Tunen syntax and information structure

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CHAPTER 2

Background

2.1 Introduction

As this thesis sets out to investigate the relationship between syntax and information structure in Tunen, it is necessary to lay out some conceptual background on syntax, information structure, and the Tunen language. This chapter therefore starts by introducing the conceptualisation of and key terms relating to information structure adopted in thesis (section §2.2). Secondly, I introduce the formal approach to syntax followed (section §2.3), where I provide the necessary background detail for the non-expert reader to be able to understand the studies in the following chapters of the thesis. Next, I discuss the relevance for the Bantu language family for understanding the interaction between syntax and information structure (section §2.4), thereby contextualising the choice of research question introduced in the previous chapter. I then provide background information on the Tunen language and previous work on it (section §2.5). Finally, section §2.6 concludes.

2.2 Information structure

2.2.1 What is information structure?

A basic assumption about language is that conversations involve the exchange of information. We do not however throw around sounds and concepts without re-

strictions — in order for a speaker or signer to make sure the information is properly received by the addressee, it must be structured in such a way that it is understandable. Some of the information conveyed will be new to the addressee (as formulated in pragmatic theories as the requirement to make your contribution relevant; see e.g. Grice 1975, 1989; Sperber and Wilson 1995). This new and noteworthy information must be anchored to the addressee's existing knowledge about the world. For example, the new information conveyed by the predicate IS LATE is anchored to the subject *The teacher* in the English sentence (2).

(2) Context: What's happening with the teacher?
The teacher is late.

A language's grammar provides multiple means to facilitate fitting information together in this kind of way, such as intonational marking or syntactic contiguity— notice that the new information is grouped together at the end of the sentence in the English example just provided in (2). An English speaker would not attempt to convey the same meaning with a sentence (3a), where the information is broken up, and equally, in most contexts it would be odd for the speaker to pronounce the sentence as (3b), because the pitch accent (indicated by the capitals) in English is expected to correspond here with the locus of new information (see e.g. Jackendoff 1972). Similarly, example (3c) is grammatical but would be a confusing answer to the question, as this syntactic construction of clefting is used in English to highlight the new information, which in this context is not the teacher (as that information was already in the context question).[1]

(3) Context: What's happening with the teacher?
   a. *Late the is teacher.
   b. #The TEACHER is late.
   c. #It's the teacher who's late.

By using the right linguistic signals, like using an appropriate syntactic construction and intonation in (2), the speaker/signer can make sure their information is structured in such a way that the information can be properly processed by the addressee at that point in the discourse. This idea is what is known as *information*

[1]Here, I use an asterisk to indicate the ungrammaticality of the example sentence, as it is so badly-formed for English that it would not be licit in any context. For sentences that are grammatical but are not appropriate for the given discourse context, i.e., infelicitous, the # sign is used. An overview of example presentation conventions is given in the Abbreviations list, and further discussion on the use of grammaticality versus infelicity judgements will be provided in Chapter 3 section §3.2.2.

structure. As it relates to how information is put together when forming a sentence, it is also sometimes referred to as *information packaging* (Chafe 1976, 1987).

Information structure — abbreviated to IS — can be marked using different linguistic strategies, such as intonation, stress, word order change, verbal conjugations, and dedicated morphological markers (see Féry and Ishihara 2016b for illustration across different languages). IS often relates to felicity and therefore interacts with pragmatics, but it can also affect the grammaticality of a judgement and therefore affect the semantics (for example, the truth conditions of '*I have eaten the chili*' are different from those of '*I have eaten only the chili*', where having also eaten snacks from the fridge falsifies the second statement but not the first). IS can therefore be visualised as forming a web between the different parts of grammar, as in Fig. 2.1.

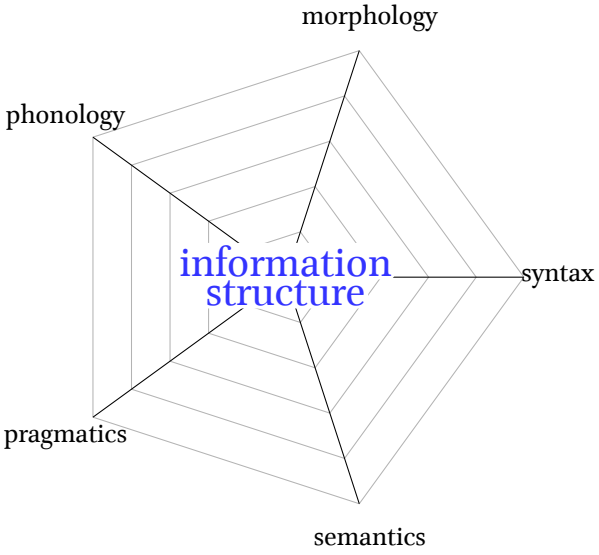


Figure 2.1: Visualisation of information structure as a web between different components of grammar.

While IS can be marked by different parts of the grammar, different languages use different strategies to different extents. This is visualised in Fig. 2.2: some languages may make more use of phonological means (like the use of pitch accent in English), while others may use dedicated morphological markers to convey the same types of information. In this thesis, I investigate the extent to which IS interacts with syntax in Tunen, thus covering only part of the web in Fig 2.1. The choice for studying the syntax/IS relationship is motivated in section §2.4, where we will see that it is a key mapping for many Bantu languages. The hypothesis then is that

Bantu languages mark IS with syntax more so than many other languages do (and so can be thought of looking something more like Fig. 2.2*b* than Fig. 2.2*a*).

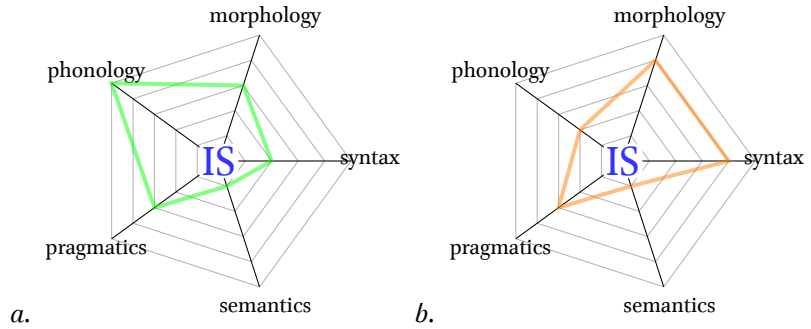


Figure 2.2: Visualisation of how languages can differ in the extent to which different parts of the grammar are used to mark information structure (coloured lines). A type *a* language would primarily mark IS via phonological methods (e.g. intonation), while type *b* would primarily use morphosyntactic strategies.

The goal of this thesis is to study the mapping between syntax and IS in Tunen, as part of a broader research programme into the extent to which IS influences syntax in the world's languages. One challenge in this kind of comparative research on IS is that there are a large number of terms and a variety of definitions of the key concepts in the literature (Féry and Ishihara 2016a:1-2). The next subsections will therefore introduce the concepts and definitions used in this thesis, which follow the conventions of the broader Bantu Syntax and Information Structure (BaSIS) project in which this thesis project was conducted (cf. Van der Wal et al. to appear).

2.2.2 The referent/expression distinction and accessibility

Firstly, it is important to understand the terminological distinction between a *referent* and an *expression*. A referent is something in the real world (or more precisely, in the mental conceptualisation of the world in conversational participants' heads). Referents include not only people, animals, and things, but also events. An expression, on the other hand, is the linguistic material used to refer to a referent. Importantly, referents and expressions do not have a 1-to-1 mapping. For example, the English and French words *spoon* and *cuillère* are two different expressions that (can) map to the same referent (many-to-1 mapping). Within a stretch of discourse, the same referent may be referred to by multiple different means, such as a full noun phrase *the spoon* in contrast to a pronoun *it* (1-to-many mapping).

A referent changes in its *accessibility* (also known as *activation status*) over the course of discourse. This notion of accessibility relates to the cognitive processing of referents in discourse, building on the more general principle in cognition that we cannot pay attention to everything at all times, and rather are constrained by factors such as working memory (Chafe 1976, 1987; Ariel 2001). A key approach by Chafe (1976) classifies referents into three categories: *new*, *semi-active*, and *given*. On first mention of a referent, that referent is new and accorded attention. As the discourse continues, this referent loses activation status, becoming part of the already-known information, i.e., becoming given. A semi-active referent is one that may be more easily retrievable than a fully new referent but is not fully active, which may be due to recent mention or due to being more easily retrievable than other referents (e.g. conversational participants and known objects such as 'the moon').

Work investigating the relationship between the cognitive status of referents and the linguistic strategies used to express them has found a general pattern that more active referents are referred to with less linguistic material. This inverse relationship between degree of accessibility and degree of linguistic encoding has been formalised under the *Givenness Hierarchy* (Gundel et al. 1993) and the *Accessibility Hierarhcy* (Ariel 2001), as given in (4)-(5) below.

(4) **The Givenness Hierarchy**

in focus	> activated	> familiar	> uniquely identifiable	> referential	> type identifiable
{it}	{that/this/this N}	{that N}	{the N}	{indefinite *this* N}	{*a* N}

(Gundel et al. 1993:275)

(5) **The Accessibility Hierarchy**

Full name + modifier > full name > long definite description > short definite description > last name > first name > distal demonstrative + modifier > proximate demonstrative + modifier > distal demonstrative + NP > proximate demonstrative + NP > distal demonstrative (-NP) > proximate demonstrative (-NP) > stressed pronoun + gesture > stressed pronoun > unstressed pronoun > cliticized pronoun > verbal person inflections > zero

(Ariel 2001:31)

For example, pronouns (e.g. *it*) — found towards the end of each hierarchy — may be used when a referent has just been mentioned in the discourse. In contrast, more linguistic material may be used to introduce or re-activate a referent, such as the use of a full noun phrase ('the man') or a definite description ('that man over there that we saw yesterday'), which are found on the other end of the hierarchy.

