔ̀là-í lɔ̀ màhè-í *{**mà**}
Kpana surprise-PFV NF chief-DEF MA
'Kpana surprised the chief.'

b. *Kpana gɔla-i lɔ {a} mahe-i {wɛ / va}
Kpana surprise-PFV NF A chief-DEF WƐ VA
'Kpana surprised the chief.'

(87) a. Kpàná kòlò-í lɔ̀ màhè-í *{**wɛ̀**}
Kpana obey-PFV NF chief-DEF WƐ
'Kpana obeyed the chief.'

b. *Kpana kolo-i lɔ {a} mahe-i {ma / va}
Kpana obey-PFV NF A chief-DEF MA VA
'Kpana obeyed the chief.'

(88) a. Kpàná gbè-í lɔ̀ màhè-í *{**và**}
Kpana need-PFV NF chief-DEF VA
'Kpana needed the chief.'

b. *Kpana gbe-i lɔ {a} mangu-i-sia {ma / wɛ}
Kpana need-PFV NF A mango-DEF-PL MA WƐ
'Kpana needed the mangoes'

We can conclude, therefore, that the verb selects a specific particle. Moving forward, in order to avoid confusion, I refer to *a, ma, wɛ, va,* and *hun* when they are selected by the verb to encode its theme as particles. However, when they function as an adposition, I refer to them as such (preposition, postposition, adposition, etc.)

In (78) I discussed the distribution of the cognate direct object of the unergative verbs *yɛlɛ* 'smile' and *windɛ* 'run,' suggesting that the role of the particle is to syntactically encode the semantic relationship between the verb and its DP theme.[19] In order to better understand the relationship between the verb and the particle, consider the sentences in (89), where only the verb differs. Both clauses have the structure *DP Subject – Verbal Complex* (consisting of the verb, aspect marker, and neutral focus marker) – *P – DP*. This surface similarity, however, hides an underlying distiction. The verb *ngi* 'remember' in (89a) selects the *a*-phrase *a kalii* 'the hoe' as its complement, while in (89b) *a kalii* 'with the hoe' is a PP modifier of the verb.

(89) S V P DP
a. Kpàná **ngí-í** lɔ̀ à kàlí-í *a-verb*
Kpana remember-PFV NF A hoe-DEF
'Kpana remembered the hoe.'

b. Kpàná **yéngè-í** lɔ̀ à kálí-í *instrument PP*
Kpana work-PFV NF with hoe-DEF
'Kpana worked with the hoe.'

[19] Recall that further evidence for this is found in the nearly synonymous pairs of canonical and particle verbs in Table 1. In these pairs the canonical verb takes a bare DP complement, while the particle verb encodes its complement in a particle phrase.

We find a similar situation in (90), where, again, only the verb is different in the two clauses. In (90a) the phrase *navoi va* 'the money' is the complement of the verb *gbe* 'need,' while in (90b) it is a goal PP modifier of the verb *yengei* 'work.'

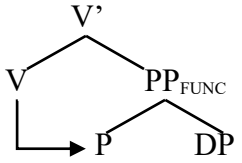
(90) S V DP P

a. Kpàná **gbè-í** lɔ̀ návò-í và *ma-verb*
Kpana need-PFV NF money-DEF VA
'Kpana needed the money.'

b. Kpàná **yèngè-í** lɔ̀ nàvò-í và *goal PP*
Kpana work-PFV NF money-DEF for
'Kpana worked for the money.'

The tree in (91) shows the selectional relationship between the verb and particle.[20] Based on the data in (85) to (88), we know that the verb selects the functional particle (indicated by the arrow from V to P). This particle projects a phrase and takes a DP complement, which is also the verb's theme. Though semantically vacuous, the particle syntactically encodes the verb's theme.[21]

(91) Verb Selects Particle



Similar to a postpositional phrase (92), the data in (93) shows that in a particle phrase the quantifier of a DP complement can surface to the left of the particle with the DP or be stranded to the particle's right. In both examples the quantifier *kpɛlɛ* 'all' can surface with the DP objects to the left of the postposition / particle (*DP Q P*), or it can be stranded to the right (*DP P Q*).

[20] An analysis of adpositional phrases, like the (b) examples, is found in Section 1.4.5.
[21] Keep in mind that this structure is representative of both *a*-verbs (*P – DP*) and *ma*-verbs (*DP – P*) with the idea that the particle *a* surfaces when a null particle is selected by the verb.

(92) Postpositional Phrase

a. Kpànáá yéngè-í lɔ̀ **návò-í** **kpɛ́lɛ́** và *pied-piped quantifier*
Kpana work-PFV NF money-DET all for
'Kpana worked for all the money.'

b. Kpànáá yéngè-í lɔ̀ **návò-í** và **kpɛ́lɛ́** *stranded quantifier*
Kpana work-PFV NF money-DEF for all
'Kpana worked for all the money.'

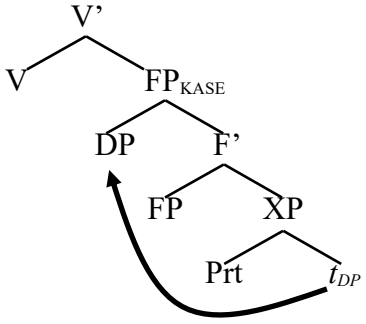
(93) Particle Verb

a. Kpànáá gbè-í lɔ̀ **návò-í** **kpɛ́lɛ́** và *pied-piped quantifier*
Kpana need-PFV NF money-DET all VA
'Kpana needed all the money.'

b. Kpànáá gbè-í lɔ̀ **návò-í** và **kpɛ́lɛ́** *stranded quantifier*
Kpana need-PFV NF money-DET VA all
'Kpana needed all the money.'

The presence of the stranded quantifier suggests that the DP initially begins as a complement of the particle in a head-initial phrase, as shown in (91). Yet, the DP now surfaces to the left of the particle. In Chapter 2, I argued that DP objects raise for Case into a pre-verbal position, but in particle verb constructions like (85) to (88), (89a), and (90a) the verbal theme remains in a post-verbal position, which I hypothesize is because it has already been Case-licensed within the particle phrase. This is shown in (94) where the DP theme of the particle raises into $\text{SpecFP}_{\text{KASE}}$ in order to be Case-licensed. From here, it does not need to raise into the pre-verbal Case-assigning position $\text{SpecFP}_{\text{KASE}}$.

(94) DP Theme Raises for Case



To this point, I have argued that the verb selects the particle, which projects a phrase and takes a DP complement. The complement then raises into the particle's extended projection, generating a *V DP P* string. I next consider the constituency relationships among these parts.

4.3.4 Constituency

A central aspect of analyzing particle verb constructions cross-linguistically concerns the constituency of the verb and particle, specifically whether they form a head, i.e. the lexical approach (Booij 1990, Johnson 1991, Neelemann and Weerman 1993, Neeleman 1994, Radford 1997, Haider 1997, Blom 2005) or a phrase, i.e. the syntactic approach (Kanye 1985, Svenonius 1992, 1994, 1996, DenDikken 1995, Ramchand and Svenonius 2002, Zeller 2002, Neelemann 2002). In this section, I show that the syntactic approach better captures the Mende data.