The choice of expression affects the felicity of a sentence, but not its grammaticality. This can be illustrated by the following two versions of a simple English stretch of a made-up story, where (6a) provides a natural (if boring) example, and (6b) illustrates how the same story could be conveyed using a different means of referent encoding.

(6) a. My colleague Sarah sent an email. She thought it was clear, but when she got a response, the recipient clearly hadn't understood her points. She was pretty frustrated.

b. My colleague Sarah sent an email. My colleague Sarah thought it was clear, but when my colleague Sarah got a response, the recipient clearly hadn't understood my colleague Sarah's points. My colleague Sarah was pretty frustrated.

None of the sentences in (6b) are ungrammatical, but the text stands out as being highly unnatural due to the repetition of the heavily-encoded expression 'my colleague Sarah'. Notice, as well, that heavy encoding leads to more words being used to convey the same basic message, making communication less efficient. At the same time, using less encoding relies on the belief that the addressee will still be able to pick out the referent, showing a trade-off in communicative content and efficiency. Heavier encoding is sometimes needed — it would be risky to have begun the same discourse with (7), for example, as the addressee would likely not know who was being referred to (and possibly have to interrupt to ask for clarification).

(7) She sent an email. [...]

Understanding referent expression therefore relates to observing how speakers/signers find a balance between minimal and heavier encoding. So far, the examples show less encoding being used after the referent has been introduced (notice how in (6), the referent MY COLLEAGUE SARAH is introduced with a modified noun phrase and then referred to in the next sentence with the pronoun 'she', i.e., less encoding). There are however other factors that may influence how heavily encoded a referent, such as the presence of intervening syntactic material; see Ariel (2001) for an overview. I will discuss this for Tunen in Chapter 5 section §5.7, where I show that linguistic distance, temporal distance, grammatical role (subject versus object) and valency of the predicate are relevant factors for the choice of referent expression in Tunen.

Both the Givenness Hierarchy and the Accessibility Hierarchy make similar observations. One weakness of the Givenness Hierarchy is that it was formulated

and illustrated with the pattern found in English, and is therefore less easily transferrable to the patterns found in other languages. In this thesis I therefore adopt the terminology of the Accessibility Hierarchy, which provides a broader set of labels that can be applied to different languages. Note here that a language is not expected to have all of the expressions given in (5); rather, the prediction is that for the expressions that the language has, they will be ordered from longer to shorter expression in inverse correlation to the accessibility of the referent. I will highlight some differences in minimal referent encoding between Tunen and other Bantu languages in Chapter 5. I also provide 4 sample texts in the Appendix to illustrate referent expression in natural Tunen speech.

2.2.3 Thetics

Now we have a means to express referents, how can we combine these expressions in such a way to convey the intended information about the referent at hand? For this, we need terminology for the analysis of sentential structure.

Research in information structure distinguishes between two basic types of sentences: *thetic* statements on the one hand, and *categorical* statements on the other (see e.g. Sasse 1987, 1996; Lambrecht 1994). Thetics are defined as having no division in information structure, which can either be analysed as having no focal content or having sentence-wide focus (also termed 'all-focus'). They can be considered as sentences without a topic expression, although it may also be argued that they have a topic referent of 'the here and now', i.e., a *stage topic* (Gundel 1974; Erteschik-Shir 2007). An example of a thetic is given in (8) below.

(8) Context: You are sitting in a library reading a linguistics book in silence. Someone suddenly shouts out:
'The curtains are on fire!!'

Example (8) illustrates (quite literally) a *hot news thetic*, where the speaker is signalling urgent information in the absence of prior discourse context. Here, the referent 'the curtains' has not been mentioned before,[2] and neither has the predicate 'be on fire'. The function of the sentence is therefore to convey the new information all at once, and the sentence can be classified as a thetic due to this lack of IS divisions.

[2] An argument could be made that the referent 'the curtains' is semi-active due to being contextually available from world knowledge about libraries being rooms which likely have windows and therefore curtains. However, example (8) is also possible with subjects corresponding to referents that are less clearly contextually available, e.g. '*my documents*', '*these cupcakes*'.

What is particularly interesting about thetics is that the subject, which in categorical sentences very often fulfils the pragmatic role of topic (Li and Thompson 1976), is non-topical. Thetics can therefore be used to diagnose whether a certain strategy is best analysed as one related to subjecthood or to topicality. I therefore employ thetics as a diagnostic test for subject versus topichood in Chapter 5's investigation of Tunen's basic word order (section §5.2).

Multiple different subtypes of thetics exist. A common environment in which thetics are found is an all-new or out-of-the-blue context, such as in example (8) or in answer to the question "What happened?". However, a complication is that some referents are inherently given, being always-accessible for example through world knowledge. This applies to referents such as 'the moon', 'the sun', and 'the Prime Minister'. Lexical divisions of thetics include weather expressions ('The sun is shining'), descriptions of physical sensations ('My back hurts'), and existentials ('There are many animals in the Mvog-Beti park'). Functional divisions of thetics include hot news thetics ('There's a crocodile!'), presentatives ('Here is Patience'), and explanations ('(He didn't come to work because) he fell sick'). In this thesis, I use the BaSIS project methodology (Van der Wal 2021; Chapter 3) to investigate different thetic types in Tunen, which I discuss further in Chapter 5.

2.2.4 Topic and comment

The other type of sentence is a *categorical sentence*, where there are divisions related to information structure. The first dimension of division is the *topic-comment* split, also known in work from the Prague school of information structure as the *theme-rheme* split (see e.g. Vallduví and Vilkuna 1998 for an overview).

The function of the *topic* is to serve as the anchor for the information within the comment, thereby aiding the addressee in linking new information to their existing knowledge. The topic is therefore what the sentence is about, and has accordingly been termed an *aboutness topic* (Reinhart 1982; Lambrecht 1994). This definition of topic relates to the sentence, with the broader notion of the topic of discourse termed a *discourse topic*.

(Sentence) topics change over discourse: we don't keep talking about the same thing over the whole conversation.[3] A *continuous topic* is a topic that was a topic in the previous sentence. A *shift topic* refers to a topic that is different from the topic of the previous sentence. A *contrastive topic* is a topic that serves in opposition to

[3]While it could be argued from a Question Under Discussion (QUD) framework (Roberts 1996) that we can in fact have entire discourse stretches about a general QUD, the discourse can be broken down into components about subquestions, and the discussion of *topic* used here crucially relates to sentential rather discourse topics.

another topic. There can also be multiple topics in a sentence.

The notion of topicality is intricately connected to the notion of subjecthood, as grammatical subjects canonically function as topics (Li and Thompson 1976). However, the two notions are distinct, as is seen above for thetics, where a grammatical subject can serve a non-topical role. This terminological distinction will be used in Chapter 5 section §5.2.1 and Chapter 6 in order to consider the extent to which Tunen's canonical word order should be defined in terms of the IS notion of 'topic' versus the grammatical-role notion 'subject'.

Within categorical sentences, topics can be arguments or non-arguments of the sentence. This is exemplified by the English data in (9), where the first topic expression *Parrots* relates to the object of the clause, an argument of the predicate SAW, while the second topic expression *Birds* is a superset of the object of the second example rather than itself being an argument of the clause.

(9) a. Parrots, he saw them.

b. As for birds, he saw parrots.

We see from (9a) that English can have resumption of the topic in the main clause, with the pronoun *them* co-referential with the topic *parrots*. The BaSIS fieldwork questionnaire used for this thesis test for these kinds of syntactic requirements for different topic constructions. In Chapter 5, I present an overview of topic expression in Tunen.

The non-topical component of the topic-comment split, i.e., the *comment*, presents new information that can be linked to the topic. The notion of new information is conceptualised in terms of focus and background, which we will turn to now.

2.2.5 Focus and background

The next important split that can be made in categorical sentences is that of *focus-background*. One way of conceptualising this is that the *background* corresponds to given information and the *focus* corresponds to new information. Another means of conceptualising focus is in terms of the Alternative Semantics framework (Rooth 1985, 1992; Krifka 2008). Here, the idea is that focus relates to the generation and selection of alternatives. For example, the subject content question in (10a) generates the alternative set in (10b), where each item within the set (indicated by the { }) is an alternative for the questioned element. In the answer in (10c), the speaker selects an alternative from this set.[4]

[4]Here, the [ ]$_{\text{FOC}}$ notation indicates the focal element, i.e., the element for which alternatives were generated (see the Abbreviations list).

(10) a. Who caused a mess in the kitchen?

b. {Suki, Esther, an intruder, ...}

c. [Suki]$_{\text{FOC}}$ caused a mess in the kitchen.

In other words, by asking a content question such as (10a), the speaker/signer opens up a set of alternatives (10b), here regarding the possible subjects of the predicate CAUSE A MESS IN THE KITCHEN (i.e., λx.CAUSE A MESS IN THE KITCHEN(x)). When a speaker/signer provides an answer such as (10c), what they are doing is instructing the addressee to fill in that alternative (i.e., x = SUKI). This relationship between the question word *who* and the focussed term *Suki* in terms of alternatives illustrates *question-answer congruence*, which is a key test used for the investigation of focus (Reich 2002; Van der Wal 2016). Focus is then defined not on the basis of newness but through the generation of alternatives, where what is considered new can be the selection of alternatives (Krifka 2008).

Focus varies by scope (i.e., size) and by type. Firstly, in terms of scope, a basic distinction can be made between *term focus* and *predicate-centred focus* (*PCF*) (the latter sometimes referred to in terms of *predicate focus*) (Dik 1997; Zimmermann 2016; Van der Wal 2021). Term focus refers to focus scoping over arguments and adjuncts. PCF refers to focus on the predicate, including *state of affairs* (*SoA*) *focus* (i.e., focus on the lexical content of the verb), *VP focus*, and *operator focus* (including *TAM focus* and *polarity focus*, the latter also known as *truth focus* and *verum focus*; see Kerr and van der Wal 2023). These types of focus are shown in Fig.2.3.

The second dimension of variation in focus is the semantic type of focus. The most basic type is *information focus*, also called *new information focus*. Information focus simply involves the selection of an alternative, as seen in (10c) in the answer to a neutral content question. A more contrastive type of focus is *exhaustive focus*, which not only selects an alternative but also excludes all other possible alternatives, as in (11b) below. *Mirative focus* involves the selection of an alternative that is considered surprising, as in (12a). Finally, *corrective focus* selects an alternative in opposition to a previously stated alternative in the discourse, as in (13).

(11) a. Even Esther caused a mess in the kitchen.

b. Only Esther caused a mess in the kitchen.

(12) a. Context: Esther is known to be impeccably tidy.
ESTHER caused a mess in the kitchen!!

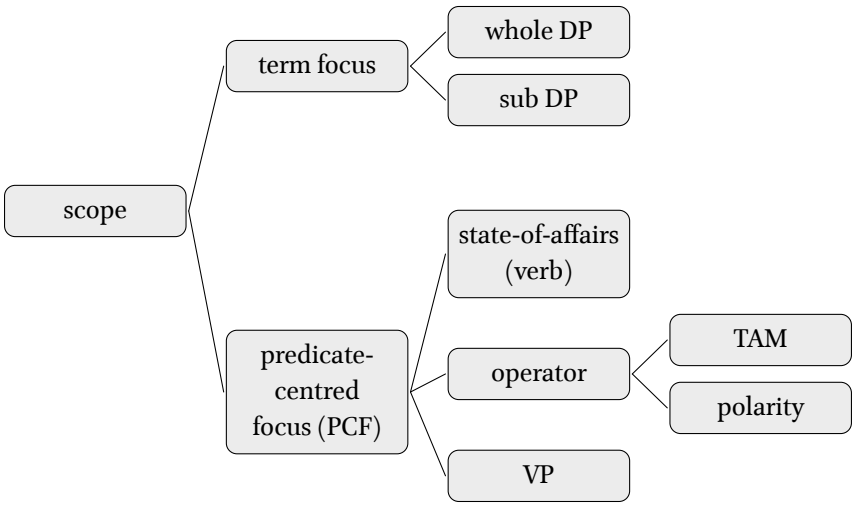


Figure 2.3: Diagram illustrating variation in focus scope, with a basic distinction between term focus and predicate-centred focus (PCF) (adapted from Van der Wal 2021:16, Kerr and van der Wal 2023:444).

(13) a. Suki caused a mess in the kitchen.

b. No, ESTHER caused a mess in the kitchen.

These semantic types can be understood in terms of the scale of contrastiveness in (14), with least contrastive on the left to most contrastive on the right.

(14) **Contrast scale of focus types**
information focus > exhaustive focus > mirative focus > corrective focus
(adapted from Cruschina 2021:2)

Contrast is therefore a notion that can be applied to focus. It has been argued that contrast is an independent notion that can interact both with focus (contrastive focus) and with topic (contrastive topic) (see e.g. Neeleman et al. 2009). In this thesis, I do not adopt such a view, partly on conceptual grounds, but primarily because there is no language-internal evidence for contrast as a unified concept in Tunen, with no overlap in syntactic marking of contrastive foci versus contrastive topics. I discuss the use of the term *contrast* in previous work on Tunen in Chapter 6, where we will see that it was used more specifically to describe contrastive focus.

2.2.6 On the nature of categories

The previous subsections have given an outline of the standard approach to key IS concepts, as followed within the BaSIS project. However, some researchers have taken issue with this standard approach to IS (Matić and Wedgwood 2013; Ozerov 2018, a.o.). They argue that the traditional approach is to pre-define categories such as 'topic' and 'focus', which are considered to be universal cognitive categories. Empirical investigation therefore seeks to see how these universal cognitive categories are expressed in different languages, thereby working in a top-down manner from universal concept to specific language, which Ozerov (2018) terms the "pre-empirical view". A risk of working in such a paradigm is that empirical phenomena are analysed in information-structural terms when they may be more accurately treated as not directly relating to IS, rather categories related to "interactional discourse-structuring and intersubjective domains" (Ozerov 2018:92). In this way, the small inventory of standard notions of IS limit what researchers find about actual linguistic variation and complexity. The authors therefore argue for a bottom-up approach to IS, starting from investigation of the data and then considering which categories participate in information management. The type of variation centred in typological/comparative studies is therefore not the *expression* of information structure, but which categories are expressed in a given language and which effects they trigger (Ozerov 2018:92).

As will be explained further in Chapter 3, this thesis followed standard terminology for investigation of IS, which may be subject to these kinds of critiques. However, the project methodology not only involved tests from function to form (top-down) but also used tests from form to function (bottom-up). While not sufficient to fully address the methodological concerns of Matić and Wedgwood (2013) and Ozerov (2018), the bottom-up tests nevertheless allow for consideration of the broader meaning of a particular form, as considered from the perspective of Tunen. I also present data from recorded natural speech and secondary sources, which provide some confirmation that the patterns described on the base of directed elicitation research reflect actual Tunen language use. As introduced at the end of section §2.2.1, the use of standard IS terms is motivated by the ultimate desire for crosslinguistic comparison. I will however argue in this thesis that some of the terms seen are not needed for descriptions of Tunen, as they appear not to be categories with specific encoding in Tunen grammar. I take the conceptual stance that these terms may be conceptually valid for other languages and may be part of Tunen speakers' cognition, but do not form part of Tunen syntax (see Chapter 3 and Chapter 8 for further reflection). In Chapter 8, I will reflect on which IS notions are required for analyses of Tunen syntax as compared to and differing from other Bantu languages.

2.3 Generative models of syntax

In the later chapters of this thesis, I develop an analysis of Tunen in line with current generative approaches to modelling syntax. In this section I provide a brief summary of this theoretical approach, with the aim of rendering the studies in the later chapters more understandable to non-generative readers. A discussion of the conceptual principles of the generative framework will follow in Chapter 3 section §3.2 after this chapter introduces the basic technical details.

2.3.1 The reverse Y model of the grammar

Traditional generative accounts adopt a *reverse Y model* of the grammar to model the relationship between syntax and the rest of the grammar. Here, sentence formation starts with content from the lexicon – the lexical content that forms the building blocks of sentences. These blocks are combined into phrases and sentences within the syntax component, termed *Narrow Syntax*. The result of this building process is then sent to different interfaces, one for semantics (the *Logical Form*; LF) and one for phonology (the *Phonological Form* form; PF). As LF and PF do not connect, the grammar is therefore structured in an upside-down Y shape. This reverse Y model of the grammar is shown in Fig. 2.4.

The term *Narrow Syntax* thus refers to any operations taking place before LF and PF. Exactly how narrow the so-called *Narrow Syntax* is depends on one's stance on the interaction between syntax and morphology. Under the framework of *Distributed Morphology* (DM; Halle and Marantz 1993 *et seq.*), various morphological operations take place post-Spell-Out, as formulated in terms of *morphological readjustment rules* (Embick and Noyer 2001, 2007). Under *Morphology as Syntax* (MaS) approaches (e.g. Collins and Kayne 2023), morphological processes apply only within the Narrow Syntax component. These approaches are therefore also termed *syntacticocentric*, with morphological phenomena explained as part of the syntax (see e.g. Harley 2015). Assuming one's goal is to be able to model all languages' syntax, the study of different types of languages is key for testing the applicability of a given approach; one's preference between such approaches can therefore depend partly on the applicability to the morphosyntactic profile of the language at hand. In this thesis, I build on previous formal work on Bantu languages which adopts a firmly syntacticocentric viewpoint, as motivated by the complexity of morphosyntax in Bantu languages (Van der Wal 2015), which provide interesting case studies for testing theories of the morphology/syntax interface. I therefore use the term *syntax* instead of *Narrow Syntax*, in rejection of the implication that the syntactic component is minimal. I will discuss the implications of this theoretical

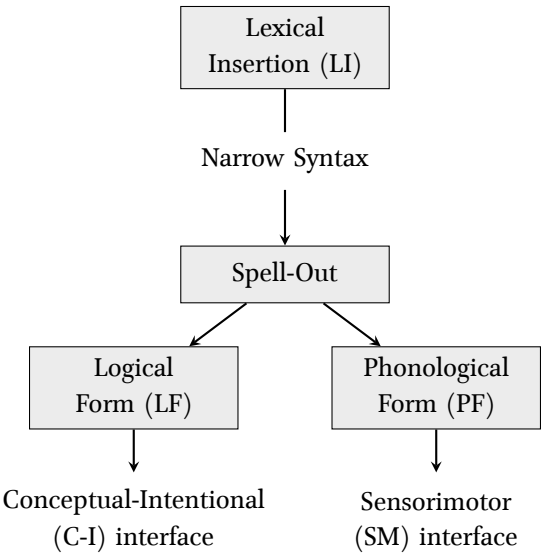


Figure 2.4: Reverse Y model of the grammar.

choice in the modelling of Tunen's verbal morphosyntax in Chapter 6 sections §6.3-6.6, where I present an analysis of Tunen clausal syntax that aims to account for as much as possible without any stipulations about post-syntactic operations (see also Chapter 7 section §7.4.2 on following constituency-based models of ellipsis rather than relying on postsyntactic accounts).

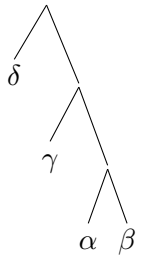
2.3.2 Structure building: Merge and Phase Theory

Generative syntax starts from the core principle that language has hierarchical structure. The question for a linguist, then, is how this structure is built up — and how the structure can be uncovered from the linear speech/sign signal in which it is transmitted. The first key mechanism of the syntactic component is therefore the mechanism of structure building.