The data in (95) and (96) shows that adverbs can surface between the verb and the post-verbal particle phrase, as well as after the particle phrase. The *ma*-verb *lema* 'forget' in (95) takes its DP theme *sɛlɛisia* 'bananas' in a phrase headed by the particle *ma.* In (95a) we see that the PP adverb *a seyahunwɛ* 'evidently' can surface between the verbal complex and the particle, or it can occur after the particle phrase. The distribution of the temporal adverb *gboi* 'yesterday' in (95b) and the celerative adverb *floflo* 'quickly' in (95c) is the same.

(95) Distribution of *ma*-Verbs

a. K. lèmà-í lɔ̀ {**à sèyàhúnwɛ̀**} sɛ́lɛ̀-í-síà mà {**à sèyàhúnwɛ̀**}
K forget-PFV NF with evidence banana-DEF-PL MA with evidence
'Kpana evidently forgot the bananas.'

b. Kpàná lèmà-í lɔ̀ {**gbòí**} sɛ́lɛ̀-í-síà mà {**gbòí**}
Kpana forget-PFV NF yesterday banana-DEF-PL MA yesterday
'Kpana forgot the bananas yesterday.'

c. Kpàná lèmà-í lɔ̀ {**flófló**} sɛ́lɛ̀-í-síà mà {**flófló**}
Kpana forget-PFV NF quickly banana-DEF-PL MA quickly
'Kpana immediately forgot the bananas.'

We see a similar pattern with the *a*-verb *ngi* 'remember' in (96). The same adverbs can intervene between the verbal complex and the particle phrase, or can after the verbal complex.[22]

(96) Distribution of *a*-Verbs
a. K ngí-í lɔ̀ à sɛ́lɛ̀-í-síà {**à sèyàhúnwɛ̀**}
K remember-PFV NF A banana-DEF-PL with evidence
'Kpana evidently remembered the bananas.'

b. Kpàná ngí-í lɔ̀ {**gbòí**} à sɛ́lɛ̀-í-síà {**gbòí**}
Kpana remember-PFV NF yesterday A banana-DEF-PL yesterday
'Kpana remembered the bananas yesterday.'

c. Kpàná ngí-í lɔ̀ {**flófló**} à sɛ́lɛ̀-í-síà {**flófló**}
Kpana remember-PFV NF quickly A banana-DEF-PL quickly
'Kpana immediately remembered the bananas.'

The presence of an adverb between the verbal complex and the particle phrase, indicates that they are separate constituents, while the presence of the adverb phrase after the particle phrase suggests that the particle phrase (which was selected by the verb) has raised out of the vP shell.

This is a substantial difference from English, where an adverb typically cannot surface between the verb and the particle or DP, depending on the order (Walkova 2013). Contrast the data in (95) and (96) with the following examples, which shows that adverbs of various types cannot surface between the verb and either the particle or DP.[23]

(97) a. *John put (evidently / yesterday / quickly) down the bananas.
b. *John put (evidently / yesterday / quickly) the bananas down.

(98) a. *John picked (evidently / yesterday / quickly) up Mary after school
b. *John picked (evidently / yesterday / quickly) Mary up after school

Based on the Mende data in (95) and (96), we can reasonably posit that the particle phrase is a syntactic constituent, separate from the verb.

[22] As indicated in (77), in (96a) the meaning of the phrase would be changed if the phrase *a seyahunwɛ* were to surface immediately after the verb before *a sɛlɛisia*. It would mean 'Kpana remembered the evidence with bananas.'
[23] Walkova (2013: p47) suggests that this is a semantic, and not syntactic property, using the example: *I sat nervously down to take my final education test.* (Example taken from http://amoshingler.xanga.com/476775895/item/, accessed by original author on March 5, 2013). I would point out, though, that in this construction the phrase *to take my final educational test* is an infinitival complement.

Another test for constituency is Ā-movement, as only constituents can move. The data in (99) shows that *manguisia* 'the mangoes,' the DP theme of the verb, can move by itself to the left periphery, stranding the particle *ma* (99b), or it can pied-pipe the particle with it, leaving the 3rd person plural resumptive pronoun *ti* and a copy of the particle *ma* in-situ.

(99) Post-verbal Particle Verb

a. Canonical
Kpàná lèmà-í lɔ̀ **mángù-í-síà** **mà**
Kpana forget-PFV NF mango-DEF-PL MA
'Kpana forgot the mangoes.'

b. Particle Stranding
mángù-í-síà míà Kpàná lèmà-ní **tì** **mà**
mango-DEF-PL LPF Kpana forget-PFV 3PL MA
'It is the mangoes that Kpana forgot.'

c. Particle Copying
mángù-í-síà **mà** míà Kpàná lèmà-ní **tì** **mà**
mango-DEF-PL MA LPF Kpana forget-PFV 3PL MA
'It is the mangoes that Kpana forgot'

Based on (99a), in (99b) the DP theme of the complex verb surfaces in the left periphery with the 3rd person plural pronoun *ti* in-situ, supporting the idea that the DP has raised into a specifier position within the particle phrase, from which it can raise into an even higher position. The fact that the theme and particle surface in the left periphery in (99c) suggests that they form a constituent, and that the DP theme can pied-pipe the particle with it into the left-peripheral focus position.

This is the same behavior we saw with postpositional phrases in Chapter 3. Based on the data in (100a), the DP object of the postposition surfaces in the left periphery in (100b), with the 3rd person resumptive pronoun *ti* and the postposition *ma* in-situ. In (100c) the DP object pied-pipes the postposition with it, with the resumptive pronoun and a copy of the postposition in-situ.

(100) Postpositional Phrase

a. Canonical
Kpàná mángù-í-síà lɔ̀-í lɔ̀ **bɛ́tè-í-síà** **mà**
Kpana mango-DEF-PL see-PFV NF table-DEF-PL on
'Kpana saw the mangoes on the tables.'

b. PP Stranding
bɛ́tè-í-síà mía Kpàná mángù-í-síà lɔ̀-ni **tì** **mà**
table-DEF-PL LPF Kpana mango-DEF-PL see-PFV 3PL on
'It is the tables that Kpana saw the mangoes on.'

c. PP Copying
bɛ́tè-í-síà **mà** mía Kpàná mángù-í-síà lɔ̀-ni **tì** **mà**
table-DEF-PL on LPF Kpana mango-DEF-PL see-PFV 3PL on
'It is on the tables that Kpana saw the mangoes.'

In light of this data, I argue that the particle phrase encoding the DP theme is a constituent, similar to an adpositional phrase. In the postpositional phrase (100), the particle *ma* is a locative postposition. In the post-verbal particle verb construction (99), I argue that the homophonous particle has a larger functional structure. Specifically, its role is to encode the verb's DP theme, and together the particle and DP theme form a PP that I label as PP_{FUNC}.

A-verb particle phrases behave somewhat differently. Consider the data in (101) with the *a*-verb *lolo* 'hate' and the PP theme *a kaliisia* 'the hoes.' In (101b) the DP can move by itself to the left periphery, but in (101c) it cannot pied-pipe the particle with it, regardless of whether a copy of the particle surfaces in-situ or not.