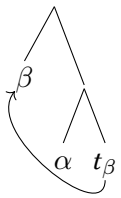
The core structure-building operation in generative accounts is *Merge*, which combines two elements in order to form a constituent. This operation can combine recursively, with the output to the first merge forming the input to further structure building, as represented in the tree diagrams in (15) below.

(15) a. 

b. 

c. 

Earlier approaches used *Move* for movement, which referred to moving an element from one position in the hierarchy to some other position. More recent approaches within the Minimalist Program (see Chomsky 1993, 1995 *et seq.*) have reconsidered Move to be a type of Merge (*Internal Merge*, vs *External Merge*), on the basis of movement being analysable as a Merge operation where one element is already present within the structure. I will reflect movement operations using arrows, with t_x reflecting the trace of the moved element left in the base position, as in (16) below.[5]

(16) 

So far, I have not given a label to the node dominating the two input components to Merge, in following the narrowest definition of Merge as distinct from labelling. I assume standard labelling algorithms, where the head determines the label of the parent node. For example, if α is the head in (15a) — e.g., if α is a verb and β its object — then the label for the parent node will be αP (i.e., VP, if α = V). If β were the head instead, then the label of the parent node would be βP.

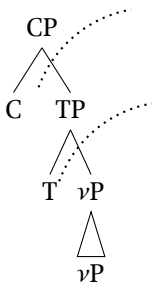
The next question relates to the use of tree diagrams as representations of syntactic hierarchy. Because of their 2D nature, they can be taken to also indicate linearity — for example, that (15a) will be pronounced in the order α-β and not β-α. However, claims about linearity require a separate theoretical component, that of a

[5]For readers familiar with generative linguistics: I come back to traces versus the Copy Theory of Movement in the discussion of the derivation of discontinuous DPs in Chapter 7. Traces are used otherwise for representational convenience (and in keeping with the practice of other authors, for other languages cited).

linearisation algorithm. In this thesis, I follow standard approaches where linearisation requires structural asymmetry and where hierarchical dominance determines linearisation (see e.g. Kayne 1994; Moro 2000). While this can be defined more formally, it is enough for current purposes for the reader to take this to mean that what is higher up in the tree diagram will be pronounced sooner. I discuss specific types of theoretical constraints on headedness and linearisation further in Chapter 6 (for the verbal domain) and Chapter 7 (for the nominal domain).

So far, we have seen that structure is built in the syntactic component bottom-up via recursive application of Merge (in Minimalist frameworks, External and Internal Merge, and in earlier approaches, Merge and Move). When thinking about sentence structure, we can note that different parts of the clausal hierarchy have different functions. This is represented in the *tripartite division of the clause*, where the lowest structures form the verbal domain (*v*P), which then builds up into the inflectional domain (TP), and then the clausal domain (CP). This tripartite model is sketched in (17).

(17)

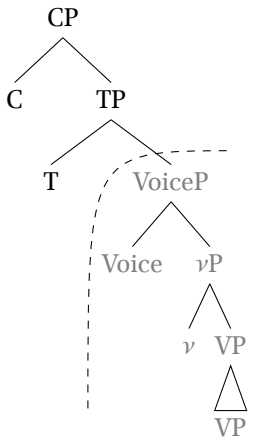


The clausal domain (CP) is therefore the maximal domain for a sentence, which I take here to be the linguistic unit of interest. However, more recent work in the generative framework argues that sentences are built up in smaller chunks, with Spell-Out applying below the CP level. In other words, once a certain chunk is built, it is complete, with no further syntactic operations able to modify it. This theory of structure-building proceeding in chunks is known formally as derivation by phase (Chomsky 2001, 2008), with the term *phase* corresponding to the notion of a chunk.

Exactly how phases divide the structure in (17) (which uses CP, TP, and VP as short-hands for more complicated structures with various intermediate layers) varies between formal accounts (Chomsky 2008:143), and is also considered by some authors to be able to vary between languages (see e.g. Bošković 2014; den Dikken 2007; Wurmbrand 2017). However, it is standard to identify the verbal domain in (17) to be a phase and thus the highest head of that domain to be the phase head, as expressed by Chomsky (2004) as *v**P (where *v** is the highest head within the

verbal domain and so the phase head). In this thesis, I will argue in Chapter 6 that the Tunen verbal domain contains both the projections VoiceP and *v*P. This results in Voice being hypothesised to be the lower phase head in Tunen, as in (18) below.

(18)



The key idea behind phase theory is that what is built in one phase then becomes inaccessible in subsequent phases, with the exception of material at the phase edge. When building one phase, the grammar does not know that there is another phase coming – this is captured in a restriction on *lookahead* phenomena (i.e., a restriction on knowing what will be covered in subsequent phases). The exception to the inaccessibility of phases is material at the edges of phases, which is considered accessible to the subsequent phase. The extent to which phases are penetrable in this way varies between formulations. The *Phase Impenetrability Condition* of Chomsky (2000) (known as *PIC1*) is stricter than the later version of Chomsky (2001) (*PIC2*).

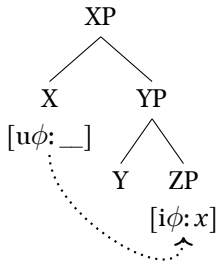
In this thesis, phases are relevant in the extent to which the relative positions of the object and subject arguments in Tunen in the formal model built in Chapters 6-8 affect the accessibility of Tunen arguments for further syntactic operations. While a full formal account of Tunen syntax is beyond the scope of this initial study, I point out some predictions made on the basis of phase theory and speculate on the potential link between Voice as a phase head and the grammaticalisation of Tunen word order (see Chapter 6 and 8).

2.3.3 Syntactic features

In Minimalist approaches, syntactic features are important for syntactic dependencies between elements in the structure. The operation *Agree* is used to create such

dependencies. Syntactic features can be valued or unvalued. The Agree operation involves a *Probe*, which is an element that has an unvalued feature, which must look elsewhere in the structure in order to find an element with matching, valued features. This element is called a *Goal*. Generative approaches assume that features must be valued in order for the structure to be interpretable at the interfaces (Chomsky 2000). A basic schematisation of the Agree process is given in (19), where the Probe has unvalued ϕ-features (where ϕ represents number/case/gender). The Goal is valued for these features, with ϕ-feature value x (e.g. SG if singular). The Probe searches for a Goal to value its features, resulting in an Agree relation.

(19)



There are various different approaches to Probe-Goal relations. While I assume syntactic features and Agree in this thesis, I do not commit to a particular theoretical stance (e.g., on the ability/inability for Probe-Goal relations to apply upwards), in order for my discussion of Tunen syntax to be adaptable in future work to other authors' preferred model of syntactic features.

Agree can be seen to result in the phenomenon of noun class agreement that is found throughout Tunen (see Chapter 4 section §4.3 and Chapter 7). Some authors have also argued that IS notions such as *topic* and *focus* (see section §2.2 above) are syntactic features in some languages' grammar, working in a parallel way to ϕ-features such as gender and number and therefore having significant influence on a language's syntax. For example, focus can be modelled with a [+focus] feature and topic as a [+topic] feature, e.g. via δ-features (Aboh 2010; Miyagawa 2017; Mursell 2021; Van der Wal 2022). I discuss this possibility for Tunen in Chapter 6 and Chapter 8, drawing upon the empirical findings for IS presented in Chapter 5.

Probes may trigger movement (Internal Merge) in the presence of a movement trigger. I discuss this in relation to movement triggered by a formal ^-feature (which can be seen as a diacritic indicating that the complement of the head carrying the ^-feature must move to the specifier position) in Chapter 6 in the context of accounting for Tunen's OV word order. I discuss the relationship between IS features and

other syntactic features in the context of diachronic predictions regarding word order change made by the generative model I propose in Chapters 6-8.

2.3.4 A versus A'-phenomena

So far, we have seen that generative syntax has means to build structural elements and move and modify them through operations targeting their syntactic features. An important distinction standardly drawn within generative linguistics in relation to syntactic operations is the distinction between so-called *A* and *A'-phenomena*, as discussed in terms of *A/A'-movement* and *A/A'-positions* (see also *A/A'-chains*). Traditionally defined, *A-movement* concerns movement into argument positions, whereas *A'-movement* (also written as *A-bar movement*) concerns movement into non-argument positions, where an argument position is a position in which a θ-role[6] is assigned to a nominal (see e.g. Chomsky 1981, 1986; Déprez 1989). More recently, it has been argued that the A/A' difference is not one of position but of the features involved on the head triggering the movement (Van Urk 2015). While the A/A' distinction can and has been formulated in many different ways (Chomsky 1995:57-58), a commonality across the approaches is that A-movement is relevant for argument licensing, while A'-movement is relevant for information structure, in that wh-movement, focalisation, and relativisation are considered A'-movement operations. In terms of argument licensing, there is the assumption that all arguments must be licensed for a derivation to be permissible at the interfaces (see e.g. the Case Filter; Vergnaud 1977[2008]; Chomsky 1981:49). Movement for licensing reasons is sometimes referred to as *L-movement*. The licensing of arguments also restricts the availability of subsequent movement operations, as in the Activity Condition (Chomsky 2000:123, 127; 2001:6), which states that a nominal that has A-moved to receive Case is then unable to participate in another A-movement operation.[7]

A and A'-movement differ in several properties, which can be used to diagnose a movement operation as one or the other type (see e.g. Van Urk 2015 for an overview). Most importantly for the topics covered in this thesis, A-movement is local, does not show reconstruction effects, and is restricted to nominals. A'-movement, on the other hand, applies at long distances, with intermediate movement steps (*cyclicity*/*successive cyclic movement*), and can be identified by reconstruction.

A'-phenomena will be discussed further in Chapter 5 (on information struc-

[6] A θ-role (also written as *theta-role*) reflects the thematic relation between the nominal and the predicate, e.g. AGENT or PATIENT.

[7] While A-movement is thus traditionally discussed in terms of Case assignment, more recent accounts have moved away from the centrality of Case; see e.g. Keine (2018).

ture) and are also covered in descriptive terms in Chapter 4 (specifically, in the description of question formation and relativisation). The distinction between A and A'-phenomena will be important in Chapter 6 for the study of the position of the object in Tunen, which I will argue to be conditioned by A-movement, and in Chapter 7 for the study of discontinuous DPs in Tunen, which I will argue to be formed as a side-effect of A-movement of the object, in contrast to the crosslinguistically more common discontinuous DP construction formed by A'-movement.

2.3.5 Variation and uniformity

Generative approaches vary in their assumptions about the uniformity of syntactic structures across different languages. While generative work is often characterised by non-generativists as positing universal structures that are invariant across languages and part of an innate language component of the brain (*Universal Grammar*; UG), more recent approaches have drastically reduced the size of UG, including positing that only Merge is universal. There is also debate in the extent to which UG is unique to language or part of more general cognitive processes that also apply to structure-building in other domains, such as vision (see for example the distinction made in Hauser et al. 2002 between the *Faculty of Language Narrow* and the *Faculty of Language Broad*).

In this thesis I assume a restricted view of UG whereby only general properties of structure-building (Merge) are innate, and possibly non-specific to language. I assume that syntactic features are emergent, i.e., can be posited as a result of the combination of the linguistic input a language learner receives, together with the restricted innate linguistic capabilities and general cognitive abilities (so-called *third factors*) (Chomsky 2005; Biberauer 2017a, 2018; Roberts 2019:7, 99-102). This means that languages can be expected to vary in which features are present or absent, due to variations in the input. In this sense, I do not adopt the *Strong Minimalist Thesis* (Chomsky 1995) and the *Strong Uniformity Principle* (Miyagawa 2010, 2017), which assume that all languages have the same set of grammatical features. I will return to this discussion when considering how to model the relation between syntax and IS on the basis of the Tunen data and in comparison to models proposed for other Bantu languages (see Chapter 5 section §5.8 for a descriptive comparison and Chapter 8 for discussion of the theoretical implications).

2.3.6 Parametric approaches to linguistic variation

Another relevant strand of research in generative linguistics is the notion of parameters and parameter hierarchies. Parameters are used to model variations in syntac-

tic structure, for example whether a language has a head-initial verb phrase (VO) or head-final (OV). Such parameters vary in scale (Baker 2001), from large-scale parameter settings such as headedness — so-called *macroparameters* — to parameters that only affect a few lexical items (*nanoparameters*/*mesoparameters*/*microparameters*; see Van der Wal 2020 for illustration in relation to Bantu languages). Parameters can be organised in *parameter hierarchies* (Roberts 2019), where the setting of a given parameter is dependent on the setting of dominant parameters. For example, a parameter setting for applicatives could only be set in a language that had applicatives in the first instance.

The notion of parameter is relevant to this thesis as it has been invoked in generative models of word order change (see e.g. Roberts 2019, 2021). I therefore return to this comparative tool in Chapter 6 section §6.7 when considering how Tunen's clausal word order compares to other languages. Here, there is a question as to whether the notion of parameters of a model are only notions relevant to the linguistic analysis, versus reflecting a difference in the grammars of each speaker.

2.3.7 Where is information structure in the grammar?

A core theoretical discussion for this thesis is the nature of IS within the grammar. Some approaches take IS as a separate component that only applies after syntax, with syntax containing no IS (Fanselow 2006). Approaches following the Borer-Chomsky Conjecture (BCC; see e.g. Baker 2008) posit that all variation must be found in the lexicon which is the input to the Narrow Syntax (cf. Fig. 2.4). Other approaches include information-structural projections (as in *Cartography*; see Rizzi 1997 for proposals of an articulated CP domain and Belletti 2004 for discussion of the inflectional domain) or information-structural features (see e.g. Miyagawa 2017; Mursell 2021; Van der Wal 2022; section §2.3.3).

The variation in models of the position of IS in the grammar is relevant to the central research question (1) about the extent to which IS influences the syntax of Tunen. Here, I take a range of answers to be possible. On one hand, it could be the case that IS has absolutely no influence on Tunen syntax, meaning that no word order configurations or morphosyntactic constructions would be found to be sensitive to the IS context in which they occur. If this is the case, then formal models of Tunen syntax do not need to make reference to any IS positions or IS features. On the other extreme, it could be the case that Tunen syntax is heavily influenced by IS. The most extreme possibility would be that the IS context determines the word order or construction used and overrides any other possible factor (such as Case assignment). Less extreme alternatives between these two logical possibilities would be that IS context influences but does not absolutely determine syntactic ex-

pression. In these scenarios, it could be the case that there are dedicated syntactic positions or markers that correspond to particular IS interpretations, as discussed in terms of focus positions in §2.4.2 above and as has been influential in the Cartographic approach to syntax (section §2.3.7), where foci have been taken to appear in left-peripheral FocP projections, topics in TopP projections, and so on. Alternative approaches use linear templates (see e.g. Neeleman et al. 2009; Good 2016) or IS features that may appear in different positions.

This thesis therefore serves to investigate where Tunen lies on this possible continuum of degree of IS expression in syntax. Chapter 5 provides an empirical investigation of the extent to which IS influences syntax in Tunen. Chapters 6 and 7 then consider the formal derivation of Tunen syntax, testing whether an analysis must make recourse to IS positions, templates, or features. I will ultimately argue that Tunen shows less syntactic influence of IS than other Bantu languages do, meaning that a very limited degree of IS is required in formal analyses.

As Bantu languages are an interesting case study for this theoretical debate on the position of IS in the grammar due to the variation they show in the syntactic expression of IS (see e.g. Van der Wal 2015; Downing and Hyman 2016; Downing and Marten 2019), the next section will consider previous approaches of Bantu syntax in general (section §2.4.1) and in relation to IS in particular (section §2.4.2).

2.4 Bantu syntax and information structure

2.4.1 Syntactic variation in Bantu

Within the nominal domain, Bantu languages are known to have noun class systems, a type of gender system that is a hallmark of the family and of Niger-Congo languages more broadly (Heine 1982:190; Katamba 2003:103). Aside from the consistent presence of noun class systems, there is a large amount of variation in the nominal domain in Bantu languages. For example, many orders of the demonstrative, adjective, and numeral relative to the noun are possible. This has made the Bantu languages interesting for comparative linguistics in relation to Greenberg's Universal 20, where Bantu and Bantoid languages have played an important role due to the presence of orders of nominal modifiers that are not found elsewhere in the world's languages (Rijkhoff 1990; Van de Velde 2005, 2019:259-260). While Tunen's order of nominal modifiers (to be seen in Chapter 4 section §4.3.7 and analysed in Chapter 7) is quite strict and typologically common, Tunen does allow for the discontinuous position of nominal modifiers, which I return to in Chapter 7 as a topic of comparative interest.

Bantu languages are typically considered to have a synthetic morphosyntactic profile, with highly agglutinative verb forms a characteristic of the family (Meeussen 1967; Schadeberg 2003a). An extreme example of syntheticity is shown in the Tswana (Bantu, Southern Africa) example (20), where the verb root *kwal* 'write' takes inflection for the subject marker, future tense marker, object markers, and is extended by two applicative extensions and a final vowel suffix (indicative of mood).

(20) Ke-tla-lo-ba-mo-kwal-êl-êl-a.
SM.1SG-FUT-OM.11-OM.2-OM.1-write-APPL-APPL-FV
'I will write it to them for him.' (Tswana; adapted from Cole 1955:432)

However, languages of the North-West region and non-Bantu Niger-Congo languages spoken in West/Central Africa have a more analytic morphosyntactic profile (Nurse 2008). This has led to debate within Bantu studies as to whether the synthetic profile is historic (Hyman 2004, 2011; Nurse 2007) or a development from an earlier analytic profile (Güldemann 2011, 2022). For Tunen, I will discuss the degree of analyticity in Chapter 4 and Chapter 6 (note in particular that my use of whitespace in Tunen examples follows the official orthography rather than being a commitment to an analysis of a particular degree of analyticity).

In terms of clausal word order, Bantu languages are generally stated to have SVO word order (see e.g. Bearth 2003). However, various authors have proposed that Bantu word order is less influenced by grammatical role and more influenced by discourse role relations (Schadeberg 2003b; Morimoto 2000, 2006; Downing and Marten 2019). In this vein, alternative expressions of word order such as Topic-Comment-Focus have been made (see e.g. Morimoto 2000, 2006; Kerr et al. 2023). I consider this topic in Chapter 5 (on the possible interaction with IS) and Chapter 6 (on Tunen's basic word order).

Bantu languages are known to express IS morphosyntactically, for example using word order alternations and morphological verbal paradigms such as the conjoint/disjoint alternation in Eastern Bantu (Van der Wal and Hyman 2017). Understanding this syntactic expression of IS in Bantu was part of the motivation for the BaSIS research project in which this thesis research was conducted. The next section therefore gives a more detailed background on prior work on IS in Bantu that can be used to guide the research questions for investigation of the interaction between syntax and IS in Tunen.

2.4.2 Information structure in Bantu

As stated above, Bantu languages are known to express information structure by morphosyntactic means (Van der Wal 2015; Downing and Hyman 2016; Downing

and Marten 2019; Morimoto 2000, 2006). One type of syntactic construction that is taken to reflect IS and is found in many Bantu language is inversion constructions, where the logical subject appears postverbally and another nominal expression may control the agreement on the verb (Marten 2014; Marten and van der Wal 2014; Hamlaoui 2022). Examples of inversion constructions include *Default Agreement Inversion* and *locative inversion* (see Marten and van der Wal 2014 for a typology across Bantu languages), as in the locative inversion example (21) below.