(101) a. A-verb
Canonical
Kpàná lólò-í lɔ̀ **à** **kálí-í-síà** kpàá hún
Kpana hate-PFV NF A hoe-DEF-PL farm in
'Kpana hated the hoes on the farm.'

b. Particle Stranding
kálí-í-síà mía Kpàná lólò-ní **à** **tíyè** kpàá hún
hoe-DEF-PL LPF Kpana hate-PFV A 3PL farm in
'It is the hoes that Kpana hated on the farm.'

c. Particle Copying
*a **kali-i-sia** mia Kpana lolo-ni (a) tiye kpaa hun
A hoe-DEF-PL LPF Kpana hate-PFV A 3PL farm in
'It is the hoes that Kpana hated on the farm.'

This differs from a prepositional phrase. In (102a) the prepositional phrase *a kaliisia* 'with the hoes' modifies the verb *yenge* 'work,' and in (102b) the object of the preposition *kaliisia* 'the hoes' surfaces in the left periphery with the preposition *a* and the 3rd person plural resumptive pronoun *tiye* in-situ. In (102c) the DP pied-pipes the preposition with it into the left periphery, with a copy of the preposition and the resumptive pronoun in-situ.

(102) Instrumental Prepositional Phrase

a. Canonical
Kpàná yéngè-í lɔ̀ **à** **kálí-í-síà** kpàá hún
Kpana work-PFV NF with hoe-DEF-PL farm on
'Kpana worked with the hoes on the farm.'

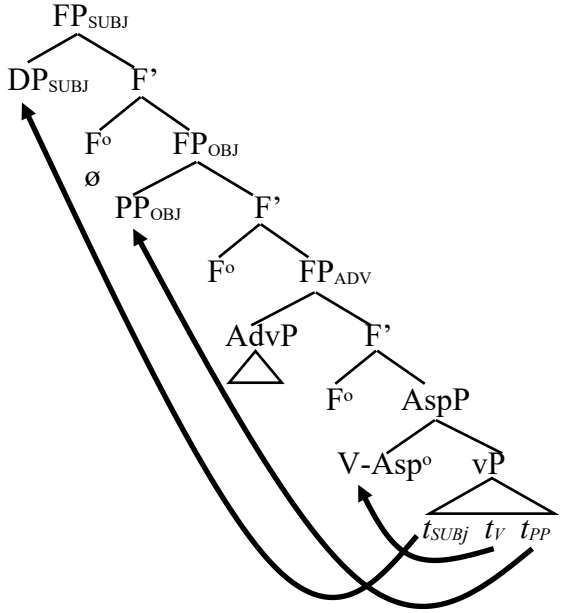
b. PP Stranding
kálí-í-síà mía Kpàná yéngè-ní **à** **tíyè** kpàá hún
hoe-DEF-PL LPF Kpana work-PFV with 3PL farm on
'It is the hoes that Kpana worked with on the farm.'

c. Particle Copying
à **kálí-í-síà** mía Kpàná yéngè-ní **à** **tíyè** kpàá hún
with hoe-DEF-PL LPF Kpana work-PFV with 3PL farm on
'It is with the hoes that Kpana worked on the farm.'

It is unclear why this distinction occurs, and I presume that some still unknown variable triggers the block on pied-piping movement of the *a* particle. This remains an open question for a future investigation.

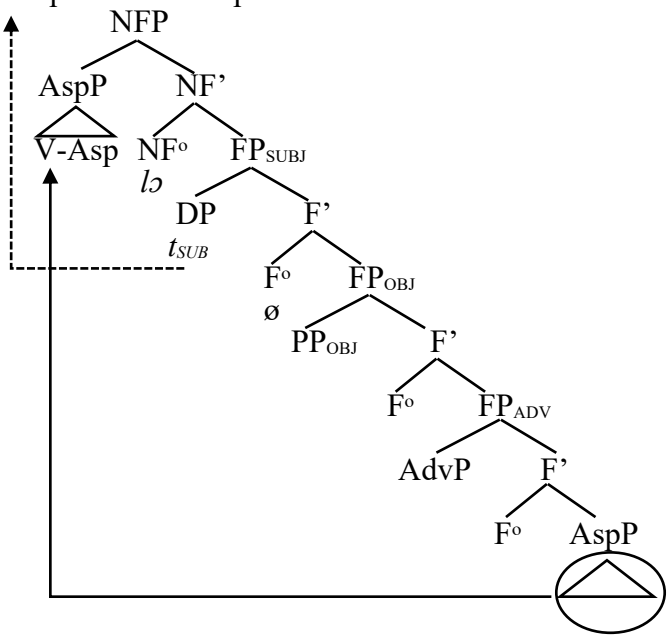
This data confirms the analysis set out in (94) that the verb selects a Particle Phrase. From this point, I suggest that the derivation precedes according to the pattern set out in Chapter 2. The verbal head raises, head-adjoining the Aspect head, and the arguments of the verb raise into the specifiers of functional phrases, $\text{SpecFP}_{\text{SUBJ}}$ and $\text{SpecFP}_{\text{OBJ}}$ respectively.

(103) Arguments Raise out of Verb Phrase



Crucially, from these positions, the Aspect Phrase raises into the SpecNFP, and the subject raises into SpecSubjP before surfacing in SpecFinP. Since the DP theme has already been Case-licensed, it does not raise into SpecKaseP, but remains in post-verbal SpecFP$_{OBJ}$.

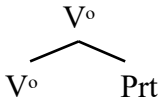
(104) AspP Raises to SpecNFP



This analysis proves particularly insightful in evaluating the two major analytical approaches to particle verbs in Germanic languages. Broadly speaking, lexical approaches argue that the particle and verb form a head (Booij 1990, Johnson 1991, Neelemann and Weerman 1993, Neeleman 1994, Radford 1997, Haider 1997, Blom 2005), while syntactic approaches argue that the verb and particle form a phrase, and that the particle and direct object are underlyingly a constituent (Kanye 1985, Svenonius 1992, 1994, 1996, DenDikken 1995, Ramchand and Svenonius 2002, Zeller 2002, Neelemann 2002).

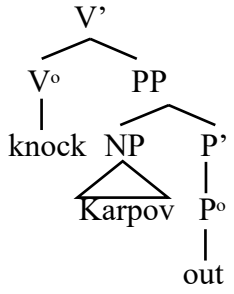
There have been numerous analyses within these frameworks attempting to account for the data in Germanic. For perspective, I show two below. In the lexical analysis in (105), Toivonen (2003) argues that particles do not project, but that the particle and verb together form the verbal head.

(105) Lexical Analysis of Particle Verbs (Toivonen 2003:2f)

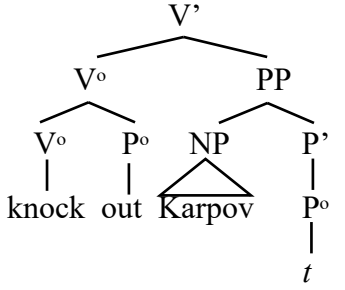


In the syntactic analysis, Svenonius (1992) argues that the discontinuous order is the default (106a) with the verb and particle forming a V' and that continuous order is derived via adjunction of the particle to the verb (106b).