(21) a. È-rúngá r-á hìtí m-ón-djúwó.
5-thief SM.5-PST enter 18-9-house
'The thief entered the house.'

b. M-òn-djúwó mw-á hìtí é-rùngà.
18-9-house SM.18-PST enter 5-thief
'Into the house entered a/the thief.'
(Otjiherero, Marten and van der Wal 2014:324)

Here in (21a), the canonical SVO word order is used, where the verb takes subject agreement with the class 5 subject *érúngá* 'thief', which functions as a topic. In (21b), the semantic subject *érùngà* is non-topical and appears postverbally, with the agreement on the verb reflecting the locative (class 18) grammatical subject *mòndjúwó* 'in the house'. The difference in word order therefore reflects a difference in information-structural status of the subject, with consequences for the inflectional morphology on the verb (i.e., the ϕ-featural spell-out on the subject marker).

While these inversion constructions are generally widespread within the Bantu family, they are not always found in North-Western Bantu languages in particular, as for example shown by Hamlaoui and Makasso (2015) for the Cameroonian Bantu language Basaá (Guthrie number A43), which does not allow inversion constructions at all. I return to this lack of inversion constructions in Chapter 5 in relation to IS expression in Tunen.

Some Eastern Bantu languages have a morphological alternation in verb forms called the *conjoint/disjoint* (*CJ/DJ*) *alternation* (see Van der Wal 2017; Van der Wal and Hyman 2017 for a comparative overview). The CJ/DJ alternation varies between languages and can be related directly or indirectly to IS.[8] While it can be seen in segmental alternations between verb forms, in some languages it is visible through

[8]Some authors present the alternation in terms of a binary opposition between the CJ/DJ alternation reflecting constituency (*constituency-type languages*) versus reflecting IS (*focus-type languages*). As I argued in Kerr (2018:52), there is in fact gradience between the two, which I represent by using the terms *direct* versus *indirect* reflection of IS.

tonal alternations (e.g. in Tswana; Creissels 2017). An example of the CJ/DJ alternation reflecting constituency is seen from the Zulu present tense data in (22) below, where the presence or absence of a disjoint morpheme before the verb root in the present tense is conditional on whether the verb is final.

(22) a. a-ba-fana ba-**ya**/*∅-cul-a
AUG-2-boy 2.SM-DJ/CJ-sing-FV
'The boys are singing.'

b. a-ba-fana ba-∅/***ya**-cul-a i-ngoma
AUG-2-boy 2.SM-CJ/DJ-sing-FV AUG-9.song
'The boys are singing a song.'
(Zulu (Bantu); Buell 2006:10, as cited in Kerr 2018:7)

An example that shows how the CJ/DJ alternation interacts with IS is given in (23) below. Here, different discourse contexts are set up by context questions targeting different focus scopes (cf. Fig. 2.3). The fact that the DJ versus CJ conjugations are not possible in some of the discourse contexts (as indicated by #) shows that the verbal conjugation is sensitive to IS, with a CJ form required when there is term focus on the object (23b).

(23) a. Q1: 'Are you grilling the fish?' (truth focus)
Q2: 'I don't believe you are grilling the fish.' (verum)
Q3: 'What are you doing with the fish? Frying or grilling?' (SoA focus)
Q4: 'Have you grilled fish already?' (TAM focus)
Q5: #'What are you grilling?' (#term focus on object)
{Ehóp' éela} Kinámwáaneéla {ehópa}.
ehopa ela ki-na-aaneel-a ehopa
9.fish 9.DEM.PROX 1SG.SM-PRS.DJ-grill-FV 9.fish
'(This fish) I'm grilling (it).'

b. Q3: #'What are you doing with the fish? Frying or grilling?' (#SoA focus)
Q5: 'What are you grilling?' (term focus on object)
Kinaánéélá ehopá.
ki-n-aaneel-a ehopa
1SG.SM-PRS.CJ-grill-FV 9.fish
'I'm grilling a fish.' (Makhuwa; Kerr and van der Wal 2023:463)

A similar IS-sensitive morphosyntactic phenomenon is found in Eastern Bantu languages, especially of Eastern Africa, which have a morphological alternation between verb forms marked by the prefix *ni-*, derived historically from the copula verb **nɪ*. Some authors have suggested that this construction parallels the CJ/DJ alternation (e.g. Morimoto 2017 on Kikuyu). Güldemann (2003) argues that the use of a *ni-* conjugation can be understood as relating to IS via an inherent link between present progressive TAM contexts and focus, highlighting how Bantu langauges can employ morphosyntactic means for IS expression (cf. Fig. 2.1-2.2).

Bantu languages have also been analysed as having dedicated focus positions. Here, there is variation in both where the focus position is in the clause and in what material can or must be in it (Downing and Marten 2019; Kerr et al. 2023). Three types found are an immediate-after verb (IAV) focus position, as found for example found in Zulu and Makhuwa (24), an immediate-before verb (IBV) focus position, as found in languages of the B70 group such as Teke-Kukuya (25), and finally a sentence-final position, as found in Kinyarwanda and Kirundi (26).

(24) a. Saárá onthumenlé **páni**, ekolár' íile?
/Sara o-n-thum-el-ale **pani** ekolari ile/
1.Sara SM.1-OM.1-buy-APPL-PFV.CJ 1.who 9.necklace DEM.DIST.9
'Who did Sara buy the necklace for?'

b. *Saárá onthumenlé ekolár' íile **páni**?
/Sara o-n-thum-el-ale ekolari ile **pani**/
1.Sara SM.1-OM.1-buy-APPL-PFV.CJ 9.necklace DEM.DIST.9 1.who
Intd.: 'Who did Sara buy the necklace for?'
(Makhuwa; Kerr et al. 2023:9)

(25) a. N-kaaká ma-désu **ná** **ndé** ká-wî?
1-granny 6-bean who 1.PREP SM.1-give.PST
'To whom did grandmother give the beans?'

b. *N-kaaká á-wî ma-désu **kukí** **ná**?
1-granny SM.1-give.PST 6-bean PREP who
Intd.: 'To whom did grandmother give the beans?'
(Teke-Kukuya; Kerr et al. 2023:9)

(26) a. Uhaye ikijumbe **ndé**?
U-ø-há-ye i-ki-jumbu **ndé**?
SM.2SG-PRS.CJ-give-PFV AUG-7-sweet.potato who
'Who do you give a sweet potato?'

b. *Uhaye **ndé** ikijumbu?
/U-ø-há-ye **ndé** i-ki-jumbu/
SM.2SG-PRS.CJ-give-PFV who AUG-7-sweet.potato
Intd.: 'Who do you give a sweet potato?' (Kirundi; Kerr et al. 2023:10)

Looking beyond Narrow Bantu, the Cameroonian Grassfields Bantu (Bantoid) language Aghem has been analysed as having an IAV focus position (see e.g. Watters 1979), and an association between postverbal position and focus interpretation has been stated in Fiedler et al. (2010:255) for language families including West Chadic, Romance, and Bantu. Some authors have interpreted data on Tunen as indication of such a postverbal focus position (Mous 1997, 2003; Bearth 2003:134-135; Downing and Marten 2019:273-274), as I will discuss and argue against in Chapter 6.

In terms of formal analyses of Bantu syntax and IS, some previous authors have used focus positions (FocP) in the clause, following Cartographic approaches to clause structure (see e.g. Rizzi 1997; section §2.3.7). While such approaches are common, other authors have argued against such analyses of Bantu languages; see e.g. Cheng and Downing (2012) for arguments against the existence of a dedicated FocP in Zulu. Language-specific investigation is therefore required in order to present an accurate analysis of a Bantu language; as stated in section §2.3.5, I follow the principle that languages may vary in which projections they have in their clausal syntax.

Finally, it should be noted that there are various correlates of IS that are expressed by non-morphosyntactic means. For example, IS and phonology interact in the form of *tone cases*, as discussed in Downing and Hyman (2016), and prosodic lengthening often indicates phonological phrasing, where the penultimate syllable of a phonological phrase is lengthened (Downing and Hyman 2016; Downing and Marten 2019). To the extent that phonological phrases correlate with syntactic phrases (see e.g. Selkirk 2011), these prosodic cues may indicate syntactic structure.

2.5 The Tunen language

2.5.1 Language context

As introduced in Chapter 1, Tunen is classified as A44 within the Guthrie system and [tvu] within the ISO 639-3 system.[9] The exact number of speakers of Tunen

[9]The ISO 639-3 classification code for Tunen was changed in 2012, with Tunen previously being

is unknown, with prior estimates at 35,000 speakers (Gordon 2005) and 70,000-100,000 (Mbongue 2005). I take the latter estimate to be more accurate given that the former is based off data from 1982. Unfortunately, the most recent Cameroonian census (conducted in 2005) did not collect data on indigenous languages, asking only for each citizen's primary language, meaning that more recent census data on the number of Tunen speakers is unavailable.

In the absence of accurate survey data, one way to estimate speaker numbers is by adjusting the 1982 census numbers in accordance with the population growth rate, as for example applied to Eton (A71, Cameroon) by Van de Velde (2008:2, fn2). Taking Cameroon to have an expanding population with approximately 2.5% annual growth rate, an estimate of 100,000 speakers can be made (on the assumption that the number of Tunen speakers has grown at an equal rate to the population). However, such an estimate does not take into account potential language shift from Tunen to French amongst younger speakers and due to increased urban migration, and so can only serve as an approximation. A more accurate estimation of the number of speakers is therefore only possible with more up-to-date survey information. Relatedly, Tunen is currently classified as *stable* and *developing* (Gordon 2005; Eberhard et al. 2022), although such classifications are based on a comparatively low amount of information. While the language is used in primary education and across different domains (e.g. market trading, day-to-day conversations, worship), the extent to which language shift to French or other languages is occurring remains to be studied.

In terms of geography, Tunen is spoken in the Centre and Littoral provinces of Cameroon within the Mbam-et-Inoubou region (Dugast 1955, 1960, 1971). There is a history of contact with Douala (A24, Cameroon) (Mous 2003; Dugast 1971; Johnson 2012; Kongne Welaze 2010). For example, in the 1950s, many Tunen speakers migrated to the city Douala (Kongne Welaze 2010), meaning that Tunen is also spoken there today, and earlier publication of Christian worship materials (e.g. songbooks; Johnson 2012) in the Douala language have led to the language continuing to be encountered in Tunen-speaking communities' church services. While there is a Tunen language committee based in Douala, my fieldwork was conducted in the Mbam-et-Inoubou region around the town of Ndikiniméki (Chapter 3 section §3.3.1), and so I worked with the Ndikiniméki-based Tunen language committee (CODELATU). The location of Tunen relative to nearby language groups in Cameroon is shown in Fig. 2.5 below.[10,11]

grouped with its neighbour Nyokon (A45, now ISO 639-3 code [nvo]) under the code [baz] (see ISO 639-3 change request number 2011-080).

[10] I thank Matthew Sung for help creating this map using QGIS.

[11] Given that this map was made to focus on Tunen's relative position to nearby languages, we

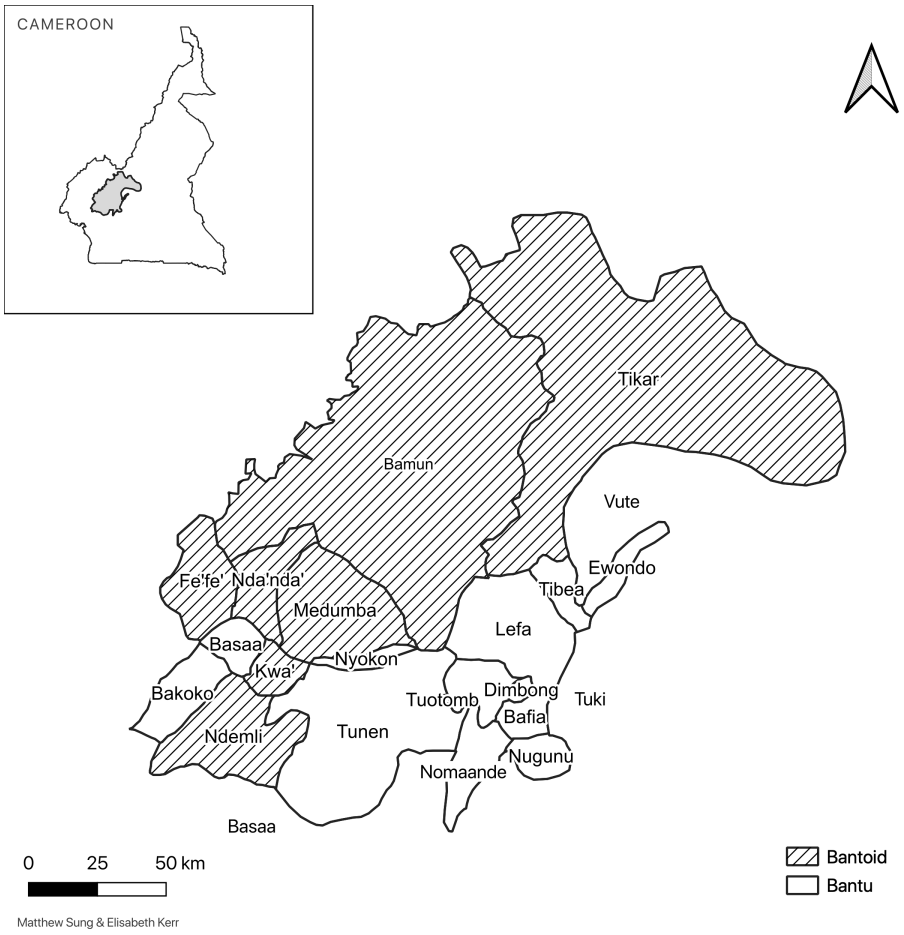


Figure 2.5: Map showing location of Tunen with respect to neighbouring languages in Cameroon, indicating their respective classifications as Narrow Bantu versus non-Bantu Bantoid, as taken from Eberhard et al. (2022).

2.5.2 Linguistic classification

Tunen is classified within Bantu with Guthrie number A44 (Guthrie 1948, 1967-1971; Maho 2003, 2009; Hammarström 2019). The Guthrie classification system was devised by the Bantuist Malcolm Guthrie and is predominantly based on geograph-

used the natural boundary of Lake Bamendjing and the river to the South as the cut-off point for the polygon representing the Bamun territory, not showing any further details to the North-West.

ical features (Guthrie 1948, 1967-1971; Maho 2003, 2009). Relevant for this thesis, Mous (2003) points out that Guthrie's A40 group does not form one genealogical group; Tunen is grouped within the Mbam languages (Guthrie codes A40/A60) while other A40 languages such as Basaá (A43) are more distantly related, falling outside of the Mbam subgroup and differing noticeably in their linguistics properties (Mous 2003:283). Tunen's closest relatives are therefore other Mbam languages of the A40/A60 group, especially the other Western Mbam languages Nyokon (A45), Nomaandé (A46) and Tuotomb (A461) (27).

(27) **Genealogical classification of Tunen**
Niger-Congo > [...] > Benue-Congo > Bantoid > Narrow Bantu > Mbam > Western Mbam > Tunen

The grouping of Tunen within the Mbam languages is supported by large-scale lexicostatic and phylogenetic studies as well as detailed investigation of phonological correspondences (see Grollemund et al. 2015; Pakendorf et al. 2011; Koile et al. 2022 for general classifications and Janssens 1993; Boyd 2015; Philippson 2022a,b and references therein for discussion of Mbam phonological reconstruction). The Mbam languages are consistently found to cluster together within such models, reflecting shared vocabulary and phonological correspondences such as double reflexes of certain consonants reconstructed to Proto-Bantu (Janssens 1993; Philippson 2022a,b). The languages are also similar (although not identical) in their vowel inventories and the presence of ATR harmony systems, which are very unusual for Bantu (see Boyd 2015 for a detailed overview; cf. Chapter 4 section §4.2).

One key question is whether Tunen and its neighbours are more accurately classified within Narrow Bantu or the bordering non-Bantu Bantoid languages of the Grassfields Bantu group. In this thesis, I follow the convention of classifying Tunen as a Narrow Bantu language, as the (re)classification of Tunen and comparison with non-Bantu Bantoid was not the goal of the project. Moreover, as this research was conducted within a project focussed on Narrow Bantu languages, the necessary data from neighbouring non-Bantu Bantoid languages needed in order to make a convincing comparison was not collected. However, I will show that Tunen differs significantly from (other) Bantu languages, meaning that its proper classification as Bantu versus non-Bantu Bantoid is debatable. This classificatory question reflects a broader open question on the use of the terms *Bantoid* and *Bantu*, with no agreed-upon cut-off point between the two (see e.g. Watters 2018; Marten 2020).

The Northwestern Bantu languages and the neighbouring Bantoid languages are known to show a high degree of linguistic variation, with most of the variation within the Bantu language family found there (Bearth 2003; Marten 2020). The

homeland of the Bantu people is generally considered to be located between Nigeria and Cameroon (Bostoen 2018, 2020; Grollemund et al. 2015; Koile et al. 2022; Pakendorf et al. 2011; Idiatov and Van de Velde 2021), meaning that Tunen is spoken close to the homeland. In terms of the classification, classifying Tunen as one of the first branches of Narrow Bantu (e.g. under node 1 of Grollemund et al. 2015) reflects that early Bantu populations migrated Eastwards and Southwards from this homeland in Nigeria/Cameroon region, a migration pattern known as *the Bantu expansion* and responsible for the Bantu languages spoken across central, Eastern, and Southern Africa today (Bostoen 2018, 2020; Koile et al. 2022; Grollemund et al. 2015; Pakendorf et al. 2011).

In terms of the classification of Tunen itself, the speakers I worked with identified four main dialects, namely Tɔbɔ́áŋɛ, Hiliŋ, Fombo, and Ndogtuna. The use of the plural form *tunəni* (cf. singular *hinəni*) refers to this group of dialects, with the people speaking them referred to as *Banen* (*bənəni*, singular *munəni*) (Pierre Molel, p.c.; cf. Dugast 1971:9; Mous 2003:283; Mbongue 2005:55). The Tɔbɔ́áŋɛ dialect is the standard dialect of Ndikiniméki, where I conducted my fieldwork (Chapter 3 section §3.3.1), and therefore the dialect spoken by the majority of my consultants. However, consultant EO spoke Hiling and consultant DM spoke Fombo (with both having lived in the Tɔbɔ́áŋɛ region for a long time). The fieldwork database contains some notes within the `comments` field for variation that was attributed to dialectal differences, e.g. EO's pronunciation of *nɛ́lala* for 'spider' (form UID [PM 922]) versus Tɔbɔ́áŋɛ *nialala* ([PM 923]). The dialectal variation recorded in the database was only found with respect to minor differences in pronunciation and lexis, matching the observations about dialectal variation stated in Dugast (1971). However, I provide consultant initials alongside all data used in this thesis in order that the reader may know the dialect of the speaker in question (see Chapter 3 for further discussion regarding data selection and presentation), in case any dialectal variation relevant for syntax and IS should be found in further work.