(106) Syntactic Analysis of Particle Verbs (Svenonius 1992: 104)
a. Discontinuous Order



b. Continuous Order



The approach I take more closely follows the syntactic approach. In analyzing the Mende data, I have argued that the verb selects the particle, which projects a phrase, similar to Svenonius' approach. I differ, however, in arguing that the PP is head-initial and that the particle and DP theme remain a constituent, meaning there is no head-raising of P to adjoin V. I further argue that the verb and particle form a complex predicate, while the particle and direct object form a syntactic constituent.

4.3.5 Deriving Post-Verbal Particle Verb Constructions

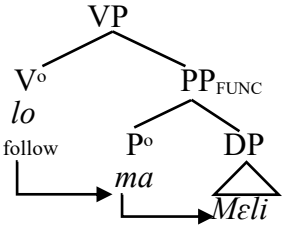
In this section, I consider a more concrete example to show a fuller derivation. Recall that the derivation for postpositions and prepositional *a* is similar, apart from the insertion of *a* to license the phrase. As such, I discuss only a *ma*-verb construction, as *a*-verbs would follow a similar pattern. Using the data in (107) as a base, the derivation of the post-verbal particle verb is as follows.

(107) Kpàná lò-í lɔ̀ **Mɛ́lí mà** gbòí
Kpana follow-PFV NF Mary MA yesterday
'Kpana followed Mary.'

I have argued that *ma*-verbs have a one to one selectional relationship with the particle, and in this example, the verb *lo* 'follow' c-selects the functional particle *ma*. The particle subsequently c-selects a DP complement, *Mɛli*, which is the verb's theme (and is s-selected by the

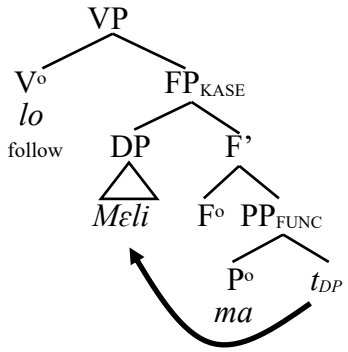
verb and particle together as the complex predicate.) This reflects my argument that underlyingly all Mende particle phrases are head-initial.

(108) Verb Selects Particle / Particle Selects Theme



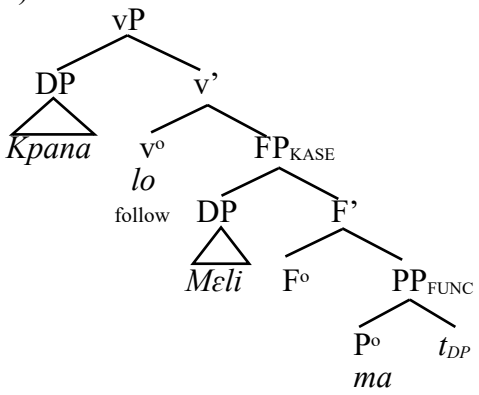
The particle projects both a PP and a Functional Phrase (FP_{KASE}). As I have argued for all simple PPs, the DP raises into SpecFP_{KASE}, a case-licensing position.

(109) DP Theme Raises for Case



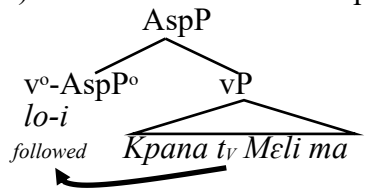
The verb then raises into *v,* and the DP Subject merges into SpecvP, deriving the verb phrase.

(110) Derivation of vP



The Aspect head subsequently merges, and the verb head-raises, adjoining it and leaving its arguments in the verb phrase.

(111) Verb Head Raises to Aspect Phrase

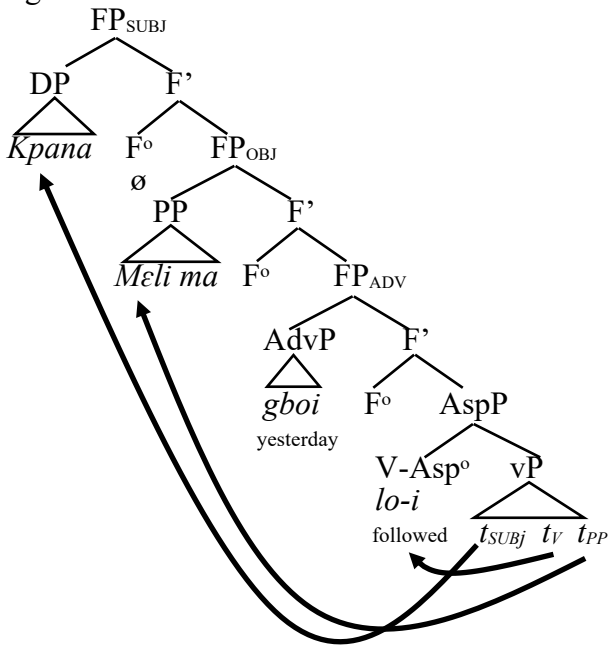


This movement of the verb to head-adjoin the aspect head, accounts for one of the research challenges in analyzing particle verb constructions in Germanic, namely the intervention of verbal inflection between the verb and particle (the DP encoded by the particle in this case). Larsen (2014) notes that many analyses of Germanic particle verbs cannot account for the presence of verbal inflection on the verbal head and not the particle in continuous particle verb construction (e.g. *John kicked out his roommate* but **John kick outed his roommate*).

In Chapter 1, I argued that AdvPs surface in a field above the Aspect Phrase and below the Neutral Focus Phrase. As I proposed in the discussion of canonical verb constructions in Chapter 2, the arguments of the verb next raise out of the verb phrase. In this example, we see that the DP theme surfaces above the temporal adverb *gboi* 'yesterday.' [24]

[24] In my analysis post-verbal functional phrases host semantic entities, e.g. the subject, direct object, dative object, an adjunct, etc. This means, for example, that it doesn't matter whether the direct object is a bare DP or encoded in a PP, in either case it would surface in $SpecFP_{OBJ}$. It would also seem reasonable that the functional phrases could host syntactic entities instead, e.g. a functional phrase that hosts PPs could host a dative object or a PP encoded direct object.

(112) Arguments Raise out of Verb Phrase



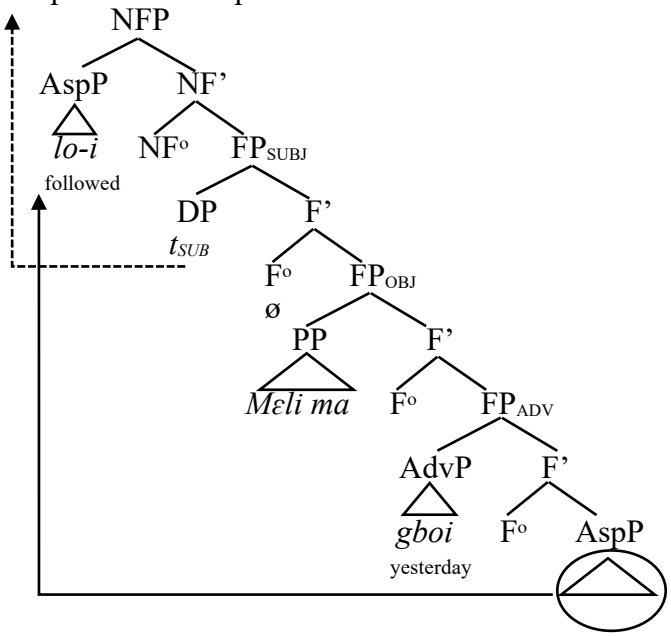
Evidence that FP$_{SUBJ}$ and FP$_{OBJ}$ are landing positions for the verbal arguments includes stranded quantifiers (Sportiche 1998, Fitzpatrick 2006), as seen in the following data from Chapter 1. In both (113) and (114) the quantifier can surface below the verb or be pied-pipe with the subject or object respectively. I argue that these lower positions are SpecFP$_{SUBJ}$ for the subject and SpecFP$_{OBJ}$ for the object.

(113) Stranded Quantifier of DP Subject
nyàpù-í-síà {kpèlɛ́} tì wìmɛ̀-í lɔ̀ {kpèlɛ́}
girl-DEF-PL all 3PL run-PFV NF all
'All of the girls ran.'

(114) Stranded Quantifier of DP Object
Pítá mbè-í {gbí} yèyà-í lɔ̀ {gbí}
Peter rice-DEF all buy-PFV NF all
'Peter bought all the rice'

For the DP theme of a *ma*-verb, SpecFP$_{OBJ}$ is the surface position. The Aspect Phrase raises into SpecNFP, its surface position, while the subject eventually raises through SpecSubjP into its surface position in SpecFinP (not shown).

(115) AspP Raises to SpecNFP



At this point, we need to return to the functional nature of the particle in these constructions. This is a crucial distinguishing factor between post-verbal particle verbs and pre-verbal particle verbs, even when the particle is homophonous. The data in (116) shows that the phrase *pujɛisia ma* can function as a post-verbal (116a) or pre-verbal (116b) particle verb theme.

(116) Homophonous Particle

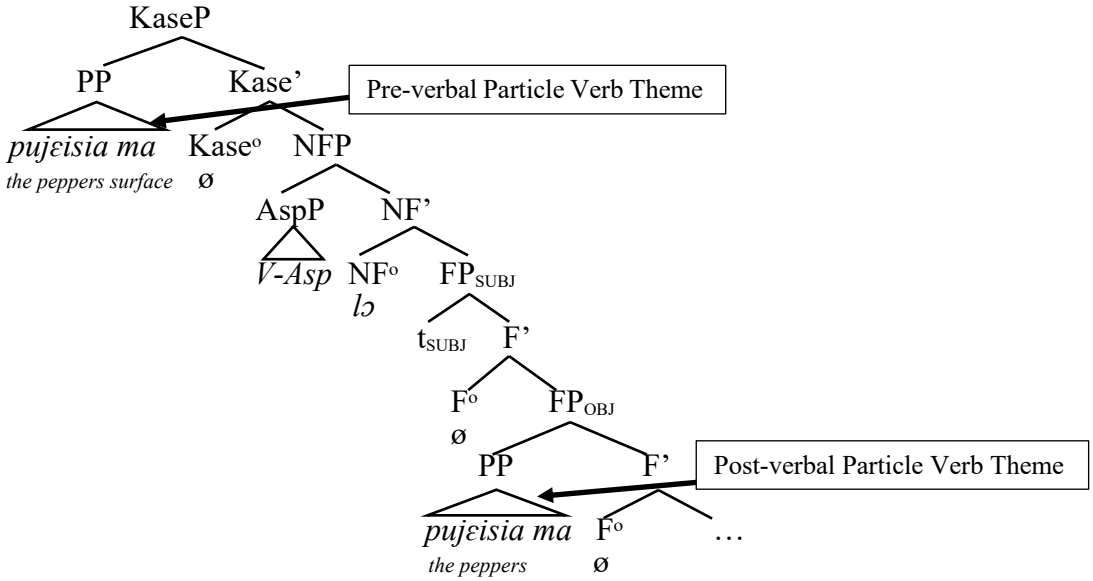
a. Post-verbal Particle Verb Theme
Kpàná lèmà-í lɔ̀ **pùjɛ̀-í-síà** **mà**
Kpana forget-PFV NF pepper-DEF-PL MA
'Kpana forgot the peppers.'

b. Pre-verbal Particle Verb Theme
Kpàná **pùjɛ̀-í-síà** **mà** mɛ̀-í lɔ̀
Kpana pepper-DEF-PL surface eat-PFV NF
'Kpana nibbled on the peppers.'

In (117) we can see their surface positions on a hypothetical clausal spine. In discussing pre-verbal particle verbs, I have argued that the DP theme has raised for case within the PP, but that the particle *ma* in this construction is a Place particle that must raise for Case. As such, it raises into $SpecFP_{KASE}$.

The post-verbal particle verb also raises for Case-licensing within the PP_{FUNC} into $SpecFP_{OBJ}$. The crucial difference, however, is that the particle in the post-verbal particle verb construction is functional, and cannot raise for Case. As such, the particle phrase remains in a post-verbal position, below the verb in $SpecFP_{OBJ}$.

(117) Surface Positions of Pre- and Post-verbal Particle Verb Themes



4.4 CP Complements

Having considered DP themes of particle verbs, I turn next to some introductory data on CP complements of *a-* and *ma*-verbs. This cursory investigation is exploratory and considers a specific construction, with a more detailed investigation set aside for future research.

In (118) we see that the canonical verb *mɛni* 'hear' takes a pre-verbal DP complement (118a) and a post-verbal CP complement (118b). In Chapter 2 I argued that DP complements raise into a pre-verbal Case-licensing position, SpecKaseP. CP complements, like all other arguments of the verb, raise out of the VP into a functional phrase, SpecExtraP, that hosts CP arguments or CP modifiers of DP arguments (Smith 2024).

(118) DP / CP Complement of a Canonical Verb
a. DP Complement
Kpàná **ndɔ̀mé-í** mɛ̀ní-í lɔ̀
Kpana story-DEF hear-PFV NF
'Kpana heard the story.'

b. CP Complement
Kpàná mɛ̀ní-í lɔ̀ [**kɛ̀ Mɛ́lí mángù-í-síà yèyà-í lɔ̀**]
Kpana hear-PFV NF C Mary mango-DEF-PL buy-PFV NF
'Kpana heard that Mary bought the mangoes.'

I argued that since CPs do not need to be Case-licensed, they do not raise into a pre-verbal Case-licensing position. If this is so, we would predict that CP arguments of post-verbal particle verbs also do not need to be Case-licensed, and there should be no particle. The data in (119) shows a DP and CP argument of the *a*-verb *la* 'believe.' In (119a) the DP *ndɔmei* 'the story' surfaces in a post-verbal position, encoded in a particle phrase headed by *a*. The CP complement in (119b) is also in a post-verbal position, but it is ungrammatical for the particle to surface.