2.5.3 Prior work on Tunen

Part of the motivation for including Tunen within the BaSIS research project was the fact that there has been a reasonable amount of prior work on the language, including a book-length grammar (Dugast 1971). I briefly review the previous work on Tunen here, including work by Idelette Dugast (section §2.5.3.1), subsequent linguistic work (section §2.5.3.2), community language materials (section §2.5.3.3), sociolinguistic and ethnographic studies which touch upon the language (section §2.5.3.4), and treatment of Tunen in comparative studies (section §2.5.3.5).

2.5.3.1 Work by Idelette Dugast

The most extensive work on Tunen language and culture was conducted in the 20th century by the French anthropologist Idelette Dugast, who lived in Ndikiniméki in 1936-1936, 1938-1939, 1940-1941, and 1953-1954 (continuing to discuss Tunen in the period after 1941 through contacts in Douala) (Dugast 1955:VII-VIII). Dugast published a large body of academic works written in French on the Tunen language and culture. Her main work was a large two-volume ethnographic study (Dugast 1955-1960). She also wrote a grammar of Tunen (Dugast 1971), a lexicon (Dugast 1967), and published a book with transcribed and translated folktales, proverbs, and prophecies (Dugast 1975). Anecdotal evidence from modern-day Banen supports the observation that these works are an accurate representation of the Banen language and culture.[12] Dugast notes that her work was aided by earlier vocabulary and basic grammar notes from the German missionary Reverund Sigismund Wilhelm Koelle, who worked with 7 Banen[13] in Sierra Leone as part of his comparative work on West African languages (Dugast 1971:9). As the vast majority (179/210) of Koelle's informants were ex-slaves (Hair 1965), the Banen speakers presumably ended up in Sierra Leone through the 19th-century slave trade (Dugast 1971:9).

While Dugast's work is highly detailed, it has some limitations, especially when evaluated for the purposes of linguistic (rather than anthropological) research. As previously commented on by Mous (2003:283) and Isaac (2007:4, 22-23), Dugast had a tendency to miss linguistic generalisations. Her tonal transcriptions are surface-level without much discussion of underlying processes. While tones are transcribed, a non-standard system is used which also excludes some important features.[14] For example, words are given in citation form in the Dugast (1967) lexicon, where the regular utterance-final tone lowering rule (see section §4.3.5) applies. This use of citation forms has the unfortunate consequence that the underlying tonal pattern of each item is obscured by the regular phonological rule. Within her grammar, examples are not fully glossed, with a rudimentary system used for word-level correspondences. More seriously for this thesis' research question on the interaction between

[12] See for example this post from the Yinindi Banen diaspora organisation, which discusses Banen reactions to the Dugast materials: https://www.yinindi.org/48-article/france-sur-les-traces-de-idelette-dugast-allier-allias-ngwaka-miloni-yi-ndiki (accessed July 2020).

[13] These consultants were referred to with the label *Pénin* in Koelle's work (see *Section XII. E. Unclassified South-African Languages. N° 11*). Dugast (1971:10) interprets *Pénin* as a form of *Banen* and therefore considers these consultants Tunen speakers. In contrast, the database in Koelle (1854[2023]) lists them as Nomaandé (A45). While I leave the correct classification of Pénin to further work, Koelle transcribes *élān* for 'five' (Koelle 1854[2023]), showing /l/ as reflex of **t*, which is diagnostic of Tunen rather than another Mbam language (see Philippson 2022a:21).

[14] See also Chapter 4 fn29 regarding Dugast's practice of only noting tone when it changes.

syntax and IS in Tunen, Dugast (1971) provides examples without discourse context, making many points of IS impossible to deduce from the data provided. The natural speech texts transcribed in Dugast (1975) are able to provide a better picture of discourse phenomena such as referent expression — assuming in absence of recordings that Dugast's transcriptions are accurate — but they also suffer from certain limitations. Firstly, the texts in Dugast (1975) are restricted to one specific genre, only illustrating monologic speech in a traditional story-telling context. Secondly, the texts do not provide any negative evidence, i.e. information on what is *not* possible. I therefore collected data for this thesis from dialogic as well as monologic speech, in addition to collecting grammaticality judgements from elicitation controlled by discourse context (see Chapter 3).

2.5.3.2 Subsequent linguistic work

The extensive descriptive work of Dugast laid the foundation for more specific studies on different aspects of Tunen's grammar. Starting with phonology, a recent treatment of Tunen and neighbouring Mbam languages is Boyd (2015), who focuses on vowels and vowel harmony. This builds on earlier work on Tunen ATR harmony by Bancel (1991); Van der Hulst et al. (1986); Mous (1986) and Van Leynseele (1977) and the work on Tunen tone and vowel elision by Wilkinson (1975) and Janssens (1988). I provide an overview of Tunen phonology in Chapter 4 section §4.1.

On the morphosyntax side, there are articles on the object in Tunen and the SOV clausal word order, which contrasts with the SVO order found in almost all other Bantu languages (Mous 1997, 2005, 2014) and the *bɛ́-* prefix (Mous 2008). Kongne Welaze (2010) is a French-language DEA thesis by the native-speaker linguist Jacquis Kongne Welaze, who was a member of the CODELATU team and co-author of the community orthography (Satre et al. 2008). Although unpublished, this is a detailed study of verbal morphology that has been shared with local linguists in Cameroon. I therefore cite it as a valuable source, although I try to also provide citations to publicly-available sources or to provide my own data to illustrate the same points. In terms of morphosyntax in relation to IS, Isaac's (2007) MA thesis focusses on participant reference in Tunen narratives (based on data from Dugast 1975), which I draw upon in Chapter 5 (on referent expression over discourse) and Chapter 7 (on discontinuous DPs).

A short overview of Tunen morphology, phonology and syntax is found in Mous (2003), who draws especially upon his study in Mous (1997), which was based on Dugast's materials as well as his own fieldwork from a short stay in Ndikiniméki, Cameroon and elicitation with an expatriate consultant in Europe. In Chapter 4, I provide a brief overview of Tunen grammar that summarises the most relevant

aspects of Tunen grammar covered in Mous (2003) and Dugast (1971) and highlights some differences between my data and these previous descriptions.

2.5.3.3 Community language materials

Missionary linguists from SIL have published orthographies on the Tunen language together with the Tunen language committee *Comité de développement de la langue Tunen* (Committee for the development of the Tunen language; CODELATU), which is subsumed under the Christian churches in Ndikiniméki (Satre et al. 2008).

A series of books has been published by the Cameroonian Association for Bible Translation (CABTAL), including a translation of the New Testament into Tunen (CABTAL 2019), a primer on reading and writing Tunen, a collection of stories, and a farming instruction manual. These books are printed locally and are available from members of CODELATU in Ndikiniméki.[15] Some of these materials use an earlier verison of the community orthography than the current version, differing particularly in the use of <e> for [ə] (now transcribed as <ə> in an update of the Satre et al. 2008 orthography). I discuss the variation in orthography between the community materials and linguistic work in Chapter 4 section §4.2, highlighting how my transcriptions compare to these other works.

2.5.3.4 Sociolinguistic and ethnographic studies

Aside from work focussed on Tunen's grammatical properties, relevant information about the language is also found from sociolinguistic and ethnographic studies which have a different object of study. Alongside the ethnographic work of Dugast (1955)-(1960), a treatment of slavery practice amongst the Banen is found in Abwa (1995). Johnson's (2012) doctoral thesis gives an ethnobotanic study on flora and fauna in the Ndikiniméki area, also commenting briefly on the current linguistic situation in Ndikiméki. Belika (2015) provides discussion of the notion *mɔnd* 'la personne humaine' (human) among the Banen, which touches upon some linguistic features and attitudes regarding the Tunen language. Finally, Joseph Mbongue's PhD thesis discusses approaches to translation of the Bible in Tunen (Mbongue 2005), including some discussion of Tunen grammar alongside the broader discussion of sociolinguistics and language development.

[15] I thank Daniel Mbel for showing me these materials when I was in Ndikiniméki; I have purchased a copy of the reading primer and story collection and donated them to the Leiden University Library.

2.5.3.5 Treatment of Tunen in comparative studies

In addition to these studies focussed on Tunen and the genealogical studies discussed in section §2.5.2 above, Tunen has been mentioned in various comparative studies within Bantu and Africanist linguistics, often as a sidenote as a language to be excluded on account of its unusual properties or as a language of particular interest in being an outlier. For example, the unusual syntax of Tunen is mentioned in Bearth's (2003) overview of Bantu syntax, and again in Downing and Marten (2019), where Tunen's OV word order is said to reflect IS (based on Mous 1997, 2003). Hyman (2011) discusses Tunen's unusual OV syntax and its relation to object pronouns in Benue-Congo, supporting Mous's (2005) proposal that OV syntax in Tunen is innovative. I come back to these comparative discussions in Chapter 6, where I provide more detail on OV in Tunen and situate it in a comparative context.

In terms of the nominal domain, Van de Velde (2022) highlights in his overview of Bantu noun phrase typology that Tunen is a rare example of a Bantu language with discontinuous noun phrases. In Chapter 7, I compare the Tunen discontinuous noun phrase construction with the constructions found in other Bantu languages, providing further detail and arguing that the Tunen construction has distinct semantic and syntactic properties from the other constructions mentioned in Van de Velde (2022).

Finally, Tunen is also discussed in studies concerning the high degree of linguistic variation within Northwestern Bantu and Bantoid languages, as discussed in section §2.5.2 above.

2.6 Summary

This chapter has provided background information on Tunen syntax and information structure, including the necessary theoretical background on information structure and generative models of syntax, discussion of prior work on information structure and syntax in Bantu languages specifically, and background to the Tunen language. Having now provided this general background, the next chapter turns to the methodology used for the data collection and analysis for this thesis.