(119) DP / CP Complement of an *a*-Verb
a. DP Complement
Kpàná là-í lɔ̀ à **ndɔ̀mè-í**
Kpana believe-PFV NF A story-DEF
'Kpana believed the story.'

b. CP Complement
Kpàná là-í lɔ̀ (*a) [**kɛ̀ Mɛ́lí mángù-í-síà yèyà-í lɔ̀**]
Kpana believe-PFV NF A C Mary mango-DEF-PL buy-PFV NF
'Kpana believed that Mary bought the mangoes.'

We find a similar pattern with the DP and CP complement of the *ma*-verb *lema* 'forget.' The data in (120a) shows that the DP complement *ndɔmei* 'the story' surfaces in a post-verbal particle phrase headed by the particle *ma*, while the CP complement in (120b) occurs in a post-verbal position, but it is ungrammatical for the particle *ma* to surface after the CP.

(120) DP / CP Complement of a *ma*-Verb
a. DP Complement
Kpàná lèmà-í lɔ̀ **ndɔ̀mè-í** mà
Kpana forget-PFV NF story-DEF MA
'Kpana forgot the story.'

b. CP Complement
Kpàná lèmà-í lɔ̀ [**kɛ̀ Mɛ́lí mángù-í-síà yèyà-í lɔ̀**] (*ma)
Kpana forget-PFV NF C Mary mango-DEF-PL buy-PFV NF MA
'Kpana forgot that Mary bought the mangoes.'

This data aligns nicely with Stowell's (1981: p. 146)) Case-Resistance Principle.

(121) The Case Resistance Principle
Case may not be assigned to a category bearing a case-assigning feature.

Under this analysis, a tensed CP bears a case-assigning feature, and, as such, it cannot also receive Case as seen in the following examples. In (122) the tensed CP clauses cannot be the object of a preposition, a Case-assigning position.

(122) Adapted from Stowell (1981: p. 149)
a. *He blamed it [on [that Bill was too strict]]
b. *We were talking [about [that the Marines went to China]]

This is what we have seen in Mende. I have shown that DP objects raise into Case-licensing positions. For canonical verbs this is SpecKaseP, above the verb (118a). For particle verbs, the Case-licensing position is either to the right of the prepositional particle (119a) or to the left of postpositional particle (120a). CP arguments of canonical verbs cannot raise into SpecKaseP (118b), remaining post-verbal. The absence of a particle in the CP complement constructions in (119b) and (120b) further confirms that the particle's role is to assign case, hence, it does not surface when the verb's complement is a CP.

An outstanding question is whether a *ma*-verb always requires a particle when it merges to encode its complement, or if the particle merges as some sort of last resort to encode a DP complement. More research is necessary in order to determine what might account for this data.

4.5 Germanic and Mande Particle Verbs

Within the Germanic languages, there is some variability in whether both a continuous and discontinuous word order is permitted. In section 4.3.2 I noted that while Norwegian and English

allow for flexibility in whether the particle is adjacent to the verb or not (e.g. *V [P DP]* and *V [DP P*], in Swedish only the continuous order is allowed (*V [P DP]),* and in Danish only the discontinuous order is allowed (*V [DP P]*). We have seen that in Mende, both a continuous and discontinuous order are allowed, but this is driven by the particle, which is selected by the verb. When a postpositional phrase encodes the DP, the order is naturally discontinuous (*V DP P*), and when a prepositional phrase encodes it, the order is naturally continuous (*V P DP*).

Underlying this type of surface constraint is the question of constituency, namely whether the verb and particle form a constituent in the morphology as a head (the lexical approach) or in the syntax as a phrase (the syntactic approach). In section 4.3.5 I argue that in Mende, the verb always selects a particle as its complement, thus always forming a phrase at merge. The syntactic approach, therefore, better seems to account for the Mende data.

I set out a proposed analysis to derive the surface structure of particle verbs. Under this analysis, the verb and particle phrase both raise out of the verbal phrase, with the particle phrase raising to FP_{OBJ}, and the verb head-raising to the Aspect Phrase. As such, the analysis can account for the presence of adverbs intervening between the verb and particle phrase (which cannot occur at least in English). It also can account for the presence of inflection on the verb, which is one of the major issues that Larsen (2014) identifies in most Germanic particle verb analyses. In Mende, the verb picks up aspect marking when adjoining the aspect head, before surfacing in SpecNFP, which is headed by the Neutral Focus Phrase that also intervenes between the verb and particle phrase.

In Section 4.3.2 I noted that in Germanic that a particular verb (e.g. *turn*) can select any number of particles (e.g. *up, down, in, over, away*), which influence the meaning of the predicate.

In contrast, in Mende, only a limited set of verbs surface in particle verb constructions, and they select a specific particle (e.g. *lema ma* 'forget', *ja a* 'touch').

While in Germanic it is possible for particles to not be prepositions (e.g. *turn away* in English), in Mende, all particles are homophonous with adpositions. I have argued that there are various types of adpositions that surface on the Lexical-Functional Cline, and that the particles used in post-verbal particle verbs are all found on the functional end of the cline. I have further argued that these particles all project a phrase in order to host their DP complement.

In section 4.3.2, I noted Larsen's (2014) observation that in English, when a verb picks up a particle, it can influence the verb's valency. Apart from the verbs *lo* and *la*, this is not the case in Mende. In Mende the valency of the verb is fixed. All post-verbal particle verbs that I have investigated so far are transitive, as the defining characteristic is the syntactic encoding and post-verbal position of its theme.

Mende allows for both in-situ and left-peripheral focus and wh-constructions. When a particle verb object is involved, the DP itself can always move. When the DP is in a postpositional phrase, the phrase can be pied-piped, while prepositional phrases cannot. When the particle moves, a copy of the particle surfaces to encode the resumptive pronoun. This is not the case in English as the particle cannot surface in the left periphery in focus constructions.

The last area that I summarize is the semantics of the particle phrase. In Germanic the particle typically contributes to the meaning of the phrase, even if metaphorically, and has a consistent meaning. It is, furthermore, generally agreed upon that Germanic particles can have varying degrees of transparency (e.g. *hold the balloon down* vs. *chew the other driver out*). This differs substantially from Mende. Throughout this chapter I have argued that in Mende the role of the particle is syntactic, and semantically vacuous, and, it is only in the exceptional cases of *lo* and

la that the particle modifies the meaning of the verb. These observations comparing Germanic and Mende are summarized in Table 11.

Variable	**Germanic**	**Mende**
	Order and Relationship of the Verb, Particle, and DP	
Flexible order of particle and object	varies English / Norwegian – yes Danish / Swedish – no	No
Constituency of verb and particle	lexical: V-Prt is a head syntactic:V- Prt is a phrase	At merger V – P is a phrase
Adverb can intervene between verb and particle phrase	no	yes
Problem of inflection	yes	no
	Syntax of the Particle	
Correspondence between V and P	1 to many	1 to 1
Particle is limited to adpositions	no	yes
P projects a phrase	varies	yes
Presence of the particle changes verb's valency	yes	not typically
Particle doubling is permitted	no	yes
	Semantics of the Particle Phrase	
Idiomatic meaning	sometimes	yes (in that particle is typically vacuous)
Particle contributes to meaning	yes	not typically
meaning of particle is consistent	analyses vary, but e.g. Larsen (2014) affirms	particle meaning is vacuous
Semantic properties of DP can vary with canonical or particle verb	Larsen (2014) claims 'yes'	not typically, except for *lo* and *la*

Table 11 - Germanic and Mende Particle Verbs

4.6 Conclusion

In this chapter I have investigated pre- and post-verbal particle verb constructions. In all Mende clauses the verb phrase is head-initial. In canonical constructions the verb selects a DP object which ultimately surfaces in a pre-verbal position. For particle verb constructions, the verb selects a particle which projects a Particle Phrase (of varying degrees of complexity). This Particle Phrase is also head initial with the particle c-selecting for a DP complement, with s-selection being driven by the verb and particle together. The various word order permutations are then driven by the type of particle. A subset of canonical verbs can select phrasal complements with Place particles, ultimately generating pre-verbal particle verbs. *A*-verbs and *ma*-verbs select phrasal complements with functional particles, ultimately generating post-verbal particle verbs.

There are a few outstanding questions that require further investigation. First, in incorporated constructions, I have argued that the particle incorporates into the verb and does not project a Case-licensing projection. This is consistent with the analysis in Chapter 3 of complex adpositions, but these both differ from the derivation of other particle and adpositional phrases, where the DP objects moves into $\text{SpecFP}_{\text{KASE}}$.

Second, it is not readily apparent why some verbs use KaseP to assign Case to their internal argument while others select an adposition in whose extended projection Case is licensed. For example, why does the verb *male* 'meet' assign Case via KaseP while *gɔme* 'encounter' selects the particle *ma* to do so. A typological comparison within the Mande language family might prove insightful in better understanding what seems to be an idiosyncratic distinction at this point.

Though they otherwise behave rather similarly, in section 4.3.4 I show that the objects of prepositions phrases can pied-pipe prepositional *a* with them, while the objects of particle *a*-

phrases cannot pied pipe do so. This reflects a possible difference in their underlying structure. Further research is necessary in order to tease out whether this might be the case.

Finally, I show that when particle verbs take a DP complement, the particle must surface, but when they take a CP complement, it does not. This raises the question of whether the particle surfaces by default and is suppressed with CP complements, or whether it surfaces as a last resort in order to Case-license DP complements. It is not yet clear which of these alternatives provides a more plausible explanation for the data.

In this investigation I have sought to document and describe the syntax of Mende verb phrases, with a particular focus on particle verbs. This work has provided important new data to be incorporated into our understanding of particle verb constructions, which has thus far been based mostly on Germanic languages. Crucially, these types of constructions are not unique to Mende within the Mande family. In Section 4.2 I noted a number of different Mande languages with pre-verbal particle verbs. It is likewise the case that there are a number of Mande languages with post-verbal particle verbs, as seen in the following data.

(123) Bambara (Koopman 19992: #7a)
N bò- ra i ye
I visit PERF you at
'I visited you.'

(124) Mandinka (adapted from Creissels 2024: #3)
Kèw-óo làfí-tà kódòo lá
man-D want-CPL money-D POSTP
'The man wants money'

(125) Lorma (adapted from Dwyer 1981, page 84 #2)
Gè wɛ́lɛ́ másságìì-và
1SG see chief-P
'I saw the chief.'

(126) Susu (adapted from Duport 1865)
um nemu a ma
1SG forget 3SG P
'I forget him'

(127) Vai (adapted from Welmers 1976, p. 100)
ŋ́ wò'ó'á nyíɛ́'a
1SG want fish P
'I want fish.'

In conducting an in-depth investigation of particle verb constructions in Mende, this research lays the groundwork for investigating similar constructions in the broader Mande family. At first glance, there appears to be a significant overlap in the surface structure of Mende and these other languages. Only further research will be able to uncover whether these similarities carry through into the underlying structure and derivations that generate these structures.

Chapter 5

Conclusion

5.1 Conclusion

I have sought in this dissertation to offer an analysis that can account for the variety of verbal constructions in Mende. The Mande languages are known for their SOVX word order, yet there are numerous grammars and descriptive papers that document a much wider variety of verbal constructions in these languages. Apart from Nikitina's (1997, 2009, 2011, 2012, and 2019) work on Wan, there is very little that has been proposed to analytically account for Mande SOVX word order. Moving beyond analyses of canonical constructions, I am not aware of any systematic research on the many documented non-canonical constructions in these language, outside of my initial work on Mende (Smith 2022, 2024a) and work with colleagues on Kono (Smith and Challay Under Review, Smith, Challay, and Jimissa Under Review).

In this thesis, I have considered a number of simple verbal constructions including canonical verbs, in which the DP object precedes the verb (1), CP complements in which the CP object follows the verb (2), stranded DP quantifiers in which the DP object precedes the verb, with the quantifier optionally pied-piped with it or stranded in a postverbal position (3), and stranded coordinated DPs in which the first DP conjunct surfaces in a pre-verbal position while the coordinator and second are optionally pied-piped or stranded (4).

(1) Canonical Verb

S	O	V		X	
Pítá	pùjɛ̀-í-síà	màjìá-í	lɔ̀	njɔ̀pɔ̀wá	hún
Peter	pepper-DEF-PL	sell-PFV	NF	market	at

'Peter sold the peppers at the market.'

(2) CP Complement

S	V		O_{CP}					
Mɛ́lí	húngɛ̀-í	lɔ̀	[kɛ̀	Pítá	pùjɛ̀-í-síà	màjìá-í	lɔ̀	njɔ̀pɔ̀wá hún]
Mary	explained	NF	C	Peter	pepper-DEF-PL	sell-PFV	NF	market at

'Mary explained that Peter sold the peppers at the market.'

(3) Stranded Quantifier

S	O_1		V		O_2	X
Pítá	pùjɛ̀-í-síà	{kpɛ̀lɛ́}	màjìá-í	lɔ̀	{kpɛ̀lɛ́}	njɔ̀pɔ̀wá hún
Peter	pepper-DEF-PL	all	sell-PFV	NF	all	market at

'Peter sold all the peppers at the market.'

(4) Stranded Coordinated Direct Object

S	O_1		V		O_2	
Pítá	pùjɛ̀-í-síà	{kɛ̀ yàbàsí-í-síà}	màjìá-í	lɔ̀	{kɛ̀	yàbàsí-í-síà}
Peter	pepper-DEF.SG	and onion-DEF-PL	sell-PFV	NF	and	onion-DEF-PL

'Peter sold the peppers and onions.'

I have also looked at a series of complex predicates, including pre-verbal particle verb constructions, in which a particle intervenes between the DP object and verb (5), as well as two classes of post-verbal particle verbs, *a*-verbs in which the prepositional particle *a* encodes the DP theme (6) and *ma*-verbs in which the postpositional particles *ma, va, wɛ,* or *hun* encode the DP theme (7).

(5) Pre-verbal Particle Verbs

S	O	Prt	V	
Kpana	bɛte-i-sia	ma	wua-i	lɔ
Kpana	table-DEF-PL	MA	wash-PFV	NF

'Kpana washed the top of the tables.'

(6) Particle verb construction (preposition)

S	V		Prt	O	X
Pítá	jà-í	lɔ̀	à	pùjɛ̀-í-síà	njɔ̀pɔ̀wá hún
Peter	touch-PFV	NF	A	pepper-DEF-PL	market at

'Peter touched the peppers at the market.'

(7) Particle verb construction (postposition)

S	V		O		Prt	X
Pítá	lèmà-í	lɔ̀	pùjɛ̀-í-síà		mà	njɔ̀pɔ̀wá hún
Peter	forget-PFV	NF	pepper-DEF-PL	MA		market at

'Peter forgot the peppers at the market.'

The data in this dissertation complicates the descriptive generalization that Mende word order is SOVX, clearly showing that it has a variety of constructions. This variety demands a more robust analysis, which I have sought to develop in this thesis.

From the beginning, I have suggested that there are three analytical ideas / frameworks that shape my analysis. First, Koopman's work on Mahou (1984) and Bambara (1992) suggests that the presence of pre-verbal nominal direct objects in these Mande languages is driven by Case-licensing. This accounts for the crucial distinction in Mende in which only DP objects surface in pre-verbal positions. It is a need for Case-licensing which attracts DP objects into these positions.

Second, Kayne's (1994) *Antisymmetry* approach can account for the varying positions in which the verbal complement or a part of the complement can surface. I have argued that Mende verb phrases are underlyingly head-initial, whether having a DP, CP, an NCC, or any other type of complement. Leftward movement enables us to account for the variations in word order.

Finally, the cartographic approach developed by Cinque and Rizzi (c.f. Cinque (ed.) 2002, Rizzi (ed.) 2004, Belletti (ed.) 2004, and Cinque (2006)) enables us to account for the landing spots for leftward movement, namely the specifiers of various functional phrases.

Working within these frameworks, I have proposed an analysis that enables us to derive each of the constructions in (1) to (7). All of the arguments of the verb merge into the head-initial VP, before the verb head-raises, adjoining the Aspect Head. The verbal arguments subsequently raise out of the VP beginning with the lowest argument, landing in the specifier of a corresponding functional phrase ($SpecFP_{DAT}$, $SpecFP_{OBJ}$, $SpecFP_{SUBJ}$, etc.) Next, the Neutral Focus Phrase merges above $SpecFP_{SUBJ}$, and the Aspect Phrase head raises into its specifier, generating Mende's *V-Asp NF* order. In a canonical construction the DP object raises for Case-licensing into SpecKaseP,

which dominates the Neutral Focus Phrase. The subject then raises through SpecSubjP, triggering agreement with the Subject Marker before raising into SpecFinP, its surface position.

In Chapter 3 I set out an analysis of the adpositional system of Mende, accounting for both prepositional and postpositional constructions. Crucial to this analysis is the proposal that Mende's adpositions exist on a Lexical-Functional Cline, ranging from lexical, nominal-like to purely functional. I make two foundational arguments concerning their derivation. First, I show that complex adpositions are derived via head-movement. Second, I propose that all adpositional phrases are head-initial, with their surface word order (prepositional and postpositional) derived via leftward movement of the DP complement into a Case-licensing positions.

Chapter 4 is an investigation of two types of particle verb constructions in Mende, in which an adposition mediates the verb's relationship with its DP theme. I call the first type pre-verbal particle verbs, and they have a *DP P V* structure. In these constructions the verb selects a Place particle as its complement, which projects a PP structure with a DP as its object. Syntactically, there are two types of pre-verbal particle verbs: incorporated and unincorporated. In incorporated constructions, the particle head-adjoins the verb and the DP theme raises into a pre-verbal position for Case. In unincorporated constructions, the Place particle projects a Functional structure, into which the DP raises for Case. Having a nominal nature, the Place particle itself needs to be Case-licensed, and it raises into a pre-verbal position, pied piping the DP with it.

In post-verbal particle verb constructions, the verb selects a functional adposition as its complement. The functional adposition projects a PP structure, which is dominated by a Case-licensing phrase that licenses the predicate's theme. This PP raises along with the other verbal arguments into a Functional Phrase below the verb, but it does not raise higher. Further raising is blocked since the DP theme has already raised within the PP, and the functional adpositional head

does not need to be Case-licensed. As such, PP complements of the verb remain in a post-verbal position, that is SpecFP_{OBJ}. The analysis that I have established is, therefore, able to account for each of these structures.

I propose that there are two significant results from this research endeavor. First, I have shown that the various constructions we find in Mende, such as stranded quantifiers, stranded coordinated direct objects, post-verbal CP complements, as well as pre- and post-verbal particle verbs are found throughout the Mande language family. This research, therefore, lays the groundwork for investigations of the syntactic structure of both canonical and non-canonical constructions in other Mande languages. Looking at initial data, I am confident that this analysis should carry over to languages like Kono, Susu, and Loko that I have already begun to investigate.

Second, the data in this analysis bears a strong resemblance to the Germanic languages, which can have both OV and VO structures, and which also manifest prefix and particle verb constructions. As I have noted, there is a substantial amount of research on particle verbs, but much of it is based on Germanic languages. This investigation brings data and an analysis from a relatively understudied language into the discussion of particle verbs, as well as adpositions, prefix verbs, and analyses of VO / OV variations.

A number of outstanding questions remain, and I highlight a few of the key areas here. Perhaps the most intriguing question concerns the distinction between canonical and particle verbs. The classes seem idiosyncratic and there are nearly synonymous pairs of verbs that surface in each class, yet it remains unclear why there is a distinction between these verbs. Why does *male* 'meet' have a pre-verbal object while *gɔmɛ* 'encounter' has a post-verbal theme in a particle phrase? My initial research on languages like Kono and Susu shows that there is some overlap in which verbs

belong to the class of particle verbs in the languages, so a broader typological investigation seems warranted.

Related to this, the unergative verbs with cognate direct objects provide an intriguing line of study. It is unclear why all unergative verbs do not show this variation and why only cognate objects take part in this alternation. I have not yet come across this type of data in any other Mande language.

Another interesting question concerns the role of the particle in particle verb constructions. It always appears with DP themes but does not surface with CP themes. Does it surface as a last resort in order to encode the DP theme, or does it surface by default and is suppressed when there is a CP theme?

I show a number of contexts in which the coordinator and second conjunct of a verb phrase or adpositional phrase can be stranded. A strong argument can be made that the first conjunct raises in order to be Case-licensed and that it can pied-pipe the coordinator and second conjunct with it. In situations where the coordinator and second conjunct are stranded, it is still relatively unclear how the second DP is Case-licensed. One possibility is that the coordinator is actually an adposition and assigns Case (Kayne 1994), but this remains an open question.

Finally, the question of how the meaning of PP adverbs comes about is an interesting question. There is a clear pattern of a base word, then the postpositions *nga* (mutated to *ya*), *hun*, and *wɛ*. For example, it is unclear how the meaning 'obviously' is derived from *a kɔɔ-ya-hun-wɛ,* with the base *kɔɔ* 'knowledge.'

There is much fruitful work that remains to be done in investigating the syntax of Mende, and other Mande langugaes. The goal of this dissertation has been to attempt an initial analysis that explains a number of verbal constructions, but there is still much more to consider, including

imperatives, passive constructions, and varying aspectual constructions. This research will hopefully provide a basis for future morpho-syntactic work on Mende and the Mande languages more broadly.

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